THE INNOCENCE EFFECT

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ABSTRACT

Nearly all felony convictions—about 95 percent—follow guilty pleas, suggesting that plea offers are very attractive to defendants compared to trials. Some scholars argue that plea bargains are too attractive and should be curtailed because they facilitate the wrongful conviction of innocents. Others contend that plea bargains only benefit innocent defendants, providing an alternative to the risk of a harsher sentence at trial. Hence, even while heatedly disputing their desirability, both camps in the debate believe that plea bargains commonly lead innocents to plead guilty. This Article shows, however, that the belief that innocents routinely plead guilty is overstated. We provide varied empirical evidence for the hitherto neglected "innocence effect," revealing that innocents are significantly less likely to accept plea offers that appear attractive to similarly situated guilty defendants.

The Article further explores the psychological causes of the innocence effect and examines its implications for plea bargaining. Positively, we identify the striking "cost of innocence," wherein innocents suffer harsher average sanctions than similarly situated guilty defendants. Yet our findings also show that the innocence effect directly causes an overrepresentation of the guilty among plea bargainers and an overrepresentation of the innocent among those who choose trial. In this way, the innocence effect beneficially reduces the rate of wrongful convictions—including accepted plea bargains—even when compared to a system that does not allow plea bargaining. Normatively, our analysis finds that both detractors and supporters of plea bargaining should reevaluate, if not completely reverse, their

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†† Professor of Law, Notre Dame Law School. Earlier versions of this Article benefited from comments and criticisms by Robert Cooter, Nicole Garnett, Jimmy Gurulé, Jay Koehler, Alan Miller, Geoffrey Miller, Daniel Richman, Carol Steiker, Kate Stith, Doron Teichman, and participants at the 2011 Behavioral and Experimental Legal Studies Conference at the Hebrew University of Jerusalem, the 2011 Annual Conference of the European Association of Law and Economics, and the 2012 Annual Conference of the Israeli Association of Law and Economics. Stav Hadar, John Lindermuth, Lena Reznichenko, and Jessica Williams provided excellent research assistance at different stages of this project.

long-held positions to account for the causes and consequences of the innocence effect. The Article concludes by outlining two proposals for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether by accounting for the innocence effect.

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INTRODUCTION

Plea bargaining dominates the criminal-justice landscape in the United States. About 95 percent of felony convictions follow guilty pleas,[1] and most guilty pleas result from plea bargaining.[2] Despite their ubiquity and key role in facilitating convictions, however, the desirability of plea bargains is hotly debated, not least because plea bargains can lead innocent defendants to plead guilty.[3]

Most scholars—whether detractors or supporters of this practice—examine plea bargaining as a decision process that defendants must undertake in the looming shadow of trial.[4] Plea

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1. THOMAS H. COHEN & TRACEY KYCKELHAHN, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ 228944, STATE COURT PROCESSING STATISTICS, 2006: FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 2006, at 1 (2010), *available at* http://bjs.gov/content/pub/pdf/fdluc06.pdf. In the federal courts, 97 percent of felony convictions follow guilty pleas. *See* MARK MOTIVANS, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ 234184, FEDERAL JUSTICE STATISTICS, 2009, at 12 tbl.9 (2011), *available at* http://bjs.ojp.usdoj.gov/content/pub/pdf/fjs09.pdf.

2. Ronald Wright & Marc Miller, *The Screening/Bargaining Tradeoff*, 55 STAN. L. REV. 29, 30 (2002). Although guilty pleas commonly follow explicit plea bargains, they sometimes follow an implicit bargain. Albert W. Alschuler, *The Trial Judge's Role in Plea Bargaining, Part I*, 76 COLUM. L. REV. 1059, 1059 n.1 (1976). In these cases, defendants plead guilty without explicit negotiation but with the understanding that they will receive a sentence discount for waiving their right to trial. *Cf. id.* at 1076 (noting that in some plea-bargaining systems, "express pretrial bargaining need not occur at all; the judges simply sentence defendants who are convicted at trial more severely than defendants who plead guilty"). For the present purposes, however, the key observation is that guilty pleas universally occur against an institutional backdrop that equally encourages all similarly situated defendants—whether innocent or guilty—to plead guilty to obtain a plea discount.

3. *See* Albert W. Alschuler, *The Prosecutor's Role in Plea Bargaining*, 36 U. CHI. L. REV. 50, 60 (1968) (arguing that "the greatest pressures to plead guilty are brought to bear on defendants who may be innocent"); Stephanos Bibas, *Plea Bargaining Outside the Shadow of Trial*, 117 HARV. L. REV. 2463, 2494–96 (2004) (arguing that information deficits might lead innocent defendants to plead guilty).

4. Many scholars describe a type of cost-benefit analysis that defendants go through when deciding whether to plead guilty or to stand trial and not a process in which the actual responsibility is the decisive factor. *Cf.* Alschuler, *supra* note 3, at 61–62 (discussing how innocent defendants accept very lenient guilty-plea offers to avoid a risky trial); Frank H. Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 313–16, 320 (1983) (laying out reasons for the ubiquity of plea bargaining and the frequency of guilty pleas); John H. Langbein, *Torture and Plea Bargaining*, 46 U. CHI. L. REV. 3, 15 (1978) (arguing that innocent defendants might plead guilty to avoid the trial penalty, just as innocent defendants in medieval Europe confessed to escape torture); Stephen J. Schulhofer, *Criminal Justice Discretion as a Regulatory System*, 17 J. LEGAL STUD. 43, 72–73 (1988) (showing how innocent defendants can be encouraged to plead guilty when the plea offer is adjusted to the probability of conviction and expected post-trial sentence); Robert E. Scott & William J. Stuntz, *Plea Bargaining as a Contract*, 101 YALE L.J. 1909, 1935–49 (1992) (illustrating how plea bargaining may lead innocent defendants to plead guilty); Ronald F. Wright, *Trial Distortion and the End*

bargains are agreements wherein prosecutors offer defendants a reduction in criminal charges or sentence recommendations or in which courts offer sentence concessions in return for guilty pleas. When faced with a plea offer, a defendant must determine whether he or she finds its certain but discounted sanction more attractive than trial. In the simplest shadow-of-trial model, for example, defendants accept plea bargains that offer sanctions lower than the expected value of trial, which is calculated as the anticipated sentence in the case of a conviction at trial multiplied by the probability of such a conviction.[5]

Shadow-of-trial scholarship assumes that defendants' culpability has no bearing on plea-bargaining behavior beyond the effect that culpability already exerts on the probability of conviction.[6] To illustrate, imagine a guilty defendant facing, based on the existing evidence, an 80 percent probability of conviction at trial and ten years of imprisonment if convicted. In the shadow of this looming sentence, the defendant is very likely to find attractive, for instance, a prosecutor's offer to plead guilty in return for a two-year sentence.[7] Yet the extant shadow-of-trial literature further presumes that our

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of Innocence in Federal Criminal Justice, 154 U. PA. L. REV. 79, 88–99 (2005) (discussing the development of and rationale for plea bargaining and noting the high percentage of guilty pleas in adjudicated cases in federal courts).

5. Although this is the basic structure of shadow-of-trial analyses, actual models typically take into account additional factors like risk aversion, which we discuss *infra* Part II.B.3, and the cost of trial, which does not affect the present analysis and which we therefore do not discuss further here; *cf., e.g.*, Gene M. Grossman & Michael L. Katz, *Plea Bargaining and Social Welfare*, 73 AM. ECON. REV. 749, 757 (1983) ("[A] welfare-theoretic argument in favor of plea bargaining need not be based on a consideration of the resource cost of trial proceedings."). *But see* William M. Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61, 99–100 (1971) (summarizing the role of trial costs in plea bargaining).

6. *See, e.g.*, Stephen J. Schulhofer, *Plea Bargaining as Disaster*, 101 YALE L.J. 1979, 1984 (1992) ("Innocence *by itself* (that is, apart from its link to particular evidence) can have only a small impact on the odds of conviction."); *cf.* Easterbrook, *supra* note 4, at 316 ("It is only from observing trials that the prosecutor and defendant may infer the probable outcome of pending cases in order to bargain."). Some scholars have noted in passing that innocence might play an independent role, but none have developed the argument further or provided evidence of the role that innocence plays. For example, Professor William Landes argues that

> [t]he question of whether the defendant did in fact commit the crime he is charged with does not explicitly enter the analysis. The prosecutor and defendant have been assumed to react to the probability of conviction and other variables in choosing between settling and going to trial, while their behavior has not been directly influenced by the actual guilt or innocence of the defendant.

Landes, *supra* note 5, at 68–69. Yet, Landes also notes—without much further explanation—that innocents might be averse to lying and hence less willing to plea. *Id.* at 69.

7. More precisely, the defendant's propensity to accept the plea offer will depend on his risk preferences. For further detail, see *infra* notes 97–101 and accompanying text.

hypothetical defendant would be as likely to plea bargain if she were innocent rather than guilty. After all, shadow-of-trial models assume that the expected sanction at trial is the only case-related variable that determines whether a defendant will plea bargain. A defendant's actual innocence, on the other hand, should have no direct bearing on this process.

Opponents and proponents of plea bargaining commonly believe that defendants' culpability has little effect on the overall rate of plea bargaining. These scholars reason that prosecutors use their discretion to adjust plea offers based on the probability of conviction, making more lenient offers in weak cases to guarantee agreement.[8] Defendants who face weaker cases—such as most innocents—simply are offered more lenient sentences that make plea bargaining as attractive as it is for defendants in stronger cases.[9] Hence, innocents

8. *See* Grossman & Katz, *supra* note 5, at 752 (showing that unless the post-trial sentence is much higher than what would be socially desirable, prosecutors adjust the plea offer to the harshest sanction that the defendant is willing to accept based on the probability of conviction); Scott & Stuntz, *supra* note 4, at 1946 ("[P]rosecutors must take into account the odds of acquittal when making plea offers. Thus, defendants who can . . . point to evidence that supports their innocence claims can either obtain a dismissal or a favorable plea offer."). Note that in weak cases the parties must rely on charge bargaining, in which the prosecutor removes or reduces the charges in return for the guilty plea to avoid judicial rejection of the agreed-upon sentence. *See* Wright & Miller, *supra* note 2, at 32–33 ("Without careful initial screening, the prosecuting trial attorney who refuses to negotiate for reduced charges faces the risk of acquittals . . . ."). Indeed, rather than being the exception, charge bargaining in weak cases is the norm in the criminal-justice system. *See* Dean J. Champion, *Private Counsels and Public Defenders: A Look at Weak Cases, Prior Records, and Leniency in Plea Bargaining*, 17 J. CRIM. JUST. 253, 257 (1989) (surveying 166 city and county prosecutors and noting that their responses "indicated an overwhelming propensity to moderate the harshness of plea bargain terms to defendants if the government had a weak case against them").

9. *See supra* note 6. Moreover, although most cases against innocents will be weak and therefore dismissed at earlier stages, once a decision to prosecute a weak case has been made, plea bargaining should be even more likely, as there are many indications that prosecutors will go a long way to avoid losing cases. *See* Robert L. Rabin, *Agency Criminal Referrals in the Federal System: An Empirical Study of Prosecutorial Discretion*, 24 STAN. L. REV. 1036, 1045–46 (1972) (concluding, based on interviews with federal prosecutors, that convictions are the central performance standard and that an increased rate of nonconvictions raises questions and creates anxieties); *see also* Alschuler, *supra* note 3, at 106–07 (noting that prosecutors are often evaluated by the rate of convictions and thus care much more about conviction than sentencing); Bibas, *supra* note 3, at 2471 ("[Prosecutors] may further their careers by racking up good win-loss records, in which every plea bargain counts as a win but trials risk being losses."). Therefore, because they are more concerned about handling a full-fledged trial when the case is weak, prosecutors make a greater effort to assure that a plea bargain is struck. We should thus find, if anything, higher rates of plea bargaining among those weaker cases that nevertheless are prosecuted, in which innocents are likely to be overrepresented.

may accept a discounted plea offer and plead guilty rather than risk trial, despite facing a weaker case than many guilty defendants.[10]

Although nearly all scholars unquestioningly accept the conclusion that plea bargaining routinely brings about wrongful convictions, they reach diametrically opposing views regarding the desirability of the practice. Many commentators find that plea bargaining is problematic and argue for its curtailment because of this "innocence problem."[11] Other scholars favor the practice, contending that plea bargaining can only benefit those innocents who prefer the discounted bargain to the risk of a much harsher sentence following a wrongful conviction at trial.[12]

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10. For a thorough review of the law-and-economics literature on plea bargaining, see Oren Gazal-Ayal & Limor Riza, *Plea-Bargaining and Prosecution*, *in* 3 CRIMINAL LAW AND ECONOMICS 145 (Nuno Garoupa ed., 2009). For some of the more prominent articles, see sources cited *supra* note 4.

11. Professor Albert Alschuler has noted that many plea-bargaining advocates

> [A]pparently perceive no difference between, on the one hand, a system in which each of ten innocent but risk-averse defendants senses a ten percent chance of conviction at trial and accepts a sentence of one year and, on the other hand, a system in which nine innocent defendants are acquitted at trial while one, wrongly convicted, is sentenced to ten years. In both situations . . . the legal system has yielded the same number of years of unwarranted imprisonment. There may, however, be a difference between these situations apart from the greater number of wrongful convictions produced by a system of plea bargaining—the difference between a criminal-justice system that tries to find the truth and sometimes fails and one that apparently does not care.

Albert W. Alschuler, *The Changing Plea Bargaining Debate*, 69 CALIF. L. REV. 652, 713–14 (1981); *see also* Kenneth Kipnis, *Criminal Justice and the Negotiated Plea*, 86 ETHICS 93, 98–99 (1976) (comparing a prosecutor's plea offer to coercing someone to act at gunpoint); Langbein, *supra* note 4, 12–13 (likening plea bargaining to medieval torture and observing that "[w]e coerce the accused against whom we find probable cause to confess his guilt" by "threaten[ing] him with a materially increased sanction if he avails himself of his right [to trial] and is thereafter convicted"); Schulhofer, *supra* note 6, at 1981–91 (rejecting Scott and Stuntz's bargain-theory conception of the "innocence problem," Scott & Stuntz, *supra* note 4, but highlighting other problems with plea bargaining (internal quotation marks omitted)); Welsh S. White, *A Proposal for Reform of the Plea Bargaining Process*, 119 U. PA. L. REV. 439, 450–51 (1971) ("Prosecutorial inducement of guilty pleas in weak cases . . . poses potentially serious problems."); Wright, *supra* note 4, at 113 ("A trial distortion theory does not imply that there is a particular level of acquittals that is healthy or unhealthy; acquittals become a point of concern not simply when they become too high or low in absolute terms, but also when they change persistently in one direction.").

12. *See* Josh Bowers, *Punishing the Innocent*, 156 U. PA L. REV. 1117, 1170–78 (2007) ("[T]here exists a marked disconnect between systemic fact and hollow ideals when it comes to guilt and innocence. . . . [T]here is no good reason to act in deference to empty principles that ignore the realities of punishment and serve no practical purposes other than compelling the undeserved innocent accused to bear unwelcome process or trial-penalty risk."); Thomas W. Church, Jr., *In Defense of "Bargain Justice,"* 13 LAW & SOC'Y REV. 509, 516 (1979) ("The problem with the case against plea bargaining from the perspective of the factually innocent defendant is that the critics seem to assume that such blameless defendants are necessarily

This Article reveals, however, that the prevailing scholarly views on culpability and plea bargaining are mistaken. Instead, the empirical evidence that we present reveals a distinct, yet hitherto neglected,[13] "innocence effect" in plea bargaining, in which culpability exerts a strong influence on defendants' willingness to accept plea offers and, consequently, on overall plea-bargaining and conviction rates. Specifically, defedants who exhibit the innocence effect tend to reject plea offers that similarly situated guilty defendants typically accept, showing that the pervasive shadow-of-trial assumption that culpability is irrelevant is plainly wrong. Moreover, our evidence on the significant effect of innocence on plea behavior demonstrates that scholars' related, common belief that plea bargains lead innocents routinely to make false guilty pleas is overstated.

Although we are not the first to criticize the standard, dominant shadow-of-trial approach in the criminal arena, our analysis and its policy implications differ substantially from extant approaches. One of the main criticisms of the shadow-of-trial model is that defendants' decisions are too erratic to predict their bargaining strategies because defendants are irrational, lack the capacity to make calculated decisions, or suffer from inadequate legal representation.[14] This critique, however, relies mainly on intuition and anecdotes, not on

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exonerated at trial."); Easterbrook, *supra* note 4, at 320 ("Sometimes the evidence may point to guilt despite the defendant's factual innocence. It would do defendants no favor to prevent them from striking the best deals they could in such sorry circumstances."); Scott & Stuntz, *supra* note 4, at 1947 ("Bargaining defendants are, in effect, purchasing insurance from prosecutors, insurance against the risk of conviction and a high post-trial sentence.").

13. We were able to find only two psychological studies, one from the late 1970s and the other from the early 1980s, that examined the influence of innocence in plea bargaining. *See* Kenneth S. Bordens, *The Effects of Likelihood of Conviction, Threatened Punishment, and Assumed Role on Mock Plea Bargaining Decisions*, 5 BASIC & APPLIED SOC. PSYCHOL. 59 (1984) (analyzing "the decision strategy used by defendants in a plea bargaining situation" through a role-playing experiment); W. Larry Gregory, John C. Mowen & Darwyn E. Linder, *Social Psychology and Plea Bargaining: Applications, Methodology, and Theory*, 36 J. PERSONALITY & SOC. PSYCHOL. 1521 (1978) (employing role-playing and involved-participant procedures "to identify variables that affect the acceptance of a plea bargain"). These earlier studies are discussed in Parts I.D and II.C *infra*.

14. *See, e.g.*, Alschuler, *supra* note 11, at 664 (stating that excessive optimism leads defendants to make wrong decisions); Albert W. Alschuler, *The Defense Attorney's Role in Plea Bargaining*, 84 YALE L.J. 1179, 1219–22 (1975) (examining how defense attorneys' biases and rapport with prosecutors can affect outcomes for defendants); Bibas, *supra* note 3, at 2476–86 (arguing that defense attorneys may lead defendants to make wrong choices in the plea-bargaining process); *id.* at 2496–2519 (arguing that defendants' biases lead them to make choices that diverge from the predictions of the shadow-of-trial model); Schulhofer, *supra* note 4, at 53–60 (discussing the effects of the personal interests of defense attorneys); Schulhofer, *supra* note 6, at 1988–90 (same).

quantitative empirical studies,[15] and it is at least partly contradicted by our empirical evidence of the innocence effect, which reveals innocents' systematic reluctance to plea. At any rate, the common criticisms of the shadow-of-trial approach bear very different normative implications from those that follow from our findings.

More recently, commentators have sought to challenge the shadow-of-trial approach by applying psychological insights to defendants' plea behaviors.[16] Although commendable in their efforts to increase the realism and efficacy of plea-bargaining scholarship, these challenges are nonetheless of mixed quality, lacking direct evidence of plea behavior and occasionally manifesting a limited familiarity with the precise contours of the psychological evidence.[17] Unsurprisingly, therefore, none of these behaviorally informed contributions have identified the innocence effect.

In a similar vein, the extensive research on procedural fairness reveals limitations of the shadow-of-trial model besides those that we examine here.[18] Procedural-fairness studies show that defendants' satisfaction with the criminal process, as well as the public's willingness to accept its legitimacy more generally, depend not only

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15. For example, one leading critic of the shadow-of-trial model based his findings on unstructured talks with court participants, a methodology he called "legal journalism." Alschuler, *supra* note 14, at 1181; Alschuler, *supra* note 3, at 52.

16. *See* Bibas, *supra* note 3, at 2467 ("[T]he shadow-of-trial model assumes that the actors are fundamentally rational. Recent scholarship on negotiation and behavioral law and economics, however, undercuts this strong assumption of rationality. Instead, overconfidence, self-serving biases, framing, denial mechanisms, anchoring, discount rates, and risk preferences all skew bargains."); *see also* Richard Birke, *Reconciling Loss Aversion and Guilty Pleas*, 1999 UTAH L. REV. 205 ("This Article proposes and examines four hypotheses that attempt to reconcile the rate of guilty pleas and the [cognitive-psychology] principle of loss aversion."); Russell Covey, *Reconsidering the Relationship Between Cognitive Psychology and Plea Bargaining*, 91 MARQ. L. REV. 213 (2007) (examining "why plea bargaining is so prevalent notwithstanding the existence of plea-discouraging cognitive bias"); Rebecca Hollander-Blumoff, *Social Psychology, Information Processing, and Plea Bargaining*, 91 MARQ. L. REV. 163 (2007) ("This essay begins to explore psychological research on how motivation and the effects of social factors can affect information processing to shed light on such processing in the plea bargaining setting.").

17. For example, Professor Stephanos Bibas argues that "[p]rosecutorial bluffing is likely to work particularly well against innocent defendants, who are on average more risk averse than guilty defendants." Bibas, *supra* note 3, at 2495. We find significant evidence to the contrary, however. *Cf.* Avishalom Tor, *The Methodology of the Behavioral Analysis of Law*, 4 HAIFA L. REV. 237, 275–81 (2008) (discussing the value and limitations of theoretical applications of extra-legal behavioral evidence to the law).

18. For review of this literature by one of its most important contributors, see generally Tom R. Tyler, *Social Justice: Outcome and Procedure*, 35 INT'L J. PSYCHOL. 117 (2000).

on the results of the process but also on its perceived fairness.[19] Our inquiry is distinct from the procedural-fairness literature in three respects, however. First, we focus on the ultimate plea offer and its acceptance or rejection instead of on the process that generates the offer. Second, our analysis examines not only defendants' perceptions but also their actual plea behavior. Third, and significantly, our findings reveal a phenomenon that systematically distinguishes the innocent from the guilty, beyond the various behavioral factors—procedural-fairness concerns included—that similarly affect all defendants.

The Article proceeds in three parts. Part I reviews a diverse body of evidence for the innocence effect, including retrospective studies of convicts, empirical analyses of field data on wrongfully convicted defendants who were later exonerated, and controlled experimental studies of plea behavior. Part II then examines the causes of the innocence effect. It considers alternative accounts for our field data, explores the psychological antecedents of the effect by drawing on relevant behavioral research in other domains, and supplements this broader research with more specific findings from experimental tests of plea bargaining.

Part III develops the positive and normative implications of the innocence effect and its psychological antecedents. Positively, we reveal the counterintuitive, striking cost of innocence: innocent defendants suffer harsher average sanctions than their similarly situated guilty counterparts. At the same time, however, our findings also show that the innocence effect causes the overrepresentation of the guilty among plea bargainers and of the innocent among those choosing trial, with the beneficial consequence of reducing the overall rate of wrongful convictions.

Normatively, Part III shows that plea-bargaining opponents and proponents alike must reevaluate, if not wholly reverse, their traditional positions. Specifically, proponents argue that plea bargaining can only benefit innocents, providing them with an option to avoid the risk of wrongful conviction at trial and the "trial penalty"—that is, the excess sentence imposed on convicted defendants who had selected trials instead of pleading guilty.[20] Yet we show that the innocence effect makes guilty defendants the main

19. *See id.* at 119–20 (discussing the many ways in which procedural fairness affects acceptance of a decision, in both criminal cases and other legal processes).

20. *See supra* note 12.

beneficiaries of large plea discounts, which leaves innocents—who disproportionately go to trial—to suffer the heavy trial penalty if they are wrongfully convicted. Assuming that the interests of innocent defendants are the relevant normative yardstick, therefore, plea bargaining should be opposed rather than supported.

Plea-bargaining opponents, on the other hand, emphasize the need to reduce the rate of wrongful convictions. They argue that plea bargaining should be curtailed because it leads innocent defendants to plead guilty, thereby causing a miscarriage of justice.[21] We find, however, that guilty defendants overwhelmingly plead guilty following a plea bargain, whereas some of those innocents who disproportionately choose to stand trial due to the innocence effect are acquitted. Therefore, if the rate of wrongful conviction is the relevant yardstick, plea bargaining should be encouraged, not discouraged.

Finally, in view of the paradoxical normative implications of the innocence effect, Part III concludes with two proposals of our own for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether by accounting for the innocence effect.

I. EVIDENCE

A diverse body of evidence substantiates the intuitive, if neglected, innocence effect. Part I.A opens with a brief review of suggestive retrospective studies in which defendants report that culpability played a central role in their plea decisions. An empirical analysis of field data from several hundred wrongfully convicted defendants who were later exonerated, predominantly in rape and murder cases, follows in Part I.B. This analysis reveals that only a small fraction of the wrongful convictions for these severe offenses followed guilty pleas, in sharp contrast to rape and murder convictions more generally, which typically result from such pleas. Part I.C then examines closely the case of the thirty-eight innocent Tulia defendants, who were convicted for drug trafficking and later exonerated. The Tulia events, of which we have detailed information, again show a striking contrast between the reluctance of innocent defendants to plea bargain and the statistics in comparable criminal

21. *See* Schulhofer, *supra* note 6, at 1984–85 ("I argue for an old-fashioned conception of what the 'innocence problem' is, and for an old-fashioned kind of remedy—abolition of bargaining—to solve it."); *supra* note 11.

cases in similar Texas districts. Finally, Part I.D concludes with evidence of the innocence effect from controlled experiments that directly manipulated the culpability of participants in both hypothetical scenarios and more realistic simulations.

A. Post-Plea Interviews

The major challenge facing an attempt to adduce quantitative evidence of the innocence effect is the difficulty of identifying truly innocent defendants. Guilty defendants often will proclaim their innocence, seeking to avoid conviction or obtain a better plea bargain, whereas innocents may plea bargain when conviction seems certain and the plea offer appears attractive. Similarly, one cannot infer the innocence of those few who choose trial from their refusal to plea bargain. Some guilty defendants may refuse to bargain, whether in an unsuccessful attempt to secure a better offer, because their plea offers were not sufficiently attractive, or to avoid the social costs of admitting their guilt in court. Finally, criminal trials cannot perfectly separate the guilty from the innocent, which inevitably results in cases both of mistaken acquittals and of wrongful convictions.

Nevertheless, empirical studies collecting data from defendants after the conclusion of their criminal proceedings reveal the centrality of culpability and innocence in defendants' plea behavior. Although these retrospective interviews may be tainted by the participating convicts' efforts to present themselves in a positive light, they are less likely than pretrial data to be shaped by defendants' attempts to impact the legal result of their already-concluded case.

Interestingly, retrospective studies report that the expected-sanction considerations on which the shadow-of-trial model is based[22] are not the most important factors for defendants' plea-bargain decisions. Instead, and quite strikingly, many defendants claimed that they had pleaded guilty first and foremost because they were in fact guilty.[23] In the same vein, almost all convicted defendants who

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22. *See supra* notes 4–5 and accompanying text.

23. A.E. BOTTOMS & J.D. MCCLEAN, DEFENDANTS IN THE CRIMINAL PROCESS 111–12 & tbl.5.7 (1976). Of the defendants in the sample who pleaded guilty, 41 percent explained that they did so simply because they were guilty, 27 percent pleaded guilty because the police had a good case against them, 20 percent because they were caught red-handed, 11 percent because they confessed to the police, 10 percent to end the matter quietly and with less fuss, and 7 percent based on their lawyer's advice. Only 5 percent said they plea bargained to get a lighter sentence. Some defendants gave more than one reason. *Id.* at 112 tbl.5.7; *see also* SUSANNE DELL, SILENT IN COURT: THE LEGAL REPRESENTATION OF WOMEN WHO WENT TO PRISON

pleaded "not guilty" at trial claimed either that they did not commit the offense or that, in their opinion, the act that they had committed did not constitute an offense.[24] Utilitarian considerations, on the other hand, were far less common: only 10 percent of the defendants cited the desire to end the proceedings quickly as a major reason for plea bargaining, and merely 5 percent cited the desire to obtain a lighter sanction through the plea as the main reason for accepting a plea bargain.[25] In many cases, moreover, defendants who pleaded "not guilty" told the researchers that had they based their decision on considerations of expediency, they would have plea bargained rather than gone to trial.[26]

Notably, most defendants in retrospective studies had no problem presenting themselves in a negative light. That is, the vast majority of guilty pleaders—which is to say the substantial majority of all defendants[27]—routinely admitted in the survey that they had committed the offense and even stated that their culpability was the main reason for their guilty plea.[28]

Therefore, although the veracity of retrospective claims of innocence in post-trial or post-plea surveys may be questionable, these studies can at least be cited for the proposition that, for most

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30–37 (1971) (only about 10 percent of the women who pleaded guilty denied committing the offense when interviewed after pleading).

24. *See* BOTTOMS & MCCLEAN, *supra* note 23, at 130–31.

25. *See id.* at 112 tbl.5.7.

26. *See id.* at 132 ("[A] decision to plead not guilty did not imply the expectation of acquittal: 26 per cent of those convicted and 21 per cent of those acquitted had expected to be found guilty."). For a more detailed analysis of this study, see *supra* note 23. Similar results were found in an international study that interviewed nearly four hundred defendants immediately following their plea at the Israeli Magistrate Court. AMI KOBO, INCONSISTENT PLEADERS IN COURT: PLEADING GUILTY AND CLAIMING TO BE INNOCENT 329–43 (2009). In that study, most defendants who pleaded guilty (53 percent) reported making their decision to reject the plea offer either because the indictment that was brought against them was justified or because they had committed the offense. Only a few defendants who pleaded guilty mentioned expediency considerations, such as the desire to end the case (10.2 percent), or the deal offered by a plea bargain, or an expected penalty relief following a guilty plea (11.2 percent). Another common reason given was being caught red-handed (23.7 percent). Of course, defendants' responses in the latter study, which were collected before trial concluded, are particularly susceptible to the criticism that they are distorted or false because defendants might seek to somehow affect the outcome of the case even while talking privately to researchers outside the legal proceeding.

27. *See supra* note 1.

28. *See supra* notes 23, 26.

defendants who pleaded guilty, culpability was a significant consideration in making that plea decision.[29]

B. Exoneration Statistics

Suggestive retrospective studies notwithstanding, we sought to obtain direct, quantitative evidence of the innocence effect. To overcome the challenge of identifying truly innocent defendants, we turned to the one group whose innocence is nearly certain: defendants who were wrongfully convicted and later exonerated.

Using data from the Innocence Project[30] and data collected by Professor Samuel Gross and his coauthors,[31] we compiled a dataset of 466 exoneration cases in which a conviction was overturned based on new information that revealed that the defendant was factually innocent.[32] Of those cases, 284 exonerations resulted from DNA

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29. A similar pattern of a strong concern for fairness or justice emerges from the cases featured in the PBS documentary *The Plea*, which chronicled individuals who refused to plead guilty and claimed their innocence despite certain incarceration and extremely attractive plea offers. *Frontline: The Plea* (PBS television broadcast 2004), *available at* http://www.pbs.org/wgbh/pages/frontline/shows/plea. Such was the story of Kelly Jarrett, who rejected an offer to plead guilty and be set free after having already served about ten years of her sentence of twenty-five years to life. Jarrett refused the offer on moral grounds, despite knowing that she was very likely to serve decades more in prison because of this refusal. Similarly, Kerry Max Cook was twice convicted and sentenced to death for the murder and mutilation of a woman. When the Texas Court of Criminal Appeals—the highest criminal appeals court in the state—ordered the lower court to review the case again, the prosecutor offered Cook the chance to plead guilty in exchange for his immediate release. Despite the risk of another possible death sentence, Cook refused to plead guilty to a murder he did not commit. It was only after he had been offered a *nolo contendere* settlement, which allowed him to maintain his assertion of innocence, that he accepted the deal that set him free. Two months after the plea bargain, a DNA test proved that someone else had committed the crime and that Cook, therefore, was innocent. *Id.*

30. INNOCENCE PROJECT, http://www.innocenceproject.org/know/Browse-Profiles.php (last visited Sept. 22, 2012).

31. Samuel R. Gross, Kristen Jacoby, Daniel J. Matheson, Nicholas Montgomery & Sujata Patil, *Exonerations in the United States 1989 Through 2003*, 95 J CRIM. L. & CRIMINOLOGY 523 (2005).

32. Originally, we included cases from many other sources, including data from EDWIN BORCHARD, CONVICTING THE INNOCENT: SIXTY-FIVE ACTUAL ERRORS OF CRIMINAL JUSTICE (1932); JEROME FRANK & BARBARA FRANK IN ASSOCIATION WITH HAROLD M. HOFFMAN, NOT GUILTY (1957); MICHAEL L. RADELET, HUGO ADAM BEDAU & CONSTANCE E. PUTNAM, IN SPITE OF INNOCENCE: ERRONEOUS CONVICTIONS IN CAPITAL CASES (1992); EDWARD D. RADIN, THE INNOCENTS (2d prtg. 1964); CTR. ON WRONGFUL CONVICTIONS, NW. L., http://www.law.northwestern.edu/cwc (last visited Sept. 22, 2012); INNOCENCE PROJECT NEW ORLEANS, http://ip-no.org/exonerees-clients (last visited Sept. 22, 2012); JUSTICE DENIED: MAG. FOR WRONGLY CONVICTED, http://www.justicedenied.org (last visited Sept. 22, 2012); TRUTH IN JUSTICE, http://www.truthinjustice.org (last visited Sept. 22, 2012); and *Wrongly Convicted Database Index*, FOREJUSTICE, http://forejustice.org/db/innocents.html (last visited

analysis, and the real offender was found in 96 cases. To ensure data quality and relevance we used only exonerations from 1989 through June 2011.[33] The records in the database were categorized for the following seven variables: type of felony (mostly rape or murder), year of wrongful conviction, year of exoneration, sentence, type of conviction (plea or trial), cause of mistaken conviction,[34] and type of exonerating evidence.[35] In cases in which defendants pleaded guilty, we also added an eighth variable, measuring whether they faced the threat of a death sentence if convicted at trial.

The quantitative evidence of the innocence effect was dramatic. The categorized data revealed that only 37 of the 466 exonerated defendants, or 7.9 percent, were convicted following a guilty plea. The remaining 92.1 percent were convicted by an erroneous jury decision at trial. This 7.9 percent rate stands in sharp contrast to the common rate of guilty pleas in comparable felony cases during the same period, which was approximately 90 percent.[36]

Sept. 22, 2012). To assure a high, consistent standard for inclusion in the database and to ensure that the cases included are not too old, however, we relied only on data from the INNOCENCE PROJECT, *supra* note 30, and Gross et al., *supra* note 31. We consulted the other sources for supplementary information regarding the cases that we studied. Seven cases in Gross et al., *supra* note 31, were excluded from our analysis because of insufficient information.

33. Relying on more recent cases reduces the risk that the result is affected by changes in the criminal-justice system over the years. We note, however, that a larger dataset that also included older cases generated results similar to those reported here.

34. The causes were eyewitness misidentification (269 cases), expert testimony (60 cases), police misconduct (77 cases), prosecution misconduct (76 cases), false confessions (67 cases), false testimony of an informant or another interested party (89 cases), ineffective or no representation (30 cases), alleged scientific evidence (37 cases), alleged suspicious statement of the defendant (12 cases), and pre-DNA hair analysis (27 cases). In many cases, more than one cause led to the miscarriage of justice.

35. The exonerating evidence consisted of DNA (284 cases), real culprit found (96 cases), solid alibi proved (10 cases), informant reversed testimony (34 cases), and exonerating scientific evidence other than DNA—such as blood tests, fingerprints, and ballistic tests (13 cases). Three exonerations followed proof that the crime never happened. In one case, the supposedly stolen money was found. In another, a couple was exonerated from murdering their baby, who had never been born. In some cases, more than one type of proof led to the exoneration.

36. *See* BRIAN A. REAVES, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ 205289, STATE COURT PROCESSING STATISTICS, 1990-2002: VIOLENT FELONS IN LARGE URBAN COUNTIES, 7 tbl.13 (2006), *available at* http://bjs.ojp.usdoj.gov/content/pub/pdf/vfluc.pdf (stating that 88 percent of violent felony convictions in the seventy-five largest urban counties between 1990 and 2002 resulted from guilty pleas). In 1996, 91 percent of state-court felony convictions followed guilty pleas. JODI M. BROWN, PATRICK A. LANGAN & DAVID J. LEVIN, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ 173939, FELONY SENTENCES IN STATE COURTS, 1996, at 1 (1999), *available at* http://bjs.ojp.usdoj.gov/content/pub/pdf/fssc96.pdf. A decade later, the number had increased to 94 percent. SEAN ROSENMERKEL, MATTHEW DUROSE & DONALD FAROLE, JR., BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF

Intriguingly, many of the innocent defendants in our database who pleaded guilty to a crime that they did not commit—23 of 67 wrongfully convicted defendants, or 34.3 percent—did so after falsely confessing to the crime during the police investigation. This result suggests that guilty pleas following a confession are less reliable than guilty pleas generally.[37] Moreover, the finding demonstrates that the innocence effect is even stronger when the innocent defendant had not falsely confessed to the crime during investigation. Only 14 defendants of the 399 exonerees who had not confessed during the police investigation, 3.5 percent, pled guilty.[38]

To get a more nuanced perspective, we also analyzed each of the common offenses in the database separately. Among the 196 sexual assault exonerations, only 11, or 5.6 percent, followed a guilty plea—a figure that is dramatically different from the approximately 85 percent guilty-plea rate among sexual assault convictions during that period.[39] Among murder and manslaughter cases, 16 of the 234 exonerated defendants, 6.8 percent, pled guilty, dramatically less than the 60 percent guilty-plea rate among comparable convictions.[40] Moreover, 14 of these 16 defendants explained that their guilty plea had been driven by their fear of capital punishment. Unsurprisingly, it appears that even innocents are likely to plead guilty when bargaining is conducted in the shadow of a death sentence.

One possible concern is that the exoneration data does not reveal whether, in light of the prosecution's evidence, the plea offers would have been unattractive even to guilty defendants. We believe

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JUSTICE, NCJ 226846, FELONY SENTENCES IN STATE COURTS, 2006, at 1 (2009), *available at* http://bjs.ojp.usdoj.gov/content/pub/pdf/fssc06st.pdf. In fact, the 99 percent confidence interval around the 7.9 percent rate in our sample data has a lower bound of 5.6 percent and an upper bound of 13.4 percent, which highlights the strong tendency of these innocents to opt for a trial.

37. Notably, this important finding does not show that false confessions cause false guilty pleas. Instead, our data reveal an important correlation between the two behaviors, leaving open the possibility that some other case characteristic—such as extreme vulnerability of certain defendants—facilitates both false confessions and false pleading. Although we speculate that both of the preceding accounts may be true, further empirical investigation in this area is necessary.

38. The 99 percent confidence interval around the 2.8 percent rate in this sample data has a lower bound of 1.8 percent and an upper bound of 7.2 percent.

39. In 1996, 81 percent of the convictions in sexual assault cases resulted from guilty pleas. BROWN ET AL., *supra* note 36, at 8 tbl.10. In 2006, it was 88 percent. ROSENMERKEL ET AL., *supra* note 36, at 25 tbl.4.1.

40. In 1996, 54 percent of the convictions for murder and non-negligent manslaughter resulted from guilty pleas. BROWN ET AL., *supra* note 36, at 7. In 2006, the rate was 61 percent. ROSENMERKEL ET AL., *supra* note 36, at 25 tbl.4.1.

that this concern is of little significance, however, as there is no reason to believe that prosecutors treated these innocent defendants differently from their treatment of similar, guilty defendants. Prosecutors probably believe that all prosecuted defendants are guilty and dismiss the charges against those who they believe are innocent. Therefore, prosecutors usually offer defendants plea bargains that reflect the expected sanction at trial, irrespective of defendants' actual guilt or innocence.[41] Absent an innocence effect, therefore, we should have observed similar guilty-plea rates for guilty and innocent defendants.

Another, potentially more significant, concern with the systematic, pronounced differences between the defendants in our database and the general convict population is that the exonerated may consist of a small, self-selected—and therefore non-representative—group of innocents who refuse even attractive offers and persist in making efforts to prove their innocence following conviction. According to this account, the behavior of the exonerated may systematically differ from that of the broader population of innocent defendants, who accept attractive plea offers, do not seek to challenge their convictions after pleading guilty, and thus are unlikely to be exonerated.[42]

To examine this possibility, we separately studied the subset of cases in which the defendants were exonerated after the real offender had been identified, the type of event that was less likely to depend on defendants' efforts to challenge their convictions. Among those ninety-six cases, only twelve convictions, 12.5 percent, resulted from guilty pleas.

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41. *See* Easterbrook, *supra* note 4, at 297 ("As the sentence on conviction and the probability of conviction rise, so does the prosecutor's minimum demand."); Schulhofer, *supra* note 6, at 1984 ("Offers and reservation prices depend on the likelihood of conviction, which, in turn, is governed primarily by the admissible evidence available to the prosecution and defense. . . . Innocence *by itself* (that is, apart from its link to particular evidence) can have only a small impact on the odds of conviction."); *see also* Alschuler, *supra* note 3, at 52 ("[T]he prosecutor must estimate the sentence that seems likely after a conviction at trial, discount this sentence by the possibility of an acquittal, and balance the 'discounted trial sentence' against the sentence he can insure through a plea agreement."); Oren Gazal-Ayal, *Partial Ban on Plea Bargains*, 27 CARDOZO L. REV. 2295, 2298–99 (2006) (discussing the impact of plea bargaining on a prosecutor's decision whether to prosecute a case at all).

42. *See* C. RONALD HUFF, ARYE RATTNER & EDWARD SAGARIN, CONVICTED BUT INNOCENT: WRONGFUL CONVICTION AND PUBLIC POLICY 73 (1996) (arguing that usually, when wrongful convictions result from a guilty plea "there is no continued aftermath, no investigation, no exoneration").

Because it is conceivable that even this subset of exonerations still partly reflects the contribution of plea-refusing innocents' efforts, however, we sought those rare instances in which this selection effect is particularly unlikely. For this purpose, we examined a broader exonerations dataset, spanning from the beginning of the twentieth century through June 2011,[43] which included seven murder defendants who had been exonerated after the supposed murder victim was found to be alive.[44] In one additional theft case, the defendant had been exonerated after the supposedly stolen money was found.[45] Each of these eight defendants—whose efforts could not have contributed to the exoneration—pleaded not guilty,[46] providing a further illustration of the innocence effect.

Beyond its apparently limited manifestation in our exoneration dataset, moreover, the selection-bias argument fails to account for the remarkable reluctance to plea bargain that was exhibited by the Tulia defendants, whose exonerations resulted from no effort of their own.

C. The Tulia Dataset

Another dataset that shows the innocence effect at work concerns the criminal prosecution, conviction, and later exoneration of a large group of defendants in the small town of Tulia, Texas. This dataset is particularly instructive for a number of reasons. First, it involves drug-trafficking cases, thereby expanding the range of offenses covered by our other exoneration data, which otherwise consist almost solely of murder and rape cases. Second, the quantitative data we have for the thirty-eight Tulia defendants is further complemented by rich, qualitative documentation of these innocents' plea-bargain decision-making processes. Third, and importantly, the effects of selection bias—which could not be ruled out completely with respect to our general exoneration data

43. Because the cases in our database included no exonerations resulting from the appearance of the supposed murder victim, we examined here the larger database of 973 cases from the twentieth- and twenty-first centuries that we compiled originally. *See supra* note 32.

44. These include the cases of Bill Wilson, Alabama, 1915; Louise Butler and George Yelder, Alabama, 1928; Antonio Rivera and Merla Walpole, California, 1973; Condy Dabney, Kentucky, 1926; and Ernest Lyons, Virginia, 1909. *Exonerations in All States*, CTR. ON WRONGFUL CONVICTIONS, NW. L., http://www.law.northwestern.edu/wrongfulconvictions/exonerations/usIndex.html (last visited Sept. 22, 2012). The full story of Ernest Lyons can be found in BORCHARD, *supra* note 32, at 144–48.

45. Gross et al., *supra* note 31, at 536 n.28.

46. *Exonerations in All States*, *supra* note 44.

presented in Part I.B—are absent from the Tulia cases because we know that the defendants' efforts played no role in their later exonerations.[47]

The Tulia cases took place when one corrupt, undercover police officer successfully framed thirty-eight people in allegedly independent cases of drug trafficking.[48] A few years after their respective convictions, however, these innocents were exonerated and compensated, and the officer was convicted of perjury.[49] The behavior of these unrelated, innocent defendants, who each knew that a police officer would testify at trial that he or she sold him cocaine, is telling.[50] The first eight defendants, who were brought to trial consecutively, were unwilling to plea bargain. They were sentenced after jury trials to various prison terms, ranging from 20 to 434 years of imprisonment.[51]

Among the eight defendants was Joe Moore, who rejected his lawyer's repeated advice to plea bargain, even though he was told he would not be able to challenge the officer's testimony at trial.[52] With two previous drug offences in his record, no alibi, and only his word against that of a police officer, Moore's defense lawyer was correct to tell him that he had no chance at trial.[53] Following his refusal to plea bargain, Moore was convicted after a trial that lasted less than a day and was sentenced to ninety-nine years of imprisonment.[54]

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47. *See Texas "Officer of the Year" Chalked Up 38 Wrongful Convictions*, CTR. ON WRONGFUL CONVICTIONS, NW. L., http://www.law.northwestern.edu/cwc/exonerations/txtuliasummary.html (last visited Sept. 22, 2012) (explaining that the reinvestigation of the case was the result of efforts by a *Texas Observer* reporter whose stories were brought to the attention of an NAACP lawyer, who then assembled a legal team to represent the imprisoned Tulia defendants, which ultimately resulted in the defendants' exoneration). Many of the details of the Tulia scandal are taken from NATE BLAKESLEE, TULIA: RACE, COCAINE, AND CORRUPTION IN A SMALL TEXAS TOWN (2005).

48. *Texas "Officer of the Year" Chalked Up 38 Wrongful Convictions*, *supra* note 47.

49. BLAKESLEE, *supra* note 47, at 408.

50. *See id.* at 77 (reporting that the results of the first trial "spread quickly among the small pool of lawyers who handled indigent defendants' cases in Swisher County").

51. *See id.* at 43–157 (describing the pleas and sentences of the first eight Tulia defendants). For a summary of the Tulia cases, see *Texas "Officer of the Year" Chalked Up 38 Wrongful Convictions*, *supra* note 47.

52. BLAKESLEE, *supra* note 47, at 48.

53. *Id.* at 44–48.

54. *Id.* at 57–59. Moore was frustrated by his lawyer's lack of trust and asked to dismiss him, but the court rejected this request as well as another request for a continuance to examine the officer's credibility. *Id.* at 48. Even after Moore's requests were rejected, however, he still refused to accept plea offers. *Id.*

Similarly, Fred Brookins knew that all five defendants whose trials preceded his own had been convicted based on similar testimony by the same officer who was about to testify against him.[55] Brookins nevertheless rejected a deal for five years of imprisonment on the eve of the trial, against his lawyer's strong advice, arguing that he should not plead guilty to something that he had not done. Following his plea refusal, he received a twenty-year sentence at trial.[56]

The eight Tulia defendants' consistent and independent refusals to plea bargain not only demonstrate the reluctance of some innocents to plea, but also suggest that such reluctance may be quite common, even in cases such as these—that is, with defendants facing strong incriminating evidence, high trial risk, and the contrary advice of their defense lawyers. In a state where only 0.5 percent of defendants in drug-related offenses opted for a jury trial in 1999, these eight defendants made the exceptional decision to reject a plea offer and face a jury.[57] It is particularly striking that the latter of the first eight innocents refused to plea bargain despite seeing how virtually identical testimony led to extremely harsh prison sentences for those who preceded them, in the same courtroom, and with the same two judges.[58]

The Tulia cases also illustrate that innocents' reluctance to plea bargain is not without limit. Following the harsh sentences that were imposed on the first eight defendants, only three of the remaining defendants went to trial; the other twenty-seven innocents pled guilty, many of them in return for very attractive nonincarceration sentences.[59] Thus, at least when the plea concession is great and the

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55. *Id.* at 148.

56. *Id.* at 157.

57. In Texas in 1999, only 74 of the 24,570 convictions (0.3 percent) in drug offenses in county courts took place in front of a jury. Another 105 convictions (0.4 percent) resulted from nonjury trial, and the remaining 99.2 percent of these convictions followed guilty pleas. 147 defendants were acquitted. 81 in non-jury trials and only 51 in jury trials, with an additional 15 receiving a directed verdict or a judgment notwithstanding the verdict. Therefore, 125 of 24,837 defendants overall (0.5 percent) opted for a trial by jury. *1999 Annual Report, Statewide Summary of Reported Activity: Criminal, Probate, and Mental Health*, TEX. COURT ONLINE, http://www.courts.state.tx.us/pubs/AR99/county/cosum99.xlw (last visited Sept. 22, 2012) (recording statewide criminal-justice activity for the year ending August 31, 1999).

58. *See* BLAKESLEE, *supra* note 47, at 77–157 (describing the pleas and sentences of the first eight Tulia defendants).

59. Lee Hockstader, *Texas To Toss Drug Convictions Against 38 People, Prosecutor Concedes "Travesty of Justice*," WASH. POST, Apr. 2, 2003, at A03; *see also* BLAKESLEE, *supra* note 47, at 160–61 (summarizing the pleas of the Tulia defendants).

extremely high likelihood of conviction at trial is undeniable, even innocents commonly will plea bargain. Notably, however, the overall trial rate of the Tulia innocents was still 29 percent, with eleven of thirty-eight defendants refusing to plea bargain, a dramatically higher rate than the 0.5 percent rate for comparable offenses in Texas noted in the previous paragraph.[60]

The Tulia dataset reveals a strong innocence effect for offenses that, although less severe than those murder and rape cases in our larger exoneration database, still carry extended incarceration sentences. The evidence also indicates that the first eight defendants' refusal to plea bargain was significantly motivated by fairness concerns.[61] Furthermore, the Tulia cases show the innocence effect among defendants who did not initiate the efforts that led to their later exoneration.[62]

Taken together, our varied sources of field data paint a picture in which considerations of culpability matter to criminal defendants, and in which innocents in particular are reluctant to accept plea offers except in some limited circumstances—namely, when innocents recognize that conviction is very likely, when the plea concession is great, when they believe that they are facing the risk of death sentence, or when they had falsely confessed during investigation. Although the shadow-of-trial model predicts otherwise,[63] defendants' culpability shapes their behavior not only indirectly by influencing their probability of conviction and expected sentence, but also directly by impacting their willingness to accept plea offers.

Nevertheless, both our general exoneration evidence and the Tulia dataset concern only serious offenses—ones with long incarceration sentences that leave sufficient time for an exoneration to occur. These offenses may not represent the behavior of criminal defendants in less serious cases in which exoneration evidence is unavailable. To provide further support for the prevalence of the innocence effect and evidence of its generality, we turn to two early experimental studies that examined plea-bargaining behavior through controlled experiments.

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60. *See supra* note 57.
61. *See supra* text accompanying notes 54–56.
62. *See supra* note 47.
63. *See supra* note 6.

D. Experimental Evidence

After offering in the preceding sections both quantitative and anecdotal evidence from the field for the innocence effect, we now consider two early experimental studies of plea behavior. Such studies are particularly suited to offer direct evidence for a causal relationship between innocence and the reluctance to plea.[64] By allowing researchers to manipulate participants' culpability and examine its effects on the willingness to plea bargain, these experiments provide evidence that the data from the field—where culpability is predetermined—cannot provide. Although field evidence may show a dramatic, negative correlation between innocence and the willingness to plea, experimental tests can help to reveal whether innocence is an actual cause of this effect.

Experimental tests permit researchers to manipulate a particular variable—such as culpability—and examine its effects in a controlled environment.[65] Despite their unique benefits, however, controlled experiments, particularly when conducted in laboratory settings, also have some inherent limitations, most notably with respect to their external validity.[66] Findings in laboratory settings may not generalize well to the real world when the experiment fails to replicate important elements of the question that the researcher aims to study. This failure can happen, for example, due to the artificial nature of many laboratory studies or because the experimental participants somehow differ systematically from the real-world individuals in whose behavior we are interested.[67]

This concern about external validity seems particularly acute in the case of plea bargaining. For instance, the extreme consequences of criminal defendants' decisions cannot fully be replicated in the laboratory. Moreover, there are serious ethical and practical problems involved in misleading experimental participants to believe that they are guilty of committing a criminal offense. And there is the possibility that criminal defendants are somehow different from the

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64. *See* Tor, *supra* note 17, at 281–90 (discussing the virtues of empirical studies).

65. *Id*.

66. *See* ROBERT ROSENTHAL & RALPH L. ROSNOW, ESSENTIALS OF BEHAVIORAL RESEARCH: METHODS AND DATA ANALYSIS 212 (3d ed. 2008) (explaining that external validity refers to whether the results of an experiment generalize to the public at large); WILLIAM R. SHADISH, THOMAS D. COOK & DONALD T. CAMPBELL, EXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS FOR GENERALIZED CAUSAL INFERENCE 38 (2002) (defining validity and threats to validity).

67. ROSENTHAL & ROSNOW, *supra* note 66, at 212; Tor, *supra* note 17, at 287.

general population from which studies draw their experimental participants.[68]

A more careful analysis suggests, however, that the limitations of experimental tests of plea-bargaining behavior are less detrimental than they initially appear to be. First and importantly, we draw on the experimental findings described below to gain further insight into the innocence effect—of which we already have substantial real-world evidence—not to establish its very existence. In fact, the evidence of the effect in these experiments serves more to highlight the studies' external validity—that is, that they replicate real plea bargaining behavior at least in this important respect—than to further corroborate our real-world evidence.

Second, some experimental tests included elements showing that, specifically in the plea-bargaining setting, the results of hypothetical questionnaires bear close resemblance to those results obtained by realistic simulations.[69] Additionally, the responses of college students—the most common participants in laboratory experiments—to such questionnaires are largely similar to those of convicted criminals.[70]

In two early experiments, Professor Gregory and his coauthors found that innocence affected participants' willingness to accept plea offers.[71] One study concerned a lighter criminal offense—armed robbery—than the ones appearing in our field data; the other study involved a non-criminal, academic infraction. Moreover, Gregory et al. not only employed a simulation (for the robbery scenario) but also studied the behavior of individuals who were misled to believe that they had committed an academic infraction.

The first study asked male students to imagine that they were either innocent or guilty of having committed armed robbery.[72] The students received highly detailed information on the circumstances

68. *See* Avishalom Tor, Oren Gazal-Ayal & Stephen M. Garcia, *Fairness and the Willingness To Accept Plea Bargain Offers*, 7 J. EMPIRICAL LEGAL STUD. 97, 103 (2010) (discussing these problems).

69. *See generally* Gregory et al., *supra* note 13 (describing consistent results between a study that used a hypothetical questionnaire and one that used a realistic simulation).

70. *See* Pauline Houlden, *The Impact of Procedural Modifications on Evaluations of Plea Bargaining*, 15 LAW & SOC'Y REV. 267, 279 (finding roughly similar outcomes in the responses of student participants and inmate participants in a study of defendants' preferences about procedural aspects of plea barganing).

71. *See* Gregory et al., *supra* note 13, 1525 ("The present data suggest that the innocence or guilt of a defendant is a very strong determinant of acceptance of a plea bargain.").

72. *Id.* at 1522–23.

that led to their imagined arrest for committing the crime, the charges against them, their punishment if convicted, and the details of a plea bargain that they were offered. Although the plea offers were identical for all participants, the first three variables—culpability, number of charges, and prison sentence if convicted—were manipulated between subjects.[73] This design ensured that the participants, who were randomly assigned to their respective experimental conditions, were not exposed to multiple versions of the simulation and thus could not know that the experimenters were studying, *inter alia*, the role of innocence (as opposed to any other variable) in plea bargaining. The results of this first study showed that innocent participants were significantly more likely than guilty ones to reject the plea offer.[74]

In the second experiment, in which students were accused of having prior information about answers to a difficult test, the researchers employed a confederate to place students in their respective conditions of actual guilt or innocence.[75] This realistic experiment corroborated the results of the hypothetical decisions made by participants in the simulation study and found that innocent participants were dramatically less likely than guilty participants to accept a plea-like compromise offer in lieu of facing judgment with higher potential penalties by an ethics committee.[76] This pattern of behavior prevailed, although both the charges and the evidence against the two participant groups were identical.[77]

The results of Gregory et al.'s two controlled experiments complement our field evidence. They indicate that in the plea-bargaining domain hypothetical studies using students as participants and requiring "as if" behavior can possess external validity. In addition, these studies—as well as the multiple additional experiments we discuss in Part II.C—suggest that the innocence effect

73. *Id.* For a discussion of the differences between "within-subjects" and "between-subjects" experimental designs, see ROSENTHAL & ROSNOW, *supra* note 66, at 170–192.

74. Gregory et al., *supra* note 13, at 1525. Interestingly, the study also found main effects for the other independent variables (for example, the number of charges and the severity of punishment) and an interaction between them. *Id.* These effects, however, appeared when analyzing guilty but not innocent participants, *id.*, which further corroborates the dominance of fairness considerations in innocents' decisions.

75. *Id.* at 1526.

76. *Id.* at 1528.

77. *Id.* The evidence against the participants consisted only of their alleged high grade on what was represented to be a very difficult examination. *Id.*

extends to lighter offenses and infractions beyond those severe offenses appearing in our field evidence.

II. CAUSES

A diverse set of empirical findings reveals a pattern in which considerations of culpability appear to be paramount in defendants' plea behavior generally, and in which innocents specifically exhibit a strong tendency to refuse plea offers.[78] Yet explanations other than a genuine reluctance to plea may account for innocent defendants' behavior. Innocents, for instance, may exhibit more frequent plea refusals simply because they face better acquittal prospects at trial compared to guilty defendants.

Moreover, even if the innocence effect truly is driven by innocence per se instead of the various other factors that typically are associated with innocence, such as innocents' often-superior trial prospects, the field evidence sheds only limited light on the precise mechanisms whereby innocence facilitates plea rejections. Innocents may refuse to plead guilty because of a preference for justice or fairness. These defendants may also spurn plea offers more often than guilty defendants due to innocents' more optimistic predictions of their trial prospects,[79] or for other reasons altogether.[80]

As Part III explains, however, a better understanding of the mechanisms underlying the innocence effect is important for plea-bargaining policy. To this end, Part II.A first considers alternative accounts besides actual innocence for the innocence effect, concluding that these accounts cannot fully explain the empirical data. Part II.B then turns to the likely mechanisms underlying the effect, drawing on a rich psychological literature that studied similar

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78. *See supra* Part I.

79. *See infra* Part II.B.3.

80. *Cf.* Colin Camerer & Eric Talley, *Experimental Study of Law*, *in* 2 HANDBOOK OF LAW AND ECONOMICS 1619, 1621 (A. Mitchell Polinsky & Steven Shavell eds., 2007) ("[E]mpirical approaches suffer from the fact that it is often difficult to stage (much less to observe by happenstance) a truly natural experiment in the real world that implies clear causal conclusions. Because laboratory approaches excel in just this respect, at the very least good experimental designs are likely to provide a complementary and confirmatory check on empirical methods."). Professor Russell Korobkin has noted the limits of empirical evidence in illuminating legally-relevant questions: "Potentially even more troubling, however, is that the data required for such studies is often impossible (or virtually impossible) to obtain and, even when it can be obtained, the results themselves or the implications to be drawn from the results will often be contestable and ultimately indeterminate." Russell Korobkin, *Possibility and Plausibility in Law and Economics*, 32 FLA. ST. U. L. REV. 781, 786 (2005).

behavior outside the plea-bargaining context. Finally, Part II.C reports the results of multiple experimental tests of plea bargaining that bring the psychological underpinnings of the innocence effect into sharper relief and provide a firmer foundation for the positive and normative analyses we undertake in Part III.

A. Alternative Accounts

Two alternative accounts would attribute the innocence effect to the nature of the cases facing innocent defendants rather than to innocence itself. According to the first account, innocents refuse the bargain more often because, on average, they face weaker prosecution cases and thus a better chance of acquittal at trial. Because both parties know that the case is weak, the defendant is unwilling to plead guilty.

Despite its intuitive appeal, however, this argument fails to consider the impact of prosecutorial discretion and incentives on plea bargaining. As long as prosecutors know the strength of their cases and are willing and able to adjust their plea offers based on the probability of conviction at trial using charge, fact, or sentence bargaining,[81] the rate at which defendants accept plea offers should remain the same in weaker and stronger cases.[82] In fact, we already noted that prosecutors are expected to make more—rather than less—attractive plea offers in weaker cases that they still decide to prosecute in an effort to avoid the risk of failure to convict at trial.[83] In strong cases, prosecutors worry less about the possibility of trial because they are confident that they will secure a conviction. By contrast, in weak cases they will do much more to secure a guilty plea because an acquittal at trial is more likely. In fact, the behavior of the Tulia defendants, who knew that the cases against them were strong,[84] and the results of the experimental studies that controlled for the

81. *See supra* note 8 and accompanying text.

82. *Cf.* Alschuler, *supra* note 3, at 58–60 (describing the administrative and tactical pressures that lead prosecutors to scale offers to the strength of their case); Champion, *supra* note 8, at 257 (showing that prosecutors have "an overwhelming propensity" to moderate the terms of the deal in weak cases).

83. *See supra* note 8 and accompanying text; *see also* Alschuler, *supra* note 3, at 106–07 (noting that prosecutors are often measured by their rate of convictions and thus care much more about conviction than sentencing); Bibas, *supra* note 3, at 2472 ("Losses at trial hurt prosecutors' public images, so prosecutors have incentives to take to trial only extremely strong cases and to bargain away weak ones."); Gazal-Ayal, *supra* note 41, at 2318 (explaining why prosecutors do their utmost to cut deals in weak cases, as the risk of acquittal is relatively high).

84. *See supra* notes 50–54 and accompanying text.

probability of conviction[85] further demonstrate that the innocence effect cannot be attributed to the possible weakness of the cases against innocent defendants.

Under the second account, one might argue that the low rate of plea bargains is a result of innocent defendants' rational evaluation of their trial prospects. After all, trials are designed to reveal the truth. Under this view, innocent defendants will rationally estimate that their chances are better than those of guilty defendants. However, prosecutors, who bring charges only against suspects that they believe to be guilty, do not know which defendants in fact are innocent. Therefore, they cannot take innocence into account when adjusting the plea offer to the evidence of defendants' culpability that they otherwise possess. This information asymmetry hinders the negotiation between prosecutors and innocents and diminishes the likelihood of successful plea bargaining with these defendants.[86]

Notwithstanding the likely contribution of information asymmetry to the innocence effect, however, its significance should not be overstated. Trials, like plea bargaining, are shaped by the available evidence. As Professor Stephen Schulhofer explained, "[i]nnocence *by itself* (that is, apart from its link to particular evidence) can have only a small impact on the odds of conviction."[87] On the other hand, innocents who possess evidence that will assist them at trial typically can use it during plea bargaining as well.[88] Therefore, besides those uncommon cases in which innocent defendants might prefer to conceal admissible, acquitting evidence to surprise the prosecution at trial, rational innocents would much rather use that evidence earlier to convince the prosecutor to dismiss the case or at least to offer a more attractive plea bargain.

We are hard pressed to believe, for instance, that nearly all of the defendants in the exoneration database refused to plead guilty simply because they correctly estimated that their chances of acquittal at trial were high—due to private information that they could not convincingly convey to prosecutors—yet ultimately were all wrongfully convicted. We do know, moreover, that the Tulia

85. *See infra* notes 156–172 and accompanying text.

86. *See* Grossman & Katz, *supra* note 5, at 753–55 (explaining that the utility of plea bargaining will be limited when prosecutors cannot distinguish guilty from innocent defendants); Scott & Stuntz, *supra* note 4, at 1940–46 (describing in detail the effects of imperfect information on plea-bargaining strategy).

87. Schulhofer, *supra* note 6, at 1984.

88. *Id.* at 1984 & n.21.

defendants did not possess any private information when they refused to plea.[89] Similarly, those innocent experimental participants in Gregory et al.'s studies,[90] as well as the participants who refused to plea bargain in the additional experimental tests reported in Part II.C, had no private information.

Furthermore, prosecutors are well aware that their plea offers must include a substantial discount to attract defendants with a broad range of risk attitudes and estimates of trial prospects.[91] In fact, prosecutors' offers must be attractive not only to the average defendant but to nearly all defendants. Consequently, a small difference in the parties' trial predictions—whether based on private information or any other factor—is unlikely to prevent prosecutors and defendants from reaching an agreement.[92]

B. Psychological Insights

We found that innocent defendants are less willing to plea bargain than guilty defendants are, even under similar charges and evidence, and that the nature of the cases that innocents face provides an insufficient account for their plea reluctance. To gain a better understanding of the mechanisms that generate innocents' plea rejections, we turn to the rich psychological literature that studies similar behaviors outside the plea-bargaining context. Specifically, we focus on two important elements that defendants take into account according to the shadow-of-trial model when deciding whether to plea bargain: their beliefs regarding the expected sanction at trial and their risk preferences.

1. *Beliefs and Preferences in the Shadow of Trial.* Defendants' beliefs play a central role in shadow-of-trial models: defendants must compare the certain sanction offered by the plea to the probabilistic

89. *See supra* Part I.C.

90. *See supra* notes 71–77 and accompanying text.

91. *See* Alschuler, *supra* note 11, at 714–15 ("[P]rosecutors are not content merely to vector the risks of litigation. . . . [T]hey tailor their offers not to balance but to overbalance a defendant's chances of acquittal.").

92. One might argue that prosecutors can offer minimal discounts to all defendants and then offer better deals to those who reject their initial offers. This practice would allow prosecutors to distinguish among defendants who hold different risk attitudes and different estimates of trial outcomes. Because defense attorneys are repeat players, however, prosecutors could not employ such a strategy without losing their ability to threaten defendants with a credible final offer. To establish credibility, prosecutors must offer similar deals to similarly situated defendants and then try those defendants who reject the offers.

sanction at trial, which will be meted out only if they are convicted. In the simplest case, prosecutors and defendants possess the same evidence and make identical, objective, and rational predictions of likely trial outcomes based on this common information. More complex models may account for cases in which defendants' private information leads them to form different beliefs about the likely outcomes of trial from those held by prosecutors.[93]

Shadow-of-trial models—like traditional law-and-economics models more generally—assume that the parties are strictly rational.[94] At most, given the incomplete information available at the plea-bargaining stage, prosecutors and defendants will make occasional mistakes, thereby overestimating or underestimating the expected sanction at trial. When both parties share such mistakes, the likelihood of plea bargaining is unaffected.[95] And even when the occasional erroneous judgment creates a gap between the parties' beliefs—such as when a defendant underestimates or a prosecutor overestimates the expected sanction at trial—they are still likely to reach agreement because prosecutors' generous offers already take into account the possibility of judgment errors by either party.[96]

Because shadow-of-trial models envision the defendant as rationally balancing certain versus probable sanctions, defendants' risk preferences are a decisive consideration in any such model.[97] That is, different defendants exhibit different propensities to accept identical plea offers when faced with the same expected sanctions at

93. *See* Grossman & Katz, *supra* note 5, at 753–55 (describing a model in which defendants' decisions are impacted by their knowledge of their guilt or innocence).

94. *See, e.g.*, RICHARD POSNER, ECONOMIC ANALYSIS OF LAW 3 (8th ed. 2011) ("The task of economics . . . is to explore the implications of assuming that man is a rational maximizer of his ends in life . . . ." (footnotes omitted)); STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 1–2 (2004) (discussing the role of the rationality assumption in descriptive analysis and noting that "the view taken will generally be that actors are 'rational,'" "forward-looking and behav[ing] so as to maximize their expected utility"); s*ee also* Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1053, 1060–66 (2000) (reviewing various formulations of rational action within legal scholarship).

95. *Cf.* Landes, *supra* note 5, at 67 ("If both parties agree on the probability of conviction by trial, a settlement will take place for defendants who are risk averse or risk neutral . . . .").

96. *See id.* at 68 & n.14 (showing that even defendants who are optimistic about their chances of acquittal at trial might still accept a plea offer); *see also supra* note 91 and accompanying text.

97. Professor Landes already incorporated defendants' risk aversion into his seminal model. Landes, *supra* note 5, at 61–63. Professors Gene Grossman and Michael Katz discussed the influence of society's attitude to risk as well. Grossman & Katz, *supra* note 5, at 750–52.

trial. Risk-neutral defendants simply maximize the expected value of their choices, accepting all bargains that offer a sanction lower than the expected sanction at trial and rejecting all other offers.[98] More advanced models, however, account for criminal defendants who are risk-averse—as individuals are thought to be with respect to significant decisions more generally.[99] Risk-averse defendants, by definition, find the negative outcome of conviction at trial to be of greater concern than the probability of conviction alone would indicate. Not only will such defendants accept plea offers that equal the expected sanction at trial, they will accept offers that are higher than the expected sanction, all to avoid the risk of an even higher sanction in case of their conviction at trial.

In a similar vein, risk-seeking defendants reject even offers that equal the expected sanction at trial. Such defendants are less concerned about conviction and sanction at trial and therefore demand that the plea offer discount the sanction beyond its expected value before accepting it. Notably, traditional shadow-of-trial models

98. Note that, in reality, risk-neutral, and even risk-averse, defendants may reject offers that equal the expected value at trial because of a diminishing marginal sensitivity to incarceration. Although incarceration is always undesirable, a doubly long period of incarceration, for instance, may be less than doubly undesirable. In this case, risk-averse defendants with a 50 percent chance of a four-year incarceration may still reject a plea bargain that is set at the expected value of a two-year incarceration. *See* William Spelman, *The Severity of Intermediate Sanctions*, 32 J. RES. CRIME & DELINQ. 107, 113 (1995) (summarizing empirical studies that found that defendants who were interviewed shortly after being arrested regarded a five-year prison sentence to be only twice as severe as a one-year sentence, and a ten-year sentence to be about four to five times more severe than a one-year sentence). Moreover, the findings of research on intertemporal choice—such as that facing defendants in the shadow of trial—reveal that people tend to be hyperbolic discounters, giving disproportional weight to short-term outcomes over long-term ones. *See* George Ainslie & Nick Haslam, *Hyperbolic Discounting, in* CHOICE OVER TIME, 57 (George Loewenstein & Jon Elster eds., 1992) (explaining the phenomenon of hyperbolic discounting). But risk-averse defendants who are hyperbolic discounters will have further cause to reject offers that are set at the expected value of trial because future incarceration matters to them far less than near-term incarceration following the plea. *See* Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1538–41 (1998) (arguing that "years in prison far in the future will be discounted very heavily" against more short-term consequences); *see also* Gazal-Ayal, *supra* note 41, at 2338 (arguing that "future [prison time] is heavily discounted by defendants"). Yet insofar as diminishing marginal sensitivity and hyperbolic discounting exert similar pressure on guilty and innocent defendants, these processes do not alter the present analysis, which focuses on the differences between the two types of defendants.

99. *See, e.g.*, ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 44–46 (6th ed. 2012) (noting that, in decisions involving monetary outcomes, economists assume that decision makers are risk-averse or, at times, risk-neutral); A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 52–53 (2d ed. 1989) (same).

pay little attention to the case of risk-seeking defendants,[100] as this risk attitude usually is considered irrational.[101] Moreover, even behaviorally informed research suggesting that criminal defendants may be more risk seeking than other individuals does not consider the possibility of a systematic divergence in risk attitudes between innocent and guilty defendants.[102]

In sum, although defendants' beliefs and preferences are central to shadow-of-trial models, these models account for neither the possibility of the occasional erroneous belief nor the prospect of risk-seeking defendants exerting an appreciable effect on overall plea-bargaining rates. Even more importantly, however, the extant literature's failure to identify the innocence effect means that shadow-of-trial models do not consider the fact that innocent and guilty defendants exhibit systematically different beliefs and preferences in comparable settings.[103]

Yet the extensive psychological literature on human judgment and decision making reveals a number of processes that might underlie the innocence effect identified by our empirical evidence. These processes can lead innocents to hold, first, systematically more optimistic beliefs than guilty defendants, which make trial prospects seem more attractive to the former than they appear to the latter; and, second, more risk-seeking preferences that diminish for innocents the attractiveness of the standard plea offers made by prosecutors to all similarly situated defendants.

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100. *See, e.g.*, Landes, *supra* note 5, at 67–68; Grossman & Katz, *supra* note 5, at 755–56 (discussing the effects of varying degrees of risk aversion without addressing risk seeking).

101. *Cf.* COOTER & ULEN, *supra* note 99, at 45 ("[M]ost people are averse toward risk, but some people . . . like gamblers, rock climbers, and race car drivers, prefer risk."); Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113, 122 (1996) ("Although the economic models of suit and settlement allow for the possibility that parties make risk-seeking choices, this possibility is not taken seriously.").

102. *See* Birke, *supra* note 16, at 208–10 (discussing "four hypotheses that attempt to reconcile the rate of guilty pleas and the principle of loss aversion" and making no distinction between innocent and guilty defendants). One exception is Professor Bibas, who reaches a conclusion opposite to our empirical findings by speculating that innocent defendants might be less susceptible to loss aversion because "[m]ost criminals are less risk averse (at least with regard to imprisonment) than law-abiding citizens." Bibas, *supra* note 3, at 2509–10.

103. Intriguingly, one of the foundational papers in the shadow-of-trial literature on plea bargaining briefly mentions this possibility without examining it further. *See* Landes, *supra* note 5, at 69 ("[A]n innocent person may have an aversion to lying so that he would have a greater reluctance to plead guilty to an offense than a guilty person. This can be interpreted as imposing psychic losses on a guilty plea for an innocent suspect which would . . . increase the likelihood of a trial.").

2. *Diverging Beliefs.* The empirical psychological literature reveals a number of phenomena that are likely to impact innocent and guilty defendants differently. In this Section, we briefly explore the potential contribution of the illusion of transparency, the belief in a just world, and the availability heuristic.[104]

The illusion of transparency refers to people's common tendency to overestimate the degree to which others can discern their internal states—whether thoughts, feelings, or sensations.[105] In a series of studies, for example, researchers showed that experimental participants who are induced to lie overestimate the detectability of their lies.[106] Participants in one study played a multiple-round, round-robin game in which they told either lies (in one round) or the truth (in all other rounds) and observed the statements of other participants.[107] As predicted, participants overestimated the degree to which others could detect whether they were telling the truth.[108]

Later studies showed that the illusion of transparency appears in negotiation settings as well. Even experienced negotiators overestimated the degree to which their negotiation partners were able to discern information that they tried to convey about their preferences.[109] Importantly for our purposes, one study showed that this psychological phenomenon varies with the degree of power that

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104. Another important judgment process that may affect innocent and guilty defendants differently is the biasing effect that preferences exert on beliefs, which we discuss *infra* notes 123–152 and accompanying text. Notably, most of the processes that lead individuals to overoptimistic predictions of their future prospects are expected to impact criminal defendants generally without systematically distinguishing the innocent from the guilty. *See* Tor, *supra* note 17, at 245–72 (providing a brief review of these processes).

105. Thomas Gilovich, Victoria Husted Medvec & Kenneth Savitsky, *The Illusion of Transparency: Biased Assessments of Others' Ability To Read Our Emotional States*, 75 J. PERSON. & SOC. PSYCHOL. 332, 332–33 (1998) (noting that the illusion of transparency is one manifestation of egocentrically biased perspective taking, in which individuals estimate the perspective of others using their own phenomenological experience as a starting point and insufficiently adjust from it); *see also* John R. Chambers, Nicholas Epley, Kenneth Savitsky & Paul D. Windschitl, *Knowing Too Much: Using Private Knowledge To Predict How One Is Viewed by Others*, 19 PSYCHOL. SCI. 542, 542 (2008) (showing that the difficulty people have in intuiting how they are viewed by others is caused by their active reliance on private information that others do not have access to).

106. Gilovich, *supra* note 105, at 332.

107. *Id*. at 334–35.

108. *Id.* Follow-up studies further showed that participants' overestimation of others' ability to detect their lies stemmed from the illusion of transparency rather than from competing psychological accounts, such as a belief in the general detectability of lies. *Id.* at 335–36.

109. Leaf Van Boven, Thomas Gilovich & Victoria Husted Medvec, *The Illusion of Transparency in Negotiations*, 2003 NEG. J. 117, 124 (2003).

negotiators possess. Less powerful negotiators—who in this study were given the role of an employee—exhibited a stronger illusion of transparency than did more powerful negotiators—who were assigned the role of a manager.[110] These findings suggest that the pervasive illusion may be stronger among defendants, who are in an exceptionally weak position in the face of criminal charges.

In fact, two separate studies that examined the behavior of mock criminal suspects at the investigation stage found the illusion of transparency to be at work. In the first study, innocent participants were significantly more likely than their guilty counterparts to waive their *Miranda* rights.[111] The difference between the innocent and the guilty was caused by the naive belief that is held by most innocent defendants in the power of their innocence to set them free.[112] In the second study, which examined suspects' strategies during police interrogations, guilty suspects employed a variety of strategies to appear truthful, but innocents sought to tell the truth as it happened, reflecting a belief in the visibility of their innocence.[113]

Defendants operating under the illusion of transparency will overestimate a court's ability to determine whether they are telling the truth. These defendants will adjust their trial predictions to their subjective knowledge regarding their culpability well beyond what the objective evidence against them would dictate. In such cases, we should find a systematic divergence between the trial predictions of innocents, who will overestimate their probability of acquittal, and of guilty defendants, who will underestimate it.

The common belief in a just world—people's tendency to view the world as a just place where individuals get what they deserve[114]—is another factor that may contribute to the systematic discrepancy

110. Stephen M. Garcia, *Power and the Illusion of Transparency in Negotiation*, 17 J. BUS. & PSYCHOL. 133, 142–43 (2002).

111. Saul M. Kassin & Rebecca J. Norwick, *Why People Waive Their* Miranda *Rights: The Power of Innocence*, 28 LAW & HUM. BEHAV. 211, 217 (2004).

112. *Id.* at 218.

113. Maria Hartwig, Pär Anders Granhag & Leif A. Strömwall, *Guilty and Innocent Suspects' Strategies During Police Interrogations*, 13 PSYCHOL. CRIME & L. 213, 224–25 (2007).

114. An early formulation of the theory can be found in Melvin J. Lerner & Dale T. Miller, *Just World Research and the Attribution Process: Looking Back and Ahead*, 85 PSYCHOL. BULL. 1030 (1978). For more recent reviews of this phenomenon, its scope, and its limitations, see generally Adrian Furnham, *Belief in a Just World: Research Progress over the Past Decade*, 34 PERSONALITY & INDIVIDUAL DIFFERENCES 795 (2003); Carolyn L. Hafer & Laurent Bègue, *Experimental Research on Just-World Theory: Problems, Developments, and Future Challenges*, 131 PSYCHOL. BULL. 128 (2005).

between innocent and guilty defendants' beliefs. According to research on this phenomenon, people's need to believe in a just world is manifested in their responses to observed justice and injustice.[115] Because of the belief in a just world, for instance, the guilty excessively may fear the discovery of further evidence that would ensure their conviction, whereas the innocent may unduly believe that their lawyers will gather evidence or witnesses that will prove their innocence. When present, such beliefs could lead guilty defendants to underestimate their trial prospects, but these beliefs could also encourage the innocent mistakenly to overestimate them.[116]

The differential effects of the illusion of transparency and the belief in a just world on innocent and guilty defendants are likely to be reinforced by the pervasive availability heuristic.[117] This heuristic is often used in assessments of the probability of events. Judgments that rely on the availability heuristic exploit people's better and faster recall of more—as opposed to less—common instances or events and on their finding it easier to imagine likely occurrences than unlikely ones.[118] When judging by availability, people substitute the ease of mental retrieval or construction for a direct estimation of the actual numerosity of a class or the likelihood of an event.[119]

Availability-based judgments are useful because they are rapid, effortless, and typically quite accurate. But they also generate predictable errors. Some variables impact availability but not

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115. *E.g.*, Hafer & Bègue, *supra* note 114, at 128.

116. *Cf.* Gregory et al., *supra* note 13, at 1526 (suggesting that the belief in a just world may lead innocents erroneously to think that their refusal to plea bargain will serve as evidence of their innocence). One might speculate, however, that just-world beliefs exert a greater effect on guilty defendants than on those innocents who have already suffered through the various stages of the criminal-justice process up to this point.

117. *See generally* Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 4 COGNITIVE PSYCHOL. 207 (1973) (explaining the availability heuristic). For a brief summary and some legal applications, see Tor, *supra* note 17, at 248–49.

118. Tversky & Kahneman, *supra* note 117, at 208.

119. Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3, 11–14 (Daniel Kahneman, Paul Slovic & Amos Tversky eds., 9th prtg. 1988); *see also* Norbert Schwarz & Leigh Ann Vaughn, *The Availability Heuristic Revisited: Ease of Recall and Content of Recall as Distinct Sources of Information*, *in* HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 103, 117–18 (Thomas Gilovich, Dave Griffin & Daniel Kahneman eds., 2002) (disentangling two potential mechanisms underlying the availability heuristic and concluding that the ease of recall is the mechanism of more general relevance); Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES, *supra*, at 163, 163–78 (exploring different types of judgments by availability).

probability and frequency; others affect probability and frequency but not availability.[120] For example, factors that make instances easier to retrieve or imagine without changing their true probability lead to a systematic overestimation in availability-driven judgments.[121] To illustrate, although people generally hold reasonable estimates of the relative lethality of various potential causes of death, they systematically misestimate the frequency of causes of death that tend to be under- or over-publicized, so that the risk of homicide is dramatically overestimated, but the risk of death by stroke is underestimated.[122]

Due to availability effects in recall and construction, guilty defendants—who better recall incriminating evidence—will tend to overestimate their trial risk and find it easier to imagine how this evidence could lead to their conviction in court. Innocents, on the other hand, will tend to exhibit the opposite tendencies, underestimating their likelihood of conviction at trial.

3. *Diverging Preferences.* An extensive empirical literature documents how considerations of fairness impact individuals' preferences and decisions.[123] The wrongful conviction of the innocent is commonly perceived as an unjust or unfair outcome,[124] whereas convicting the guilty is not only just or fair but a main function of the criminal-justice system. It is plausible, therefore, that innocents view their wrongful conviction following a plea bargain as unjust or unfair. Guilty defendants, on the other hand, may not share that view of the bargain even if they find the prospect of conviction to be undesirable.[125] Therefore, fairness considerations can lead innocents,

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120. Tversky & Kahneman, *supra* note 117, at 209.

121. *Id.*; *see also* John S. Carroll, *The Effect of Imagining an Event on Expectations for the Event: An Interpretation in Terms of the Availability Heuristic*, 14 J. EXPERIM. SOC. PSYCHOL. 88, 94 (1978) (finding that participants who imagined events made higher-probability estimates of these events than did other participants who did not imagine them).

122. *See, e.g.*, Paul Slovic, Baruch Fischhoff & Sarah Lichtenstein, *Facts Versus Fears: Understanding Perceived Risk*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES, *supra* note 119, at 463, 465–72.

123. Importantly, the processes that we describe here, which generate the diverging risk attitudes of the innocent and the guilty, exert their effect in addition to those universal risk-seeking tendencies that are explored in other behaviorally informed scholarship. *See supra* note 16 and accompanying text.

124. *See* RONALD DWORKIN, A MATTER OF PRINCIPLE 72 (1985) ("People have a profound right not to be convicted of crimes of which they are innocent.").

125. Of course, guilty defendants may still find the sanction offered in the plea bargain to be excessive in light of the offense, the expected sanction at trial, or in comparison to other plea

in a number of distinct ways, to exhibit greater risk-seeking in their plea behavior than guilty defendants.

First, studies demonstrate that people care about receiving fair treatment in bargaining, engage in costly retaliation against unfair treatment, and react negatively to such treatment even when retaliation is impossible.[126] One illustrative and extensively studied case of such fairness-oriented behavior is the ultimatum game, in which one player (Proposer) is asked to allocate a given sum of money to himself and another player (Responder), and the latter must choose whether to accept the offered allocation.[127] If Responder accepts, each party gets a share according to the offer; if Responder rejects the offer, both parties get nothing.[128] The basic game is anonymous and without repetition, thus strategic considerations, such as developing a certain reputation, logically are irrelevant.[129]

A rational Responder should accept any positive sum of money because the alternative to acceptance is rejection without any payment. In reality, however, Responders tend to reject offers that are below 20 to 30 percent of the sum that stands for allocation, and Proposers usually offer an even greater proportion of 40 to 50 percent of the sum.[130] These findings hold true when the game is conducted with significant sums of money.[131] Responders' behavior reveals

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offers in similar cases. *See* Tor et al., *supra* note 68, at 107–09 (providing empirical evidence that comparative evaluations of a plea bargain affect a defendant's willingness to accept a plea offer).

126. *See, e.g.*, Linda Babcock, George Loewenstein, Samuel Issacharoff & Colin Camerer, *Biased Judgments of Fairness in Bargaining*, 85 AM. ECON. REV. 1337 (1995) (offering experimental evidence for fairness-driven biases in negotiation by parties to a hypothetical tort case); George Loewenstein, Samuel Issacharoff, Colin Camerer & Linda Babcock, *Self-Serving Assessments of Fairness and Pretrial Bargaining*, 22 J. LEGAL STUD. 135 (1993) (same); Matthew Rabin, *Incorporating Fairness into Game Theory and Economics*, 83 AM. ECON. REV. 1281, 1283–84 (1993) (explaining the importance of fairness considerations for understanding behavior).

127. *See* Werner Güth, Rolf Schmittberger & Bernd Schwarze, *An Experimental Analysis of Ultimatum Bargaining*, 3 J. ECON. BEHAV. & ORG. 367, 370 (1982) (providing an early report of the ultimatum game); Alvin E. Roth, *Bargaining Experiments*, *in* THE HANDBOOK OF EXPERIMENTAL ECONOMICS 253, 258 (John H. Kagel & Alvin E. Roth eds., 1995) (summarizing findings of ultimatum-game experiments). The ultimatum-game literature is very large. One readable, high-quality summary is available in COLIN F. CAMERER, BEHAVIORAL GAME THEORY: EXPERIMENTS IN STRATEGIC INTERACTION 48–55 (2003).

128. CAMERER, *supra* note 127, at 8.

129. *Id.* at 62–63 (noting the lengths to which researchers went to ensure subject anonymity in the experiment).

130. *Id*. at 49–52.

131. *Id*. at 60–62.

people's willingness to forgo substantial financial gain to punish even an anonymous Proposer whom they will never encounter again in response to an unfair offer. Further research shows, moreover, that Responders' negative emotional reactions play a significant role in their costly decisions to reject unfair offers.[132] Therefore, innocent defendants may be more likely than their guilty counterparts to react in the manner exhibited in the ultimatum game and to reject what they view as unfair plea offers.

A second way in which fairness-driven behavior may separate the innocent from the guilty follows from the somewhat subtle interaction among fairness perceptions and loss aversion. Unlike the hypothetical rational actor of standard shadow-of-trial models, real individuals tend to view alternative options—such as plea bargaining versus trial—as positive or negative depending on whether the alternative options appear to be better or worse than a psychologically neutral reference point.[133] Choice, in other words, is reference dependent.[134] Decision makers tend to be loss-averse: they are not equally sensitive to positive and negative outcomes of similar magnitudes, instead finding negative outcomes much more painful than they find positive ones attractive.[135]

The combination of reference dependence and loss aversion leads people to react differently to the options available to them depending on whether they view these options as gains or losses—a

132. Madan M. Pillutla & J. Keith Murnighan, *Unfairness, Anger, and Spite: Emotional Rejections of Ultimatum Offers*, 68 ORG. BEHAV. & HUM. DEC. PROC. 208, 208, 220 (1996); *see also* Armin Falk, Ernst Fehr & Urs Fischbacher, *On the Nature of Fair Behavior*, 41 ECON. INQUIRY 20, 25 (2003) ("[R]esponders take into account not only the distributive consequences of the proposer's action but also the intention signaled by the action.").

133. *Cf.* Rachlinski, *supra* note 101, at 119 ("Responses to a number of closely controlled hypothetical scenarios demonstrate that the appeal of a settlement depends on whether the settlement is characterized as a loss or as a gain.").

134. Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 277–80 (1979). Note also that prospect theory is only the most famous member of a large family of models that seek a better descriptive fit by modifying some rational-choice assumptions. *See generally* Chris Stramer, *Developments in Nonexpected-Utility Theory: The Hunt for a Descriptive Theory of Choice Under Risk*, *in* ADVANCES IN BEHAVIORAL ECONOMICS 104 (Colin F. Camerer, George Lowenstein, & Matthew Rabin eds., 2004) (reviewing the development of such theories, how they fare in experimental tests, and how they can be used).

135. *See* Kahneman & Tversky, *supra* note 134, at 280 ("With a single exception, utility functions were considerably steeper for losses than for gains.").

phenomenon known as the "framing effect."[136] When facing the prospect of gains, individuals usually are risk-averse, choosing, for instance, a sure gain of $100 over the 50/50 prospect of receiving either $200 or nothing. In both cases, the expected value of either option is $100, but individuals overwhelmingly choose the certain outcome over the option that includes the prospect of gaining nothing. Yet typically the opposite attitude of risk seeking is displayed when decision makers believe that they are facing the prospect of a loss, so that they prefer, for example, an 80 percent probability of losing $100 to a sure loss of $80, notwithstanding their identical $80 expected values.

Notably, the effects of framing in legal settings have been investigated in a number of civil litigation and settlement studies.[137] As in criminal cases, each party in civil litigation has to determine whether it prefers the sure compromise outcome of a settlement to the risky trial with its potential for either a better or a worse outcome.[138] Prospect theory suggests that civil defendants' risk attitudes will depend on whether they view the trial-versus-settlement decision as a choice between losses or between gains.[139] For instance, defendants who profited from a breach of contract and are being sued for damages may compare both trial and settlement to the status quo, view them as losses, and thus exhibit risk seeking.[140] The same

136. *See generally* Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, 59 J. BUS. 251 (1986) (reviewing and explaining some of the evidence of the framing effect).

137. *See, e.g.*, Rachlinski, *supra* note 101, at 136–40 (providing a detailed account, including experimental and observational evidence, of the potential role of framing in litigation and settlement); *see also* Chris Guthrie, *Framing Frivolous Litigation: A Psychological Theory*, 67 U. CHI. L. REV. 163, 185–87 (2000) (using some features of an advanced version of prospect theory to explain frivolous litigation behavior); Russell Korobkin & Chris Guthrie, *Psychology, Economics, and Settlement: A New Look at the Role of the Lawyer*, 76 TEX. L. REV. 77, 121 (1997) (using framing to explain evaluations of settlement options by lawyers and clients).

138. *See, e.g.*, George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 12 (1984) (proposing an economic model that predicts when settlement occurs in the shadow of trial); Steven Shavell, *Suit, Settlement, and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUD. 55, 56–58 (1982) (proposing an economic model of litigation that accounts for allocation of costs).

139. *See* Rachlinski, *supra* note 101, at 121 ("[P]rospect theory predicts that people make either risk-averse or risk-seeking choices depending upon the characterization of the decision as a loss or as a gain."). *See generally id.* (finding support for the effect of framing on settlement decisions in both simulation studies and actual cases). For simplicity, our discussion sets aside the significant issue of attorney fees, which also differ across legal systems.

140. *See id.* at 118–19 ("[D]efendants choose between accepting a sure loss by settling, and accepting an uncertain but potentially worse outcome by litigating further. . . . [W]hen people

defendants, however, would be risk-averse if they were to evaluate these prospects in reference to their position before profiting from the breach of contract, which makes both trial and settlement appear as gains.[141]

Framing may shape litigants' risk attitudes not only by determining whether trial and settlement appear as monetary losses or gains, but also through defendants' perceptions of fairness. When judging fairness, the neutral reference point is what people perceive as minimally fair; better outcomes are viewed as fair gains and worse outcomes as unfair losses.[142] Hence, people will tend to exhibit risk aversion when choosing among fair outcomes but risk seeking when facing unfair ones.[143]

We have already seen that considerations of justice and fairness loom large in criminal defendants' plea bargaining decisions. Innocents will tend to view the conviction and sanction required by the plea as unfair and negative, views that encourage risk seeking. At the same time, guilty defendants—insofar as they view conviction as a fair, if undesirable, outcome and the discounted plea offer as a positive outcome—will exhibit risk aversion. The interaction among loss aversion, framing effects, and considerations of fairness may thus reinforce the diverging plea attitudes of the innocent and the guilty, with the former, more risk-seeking defendants rejecting plea offers that the latter, risk-averse ones, find attractive.

Third and finally, defendants' considerations of fairness may also contribute to the diverging beliefs of the innocent and the guilty regarding their trial prospects discussed in the preceding section. The psychological literature reveals a number of ways in which individuals' preferences bias their judgments.[144] The effects of

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choose among losses, they tend to make risk-seeking choices, preferring riskier outcomes over sure losses.").

141. *See id.* at 129 n.65 ("To be sure, one might argue that both parties in the hypothetical [copyright-infringement suit] choose among gains, since they are essentially dividing the profits made from the marketing materials protected by copyright.").

142. *See generally* Daniel Kahneman, Jack L. Knetsch & Richard Thaler, *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728 (1986) (discussing framing effects in fairness judgments).

143. *See* Tor et al., *supra* note 68, at 104–07 (noting this phenomenon in the context of guilty and innocent defendants).

144. *See, e.g.*, Elisha Babad, *Wishful Thinking and Objectivity Among Sports Fans*, 2 SOC. BEHAV. 231, at 237–38 (1987) (reporting participants' biased predictions and estimates in the direction of their preferences); Elisha Babad & Yosi Katz, *Wishful Thinking—Against All Odds*, 21 J. APPLIED SOC. PSYCHOL. 1921, at 1931, 1934–35 (1991) (same); David V. Budescu & Meira

phenomena such as wishful thinking or the desirability bias are strong in situations in which people have a measure of control over outcomes, as in the case of newlyweds' predictions regarding the future prospects of their marriage.[145] But the evidence also reveals that preferences bias expectations in settings that more closely resemble the predicament of the criminal defendant at trial, in which decision makers have limited or even no control over outcomes. For example, people tend to overestimate the likelihood and degree of success of the candidate or party that they favor in an election, the team that they like better in a sports' match, or the company in which they have invested, despite the fact that their actions cannot exert any effect on these outcomes.[146] In a similar vein, innocent defendants' strong negative reactions to the injustice of a plea bargain are likely to bias their trial predictions more strongly than in the case of their guilty counterparts.

The biasing effect of fairness preferences on defendants' beliefs may also operate through the affect heuristic, which allows people to substitute affective "tags"—such as "good" or "bad"—that they associate with the targets of judgment for a direct evaluation of these targets.[147] This heuristic simplifies judgmental processes by consulting

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Bruderman, *The Relationship Between the Illusion of Control and the Desirability Bias*, 8 J. BEHAV. DECISION MAKING 109, at 132 (1995) (same); Donald Granberg & Edward Brent, *When Prophecy Bends: The Preference-Expectation Link in U.S. Presidential Elections, 1952-1980*, 45 J. PERSONALITY & SOC. PSYCHOL. 477, 477–79 & tbl.1 (1983) (same); Robert A. Olsen, *Desirability Bias Among Professional Investment Managers: Some Evidence from Experts*, 10 J. BEHAV. DECISION MAKING 65, 66–70 (1997) (same); Roy M. Poses & Michele Anthony, *Availability, Wishful Thinking, and Physicians' Diagnostic Judgments for Patients with Suspected Bacteremia*, 11 MED. DECISION MAKING 159, 165–66 (1991) (same); George Wright & Peter Ayton, *Subjective Confidence in Forecasts: A Response to Fischhoff and McGregor*, 5 J. FORECASTING 117, 120–21 (1986) (same).

145. *See* Peter Harris, *Sufficient Grounds for Optimism?: The Relationship Between Perceived Controllability and Optimistic Bias*, 15 J. SOC. & CLINICAL PSYCHOL. 9, 24–25 (1996) (finding strong evidence of wishful thinking and the desirability bias in predictions of positive events and finding weaker evidence of their existence in predictions of negative events); Neil D. Weinstein, *Unrealistic Optimism About Future Life Events*, 39 J. PERSONALITY & SOC. PSYCHOL. 806, 808 (1980) ("[T]he greater the perceived controllability of a positive event, the greater the tendency for people to believe that their own chances are greater than average." (emphasis omitted)).

146. *See, e.g.*, Babad, *supra* note 144, at 237–38 (noting this phenomenon in the context of sports); Babad & Katz, *supra* note 144, at 1931, 1934–35 (same); Granberg & Brent, *supra* note 144, at 477–79 & tbl.1 (noting this phenomenon in the political context).

147. Daniel Kahneman & Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES, *supra* note 119, at 49, 56–57 (noting that people subconsciously substitute affective

readily available affective impressions. When it is employed, evaluations depend on whether the assessed outcomes are tagged as affectively positive or negative.[148] For instance, studies suggest that variations in the probability of different outcomes matter relatively little when judgments are based on affective reactions.[149] Moreover, other research reveals that people rely on the affect heuristic when assessing the risks and benefits of different activities.[150] This reliance on affect leads people erroneously to believe that activities they deem to be beneficial, such as vaccinations, are also low-risk, while at the same time considering activities that they dislike to be more risky than they objectively are.[151] Thus, we speculate that innocent defendants, who have a negative reaction to the plea offer, might consider trial to be more attractive than it really is, either because the affect heuristic leads them to overestimate the benefits of trial with its potential for acquittal or because they insufficiently account for trial risk altogether.[152]

C. Experimental Evidence

The preceding sections document the extensive psychological literature outside the plea-bargaining context that suggests that the innocence effect may be caused by innocents' more optimistic beliefs

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judgments for stimuli, thereby responding to the general assessment of good or bad instead of to the stimulus itself).

148. *See* Melissa L. Finucane, Ali Alhakami, Paul Slovic & Stephen M. Johnson, *The Affect Heuristic in Judgments of Risks and Benefits*, 13 J. BEHAV. DECISION MAKING 1, 14 (2000) ("In this way, judgments of risk and benefit are guided and linked by affect."). *See generally* Paul Slovic, Melissa Finucane, Ellen Peters & Donald G. MacGregor, *The Affect Heuristic*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES, *supra* note 119, at 397 (discussing the reliance that humans place on affect when they make decisions).

149. *See, e.g.*, Yuval Rottenstreich & Christopher K. Hsee, *Money, Kisses, and Electric Shocks: On the Affective Psychology of Risk*, 12 PSYCHOL. SCI. 185, 188 (2001) (finding that probability matters less in situations in which outcomes are affect rich); *see also* George F. Loewenstein, Christopher K. Hsee, Elke U. Weber & Ned Welch, *Risk as Feelings*, 127 PSYCHOL. BULL. 267, 276 (2001) ("Subsequent increments in probability (past zero) . . . have little additional emotional impact and, presumably for this reason, have little impact on choice.").

150. *See generally* Slovic et al., *supra* note 148 (analyzing applications of the affect heuristic in various situations).

151. *See generally* Finucane et al., *supra* note 148 (discussing the inverse relationship between one's perception of risk and one's perception of benefit).

152. *Cf.* Jeffrey J. Rachlinski, *Bottom-Up Versus Top-Down Lawmaking*, 73 U. CHI. L. REV. 933, 942–43 (2006) (citing evidence of the role of the affect heuristic in the courtroom, in which the likelihood of a decision that favors a given party may increase or decrease depending on the affective reaction that the party generates in court).

regarding their trial prospects or by their greater risk seeking compared to the guilty, or by some combination of these two sets of causes. For the purpose of developing plea-bargaining policy, however, it is preferable to have more direct evidence of the processes that underlie the innocence effect, a task to which real-world evidence is not well suited.

For instance, the field data provide indications that the Tulia defendants' refusals to bargain was at least partly driven by considerations of justice and fairness.[153] It is also possible—though not at all certain—that at least the first eight defendants who refused to engage in plea bargaining also were more optimistic regarding their trial odds than guilty defendants in their positions would have been. Insofar as the thirty innocents who faced trial after the first eight defendants were convicted held fairness preferences similar to those of their earlier counterparts, one might be tempted to attribute their much higher plea-acceptance rate to a more realistic appraisal of their odds, having seen the conviction and long prison sentences meted out at trial to the defendants who preceded them.[154] If this were the case, however, defendants' optimistic judgments would appear to be the dominant driver of the innocence effect, fairness concerns notwithstanding. Yet those later defendants also received dramatically discounted offers, which could have made plea bargaining attractive even for defendants holding biased beliefs regarding their trial prospects.[155]

Thus, even the highly informative Tulia dataset does not clarify whether innocents truly are more optimistic than similarly situated guilty defendants. Nor do these cases reveal whether fairness preferences alone—in the absence of biased beliefs—suffice to generate an innocence effect, particularly when conviction is not virtually certain. Similarly, the plea bargaining studies discussed in Part I.D provide some insight into the causes of the innocence effect but still leave important questions unresolved.

To attempt to answer some of these questions, the authors and a colleague conducted a series of experimental tests of fairness in plea

153. *See supra* notes 61–62 and accompanying text.

154. *See* BLAKESLEE, *supra* note 47, at 160 ("After . . . yet another maximum sentence, defendants started pleading out in droves.").

155. *See id*. (noting that the Tulia defendants began pleading because of "increasingly reasonable offers from [the prosecutor,] McEachern, who seemed eager to get the whole affair behind him").

bargaining, which *inter alia* examined the innocence effect.[156] In these experiments, we administered hypothetical questionnaires involving lighter offenses to student participants, following the earlier research that found the results of such studies to be commensurate with those of more realistic simulations.[157] Importantly, Tor et al.'s studies also provided participants with precise information regarding their trial prospects to avoid eliciting subjective probabilities of conviction and to minimize the effects of those potential confounds that had been encountered in previous studies.[158]

After replicating the innocence effect in Study 1, using a simple scenario concerning an academic violation and a mid-range, 60 percent conviction probability,[159] we examined in Study 2 whether the effect generalizes to a broader probability range and a different scenario.[160] Importantly, this second study also controlled for the effect of the expected sanction at trial, holding all plea offers equal to the expected sanction.[161] This design made the results compatible with shadow-of-trial models, and the design also made participants' absolute risk attitudes transparent. Plea acceptance under these conditions meant risk aversion, its rejection reflected risk seeking, and indifference implied risk neutrality.[162]

Sixty-four undergraduates from the University of Michigan participated in an online survey that used a mixed design that manipulated culpability between subjects (so that each participant was either in the Guilty or the Innocent condition) as well as the probability of conviction within subjects (so that each participant considered five different probability levels).[163] Participants read a scenario about their involvement as drivers in a lethal car accident for which they faced criminal charges and in which they personally knew whether they had exceeded the speed limit.[164] The participants also

156. *See* Tor et al., *supra* note 68, at 103–04 (explaining the setup and results of a test on the effect that substantive fairness has on plea acceptance).

157. Houlden, *supra* note 70, at 279–85.

158. Tor et al., *supra* note 68, at 103–04.

159. *Id*.

160. *Id*. at 104–07.

161. *Id.*

162. *Id.* at 104. Note, however, that the experimental design aimed to examine the systematic differences in risk attitudes between the innocent and the guilty. The experiment was not designed to reach general conclusions about defendants' absolute risk attitudes, which depend on a multitude of factors well beyond the scope of the study.

163. *Id*. at 104–07.

164. *Id*. at 105.

were told that the outcome of their trial depended on whether the prosecution could prove that they had exceeded the speed limit. If the prosecution succeeded in doing so, they would be convicted and given a mandatory five-year suspension of their driver's license; otherwise, they would walk free.[165]

Participants were then asked to decide whether they would accept a plea bargain in five different circumstances. They were told that "just before the trial, the prosecutor offers you a plea bargain: he will drop the current charges if you will plead guilty to a lesser offense that carries a significantly lighter sentence."[166] At this point, participants read their five plea offers, in which they were asked to choose between going to trial—with a five-year sanction and a given probability of conviction—and accepting the plea offer.[167] In each case, the sanction included in the bargain equaled the expected sanction at trial.[168] Participants then made a series of choices between a 5 percent probability of receiving the full five-year suspension and a three-month plea bargain; a 30 percent probability and an eighteen-month offer; and so on.[169]

In accordance with their main hypothesis, Tor et al. found that innocents were more risk-seeking, overall, than their guilty counterparts.[170] The results also revealed a significant interaction between guilt and probability of conviction, with innocents exhibiting greater risk-seeking behavior for most, but not all, of the probability range. From very low through low and intermediate probabilities of conviction (5 percent, 30 percent, and 50 percent) approximately 30 percent fewer innocent than guilty participants accepted their plea offers.[171] The gap between the two groups narrowed, however, for the higher (70 percent) conviction probability and disappeared altogether—with innocents accepting slightly *more* plea offers—when conviction probability was very high (95 percent).[172]

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165. *Id.*
166. *Id.*
167. *Id.*
168. *Id.*
169. *Id.*
170. *Id.*
171. *Id.*
172. *Id.* As the study noted, participants in the innocent condition tended to exhibit significant risk seeking. They rejected the plea offer across almost all of the probability ranges, with plea acceptance rates of only 17 percent, 7 percent, 20 percent, 43 percent, and 50 percent for probability of conviction levels of 5 percent, 30 percent, 50 percent, 70 percent, and 95 percent, respectively. Guilty condition participants, on the other hand, were significantly more

These findings contribute to our understanding of the innocence effect in a number of respects. First, they provide evidence for the effect when the subjective beliefs of innocent and guilty participants are unlikely to diverge, in which circumstances the effect can be attributed to the diverging preferences of the two defendant groups. Second, the manifestation of the effect across most of the probability range—particularly in a within-subjects design that allowed participants to consider the different levels of conviction probability and the different offers with identical expected values—suggests that the innocence effect has broad relevance for shadow-of-trial models. Third, the diminishing difference between innocent and guilty defendants when conviction is likely and its later disappearance when conviction is almost certain reveals a possible boundary to the innocence effect. This pattern, in fact, is reminiscent of the behavior of the later Tulia defendants, the great majority of whom chose to plea bargain, despite their innocence, when faced with virtually certain conviction and heavily discounted plea offers.[173]

In addition, the Tor et al. study sought to shed further light on the role of biased beliefs in the innocence effect, given that earlier research had revealed that innocents tend to be more optimistic than their guilty counterparts regarding their trial prospects, thereby contributing to the innocence effect.[174] We hypothesized that defendants' fairness concerns may also lead them to develop biased judgments of their culpability.[175] Another study by Tor et al. used a car accident scenario that included a condition in which the defendants were uncertain about their culpability.[176] As predicted, the participants who did not know whether they had exceeded the speed limit—and thus committed the offense with which they were charged—behaved like their innocent counterparts, exhibiting the same diminished willingness to accept plea offers.[177]

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risk averse, with plea acceptance rates of 47 percent, 38 percent, 56 percent, 53 percent, and 41 percent for the same five probability levels. *Id.* at 106.

173. *See supra* note 60 and the accompanying text.

174. Bordens, *supra* note 13, at 65–71; Gregory et al., *supra* note 13, at 1525.

175. Tor et al., *supra* note 68, at 110–11 ("[This study] tested the hypothesis that defendants will exhibit egocentric assessments of culpability in plea bargaining. We expected participants who are uncertain of their culpability to behave as if their plea offers were substantively unfair.").

176. *Id.* To increase the robustness of our measures, this study also used a different measure of participants' willingness to accept plea offers from that employed in the previous studies.

177. *Id.*

The various experimental studies of plea bargaining thus not only corroborate the field evidence of the innocence effect but also offer further insight regarding its causes. In accordance with the broader psychological literature, these studies reveal that the innocence effect exists even when defendants know their objective trial prospects. We may therefore infer that plea rejections can be driven by the diverging preferences of innocent and guilty defendants alone, at least when conviction is not highly likely or nearly certain. In fact, fairness concerns appear to be strong enough to lead even uncertain defendants—who know that they may in fact be guilty—to form biased beliefs of their innocence and to reject objectively fair plea offers as if they were innocent and as if the offers were consequently unfair.[178] More generally, however, innocents' plea reluctance is typically driven by their optimistically biased beliefs regarding their trial prospects as well.[179]

Altogether, therefore, our empirical and experimental findings paint a plea-bargaining picture that differs in important respects from what the shadow-of-trial models assume. Part III, therefore, turns to examine the positive and normative implications for plea-bargaining policy of the innocence effect and its causes.

III. IMPLICATIONS

Parts I and II documented the innocence effect and explored its likely causes. Both field data and experimental studies revealed innocents' reluctance to plea bargain and suggested that this effect results from the combination of innocents' more optimistic predictions of trial prospects and their aversion to accepting the unjust outcomes of the plea bargain. This Part considers the positive implications of the innocence effect in Part III.A, then continues in Part III.B to study its normative implications for the extant plea bargaining debate and beyond.

A. Positive Implications

1. *The Cost of Innocence.* The innocence effect imposes a significant, collective cost on innocent defendants. Because of the effect, innocents receive higher average sentences than guilty defendants who face similar evidence and are charged with similar

178. *Id.*

179. *See supra* note 174 and accompanying text.

offenses. This disparity occurs because guilty defendants more often plea bargain and thereby reduce their average sentence.

To illustrate the cost of innocence, suppose that, in all cases with an 80 percent conviction probability and a predicted imprisonment sentence of ten years, the prosecution offers defendants a plea bargain resulting in a five-year imprisonment—that is, a three-year discount in prison time compared to the expected trial sentence.[180] To take the most extreme case, if all innocent defendants were to reject this offer but all guilty defendants were to accept it, all of the guilty defendants would be sentenced to five years. Eighty percent of the innocents, however, would be convicted at trial and sentenced to ten years in prison, whereas the remaining 20 percent would be acquitted. Thus the average sentence imposed on an innocent in this example is eight years in prison. Defendants who chose trial, therefore, are sentenced to longer average sentences due to the combined impact of plea bargaining and the innocence effect. In contrast, a legal system without the plea-bargain mechanism would force all similarly situated defendants to face trial and to receive the same average sentences regardless of culpability. Of course, the same qualitative result still holds for any scenario in which innocent defendants exhibit a systematically greater reluctance to plea bargain than their guilty counterparts, with the magnitude of the cost of innocence depending on the strength of the innocence effect.

In fact, the above illustration likely understates the magnitude of the cost of innocence. If defendants in this example only seek to minimize the expected value of their punishment, the prosecution can settle for a sentence discount of just over 20 percent to ensure that all defendants with a 20 percent acquittal probability accept the offer. In practice, however, the available empirical evidence suggests that defendants generally are risk seeking: they will risk a higher expected sentence to preserve the chance of a full acquittal.[181] Plea-bargaining prosecutors therefore must offer deeper sentence discounts, which inadvertently impose an even greater collective penalty on those plea-reluctant innocents.

Independently of the innocence effect, moreover, defendants also differ in their willingness to accept plea offers due to their

180. The expected trial sentence is 10 years × 80% = 8 years.

181. Gazal-Ayal, *supra* note 41, at 2338–39; *see also* Birke, *supra* note 16, at 208–10 ("[T]he most convincing basis for why defendants plead guilty despite loss aversion is that defendants *are* risk seeking in the domain of losses . . . .").

idiosyncratic risk preferences and their assessments of their trial prospects. Yet prosecutors in a budget-constrained system, which brings to trial only approximately 5 percent of all criminal cases, cannot make offers that attract only the average defendant because those offers would be accepted only about half of the time. Instead, to appeal to the vast majority of defendants, prosecutors must offer significantly more lenient sentences than the expected punishment at trial.[182] Insofar as the innocence effect leads some innocents to reject even these deeply discounted plea offers, the dynamics of plea bargaining in a budget-constrained system thus further increase the cost of innocence.

Somewhat ironically, the cost of innocence may be even more dramatic in those cases in which the probability of acquittal is high. Although prosecutors often decline to prosecute these weak cases, when they do decide to bring charges they must often waive the charges that likely would have resulted in imprisonment if the defendants were convicted at trial. As a result, prosecutors must offer non-incarceration sanctions, such as community service or probation, when they make a plea offer.[183] When faced with a high probability of acquittal, therefore, plea-bargaining defendants enjoy a sentence that is qualitatively different from and dramatically lighter than the sentence imposed on their counterparts who are convicted at trial.[184] Consequently, the gap between the average punishment imposed on the large majority of guilty pleaders, most of whom are guilty, and the average sentence imposed on those few who plead not guilty, amongst whom the innocent are overrepresented, is particularly large in these cases.[185]

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182. *See supra* note 91 and accompanying text.

183. *See* Alschuler, *supra* note 3, at 60 ("When the case has a hole in it, however, the prosecutor may scale the offer all the way down to probation." (quoting Chicago defense attorney J. Eugene Pincham)); Champion, *supra* note 8, at 257 ("Interviews with several . . . prosecutors revealed that a primary consideration was securing a guilty plea to a felonious charge. In weak cases, there was a tendency for them to recommend probation . . . in exchange for a guilty plea from the defendant.").

184. In the Tulia cases, for example, all of the defendants who were convicted after a trial were sentenced to prison terms, whereas most of those who entered a guilty plea were sentenced to other penalties. *See supra* Part I.C. Of course, it is difficult to know which penalty would have been imposed absent the agreement. For this reason, it is difficult to establish empirically that agreements that convert prison-term sentences to other punishments are common.

185. Note also that our experimental findings suggest that the innocence effect is strongest for medium-to-high acquittal probabilities, thereby further increasing the cost of innocence in these circumstances. *See supra* note 172 and accompanying text.

Finally, we should note that our examples refer to the cost of innocence whenever there are both innocent and guilty defendants who face similar conviction probabilities and similar anticipated sentences upon conviction. We do not assert that innocent and guilty defendants face similar average probabilities of conviction at trial. Nonetheless, because prosecutors usually dismiss very weak cases, the remaining defendants—whether innocent or guilty—face a substantial risk of conviction.[186] If all of these defendants were grouped according to their probability of conviction, every resulting group of defendants would have included some innocents together with many guilty defendants. Because of the innocence effect, however, within each of these groups those few innocents would bear higher average sanctions than their guilty counterparts.[187]

2. *Guilty Bargainers.* Innocent defendants who exhibit a significantly greater aversion to pleading guilty than do their guilty counterparts reject plea offers that the latter accept when faced with similar trial prospects. But prosecutors, who cannot distinguish the small innocent minority from the large guilty majority of those that they decide to prosecute, must adjust their offers to secure plea bargains with nearly all defendants.[188] Consequently, plea offers are inevitably geared towards the typical, guilty defendant, and are in fact accepted by the great majority of the guilty, even as many innocent defendants reject such offers. Plea bargains, therefore, overwhelmingly lead to the conviction of the guilty.

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186. *See* Gazal-Ayal, *supra* note 41, at 2309 (explaining why prosecutors often refrain from bringing charges in weak cases); Jennifer F. Reinganum, *Plea Bargaining and Prosecutorial Discretion*, 78 AM. ECON. REV. 713, 719 ("[S]ufficiently weak cases . . . are dismissed.").

187. Innocents are not evenly distributed across the spectrum of conviction probabilities, and the evidence suggests that the magnitude of the innocence effect diminishes for very high probabilities of conviction, *see supra* note 172 and accompanying text. Therefore, the magnitude of the cost of innocence depends on the probability of conviction. Although the effect obtains whenever the innocence effect is manifested, the cost of innocence may be less dramatic than it might appear to be, due to the truth-revealing function of trial, which can distinguish between the innocent and the guilty beyond the ability of prosecutors. Hypothetically, in cases in which prosecutors judge that defendants face certain trial prospects based on the evidence (for example, an 80 percent probability of conviction), innocents may face better prospects (for example, 70 percent), whereas guilty defendants may face worse prospects (for example, 85 percent). The somewhat better trial prospects of innocent defendants may therefore partly compensate for, and thus reduce, the magnitude of the cost of innocence.

188. Of course, prosecutors typically will not pursue charges against defendants whom they believe to be innocent based on the available evidence.

For instance, a plea offer that is accepted by the guilty 95 percent of the time will be accepted by the innocent only in a substantially smaller fraction of cases. Yet the ultimate proportion of innocents among all guilty pleaders is even smaller than indicated by the fraction of those among the innocents who accept the prosecutors' offers. The innocents, after all, comprise only a small minority of all criminal defendants to begin with, so it is a small proportion of that small minority that will ultimately end up among the ranks of the guilty pleaders.[189]

Although the guilty tend to be overrepresented among plea bargainers beyond their already high prevalence amid criminal defendants generally, a closer look at our findings suggests three possible limitations to this phenomenon. We found some tentative evidence that innocents increasingly accept plea offers when they believe that they are facing the death penalty, when they believe that their conviction at trial is extremely likely, or when they have falsely confessed during the police investigation.[190]

The first limitation is straightforward: our provisionary evidence indicates that the representation of the guilty among plea bargainers in death-penalty cases might not exceed their proportion among death-penalty defendants.[191] The second similarly implies that innocents might plead guilty at rates closer to those of guilty defendants when the prosecution's case against them is particularly strong.[192] Importantly, however, for the innocence effect to disappear under this circumstance, innocents must also *believe* that they are facing nearly certain conviction, which may not happen often.[193] In other words, although innocents who form reasonably accurate beliefs regarding their trial prospects may well behave like the guilty when conviction is nearly certain, many over-optimistic innocents will be reluctant to plead guilty even under this extreme condition. Hence, the innocence effect still may be manifested, with the guilty overrepresented—albeit to a lesser degree—among plea bargainers who face nearly certain conviction. Finally, the third limitation

189. To illustrate, if innocent defendants were to comprise 1 percent of all defendants and 40 percent of these innocents were to accept plea offers that attract 95 percent of the guilty, innocent defendants would represent only slightly more than 0.4 percent, or one out of approximately 250, of all guilty pleaders.

190. *See supra* Part I.B–C.

191. *See supra* Part I.B.

192. *See supra* note 172 and accompanying text.

193. *See supra* Part II.B.1.

suggests that innocents who had falsely confessed during an investigation may not exhibit plea behavior that is very different from the behavior of the guilty.[194]

3. *Innocents on Trial.* The immediate result of the innocence effect for trial rates is the mirror view of its consequence for plea-bargain rates. Many innocents—who tend disproportionately to reject their plea offers—face a full trial, even as the dramatic majority of cases involving guilty defendants are disposed of by plea bargain. Therefore, a disproportionately significant fraction of innocent defendants are among those criminal defendants on trial, with the exact proportion depending on the respective rates of the guilty and the innocent in the defendant population and the two groups' relative propensity for plea rejections.[195]

Paralleling the analysis of the proportion of the guilty among plea bargainers, our tentative evidence indicates that innocents' representation in potential death-penalty trials might not be substantially higher than their small base-rate proportion among such cases to begin with.[196] In the same vein, when conviction at trial is nearly certain, some innocents will form reasonably accurate beliefs regarding their trial prospects and will behave more like their guilty counterparts, but other, optimistic innocents will be reluctant to plea. Even under this extreme condition, a diminished innocence effect may still exist, so that innocents may be overrepresented among those defendants who choose trial, even when conviction is objectively very likely.[197] On the other hand, innocents who had falsely confessed to the police might not be significantly overrepresented amongst those defendants who are facing a full trial because we found that they often plead guilty as well.

194. *See supra* text accompanying notes 37–38.

195. Using the proportions in the preceding illustration, *supra* note 189, for instance, innocents would comprise about 11 percent of those criminal defendants facing a full trial.

196. *See supra* Part I.B.

197. Note, however, that although the base rate of innocents among defendants with an extremely high probability of conviction is even smaller than their already small fraction of all defendants, their overrepresentation among those who stand trial in these circumstances should still amount to a noticeable absolute fraction. For example, if even 0.5 percent of the defendants in these strong cases were innocent, but the guilty-plea rate of the innocent were 70 percent while the guilty-plea rate of the guilty were 99 percent, then the innocent would still comprise just under 13 percent of defendants in the jury trials in these cases.

4. *A Diminished Rate of Wrongful Convictions.* Beyond its effect on the proportions of the guilty among plea bargainers and the innocent among those who stand trial, the innocence effect also beneficially combines with plea bargaining to reduce the *rate* of wrongful convictions, compared to a hypothetical criminal-justice system that requires all defendants go through a full-fledged trial, for at least two reasons. First and most importantly, without plea bargaining, some guilty defendants who now plead guilty inevitably would have been acquitted at trial, thereby increasing the rate of the innocent among those convicted in court.[198] The rate of wrongful conviction is more important than the absolute number, for otherwise we would randomly exonerate every second convict, assuring that the number of wrongful convictions drops by half as the rate remains the same.[199]

Second, the plea bargains that are made with most defendants free resources for the trials of those few defendants who contest the charges, thereby improving the accuracy of these trials and allowing for the provision of stronger protections for the innocent. If all criminal proceedings led instead to full trials, resource constraints would force the criminal-justice system to lower the cost—and thus the quality—of trials to maintain a reasonable level of enforcement.[200]

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198. Because guilty defendants are overrepresented in the group of guilty pleaders as a result of the innocence effect, forcing all guilty pleaders to opt for a jury trial will increase the rate of guilty defendants at jury trials and thus would increase the rate of guilty defendants acquitted.

199. *See* Gazal-Ayal, *supra* note 41, at 2310 ("Reducing the number of wrongful prosecutions just by reducing the number of total prosecutions makes no more sense than arbitrarily exonerating a random number of inmates, since some of them are likely to be innocent."); Scott & Stuntz, *supra* note 4, at 1934 (noting that a reduction in the number of wrongful convictions without a corresponding reduction in their proportion is not socially desirable).

200. *See* Scott & Stuntz, *supra* note 4, at 1932 (arguing that if plea bargaining were banned, the increase in the number of trials would inevitably result in economizing the trials, which, in turn, would lead to an increased number of errors). In fact, historical studies show that plea bargains have evolved largely in response to the development of criminal defendants' privileges and rights. John H. Langbein, *Understanding the Short History of Plea Bargaining*, 13 LAW & SOC'Y REV. 261, 263–67 (1979). One can see a distinct connection between the expansion of protections for defendants and the developing pressure to adopt plea bargaining in different countries. Thus, in Italy, the transition from the inquisitorial method to the adversarial method that gave the defendant several new legal rights at trial was accompanied by the infiltration of plea bargains as a central component in the judicial system. William T. Pizzi & Mariangela Montagna, *The Battle To Establish an Adversarial Trial System in Italy*, 25 MICH. J. INT'L L. 429, 439–42 (2004). In Germany, the increasing complexity of trials was a significant catalyst in the development of plea bargains. Máximo Langer, *From Legal Transplants to Legal Translations:*

Plea bargains leave the vast majority of defendants out of court, thereby allowing the judiciary to ensure complex, costly, and altogether higher-quality trials for those defendants who nevertheless choose trial, including most innocents.[201]

B. Normative Implications

Our findings on the innocence effect demonstrate that the common assumption that culpability is irrelevant for plea behavior is plainly mistaken. Not only does defendants' willingness to accept plea offers depend on their culpability, but the resulting plea-bargain and trial rates are affected as well. This conclusion further reveals that the related, near-universal scholarly belief that plea bargaining routinely generates false guilty pleas is overstated, though not wholly erroneous. Innocents are less likely to plead guilty than shadow-of-trial models assume, even in the face of attractive plea offers, except possibly when they believe that conviction is extremely likely, when they are facing the death penalty, or when they had falsely confessed during the investigation.

Part III.A explained the positive implications of the innocence effect under extant plea-bargaining practices. On the one hand, the innocence effect combines with plea-bargaining practices to impose a striking cost on innocent defendants, who bear higher average sanctions than their similarly-situated guilty counterparts.[202] On the other hand, the effect also generates two significant benefits under the current plea-bargaining regime: first, it brings about an overrepresentation of the guilty among plea bargainers and the innocent among those defendants who face full criminal trials;[203] second, the innocence effect causes a reduction in the rate of wrongful convictions compared to a hypothetical system without plea bargaining.[204]

After examining the normative implications of these findings for the positions of both supporters and detractors of plea bargaining, this Part offers our own proposals for minimizing false convictions,

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The Globalization of Plea-Bargaining and the Americanization Thesis in Criminal Procedure, 45 HARV. INT'L L.J. 1, 45–46 (2004).

201. *See supra* note 200.

202. *See supra* Part III.A.1.

203. *See supra* Part III.A.2–3.

204. *See supra* Part III.A.4.

better protecting the innocent, and improving the plea bargaining process altogether by accounting for the innocence effect.

1. *Plea Detraction for Plea Supporters.* Plea-bargaining proponents emphasize the legitimate interest of innocents in minimizing their individual harm. Plea bargains provide an alternative to the costly and risky trial, during which innocents may be detained or suffer other restrictions, and at the end of which they may even face a harsh, undeserved penalty. In the eyes of many supporters of the practice, the important insurance that plea bargaining provides to those willing innocents should not be revoked in the name of protecting innocent defendants generally, in the abstract.[205]

Our findings should give pause to these plea-bargaining supporters for a number of related reasons. For one, our analysis reveals that the insurance provided by plea bargaining predominantly benefits the guilty, who tend to accept plea offers, rather than the innocent, who more often refuse the plea and choose to face trial instead.[206] In fact, the experimental evidence tentatively indicates that the innocence effect may be particularly pronounced in cases with a low-to-intermediate probability of conviction, although further research is needed to establish the robustness of this finding.[207] If further research confirms our findings, then the same conditions of greater variance in trial outcomes that make the insurance function of plea bargaining particularly valuable—that is, when both conviction and acquittal are quite plausible—also incline innocent defendants more often to reject this insurance. Similarly, although there are some indications that the significance of the innocence effect may diminish when conviction is nearly certain, this is precisely the circumstance in which the insurance function of plea bargaining also is least valuable.

Plea-bargaining supporters might respond that plea bargaining still provides insurance-like benefits to some innocents, namely the

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205. *See* Bowers, *supra* note 12, at 1120–21 (claiming that plea bargains are especially beneficial to innocent defendants); Church, Jr., *supra* note 12, at 515–16 (critiquing Professor Alschuler's objection to plea bargaining with innocents, Alschuler, *supra* note 3); Robert E. Scott & William J. Stuntz, *A Reply: Imperfect Bargains, Imperfect Trials, and Innocent Defendants*, 101 YALE L.J. 2011, 2013 (1992) ("[Professor Schulhofer, *supra* note 6,] attacks our analysis because we want innocent defendants to be able to plead, if they so choose, under the best possible terms. In Schulhofer's view, they are better off going to trial, whether they think so or not.").

206. *See supra* Part III.A.2.

207. *See supra* notes 170–172 and accompanying text.

ones who derive the greatest insurance value from the plea offer and therefore choose plea over trial despite the innocence effect. Moreover, offering the plea option to innocent defendants guarantees that the many innocents who refuse to plea are consciously taking the risk of wrongful conviction at trial. But our analysis further shows that plea rejections typically reflect not only innocents' fairness-driven preferences but also a systematic, optimistic bias regarding their trial prospects.[208] Therefore, if they were unbiased, at least some innocents who presently refuse to plea bargain would accept their plea offers. These defendants unwittingly give up the insurance of the plea bargain that their guilty counterparts routinely enjoy and instead face a significant trial risk against their own risk preferences.

The cost of innocence, however, poses an even more significant problem for plea proponents, who primarily aim to minimize innocents' actual individual harm.[209] The combination of plea bargaining and the innocence effect imposes higher average penalties on innocents than on guilty defendants who face similar conviction probabilities and sentences upon conviction. Because innocent defendants receive harsher average sentences, for instance, the proportion of innocent inmates in prison at any given time is higher than it would have been absent plea bargaining. Yet this collective harm to innocent defendants would not occur in a no-plea system, which avoids the disproportional selection of guilty defendants to plea bargaining and innocent defendants to trial. Paradoxically, therefore, the goal of harm minimization that traditionally is so important to plea-bargaining supporters may be better served by the restriction—rather than the encouragement—of plea bargaining.

2. *Plea Support for Plea Detractors.* Opponents often argue that plea bargaining is wrong because it puts pressure on innocent defendants falsely to plead guilty and thereby facilitates wrongful convictions, an assumed phenomenon that is also known as the "innocence problem."[210] In fact, plea detractors typically assert that society must not consciously embrace a procedure that facilitates false

208. *See supra* note 174 and accompanying text.

209. *See supra* note 205 and accompanying text.

210. For discussion of the innocence problem in plea bargaining, see Russell D. Covey, *Signaling and Plea Bargaining's Innocence Problem*, 66 WASH. & LEE L. REV. 73, 77–83 (2009); Gazal-Ayal, *supra* note 41, at 2297; Schulhofer, *supra* note 6, at 1981; and *supra* note 11 and accompanying text.

guilty pleas, the individual preferences of those falsely pleading defendants who wish to avoid the risk of trial notwithstanding.[211]

The argument against false pleading is based in part on society's moral obligation to prevent wrongful convictions,[212] an obligation familiarly manifested by statements to the effect that "[b]etter that ten guilty persons escape, than that one innocent suffer."[213] Plea bargains are said to violate this principle because they lead to the conviction of some innocents who would have been acquitted in court.[214] Furthermore, plea-bargaining opponents assert that knowingly convicting the innocent—as they assume plea bargaining routinely does—is morally wrong, irrespective of the direct costs of trials for the innocent and for society at large.[215] According to this view, forcing all defendants to face the risk of a harsher sentence at trial is morally preferable to guaranteeing some wrongful convictions through guilty pleas.[216] Hence, plea-bargaining detractors argue that although those inevitably imperfect trials sometimes produce wrongful convictions, it is important for such occasional unjust results to follow a genuine effort on the part of the criminal-justice system to get to the truth.[217]

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211. *See* Alschuler, *supra* note 11, at 714 (criticizing plea bargaining for yielding a larger number of wrongful convictions than trial); Schulhofer, *supra* note 6, at 1986 ("A large body of legal doctrine attests to the importance of assuring that innocents will not be convicted, whether or not they themselves would prefer to avoid the risks of a high sentence after trial.").

212. *See* A.A.S. ZUCKERMAN, THE PRINCIPLES OF CRIMINAL EVIDENCE 125 (1989) ("The protection of the innocent from conviction is a central theme of the law of criminal evidence. . . . The importance of protecting the innocent from conviction is not justified only on the basis that it will produce the best social results."); *see also In re* Winship, 397 U.S. 358, 364 (1970) ("It is critical that the moral force of the criminal law not be diluted by a standard of proof that leaves people in doubt whether innocent men are being condemned.").

213. 4 WILLIAM BLACKSTONE, COMMENTARIES *358. Note that the 1:10 ratio is not universally accepted. Historically, scholars offered numerous alternative ratios to better reflect the balance between the interest in convicting the guilty and the need to insure the acquittal of the innocent. For a review of the different opinions on this matter, see generally Alexander Volokh, *Guilty Men*, 146 U. PA. L. REV. 173 (1997).

214. *See* Alschuler, *supra* note 3, at 60 ("[A] more serious criticism . . . is that the greatest pressures to plead guilty are brought to bear on defendants who may be innocent."); Schulhofer, *supra* note 6, at 1985 ("[C]onviction of the innocent produces serious negative externalities.").

215. *See* DWORKIN, *supra* note 124, at 72 ("People have a profound right not to be convicted of crimes of which they are innocent. . . . [I]t would be no justification or defense that convicting [an innocent] person would spare the community some expense or in some other way improve the general welfare.").

216. *See supra* note 211.

217. *See, e.g.*, Alschuler, *supra* note 11, at 714 ("A procedure that is designed to determine who is guilty and who is innocent seems almost certain to accomplish this task more effectively than a procedure that is deliberately designed to evade the issue.").

Notably, plea-bargaining opponents also place a much higher value on reducing the *rate*, or proportion, of wrongful convictions among convictions overall than they do on reducing the severity of the *sentences* meted out to those unfortunate innocents who are still wrongfully convicted. Scholars in this camp, for example, find it morally preferable that only a single innocent defendant rather than ten innocents be convicted, even if the punishment inflicted on the single innocent equals the punishment that would have been meted out to all of the latter ten together.[218]

Yet our findings reveal how the same considerations that historically were employed to criticize plea bargains suggest that this practice is less problematic than previously believed—maybe even socially beneficial—for two related reasons. First, the innocence effect means that plea bargainers are predominantly guilty, while innocents disproportionately refuse the plea and go to trial, which might result in their acquittal. Second, the innocence effect also combines with plea bargaining to diminish the rate of wrongful convictions when compared to the all-trial system traditionally preferred by those opposed to plea bargaining.[219] In other words, because of the innocence effect, plea bargains lead to beneficial, lower rates of wrongful convictions.

Altogether, therefore, our findings reveal that insofar as the rate of wrongful conviction is the relevant normative yardstick, the harm of plea bargains is smaller and their benefits are greater than previously believed.

3. *Restrictions on Plea Offers*. The preceding analysis demonstrates that the innocence effect at least weakens the traditional arguments of both camps in the plea-bargaining controversy, even if it does not mandate the actual reversal of their respective attitudes towards the practice. Because of the innocence effect, plea bargains impose a significant collective cost on innocents and promote the interests of most innocents much less than plea-bargaining supporters assert. But neither do plea bargains increase the rate of wrongful convictions, as some plea-bargaining opponents argue. Yet perhaps intermediate solutions—between the polar

218. *See, e.g.*, *id.* (arguing that a system that convicts ten innocent defendants and sentences each of them to one year of imprisonment is worse than a system that mistakenly convicts one defendant at trial and sentences him to ten years).

219. *See supra* Part III.A.4.

opposites of the absolute freedom to make plea offers practiced today and a complete ban on plea bargaining—may help simultaneously to minimize wrongful convictions and harm to those convicted innocents.

One way to reduce the negative effect of plea bargaining on the sentences of wrongfully convicted innocents is to limit the magnitude of plea discounts or, alternatively, of trial penalties.[220] The law could instruct judges to reject plea agreements that include a sentence that is significantly lower than the sentence expected following conviction by a jury trial. This curtailment of prosecutors' ability to offer significant sentence discounts will result in plea rejections by those defendants who require deeper discounts in exchange for their guilty pleas. Because the innocent are less willing to plead guilty and hence only accept plea offers with large sentence discounts,[221] the proportion of innocents among those who plead guilty will be reduced, as will the number and rate of wrongful convictions. At the same time, moreover, the lower trial penalty guarantees a reduction in the problematic cost of innocence.[222]

Although the main normative goal of plea opponents is to reduce the rate of wrongful convictions, plea proponents predominantly are concerned with reducing the sentences that are imposed on convicted innocents. Yet restricting the guilty-plea discount also will minimize the gap between sentences meted out to those who opt for a trial—including a large proportion of the innocent—and those imposed on guilty pleaders, whose ranks are dominated by the guilty. Of course, the cost of innocence will not completely disappear even with such restrictions because innocents who are wrongfully convicted by a jury

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220. *See* Alschuler, *supra* note 2, at 1127 (supporting a fixed-discount system for guilty pleas to ensure that weak cases would result in a trial); Wright, *supra* note 4, at 111 (arguing for "practices that offer only modest plea discounts to defendants" to increase the confidence in criminal convictions); Douglas D. Guidorizzi, Comment, *Should We Really "Ban" Plea Bargaining?: The Core Concerns of Plea Bargaining Critics*, 47 EMORY L.J. 753, 781–82 (1998) (suggesting that the plea-bargaining process be replaced by a system that relies on fixed, written sentencing discounts).

221. *See supra* Part II.B.

222. A similar proposal previously was offered by one of us as a means of discouraging prosecutors from filing charges in weak cases. *See* Gazal-Ayal, *supra* note 41, at 2313–30 (arguing that partially banning plea bargaining would encourage prosecutors to refrain from bringing weak cases but not strong cases). But the suggestion in this Article has a different goal: by restricting guilty plea discounts, the law can reduce both the number of innocent defendants who plead guilty and their proportion among all guilty pleaders. Such a restriction, moreover, would not be detrimental to plea bargaining generally because it would still allow prosecutors to bargain with most guilty defendants.

will still be sentenced to longer average terms than guilty pleaders. But the gap between the two groups will shrink.

Practically speaking, imposing limits on sentence bargains would not be particularly difficult. Courts could be instructed to reject plea bargains if the proposed sentence is substantially lower than that imposed in similar circumstances following a full trial.[223] On the other hand, limiting charge bargaining or fact bargaining is much harder, because the parties can often justify the changes in charges and facts on an evidentiary basis. Nevertheless, even charge-bargaining restrictions might still be effective if courts were instructed to reject plea agreements unless the remaining charges "adequately reflect the seriousness of the actual offense behavior."[224] Of course, prosecutors still could find ways to continue making charge bargains on the sly, but most prosecutors likely would abide by the rules if they were instructed to expose the details of each plea agreement, which would allow courts to review charge bargaining as well.[225]

4. *Agreements on a Simplified Criminal Process*. Another alternative that may satisfy the interests of both camps in the plea-bargaining debate involves bargaining for a simplified criminal process, an option that scholars previously offered to address other concerns with extant plea-bargain practices.[226] The law could encourage parties to substitute, in return for a sentence discount, a shorter, simplified process for plea-bargain agreements. For instance, parties could agree on a bench trial in place of a jury trial.[227] Similarly, they could agree that the defendant will testify before the prosecution presents its case. Or they could make other stipulations that reduce the cost of trial for the prosecution. We speculate that innocent defendants will be more willing to forego some of their procedural

223. *Id.* at 2341.

224. U.S. SENTENCING GUIDELINES MANUAL § 6B1.2(a) (2004); *accord* Gazal-Ayal, *supra* note 41, at 2340–41; *see also* Oren Bar-Gill & Oren Gazal-Ayal, *Plea Bargains Only for the Guilty*, 49 J.L. & ECON. 353, 360 (2006) ("[T]he prevention of charge and fact bargaining is crucial to the efficacy of any sentencing guidelines . . . .").

225. For a detailed description of such an approach, see Gazal-Ayal, *supra* note 41, at 2340–41.

226. *See* Stephen J. Schulhofer, *Is Plea Bargaining Inevitable?*, 97 HARV. L. REV. 1037, 1087–93 (1984) (proposing a bench-trial discount as an alternative to guilty-plea discounts); *see also* John Langbein, *Land Without Plea Bargaining: How the Germans Do It*, 78 MICH. L. REV. 204, 225 (1979) (proposing the adoption of the German simplified trial methods as an alternative to plea bargaining).

227. Schulhofer, *supra* note 226, at 1087–93.

rights in return for a lower expected sentence than to plead guilty, so long as they can maintain their innocence throughout the process.[228]

Of course, a simplified process has some disadvantages. Most notably, it may offer defendants a lower probability of acquittal compared to a full jury trial with its additional protections. And, more generally, a simplified process might increase the likelihood of error compared to a full-fledged trial.[229] On balance, however, the many benefits of agreements on a simplified process with respect to both wrongful convictions and harm to convicted innocents outweigh their disadvantages.

First, simplified procedures will promote the interest of innocent defendants in obtaining sentence discounts while still allowing them to benefit from a real legal process, aimed at finding the truth. Indeed, although the cost of simplified procedures is higher than that of a traditional guilty plea, the cost gap between the two is smaller in a substantially simplified process. Additionally, most guilty defendants who currently plead guilty will continue to do so even when offered the option of a simplified process.[230] After all, to be acquitted in a simplified procedure, guilty defendants would still have to lie to the judge, something most defendants likely find to be psychologically difficult, particularly in the common scenario in which lying probably will not overcome conclusive evidence.[231] In addition, the prosecution typically has very strong cases. Therefore, guilty defendants would tend to avoid even the small personal and monetary cost of a simplified trial.[232] We already discussed the finding, moreover, that most guilty defendants report after the fact that they had made a guilty plea simply because they were guilty.[233]

Second, some innocent defendants who would have opted for trial—absent another alternative to plea bargaining—would now probably choose a simplified procedure. Because these procedures

228. This dynamic may well be facilitated by innocents' optimistic beliefs regarding the trial process. *See supra* note 208 and accompanying text.

229. *See* Scott & Stuntz, *supra* note 4, at 1932 ("Reducing the process, in turn, logically implies increasing the rate of error.").

230. *See* Albert W. Alschuler, *Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System*, 50 U. CHI. L. REV. 931, 942–45 (1983) (arguing that guilty-plea rates would still be high in the absence of plea bargaining).

231. *Id*. For reasons defendants give for pleading guilty, see *supra* notes 23–26 and accompanying text.

232. Alschuler, *supra* note 230, at 944.

233. *See supra* notes 23, 26 and accompanying text.

are cheaper than full trials, however, judicial resources will be spared. These resources could be channeled toward implementing a simplified process that is more beneficial to innocents than plea bargaining is, thereby advancing innocents' interests without requiring additional resources.

Third, simplified procedures may reduce wrongful convictions. Despite the reluctance of many innocents to plead guilty, some still do so, either because they desire to end their criminal proceeding quickly or because they fear the harsher consequences of a wrongful jury conviction. Yet a simplified procedure could provide these innocents with the opportunity to challenge the charges against them in a setting that diminishes their concerns about a lengthy procedure or a dramatically harsher sanction.

Finally, even in cases in which a simplified process occasionally would lead to a wrongful conviction, the moral gravity of this undesirable outcome would be smaller, having followed an honest judicial attempt to find the truth. Notably, studies on procedural fairness indicate that even defendants who are dissatisfied with trial outcomes tend to accept those outcomes if they had been given an opportunity to argue their case before an impartial arbiter before the verdict.[234] In fact, simplified procedures might provide defendants with an even better opportunity to present their story than the adversarial jury trial can.[235]

CONCLUSION

This Article marshals forth evidence of the innocence effect, which is the systematically greater reluctance of innocents to plea bargain compared to guilty defendants. Part II shes some light on the causes of this effect, showing that it typically results from a combination of innocents' greater optimism regarding their trial prospects and their increased risk seeking compared to guilty defendants, and occasionally from asymmetric information as well. Part III examines the implications of the innocence effect and its

234. *Cf., e.g.*, Tyler, *supra* note 18, at 119 ("[P]eople's assessments of the fairness of third-party decision-making procedures shape their satisfaction with their outcomes. . . . [W]hen third-party decisions are fairly made people are more willing to accept them voluntarily." (citation omitted)).

235. In general, criminal law effectively encourages defendants not to tell their story and choose to remain silent. *See generally* Alexandra Natapoff, *Speechless: The Silencing of Criminal Defendants*, 80 N.Y.U. L. REV. 1449 (2005) (describing and critiquing the incentives provided by the criminal-justice system that enable the silencing of defendants).

causes. We reveal the striking cost of innocence: the innocence effect combines with extant plea-bargain practices to impose harsher sanctions on the average innocent compared to the average guilty among defendants facing similar charges and conviction probabilities. At the same time, our analysis also shows how the innocence effect combines with plea bargaining to produce the beneficial consequence of reducing the rate of wrongful convictions when compared to a hypothetical criminal-justice system in which trial is the only option. Finally, Part III also explains how these findings require both plea-bargaining opponents and its proponents to reevaluate their traditional positions. Opponents, whose traditional hostility toward the practice is based on their belief that plea bargaining facilitates wrongful convictions, should actually support the practice. Conversely, proponents, who emphasize innocents' interest in the lighter sentences that are offered by plea bargains, should oppose this practice that predominantly and disproportionately benefits the guilty because it imposes a collective cost on those trial-bound innocents. We conclude with our own proposals for minimizing false convictions, better protecting the innocent, and improving the plea-bargaining process altogether by accounting for the innocence effect.

Empirical research on the factors that shape plea-bargaining decision making is in its infancy. Even with respect to the innocence effect, plea-bargaining policy would greatly benefit from further empirical evidence that would help to quantify the relative magnitude of the effect under different circumstances in the defendant population. We still need to learn, for instance, whether the type or cause of defendants' innocence impacts the reluctance to plea bargain. That is, defendants charged with a crime they did not commit may well react differently from those whose innocence stems from the absence of a required mental component or from the existence of a legal defense to the charges. We have only established the innocence effect with respect to the first of these categories of innocence.

Another important topic for future study is whether the nature of the evidence against them affects defendants' willingness to plead guilty. Our exoneration database indicated, for example, that defendants who falsely confess to the police also demonstrate a greater tendency to plead guilty in court.[236] We already noted, however, that this pattern sheds no light on whether these guilty pleas were facilitated by the earlier false confession or if both the

236. *See supra* note 38 and accompanying text.

confession and the guilty plea were manifestations of some other case characteristic, such as a defendant who is particularly vulnerable.[237]

Similarly, there is room for additional research on the impact of the strength of the evidence that a defendant is facing on the innocence effect. Our tentative findings—from the behavior of the later Tulia defendants and from one experimental test—suggest that the innocence effect significantly diminishes when the probability of conviction is extremely high.[238] But this important possibility requires further exploration and corroboration.

Finally and related, plea-bargaining policy would benefit from learning whether factors that have been shown more generally to increase defendants' willingness to plead guilty, such as the pressure exerted by one's defense attorney,[239] impact the guilty and the innocent differently. One particularly pervasive factor in this category, for example, is the time that defendants spend in pretrial detention, which multiple studies have linked to an increased willingness to plea bargain.[240] Unsurprisingly, moreover, the effect of detention appears to be especially strong when defendants are charged with a misdemeanor offense and the prosecution offers an

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237. *See supra* note 37.

238. One experimental study showed that the willingness among the guilty to accept plea bargains does not change when the chances for conviction rise from 50 percent to 90 percent, whereas among the innocent the difference is much more significant. Bordens, *supra* note 13, at 67. Another study found that when the chance of conviction is extremely high, the difference in the willingness to accept a plea bargain between the innocent and the guilty nearly disappears. Tor et al., *supra* note 68, at 106.

239. For a review of the different ways in which attorneys influence defendants' decisions and actions, see Alschuler, *supra* note 14, at 1191–95. An extensive field study of this issue showed that a substantial number of defendants that refused to plead guilty changed their minds at the last minute following their attorney's advice. JOHN BALDWIN & MICHAEL MCCONVILLE, NEGOTIATED JUSTICE: PRESSURES TO PLEAD GUILTY 39–56 (1977).

240. *E.g.*, Gail Kellough & Scot Wortley, *Remand for Plea: Bail Decisions and Plea Bargaining as Commensurate Decisions*, 42 BRIT. J. CRIMINOLOGY 186, 198 (2002); William M. Landes, *Legality and Reality: Some Evidence on Criminal Procedure*, 3 J. LEGAL STUD. 287, 329–69 (1974). When defendants are detained, they have a greater incentive to end the proceedings quickly. In a field study that examined inconsistent admissions among women prisoners, the results revealed that the desire to end the pretrial detention was one of the main reasons that the prisoners accepted a plea bargain. *See* DELL, *supra* note 23, at 31–32. Even if they were not arrested, many defendants would be willing to accept a plea bargain to save themselves the ongoing legal proceeding. *See* MALCOLM M. FEELEY, THE PROCESS IS THE PUNISHMENT: HANDLING CASES IN A LOWER CRIMINAL COURT 195 (1992) ("Even if [the defendants] have free counsel, the time and effort necessary to mount a defense can quickly come to outweigh the magnitude of the sanction that the defendant is seeking to avoid.").

immediate release from jail in a plea bargain for time served.[241] The limited available data on this form of plea bargaining indicates that the practice is widespread. For example, in New York City more than 5 to 12 percent of felony arrestees who are convicted are sentenced to time served,[242] almost always following a guilty plea.[243] For some misdemeanors, moreover, the frequency of time-served sentences is much higher.[244] Again, however, the extant evidence in this area fails to distinguish between innocent and guilty defendants. Yet we speculate that extremely attractive offers of immediate release for time served may well diminish the innocence effect in a pattern resembling the behavior of the later Tulia innocents—who nearly all pleaded guilty when they faced extremely attractive plea offers in light of a certain conviction and heavy sanctions at trial.[245]

The early stage of empirical plea-bargaining research notwithstanding, the significant evidence of the innocence effect presented here makes it apparent that the legal literature's reliance on the shadow-of-trial model is excessive. Thus, apart from the important positive and normative implications developed here, this Article serves to illustrate both the great benefits of and the need for further empirical studies of plea bargaining, the institutional practice responsible for the overwhelming majority of criminal convictions.

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241. *See* HANS ZEISEL, THE LIMITS OF LAW ENFORCEMENT 47–48 (1982) (describing the pressure on defendants in pretrial detention to plead guilty and gain immediate release); Bibas, *supra* note 3, at 2493 ("[P]retrial detention places a high premium on quick plea bargains in small cases, even if the defendant would probably win acquittal at an eventual trial.").

242. DIV. OF CRIMINAL JUSTICE SERVS., N.Y. STATE, NEW YORK STATE: ADULT ARRESTS DISPOSED (2012), *available at* http://criminaljustice.state.ny.us/crimnet/ojsa/dispos/nys.pdf.

243. Guilty pleas account for more than 99 percent of convictions in the courts in New York City. CRIMINAL COURT OF THE CITY OF N. Y. ANNUAL REPORT 2011, at 18 (2012), *available at http://www.nycourts.gov/courts/nyc/criminal/AnnualReport2011.pdf* (showing that only 291 convictions resulted from jury trials while 135,474 resulted from guilty pleas). This phenomenon of course is not limited to New York City, as shown by Bureau of Justice data, although further discussion of this phenomenon is beyond the scope of the present analysis. *See Type of Pretrial Release or Detention of Felony Defendants in the 75 Largest Counties*, UNIV. AT ALBANY, http://www.albany.edu/sourcebook/pdf/t5552006.pdf (last visited Sept. 22, 2012) (providing that 37 percent of felony defendants are held until disposition on bail and that 5 percent are held without bail).

244. *See* MICHELE SVIRIDOFF, DAVID B. ROTTMAN & ROB WEIDNER WITH FRED CHEESMAN, RANDALL HANSEN, BRIAN J. OSTROM & RICHARD CURTIS, DISPENSING JUSTICE LOCALLY: THE IMPACTS, COST AND BENEFITS OF THE MIDTOWN COMMUNITY COURT 2.21–2.24 (2002) (reporting rates as high as 53 percent for certain offenses).

245. *See supra* note 59 and accompanying text. Note, however, that the behavior of defendants like Kelly Jarrett and Kerry Max Cook, discussed *supra* note 29, provides anecdotal evidence that some level of the innocence effect remains even in serious cases in which defendants are offered the opportunity to plead guilty in exchange for time served.