

THE INNOCENCE EFFECT

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ABSTRACT

Nearly all felony convictions—about 95%—follow guilty pleas, suggesting plea offers are very attractive compared to trials. Many scholars, in fact, argue plea bargains are too attractive and should be curtailed because they facilitate the wrongful conviction of innocents. Others contend plea offers only benefit innocent defendants, providing an alternative to the risk of a much harsher sentence at trial they may wish to avoid. Both detractors and supporters thus believe plea bargains often lead innocents to plead guilty. The two camps in the debate, moreover, also share the view that defendants' culpability matters little for the rate of plea bargaining, since prosecutors adjust plea offers to attract defendants in strong and weak cases alike.

This article provides evidence, however, for the hitherto neglected “innocence effect.” We show innocents are significantly less likely to accept plea offers than their guilty counterparts, even where these offers appear objectively attractive in light of the expected sanction at trial. The innocence effect, in turn, reveals not only that the first commonly held assumption—of false pleading—is overstated, but also that the second assumption—of culpability irrelevance—is plainly wrong. After substantiating the innocence effect, we explore its psychological causes which then provide the foundation for our positive and normative analyses of plea bargaining. These analyses find that both plea detractors and its supporters must reevaluate, if not reverse, their long-held positions to account for the innocence effect and its causes. We conclude by offering two proposals for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether.

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TABLE OF CONTENTS

Introduction	2
I. Evidence	7
A. <i>Post-Plea Interviews</i>	7
B. <i>Exoneration Statistics</i>	9
C. <i>The Tulia Dataset</i>	12
D. <i>Experimental Evidence</i>	14
II. Causes	16
A. <i>Alternative Accounts</i>	18
B. <i>Psychological Insights</i>	19
1. Beliefs and Preferences in the Shadow of Trial	20
2. Diverging Beliefs	22
3. Diverging Preferences	25
C. <i>Experimental Evidence</i>	30
III. Implications	36
A. <i>Positive Implications</i>	36
1. Guilty Bargainers	36
2. Innocents on Trial	37
3. Wrongful Convictions	38
4. The Cost of Innocence	39
B. <i>Normative Implications</i>	41
1. Plea Support for Plea Detractors	41
2. Plea Detraction for Plea Supporters	43
3. Restrictions on Plea Offers	44
4. Agreements on a Simplified Criminal Process	46
Conclusion	47

INTRODUCTION

Plea bargaining dominates the criminal justice landscape in the United States: about 95% of all felony convictions follow guilty pleas and most guilty pleas result from plea bargaining.¹ Despite their ubiquity, however, the desirability of plea bargains is hotly debated, not the least

¹ See Thomas H. Cohen & Tracey Kyckelhah, STATE COURT PROCESSING STATISTICS: FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 2006, BUREAU OF JUSTICE STATISTICS, May 2010, at 1, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/fdluc06.pdf>. In the federal courts, 96% of felony convictions follow guilty pleas. See COMPENDIUM OF FEDERAL JUSTICE STATISTICS, 2003, BUREAU OF JUSTICE STATISTICS, Oct. 2005, at 2, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cfjs03.pdf>.

[2011]

THE INNOCENCE EFFECT

3

because they can lead innocent defendants to plead guilty. Some plea detractors argue, for instance, that the powerful institutional pressures exerted by the criminal justice system lead those psychologically vulnerable innocents to plead guilty.²

Yet most scholars—whether detractors or supporters of this practice—examine plea bargaining as a decision defendants inevitably make in the shadow of trial.³ After all, plea bargains are agreements wherein prosecutors offer defendants a reduction in criminal charges or sentence recommendations in return for a guilty plea. When faced with a plea offer, defendants must therefore determine whether they find its certain but discounted sanction more attractive than trial. In the simplest shadow of trial model, for example, defendants would accept plea bargains that offer a sanction lower than the expected value of trial—that is, the anticipated post-trial sentence, multiplied by the probability of conviction.⁴

Importantly, the calculating defendant envisioned by the shadow of trial literature may decide to accept a discounted offer and plead guilty even while innocent, rather than face the risk posed by trial.⁵ Many scholars find problematic the potential of false pleading to facilitate the wrongful conviction of innocents and thus argue for the curtailment of plea bargaining.⁶ Others, who favor plea bargaining, contend to the

² See, e.g., Albert W. Alschuler, *The Prosecutor's Role in Plea Bargaining*, 36 U. CHI. L. REV. 50, 60 (1968) (arguing that “the greatest pressure 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, 2494–95 (2004) (arguing that information deficit might lead innocent defendants to plead guilty).

³ See Alschuler, *supra* note 2, at 60–61 (showing how innocent defendants accept very lenient guilty plea offers to avoid a risky trial); 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 like 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 (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); Ronald F. Wright, *Trial Distortion and the End of Innocence in Federal Criminal Justice*, 154 U. PA. L. REV. 79, 88–99 (2005); see also Frank H. Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 316 & 320 (1983); Robert E. Scott & William J. Stuntz, *Plea Bargaining as a Contract*, 101 YALE L.J. 1909, 1914–17 (1992).

⁴ Note that while 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.2., and the cost of trial, which does not affect the present analysis and we therefore do not discuss further here. See, e.g., Gene M. Grossman & Michael L. Katz, *Plea Bargaining and Social Welfare*, 73 AM. ECON. REV. 749 (1983); William M. Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61, 69 (1971).

⁵ For a thorough review of the economic literature on plea bargaining see Oren Gazal-Ayal & Limor Riza, *Plea Bargaining and Prosecution*, in CRIMINAL LAW AND ECONOMICS 145 (Nuno Garoupa ed., 2009). For some of the more prominent articles see Grossman & Katz, *supra* note 4 and Landes, *supra* note 4; as well as the sources cited in footnote 3 *supra*.

⁶ See Albert W. Alschuler, *The Changing Plea Bargaining Debate*, 69 CAL. L. REV. 652, 713–14 (1981); Kenneth Kipnis, *Criminal Justice and the Negotiated Plea*, 86 ETHICS 93, 98 (1976); Langbein, *supra* note 3, 12–13; Stephen J. Schulhofer, *Plea Bargaining as Disaster*, 101 YALE

contrary that this practice can only benefit those innocent defendants who prefer the discounted bargain to the risk of a much harsher sentence following a wrongful conviction at trial.⁷ Thus, even while drawing contradictory normative conclusions, both camps in the debate agree plea bargains lead innocents to plead guilty.

Importantly, in addition to their shared belief that plea offers encourage false pleading, both plea detractors and its supporters also agree that defendants' culpability has little effect on the rate of plea bargaining. Prosecutors can use their discretion to adjust plea offers to defendants' probability of conviction, making more lenient offers in weak cases to guarantee agreement.⁸ Therefore, defendants who face weaker cases—such as most innocents—are offered more lenient sentences that make plea bargaining as attractive as it is for defendants in stronger cases.⁹

This Article reveals, however, that a behavioral phenomenon to which the legal literature until recently paid scant attention and provided little empirical support¹⁰—namely, the innocence effect in plea

L.J. 1979, 1981–91 (1992); Welsh S. White, *A Proposal for Reform of the Plea Bargaining Process*, 119 U. PA. L. REV. 439, 450–51 (1971); Ronald F. Wright, *Trial Distortion and the End of Innocence in Federal Criminal Justice*, 154 U. PA. L. REV. 79, 113 (2005).

⁷ See Josh Bowers, *Punishing the Innocent*, 156 U. PA. L. REV. 1117, 1170–78 (2007); Thomas W. Church, Jr., *In Defense of "Bargain Justice,"* 13 LAW & SOC'Y REV. 509, 516 (1979); Easterbrook, *supra* note 3, at 320; Scott & Stuntz, *supra* note 3, at 1947.

⁸ See Grossman & Katz, *supra* note 4, at 753–55; Scott & Stuntz, *supra* note 3, at 1947. Note that the parties must rely on charge bargaining in weak cases to make the necessary adjustment while avoiding judicial rejection of the agreed sentence. Yet charge bargaining in weak cases is the norm, rather than the exception, in the criminal justice system. See Ronald F. Wright & Marc L. Miller, *The Screening/Bargaining Tradeoff*, 55 STAN. L. REV. 29, 58–60 (2002).

⁹ See Schulhofer, *supra* note 6, at 1984 (“Innocence by itself (that is, apart from its link to particular evidence) can have only a small impact on the odds of conviction.”) Moreover, while 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, since there are many indications that prosecutors will go a long way to avoid losing cases. See Robert Rabin, *Agency Criminal Referrals in the Federal System: An Empirical Study of Prosecutorial Discretion*, 24 STAN. L. REV. 1036, 1045 (1971) (concluding, based on interviews with federal prosecutors, that convictions are the central performance standard and an increased rate of non-convictions raises questions and creates anxieties); see also Albert W. Alschuler, *The Prosecutor's Role in Plea Bargaining*, 36 U. CHI. L. REV. 50, 106–07 (1968) (noting that prosecutors are often measured by the rate of convictions and thus care much more about conviction than sentencing); Bibas, *supra* note 2, at 2472 (“[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 a plea bargain is struck. We should thus find, if anything, higher rates of plea bargaining in those weaker cases that nevertheless are prosecuted, among which innocents are likely to be overrepresented.

¹⁰ We were able to find only two psychological studies from the late nineteen-seventies and early nineteen-eighties that examined the influence of innocence in plea bargaining. See Kenneth S. Bordens, *The Effects of Likelihood of Conviction, Threatened Punishment, and Assumed Role in Mock Plea Bargaining Decisions*, 5 BASIC & APPLIED PSYCHOL. 59, 65 (1984); Larry W. Gregory et al., *Social Psychology and Plea Bargaining: Applications, Methodology, and Theory*, 36 J. OF PERSONALITY & SOC. PSYCHOL. 1521 (1978). A citation search for these studies in

[2011]

THE INNOCENCE EFFECT

5

bargaining—challenges those widely held assumptions of false pleading and culpability irrelevance. Specifically, both field evidence and controlled experiments show that innocent defendants are significantly less likely to accept plea offers than their guilty counterparts. Innocents' reluctance to plead guilty holds, moreover, even for offers that appear objectively attractive in light of their probability of conviction and anticipated sanction at trial, offers that similarly situated guilty defendants find much more appealing and thus tend to accept.¹¹

Our evidence of the innocence effect makes clear, first, that the false pleading assumption is overstated: Innocents are less likely to plead guilty than shadow of trial models assume, even in the face of attractive plea offers. Second and importantly, the innocence effect reveals the assumption of culpability irrelevance is plainly mistaken. Culpability, in fact, exerts a strong impact on defendants' willingness to accept plea offers and, consequently, on plea bargaining and conviction rates.

Notably, while we are not the first to criticize the dominant shadow of trial approach in the criminal arena, our analysis and its policy implications substantially differ from extant critiques. The main, familiar line of criticism argues that defendants' decisions are not systematic enough to allow prediction of their bargaining strategies, because they are irrational, lack the ability to make a calculated decision, or suffer from bad legal representation.¹² Like the shadow of trial literature, however, this critique relies on intuition and anecdotes alone. Its arguments, moreover, are at least partially contradicted by our empirical evidence—which reveals innocents' systematic reluctance to plea—and, at any rate, bear very different normative implications from those that follow the innocence effect.¹³

More recently, scholars sought to challenge the shadow of trial model by applying extra-legal, psychological insights to defendants' plea behavior.¹⁴ While commendable in their efforts to increase the

Lexis found each of them mentioned only once prior to our own experiments together with Stephen M. Garcia, which were recently published as: Avishalom Tor et al., *Fairness and the Willingness to Accept Plea Bargain Offers*, 7 J. EMPIRICAL LEGAL STUD. 97 (2010) and our own citations to this research elsewhere. Both earlier studies and our findings are discussed in Parts I.D. and II.C. *infra*.

¹¹ See *infra* Part II.

¹² See, e.g., Albert W. Alschuler, *The Defense Attorney's Role in Plea Bargaining*, 84 YALE L.J. 1179, 1219–22 (1975); Bibas, *supra* note 2, at 2494 (arguing that defendants are subject to biases which lead them to wrong decisions); Schulhofer, *supra* note 6, at 1988–90 (noting that plea bargains are facilitated by the personal interests of defense attorneys).

¹³ See *infra* Part III.

¹⁴ See Bibas, *supra* note 2; see also Richard Birke, *Reconciling Loss Aversion and Guilty Pleas*, 1999 UTAH L. REV. 205 (1999); Russell D. Covey *Reconsidering the Relationship Between Cognitive Psychology and Plea Bargaining*, 91 MARQ. L. REV. 213 (2007); Rebecca Hollander-Blumoff, *Social Psychology, Information Processing, and Plea Bargaining*, 91 MARQ. L. REV. 163 (2007). For example, Bibas, *supra* note 2, at 2495 argues that “prosecutorial bluffing is

realism and efficacy of plea bargaining analysis, these challenges are of a mixed quality, partly because they lack direct evidence of plea behavior.¹⁵ Unsurprisingly, therefore, none of these recent, behaviorally-informed contributions have identified the innocence effect.

Research on procedural fairness similarly reveals limitations of the shadow of trial model other than those we examine here.¹⁶ Procedural fairness studies show empirically that defendants' satisfaction with the criminal process and people's willingness to accept its legitimacy depend not only on the results of the process but also on its perceived fairness. Yet unlike this literature our analysis, first, focuses on the plea offer and its acceptance or rejection instead of the process that generates the offer. Second, we examine not only defendants' perceptions but actual plea behavior as well. Third and significantly, our analysis concerns a phenomenon that systematically distinguishes the innocent from the guilty, beyond the various behavioral factors that affect all defendants more generally.

Part I therefore reviews a diverse body of evidence for the innocence effect, from retrospective studies of convicts, through empirical analyses of field data from wrongfully convicted defendants who were later exonerated, to experimental studies of plea behavior. Part II then examines the causes of the innocence effect, considering alternative accounts for our field evidence, exploring the psychological antecedents of the effect by drawing on relevant behavioral research in other domains, and supplementing it with findings from others' and our own experimental tests of plea bargaining. Finally, Part III considers the positive and normative implications of the innocence effect and its psychological causes. In addition to discussing the somewhat counterintuitive implications of our findings, this Part shows plea detractors and supporters alike must reevaluate their traditional positions that commonly rely on inaccurate or mistaken assumptions. Specifically, we find that in the presence of the innocence effect plea bargaining diminishes—rather than increases—the rate of wrongful convictions, thereby allaying plea detractors' main concern with the practice.¹⁷ At the same time, our analysis also reveals that plea

likely to work particularly well against innocent defendants, who are on average more risk averse than guilty defendants." We find much evidence to the contrary, however.

¹⁵ For this reason, as well as for a limited familiarity with the precise contours of the psychological evidence, legal scholars occasionally have reached erroneous conclusions. 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 those theoretical applications of extra-legal behavioral evidence to the law).

¹⁶ For review of this literature see Tom R. Tyler, *Social Justice: Outcome and Procedure*, 35 INT'L J. OF PSYCHOL. 117 (2000).

¹⁷ *Infra* Part III.B.1..

[2011]

THE INNOCENCE EFFECT

7

bargaining as currently practiced disproportionately benefits the guilty and imposes a significant cost on innocent defendants, because of the innocence effect, thereby harming the main interest plea supporters seek to promote.¹⁸ In view of these paradoxical findings, Part III concludes with two proposals of our own for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether.¹⁹

I. EVIDENCE

A diverse body of evidence substantiates the intuitive, yet mostly neglected, innocence effect. Part I.A. opens with a brief review of suggestive retrospective studies of defendants reporting that culpability played a central role in their plea decisions. An empirical analysis of field data from several hundreds of wrongfully convicted defendants—predominantly in rape and murder cases—who were later exonerated follows in Part I.B. This analysis reveals that only a fraction of those wrongful convictions followed guilty pleas, in contrast to convictions in similar cases, whose dramatic majority results from guilty pleas. Part I.C. then examines closely the case of the 38 innocent Tulia defendants, who were convicted for drug trafficking and later exonerated. The Tulia case, of which we have detailed information, again shows a striking contrast between the reluctance of these innocents to plea bargain and the statistics in comparable cases in their Texas district. Finally, Part I.D. concludes with evidence of the innocence effect from controlled experiments that manipulated the culpability of participants in both hypothetical scenarios and 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. Most obviously, guilty defendants often will proclaim their innocence, seeking to avoid conviction or obtain a better plea bargain, while innocents sometimes plea bargain when conviction seems certain and the plea offer attractive. Similarly, one cannot infer the innocence of those few who choose trial from their refusal to plea bargain, since some guilty defendants may well refuse to bargain, whether for strategic reasons—in an unsuccessful attempt to secure a better offer—because their plea offers were not sufficiently attractive, or since they want to avoid the social costs of admitting their guilt in court. Finally, the outcome of trial cannot perfectly separate the guilty from the innocent either, and inevitably results not only in mistaken acquittals but in

¹⁸ *Infra* Part III.B.2..

¹⁹ *Infra* Part III.B.3 & III.B.4.respectively.

wrongful convictions as well.

Nevertheless, some empirical findings that apply to both guilty and innocent defendants, specifically studies collecting data from defendants after the conclusion of the criminal proceeding, may still inform the present inquiry. These retrospective interviews may be tainted by the convicts' effort to present themselves in a positive light, but are less likely than pre-trial data to be shaped by efforts to impact the legal result of the case, which already has been concluded.

Interestingly, retrospective studies report those utilitarian considerations of expediency on which the shadow model is based are not the most important to defendants when making plea bargain decisions. Instead, and quite strikingly, many defendants claim they pled guilty first and foremost because they were in fact guilty.²⁰ In the same vein, almost all convicted defendants who pled "not guilty" at trial claimed either they did not commit the offense or the act they committed did not constitute an offense in their opinion.²¹ At the same time, answers that rely on utilitarian considerations were far less common: The desire quickly to end the proceedings was a major reason for only 10% of the defendants, while obtaining a lighter sanction through the plea was the main reason for a mere 5% of the defendants in one study.²² In many cases, moreover, those defendants who pled "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.²³

Similar results were found in an Israeli study that interviewed nearly 400 defendants immediately following their plea at the Israeli Magistrate Court.²⁴ When asked "Why did you plead guilty?" or "Why did you plead not guilty?" most defendants answered they did so because they spoke the truth or because they committed the offense (53%). Only a few mentioned expediency considerations such as the desire to end the case (10.2%), or the deal offered by a plea bargain or an expected penalty relief following admission (11.2%). Another

²⁰ See ANTHONY E. BOTTOMS & JOHN D. MCCLEAN, DEFENDANTS IN THE CRIMINAL PROCESS 111 (1976). Of the defendants in the sample who pled guilty, 41% explained they did so simply because they were guilty, 27% because the police had a good case against them, 20% because they were caught red-handed, 11% because they confessed to the police, 10% to get it over with quietly and with less fuss, 7% on their lawyer's advice, and only 5% said they did it to get a lighter sentence (some defendants gave more than one reason). See also SUSANNE DELL, SILENT IN COURT: THE LEGAL REPRESENTATION OF WOMEN WHO WENT TO PRISON 30-37 (1971) (only about 10% of the women who pled guilty denied committing the offence when interviewed after pleading).

²¹ See BOTTOMS & MCCLEAN, *supra* note 20, at 131.

²² See *id.* at 111.

²³ For a more detailed analysis of this study see *infra* note 20.

²⁴ AMI KOBO, INCONSISTENT PLEADERS IN COURT - PLEADING GUILTY AND CLAIMING TO BE INNOCENT (2009) (in Hebrew).

[2011]

THE INNOCENCE EFFECT

9

common reason given was "I was caught red-handed" or similar versions of the same account (23.7%). Most defendants who pled not guilty stated their innocence as a leading consideration in the decision to deny their guilt.

Of course, defendants' responses in the latter study, which were collected before trial concluded, are particularly susceptible to the criticism noted above—namely, that they are distorted or false because defendants seek somehow to affect the outcome of the case even while talking privately to researchers outside the legal proceeding. Notably, however, in both retrospective studies more generally and the latter case in particular, most defendants had no problem presenting themselves in a negative light.²⁵ That is, the vast majority of guilty pleaders—which is to say the substantial majority of all defendants—routinely admit committing the offense in the survey and even state it as the main reason for their guilty plea.

Therefore, while 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 most defendants who plead guilty believe their culpability was a significant, often the dominant, consideration in making that plea decision.²⁶

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 near-certain—namely, defendants who were wrongfully convicted and later exonerated.

Using two main sources,²⁷ we compiled a database of 466

²⁵ DELL, *supra* note 20, at 30–37, reached a similar result, finding that only 10% of the guilty pleaders told the researcher that they were innocent when interviewed.

²⁶ A similar pattern—of a strong concern for fairness or justice—emerges from the cases featured in the PBS documentary "The Plea," of individuals who refused to plead guilty, claiming their innocence, even in the face of certain incarceration and extremely attractive plea offers. 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 to plea for time served, on moral grounds, despite knowing 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 Supreme Court ordered the court of criminal appeals 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 committed the crime and that Cook, therefore, was innocent. For the full stories see *Confronting the Plea: Four Stories*, FRONTLINE, available at <http://www.pbs.org/wgbh/pages/frontline/shows/plea/>.

²⁷ The main sources are THE INNOCENT PROJECT, <http://www.innocenceproject.org> (last visited June 1, 2011) and the list of exonerated defendants in Samuel R. Gross et al., *Exonerations in the*

exoneration cases in which a conviction was overturned based on new information that revealed the defendant was factually innocent.²⁸ To insure data quality and relevance we used only exonerations from 1989 onwards.²⁹ 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,³⁰ and type of exonerating evidence.³¹ Where defendants pled guilty we also added an eighth variable, measuring whether they faced the threat of a death sentence if convicted at trial.

Quite dramatically, the categorized data revealed that only 37 of the 466 exonerated defendants, or 7.9%, were convicted following a guilty plea; the remaining 92.1% were convicted by an erroneous jury decision at trial. This 7.9% rate stands in sharp contrast to the common rate of guilty pleas in comparable felony cases during the same period, which approximates 90%.³² In fact, the 99% confidence interval around

United States 1989 Through 2003, 95 J CRIM. L. & CRIMINOLOGY 523 (2005). Originally we included cases from many other sources including data from NORTHWESTERN LAW SCHOOL CENTER ON WRONGFUL CONVICTION, <http://www.law.northwestern.edu/cwc/> (last visited June, 24, 2011); MICHAEL RADELET, HUGO BEDAU & CONSTANCE PUTNAM, IN SPITE OF INNOCENCE: ERRONEOUS CONVICTIONS IN CAPITAL CASES (1992); EDWIN BORCHARD, CONVICTING THE INNOCENT - SIXTY-FIVE ACTUAL ERRORS OF CRIMINAL JUSTICE (1932); EDWARD D. RADIN, THE INNOCENTS (1964); JEROME FRANK & BARBARA FRANK, NOT GUILTY (1957); FOREJUSTICE: WRONGLY CONVICTED DATABASE INDEX, <http://forejustice.org/db/innocents.html> (last visited April 14, 2011). INNOCENCE PROJECT NEW ORLEANS, <http://ip-no.org/exonerees> (last visited April 14, 2011); TRUTH IN JUSTICE, <http://www.truthinjustice.org> (last visited April 14, 2011); JUSTICE DENIED: THE MAGAZINE FOR THE WRONGLY CONVICTED, <http://www.justicedenied.org/> (last visited April 14, 2011). However, to assure a high, consistent standard for inclusion in the database and make sure the cases included are not too old, we relied only on the first two sources above (although we used the other sources for supplementary information regarding the cases we study; seven cases in the Gross et al. database were removed for insufficient information).

²⁸ Of those cases, 284 exonerations resulted from DNA analysis and in 96 cases the real offender was found.

²⁹ Relying on more recent cases reduces the risk the result is affected by changes in the criminal justice system over the years. It is worth noting, however, that a larger dataset which included older cases as well generated results similar to those reported here.

³⁰ The causes were eye witness 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, alleged scientific evidence (30), alleged suspicion statement of the defendant (12), pre-DNA hair analysis (27). In many cases more than one cause led to the miscarriage of justice.

³¹ The exonerating evidence were DNA (284 cases), real culprit found (96 cases), solid alibi proved (10 cases), informant reversed testimony (34 cases), exonerating scientific evidence other than DNA (like blood tests, fingerprints, ballistic tests etc.) (13 cases). Three exonerations followed proof the crime never happened. In one case, the supposedly stolen money was found. In another, a couple was exonerated from murdering their baby, who was never born. In some cases, more than one type of proof led to the exoneration.

³² See Brian A. Reaves, STATE COURT PROCESSING STATISTICS, 1990-2002: VIOLENT FELONS IN LARGE URBAN COUNTIES, BUREAU OF JUSTICE STATISTICS, July 2006, at 6, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/vfluc.pdf> (88% of violent felony convictions in the 75

[2011]

THE INNOCENCE EFFECT

11

the 7.9% rate in our sample data has a lower bound of 5.6% and an upper bound of 13.4%, highlighting the strong tendency of these innocents to opt for a trial.

Intriguingly, most of those innocents in our database who pled guilty to a crime they did not commit did so after wrongfully confessing to the crime during the police investigation (23 of 67 cases, 34.3%). This result indicates guilty pleas that follow a confession are less reliable than guilty pleas generally are. Yet for our purposes this finding is important in that the innocence effect is even stronger when the innocent defendant did not wrongly confess to the crime during investigation. Only 14 defendants of the 399 (3.5%) exonerees who did not confess during the police investigation pled guilty. The 99% confidence interval around the 2.8% rate in this sample data has a lower bound of 1.8% and an upper bound of 7.2%.³³

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%, followed a guilty plea; this figure is obviously significantly different from the guilty plea rate among sexual assault convictions during that period that approximated 85%.³⁴ Among murder and manslaughter cases, we found a guilty plea rate of 6.8% among exonerated defendants (16 of 234). Here too, the difference between this 6.8% rate and the 60% guilty plea rate among comparable convictions is still dramatic and highly significant.³⁵ Moreover, 14 of these 16 defendants explained their guilty plea was driven by their fear of capital punishment. It therefore appears that even innocents are likely to plead guilty when bargaining is conducted in the shadow of the death sentence.

One concern with the systematic, pronounced differences between our database and the general convict population is that the exonerated may consist of a small, self-selected group of innocents who refuse even attractive pleas and persist in making efforts to prove their innocence following conviction. According to this account, the behavior of the exonerated differs from that of the broader population of innocent defendants who may accept attractive plea offers, do not seek to

large urban counties between 1990 and 2002 resulted from guilty pleas). In 1996, 91% of state court felony convictions followed guilty pleas; a decade later it was 94%. See Jodi M. Brown et al., FELONY SENTENCES IN STATE COURTS, 1996, BUREAU OF JUSTICE STATISTICS, May 1999, at 1, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/fssc96.pdf>; Matthew R. Durose et al., FELONY SENTENCES IN STATE COURTS, 2006, BUREAU OF JUSTICE STATISTICS, Dec 2009, at 1, available at <http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=2152>.

³³ While very interesting, we leave for another day the discussion of why false confessions facilitate false pleas, which is outside the scope of the present analysis.

³⁴ In 1996, 81% of the convictions in sexual assault cases resulted from guilty plea; in 2006, it was 88%. See Brown, *supra* note 32, at 1; Durose, *supra* note 32, at 1.

³⁵ In 1996, 54% of the convictions in murder and non-negligent manslaughter resulted from guilty plea; in 2006, the rate was 61%. See Brown, *supra* note 32, at 1; Durose, *supra* note 32, at 1.

challenge their convictions after pleading guilty, and are therefore less likely to be exonerated.³⁶

To examine this possibility, we separately studied the subset of cases in which the exoneration resulted from events that were less likely to depend on defendants' efforts, where the hypothesized causal link between plea behavior and exoneration that could generate a selection bias is weaker. This analysis showed that even among those 96 cases where defendants were exonerated after the identity of the real offender was revealed only 12 convictions (12.5%) resulted from guilty pleas.

However, because it is conceivable these cases still partly reflect the contribution of plea-refusing innocents' efforts to their exoneration, we sought those extremely rare cases where such an effect is highly unlikely. For this purpose, we examined a broader exonerations dataset from the last 100 years,³⁷ finding seven murder defendants who were exonerated when the murder victim was found alive.³⁸ In one additional theft case, the finding of the supposedly stolen money similarly led to the exoneration.³⁹ All of these eight defendants—whose efforts could not have contributed to the exoneration—pled not guilty, providing a further, clear manifestation of the innocence effect.

Moreover, the selection bias argument fails to account for the behavior of the Tulia defendants—who were not exonerated as a result of their own efforts but nevertheless showed a remarkable reluctance to plea bargain—to which we now turn.

C. *The Tulia Dataset*

Another dataset that shows a clear innocence effect concerns the small town of Tulia, Texas and is particularly instructive for a number of reasons: First, the Tulia dataset involved drug trafficking cases that significantly expand the range of offenses covered by our other exoneration data—which consist almost solely of murder and rape cases. Second, the quantitative data we have for the 38 Tulia defendants is further complemented by rich, qualitative documentation of these innocents' plea bargain decision making. Third and

³⁶ See RONALD HUFF ET AL., CONVICTED BUT INNOCENT: WRONGFUL CONVICTION AND PUBLIC POLICY 73 (1996) (arguing innocents rarely challenge their conviction after pleading guilty)

³⁷ Originally we built a larger database of 973 cases from the twentieth and twenty-first centuries. However, because we found the standard for inclusion in this database more subjective, and because we suspected that old cases might be different than current cases, we decided to concentrate only the newer cases from the innocence project and Gross et al, *supra* note 27. It is worth noting that using this smaller database did not change the result in any significant way. However, because the newer cases included no exonerations resulting from the appearance of the supposed murder victim, for this purpose we only examined the larger database.

³⁸ These include the cases of Bill Wilson, Alabama 1915, Louise Butler & George Yelder Alabama 1928, Antonio Rivera, California & Merla Walpole, California 1974, Condy Dabney, Kentucky, 1926 and Ernest Lyons, Virginia, 1909. See Gross et al, *supra* note 27.

³⁹ The case of Robert Jr. Farnsworth, Michigan, 1999. Gross et al, *supra* note 27.

importantly, the possibility of selection bias has no purchase in the Tulia cases, where we know defendants' efforts played no role in their later exonerations.⁴⁰

The Tulia cases took place when one corrupt, undercover police officer successfully framed 38 people in allegedly independent cases of drug trafficking.⁴¹ Years after their convictions, these innocents were exonerated and compensated, and the officer convicted of perjury. The behavior of these unrelated innocents, who knew a police officer will testify at trial they sold him cocaine, is telling. The first eight defendants, who were brought to trial consecutively, were unwilling to plea bargain and consequently sentenced after jury trials to various prison terms, ranging from 20 to 434 years of imprisonment.⁴²

Among the eight, for example, was Joe Moore, who rejected his lawyer's repeated advice to plea bargain, even though he was told they would not be able to challenge the officer's testimony at trial. With two previous drug offences in his record, no alibi, and only his word against that of a police officer, his lawyer was correct to tell Moore he had no chance at trial: following his refusal to plea bargain, Moore was convicted after a trial that lasted less than a day and sentenced for 99 years of imprisonment.⁴³

Similarly, Fred Brookins, who knew the five defendants whose trials preceded his own already were convicted based on similar testimony by the same officer who was about to testify against him, rejected a deal for five years of imprisonment on the eve of the trial. He did so against his lawyer's strong advice, arguing that he should not plead guilty to something he did not do, and received a 20 years sentence at trial.⁴⁴

The consistent refusals of these first eight defendants in the Tulia cases to plea bargain not only indicate that some innocents are reluctant to plea, but also suggest such reluctance may be quite common, even in the face of strong incriminating evidence, high trial risk, and the contrary advice of one's defense lawyer. After all, those first eight defendants made the exceptional decision to reject a plea offer and face a jury trial in Texas, where only 0.3% of the drug trafficking convictions in county courts in 1999 resulted from jury trials.⁴⁵ This

⁴⁰ The details of the Tulia scandal are taken from NATE BLAKESLEE, *TULIA: RACE, COCAINE AND CORRUPTION IN A SMALL TEXAS TOWN* (2005).

⁴¹ Forty-three people originally were arrested and all but one were charged, but the charges against four defendants were dropped at later stages when they presented a solid alibi. *See id.*

⁴² *Id.* at 43–157

⁴³ *Id.* at 44–45. 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 continuance to examine the officer's credibility. Even after his requests were rejected, however, he still refused to accept plea offers.

⁴⁴ *Id.* at 148.

⁴⁵ In the year 1999, when these trials took place, only 74 of the 24,570 convictions in drug offences in county courts in Texas (0.3%) another 105 (0.4%) convictions resulted from non-jury

behavior is particularly striking, moreover, for those innocents who saw how a virtually identical testimony led those who preceded them, in the same courtroom and with the same two judges, to extremely harsh jail sentences.

Unsurprisingly, the Tulia case also reveals the reluctance of innocents to plea bargain is not without limit. Following the harsh sentences imposed on those first eight defendants, only three of their remaining peers went to trial. The other 27 innocents pled guilty, most of them in return for very attractive non-incarceration sentences. Thus, at least when the plea concession is very large and the extremely high likelihood of conviction at trial undeniable, even innocents will usually accept a plea bargain. Notably, however, the overall trial rate of the Tulia innocents was still only 29% (11 of 38 defendants), dramatically higher than the normal rate of 0.3% mentioned above.⁴⁶

The Tulia dataset reveals a strong innocence effect for offenses that are less severe than those murder and rape cases in our larger exoneration database yet still carry—and in fact resulted in—extended incarceration sentences. We also know the refusals of the first eight defendants to plea bargain were significantly motivated by fairness concerns and, furthermore, that these defendants did not initiate the efforts that led to their later exoneration.

Taken together, our varied sources of field data paint a clear picture where considerations of culpability matter to criminal defendants generally and innocents, in particular, are very reluctant to accept plea offers except when they recognize conviction is very likely and the plea concession is great, when they believe they are facing the risk of death sentence, or when they falsely confessed during investigation. Nevertheless, both our general exoneration evidence and the Tulia dataset concern serious offenses—where long incarceration sentences leave sufficient time for an exoneration to occur—and may therefore not represent the behavior of criminal defendants in less serious cases.

To provide further evidence of the generality of the innocence effect, we thus turn to two early studies that examined plea bargaining behavior through controlled experiments.

D. Experimental Evidence

Experimental tests allow researchers to manipulate a particular variable and examine its effects in a controlled environment, which is typically

trial, and the remaining 99.2% of these convictions resulted from guilty pleas. See 1999 Annual Report, *Statewide Summary of Reported Activity - Criminal, Probate, and Mental Health*, Texas Court Online, <http://www.courts.state.tx.us/pubs/AR99/county/cosum99.xlw> (last visited June 27, 2011).

⁴⁶ See *supra* note 45.

[2011]

THE INNOCENCE EFFECT

15

unavailable in the field.⁴⁷ Of course, controlled experiments, particularly when conducted in laboratory settings, also have some inherent limitations, most notably with respect to their external validity.⁴⁸ Findings in laboratory settings may not generalize well to the real world for the experiment's failure to replicate important elements of the question it aims to study, due the artificial nature of many laboratory studies, or because the participants in the experiment somehow differ systematically from the individuals in whose behavior we are interested.⁴⁹

These concerns, moreover, seem particularly acute in the case of plea bargaining, given the extreme consequences of criminal defendants' decisions that cannot fully be replicated in the laboratory, the serious ethical and practical problems involved in misleading experimental participants to believe they are guilty of committing a criminal offense, and the possibility that criminal defendants are somehow different from the general population from which studies draw their experimental participants.⁵⁰

A more careful consideration suggests, however, that the limitations of experimental tests in the present case are less detrimental than they initially appear to be: First and importantly, we use 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 clear showing of the innocence effect in these experiments serves at least as much to highlight their external validity—that is, that they replicate real plea bargaining behavior at least in this important respect—as it does to provide further corroboration of our real-world evidence.

Second, some experimental tests of plea bargaining included elements showing that in the plea bargain setting the results of hypothetical questionnaires bear close resemblance to those obtained by realistic simulations⁵¹ and the responses of college students—the most common participants in laboratory experiments—are largely similar to those of convicted criminals.⁵²

In two early experiments, Gregory et al. found innocence affected

⁴⁷ See, e.g., Tor, *supra* note 15, at 284-85.

⁴⁸ See, e.g., ROBERT ROSENTHAL & RALPH ROSNOW, *ESSENTIALS OF BEHAVIORAL RESEARCH: METHODS AND DATA ANALYSIS* 64 (2d ed. 1991) (explaining that external validity refers to generalizability); WILLIAM R. SHADISH ET AL., *EXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS FOR GENERALIZED CAUSAL INFERENCE* 38 (2002).

⁴⁹ See ROSENTHAL & ROSNOW, *id.*; Tor, *supra* note 15, at 287.

⁵⁰ See Tor et al., *supra* note 10, at 101.

⁵¹ See Gregory et al., *supra* note 10.

⁵² While focusing on defendants' preferences regarding procedural aspects of plea bargaining, found roughly similar outcomes for participants who were students and participants who were inmates at a Florida country detention center. See Pauline Houlden, *The Impact of Procedural Modifications on Evaluations of Plea Bargaining*, 15 *LAW & SOC'Y REV.* 267, 279-85 (1980)

participants' willingness to accept plea offers.⁵³ One study concerned a lighter criminal offense - of armed robbery—than the ones appearing in our field data, while another 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 led to believe they committed an academic infraction.

The first study asked male students to imagine they were either innocent or guilty of having committed armed robbery. They received highly detailed information on the circumstances that led to their imagined arrest for committing the crime, the charges against them, their punishment if convicted, and details of a plea bargain they were offered. The first three variables—culpability, number of charges, and prison sentence if convicted—were manipulated between subjects, while plea offers were identical for all participants.⁵⁴ On the main measure of interest for our purposes, this study found innocent participants significantly more likely than guilty ones to reject the plea offer.⁵⁵

Notably, the second, follow-up, experiment used a confederate to place students in conditions of actual guilt or innocence about having prior information on answers to a difficult test. This realistic experiment corroborated the results of the hypothetical decisions made by participants in the first, simulation study. It found innocents dramatically less likely than guilty participants to accept a plea-like compromise offer in lieu of facing judgment by an ethics committee with higher potential penalties.⁵⁶

Together, these two controlled experiments complement the field evidence. They indicate, first, that in the plea bargain domain hypothetical studies using students as participants and requiring "as if" behavior likely possess external validity. Second, these studies—as well as the additional experiments we discuss in Part II.C below—suggest the innocence effect extends beyond the severe offenses appearing in our field evidence to the lighter offenses studied in those plea bargaining experiments.

II. CAUSES

A diverse set of empirical evidence reveals a clear pattern in which considerations of culpability appear paramount in defendants' plea

⁵³ Gregory et al., *supra* note 10.

⁵⁴ On the distinction among between-subjects and within-subjects experimental designs see ROSENTHAL & ROSNOW, at 69-70.

⁵⁵ Interestingly, the study also found overall main effects for the other independent variables (*i.e.* number of charges and severity of punishment) and an interaction between them. These effects, however, appeared when analyzing guilty but not innocent participants. This suggestive evidence further corroborates the dominance of fairness considerations in innocents' decisions.

⁵⁶ Gregory et al., *supra* note 10, at 1528.

behavior generally, and innocents exhibit a strong tendency to refuse plea offers specifically. Yet innocents' behavior may be subject to different interpretations besides a genuine reluctance to plea. 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 is truly driven by innocence per se instead of other factors that are often associated with it (such as innocents' often-superior trial prospects), the field evidence sheds only limited light on the precise mechanisms whereby innocence causes plea rejections. To wit, innocents may refuse to plead guilty because of a preference for justice or fairness. They may also spurn the plea more often than guilty defendants due to more optimistic predictions of their trial prospects, or for other reasons altogether.⁵⁷

As Part III below explains at length, however, a better understanding of these psychological mechanisms is important for plea bargaining policy. To illustrate, plea supporters may applaud innocents' surprising willingness to bear the risk of wrongful conviction at trial instead of plea bargaining if these defendants truly are expressing a strong preference for fairness. Yet the same scholars may find problematic plea rejections driven by systematic optimism that leads innocents to reject plea offers they would have otherwise accepted.

To these ends, Part II.A first examines alternative accounts for the innocence effect besides innocence per se, finding 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 behavior outside the plea bargaining context. Finally and importantly, Part II.C reports the results of experimental tests of plea bargaining that bring the psychological underpinnings of the innocence effect into sharper relief and provide a basis for the positive and normative analyses we undertake in Part III below.

⁵⁷ Cf. Colin F. Camerer & Eric Talley, *Experimental Law and Economics*, in 2 HANDBOOK OF LAW AND ECONOMICS 3 (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.”). See Russell Korobkin’s discussion of 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.

Possibility and Plausibility in Law and Economics, 32 FLA. ST. U. L. REV. 781, 786 (2005).

A. Alternative Accounts

Two alternative accounts would attribute the innocence effect to the nature of the cases facing innocents rather than to innocence itself. The first would argue that innocents refuse the bargain more often because they face weaker average cases, while the second would attribute the effect to potential private information possessed by these defendants.

One might think that because average innocents face weaker cases they should find trial more attractive and, therefore, plea bargains less attractive than do their guilty counterparts. Despite its intuitive appeal, however, this argument fails to consider the impact of prosecutorial discretion and incentives. As long as prosecutors know the strength of their cases and—as shown above—are willing and able to adjust plea offers to the probability of conviction at trial using charge, fact, and sentence bargaining,⁵⁸ the greater average weakness of a subset of cases should not affect their plea rates.⁵⁹ In fact, we already noted that prosecutors are expected to make more—rather than less—attractive plea offers in those weaker cases they prosecute, to avoid the risk of a failure to convict at trial.⁶⁰ Moreover, the behavior of the Tulia defendants, who knew that the cases against them are strong, and the experimental studies which controlled the probability of conviction, show that the innocence effect cannot be fully attributed to the possible weakness of the cases against innocent defendants.

Alternatively, one might argue the low rate of plea bargains with innocents results from a rational evaluation of trial prospects on their part. After all, trials are designed to reveal the truth and innocent defendants will rationally estimate their chances are better than guilty defendants. Prosecutors, on the other hand, cannot know which of those defendants they believe guilty are in fact innocent and thus cannot take innocence into account when adjusting the plea offer to the evidence they otherwise have of defendants' probability of conviction. Therefore, this information asymmetry hinders the negotiation and diminishes the likelihood of successful plea bargaining with innocent defendants.⁶¹

⁵⁸ See *supra* note 8 (and accompanying text).

⁵⁹ See Alschuler, *supra* note 2, at 58–60; 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) (showing that prosecutors have “an overwhelming propensity” to moderate the terms of the deal in weak cases).

⁶⁰ See *supra* note 8 (and accompanying text); see also Alschuler, *supra* note 2, at 106–07 (noting that prosecutors are often measured by the rate of convictions and thus care much more about conviction than sentencing); Bibas, *supra* note 2, 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.”); Oren Gazal-Ayal, *Partial Ban on Plea Bargains*, 27 CARDOZO L. REV. 2316, 2318 (explaining why prosecutors are doing their utmost to cut deals in weak cases, where the risk of acquittal is relatively high).

⁶¹ See Grossman & Katz, *supra* note 4, at 753–55; Scott & Stuntz, *supra* note 3, at 1940–46.

Yet while information asymmetry may well hold some explanatory power, its magnitude should not be overstated. Trials, like plea bargaining, are shaped by evidence. Insofar as one's innocence is not sufficiently reflected in the evidence to reveal it to prosecutors, it might have some, but limited, effect on expected trial outcomes and thus on plea bargaining rates.⁶² On the other hand, innocents who possess evidence that will assist them at trial can use it during plea bargaining as well. Therefore, besides those rare cases where innocent defendants might prefer to conceal the exonerating 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 better plea bargain.

Thus, we are hard pressed to believe, for instance, that nearly all of the wrongfully convicted defendants in the exoneration database refused the plea simply because they knew their chances of acquittal at trial were high, due to private information they could not convincingly convey to prosecutors. We do know, moreover, that the Tulia defendants refused to plea in the absence of private information. Similarly, those innocent experimental participants in the studies of Gregory et al. discussed above who refused to plea bargain had no private information.⁶³

Furthermore, prosecutors are well aware that different defendants hold different risk attitudes and different estimates of trial results, so that prosecutors must offer substantial leniency. In fact, prosecutors' offers must be attractive not just to the average defendant, but to nearly all defendants, the individual differences among them notwithstanding. Hence, a small difference in the parties' trial predictions—whether based on private information or any other factor—is unlikely to prevent them from reaching an agreement.

B. *Psychological Insights*

We found innocents less willing than guilty defendants are to plea bargain, even when facing similar charges and evidence, and their behavior predominantly caused by their innocence rather than by the nature of the typical case innocents face. To gain a better understanding of the mechanisms that underlie innocents' plea rejections, we now turn to the rich psychological literature that studied 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.

⁶² See Schulhofer, *supra* note 6, at 1984 (“Innocence *by itself* (that is, apart from its link to particular evidence) can have only a small impact on the odds of conviction.”).

⁶³ See *supra* note 53 (and accompanying text).

1. Beliefs and Preferences in the Shadow of Trial

The centrality of defendants' beliefs regarding the expected in shadow of trial models is obvious: Defendants must compare the certain sanction offered by the plea to the probabilistic sanction at trial, which will be meted out if they are convicted. In the simplest case, prosecutors and defendants possess the same evidence and make identical and objective, rational predictions of likely trial outcomes based on this common information. More complex models may allow, for instance, for private information held by defendants in some uncommon cases which leads them to form different beliefs from those held by prosecutors about the likely outcomes of trial.⁶⁴

Shadow of trial models—like traditional law and economics models more generally—assume the parties are strictly rational, however.⁶⁵ At most, given the incomplete information available at plea bargaining, they will make occasional mistakes, over- or underestimating the expected sanction at trial. When such mistakes are shared by both parties, the likelihood of plea bargaining is unaffected. And even when the occasional erroneous judgment creates a gap between the parties' beliefs—such as where a defendant underestimates or a prosecutor overestimates the expected sanction at trial—they are still likely to reach agreement, since prosecutors' generous offers already take into account the possibility of a judgment errors by either party.

Much like in the case of beliefs, defendants' risk attitudes play a central role in their plea decisions due to the probabilistic nature of the sanction at trial.⁶⁶ Thus, different defendants exhibit different propensities to accept identical plea offers when faced with the same expected sanctions at trial, depending on their risk attitude and its degree. Risk neutral defendants simply maximize the expected value of their choices. Such defendants accept all bargains that offer a sanction lower than the expected sanction at trial and reject all other offers.⁶⁷

⁶⁴ See Grossman & Katz, *supra* note 4.

⁶⁵ See, e.g., RICHARD POSNER, *ECONOMIC ANALYSIS OF LAW* 3 (6th ed. 2003) (“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”); see also Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1053, 1060–66 (2000) (reviewing various formulations of rational action within legal scholarship).

⁶⁶ Landes, *supra* note 4, at 61–63 already incorporated defendant's risk averseness to his seminal model. Grossman & Katz, *supra* note 4, discussed the influence of society's attitude to risk as well.

⁶⁷ 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. Any incarceration is undesirable, yet, say, a doubly long period of incarceration (*e.g.* four years vs.

More advanced models, however, allow for criminal defendants who are risk averse—as individuals are thought to be with respect to significant decisions more generally.⁶⁸ Risk averse defendants, by definition, find the negative outcome in case of conviction at trial of greater concern than its probability alone indicates. Such defendants accept not only plea offers that equal the expected sanction at trial but even offers including higher sanctions, all to avoid the risk of an even higher sanction in case of conviction at trial.

In the same vein, risk seeking defendants reject even those offers that equal the expected sanction at trial. Such defendants are less concerned about conviction and sanction at trial and therefore demand the offer discount the sanction beyond its expected value before accepting it. Notably, traditional shadow of trial models pay little attention to the case of risk seeking defendants,⁶⁹ since this risk attitude is considered irrational in most circumstances.⁷⁰ Even more recent, behaviorally-informed research that finds defendants generally may be risk seeking, however, does not predict a systematic divergence in risk attitudes between innocent and guilty defendants.⁷¹

In sum, while defendants' beliefs and preferences are central to

two years) may be less than doubly undesirable. In this case, risk averse defendants with a 50% 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 recent arrestees regard a five-year imprisonment sentence as only twice as severe as a one-year sentence, and a ten-year sentence as about four to five times more severe than a sentence of one year). Moreover, the findings of research on choice over time—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 generally CHOICE OVER TIME (George Loewenstein & Jon Elster eds. 1992). However, risk averse defendants who are hyperbolic discounters will have further cause to reject offers that are set at the expected value of trial, since far-future incarceration matters to them far less than near-term incarceration following the plea. See Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1538–40 (1998) (arguing that defendants employ an hyperbolic discount rate); see also Gazal-Ayal, *supra* note 60, at 2338–39. Yet insofar as neither diminishing marginal sensitivity nor hyperbolic discounting exerts differential effects on guilty and innocent defendants these processes do not alter the present analysis, which focuses on the differences between the two types of defendants.

⁶⁸ See, e.g., ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 26 (3d ed. 2000) (noting that in decisions involving monetary outcomes economists assume decision makers are risk neutral or, at times, risk averse); A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 51 (1983) (same).

⁶⁹ See, e.g., Landes, *supra* note 4, at 67–68; Grossman & Katz, *supra* note 4.

⁷⁰ See COOTER & ULEN, *supra* note 68; SHAVELL, *supra* note 65. Cf. Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113, 120 (1996) (making a similar observation in civil litigation).

⁷¹ See Birke, *supra* note 14, at 208–10 (arguing defendants should be risk seeking due to loss aversion, but making no distinction between innocent and guilty defendants). One exception is Bibas, *supra* note 2, who reaches a conclusion opposite to our empirical findings by speculating that innocent defendants might be less susceptible to loss aversion because “most criminals are less risk averse (at least with regard to imprisonment) than law-abiding citizens.” *Id.* at 2507–15.

shadow of trial models, neither the possibility of the occasional erroneous belief nor the prospect of risk seeking defendants are expected to have an appreciable effect on overall plea bargaining rates. Even more importantly, however, the failure of the extant literature to identify the innocence effect means that shadow of trial models do not consider the case where innocent and guilty defendants exhibit systematically different beliefs and preferences in comparable settings.⁷²

Yet the judgment and decision making literature reveals a number of psychological processes that might well underlie the effect of innocence on plea behavior uncovered by our empirical evidence. These processes may lead innocents to hold, first, systematically more optimistic beliefs that make their trial prospects seem more attractive than they appear to guilty defendants and, second, more risk seeking preferences that diminish the attractiveness of the plea offers made by prosecutors to all similarly situated defendants.

2. Diverging Beliefs

The literature on judgment under uncertainty—the task that criminal defendants must undertake to form beliefs regarding their trial prospects—reveals a number of phenomena that are likely differentially to impact innocent versus guilty defendants. We briefly explore here the potential contribution of the illusion of transparency, the belief in a just world, and the availability heuristic.⁷³

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.⁷⁴ This tendency is a form of egocentrically biased perspective-taking, where individuals estimate the perspective of others using their own phenomenological experience as a starting point and insufficiently adjusting from it.⁷⁵ For

⁷² Intriguingly, one of the foundational papers of the shadow of trial literature on plea bargaining briefly mentions this possibility without examining it further. See Landes, *supra* note 4, at 68–69 (commenting that “an 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 . . . and hence increase the likelihood of a trial.”).

⁷³ Another important judgment process that is likely to distinguish between innocent and guilty defendants is the biasing effect of preferences on beliefs that we discuss *infra* notes 107–114 and the accompanying text. Notably, most of the processes that lead individuals to overoptimistic predictions of their future prospects are likely to impact criminal defendants generally without systematically distinguishing the innocent from the guilty. See generally Tor, *supra* note 15 (providing a brief review of these processes).

⁷⁴ Thomas Gilovich et al., *The Illusion of Transparency: Biased Assessments of Others' Ability to Read Our Emotional States*, 75 J. PERSON. & SOC. PSYCHOL. 332 (1998).

⁷⁵ See *id.*; see also John R. Chambers et al., *Knowing Too Much: Using Private Knowledge to Predict How One Is Viewed by Others*, 19 PSYCHOL. SCI. 542 (2008) (showing how the difficulty people have in intuiting how they are viewed by others is caused by their active reliance on private information that others have no access to).

example, researchers showed in one series of studies how experimental participants who are induced to lie overestimate the detectability of their lies. In one study participants played a round-robin game of multiple rounds where they told either lies (in one round) or the truth (in all other rounds) and observed the statements of others as well. As predicted, participants overestimated the degree to which others could detect whether they were telling the truth.⁷⁶

Later studies showed the illusion of transparency appears in negotiation settings as well, where even experienced negotiators overestimated the degree to which their negotiation partners were able to discern information they tried to convey about their preferences.⁷⁷ Importantly for our purposes, moreover, one study showed this psychological phenomenon varies with the degree of power negotiators possess: Less powerful negotiators (who 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).⁷⁸ These findings suggest this pervasive illusion may be particularly strong 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 a similar pattern. In the first, innocent participants were significantly more likely than their guilty counterparts to waive their *Miranda* rights. Although not directly linked to the illusion of transparency, the difference between the innocent and the guilty was caused by the naive belief of most innocent defendants in the power of their innocence to set them free.⁷⁹ The second study, which examined suspects' strategies during police interrogations, found that guilty suspects employed a variety of strategies to appear truthful. Innocents, on the other hand, sought to tell the truth as it happened, reflecting a belief in the visibility of their innocence.⁸⁰

Yet defendants exhibiting the illusion of transparency will overestimate the court's ability to find out whether they are lying or telling the truth. Such defendants will adjust their trial predictions to

⁷⁶ See Gilovich et al., *supra* note 74, at 334–35 (study 1a). 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. See *id.* at 335–36 (studies 1b and 1c).

⁷⁷ See Leaf Van Boven, *The Illusion of Transparency in Negotiations*, 2003 NEG. J. 117 (2003) (study 2).

⁷⁸ Stephen M. Garcia, *Power and the Illusion of Transparency in Negotiation*, 17 J. BUS. & PSYCHOL. 133 (2002).

⁷⁹ Saul M. Kassin & Rebecca J. Norwick, *Why People Waive Their Miranda Rights: The Power of Innocence*, 28 L. & HUM. BEHAV. 211 (2004).

⁸⁰ Maria Hartwig et al., *Guilty and Innocent Suspects' Strategies During Police Interrogations*, 13 PSYCHOL., CRIME & L. 21 (2007).

their subjective knowledge of whether they are culpable, well beyond what is dictated by the objective evidence against them. In that case, we should find a systematic divergence between the trial predictions of innocents—who will overestimate their probability of acquittal—and guilty defendants—who will underestimate it.

The common belief in a just world⁸¹ is another factor that likely contributes to the systematic discrepancy between innocent and guilty defendants' beliefs. People tend to believe the world is a just place, where individuals get what they deserve. According to this research, the need to believe in a just world is reflected in how people respond to justice and injustice in the world.⁸²

Given just-world beliefs, for instance, the guilty may fear that further evidence that would ensure their conviction will be found, while the innocent may believe their lawyers will gather evidence or witnesses that will prove their innocence. If present, therefore, such beliefs could lead guilty defendants to underestimate their trial prospects while encouraging the innocent mistakenly to overestimate them.⁸³

Moreover, the differential effects of the illusion of transparency and just world beliefs on innocent and guilty defendants are likely to be reinforced by the pervasive availability heuristic.⁸⁴ This heuristic is often used in assessments of the frequency of a class or the probability of events. Judgments by availability rely on people's better and faster recall of instances of large classes than of less common classes and on their finding it easier to imagine likely occurrences than unlikely ones. Thus when judging by availability people substitute the ease of mental retrieval and construction for a direct estimation of the actual numerosity of a class or the likelihood of an event.⁸⁵

⁸¹ 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*, PSYCHOLOGICAL BULLETIN 85, 1030–51 (1978) and MELVIN J. LERNER, THE BELIEF IN A JUST WORLD: A FUNDAMENTAL DELUSION (1980). For more recent reviews of this phenomenon, its scope and limitations see Adrian Furnham, *Belief in a Just World: Research Progress Over the Past Decade*, 34 PERSONALITY AND INDIVIDUAL DIFFERENCES 795 (2003); Carolyn L. Hafer & Laurent Bègue, *Experimental Research on Just-World Theory: Problems, Developments, and Future Challenges*, 131 PSYCHOLOGICAL BULLETIN 128 (2005) .

⁸² See, e.g., Hafer & Bègue, *supra* note 81, at 128–29.

⁸³ Cf. Gregory et al., *supra* note 10 (suggesting such beliefs may lead innocents erroneously to think their refusal to plea bargain will serve as evidence of their innocence).

⁸⁴ See Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 4 COGNITIVE PSYCHOLOGY 207 (1973). For a brief summary and some legal applications see Tor, *supra* note 15, at 248–49.

⁸⁵ Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3, 11–14 (1982); see also Norbert Schwarz & Leigh Ann Vaughn, *The Availability Heuristic Revisited: Ease of Recall and Content of Recall as Distinct Sources of Information*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 103, 118 (disentangling two potential mechanisms underlying the effects of availability and concluding that ease of recall is the mechanism of more general relevance); Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*,

Availability-based judgments are useful because they are rapid, effortless and typically quite accurate, yet they also generate predictable errors, because some variables impact availability but not probability and frequency, while other variables affect the latter but not availability. 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.⁸⁶

Due to availability effects in recall and construction, however, 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 and thus underestimate their likelihood of conviction at trial.

3. Diverging Preferences

The wrongful conviction of the innocent is commonly perceived as an unjust or unfair outcome,⁸⁷ while convicting the guilty, of course, is not only just or fair but the main function of criminal justice. It is highly 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 while finding conviction undesirable.⁸⁸ Yet an extensive empirical literature documents how such fairness considerations impact preferences and decisions in ways that may lead innocents to exhibit greater risk-seeking than guilty defendants in their plea behavior.⁸⁹

First, studies show people care about receiving fair treatment in bargaining, engage in costly retaliation against unfair treatment, and react negatively to such treatment even where retaliation is impossible. One illustrative and extensively studied case of such fairness-oriented behavior is the ultimatum game, where one player ("Proposer") is asked

in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 163 (exploring different types of judgments by availability).

⁸⁶ See, e.g., Tversky & Kahneman, *Availability*, supra note 85; 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. EXPERIMENTAL SOC. PSYCHOL. 88 (1978) (finding that participants who imagined events made higher probability estimates of these events than did other participants).

⁸⁷ The conviction of the innocent is commonly referred to as unfair or immoral. See HERBERT L. PACKER, *THE LIMITS OF CRIMINAL SANCTION* 250 (1968); Ronald Dworkin, *Principles, Policy, Procedure*, in *A MATTER OF PRINCIPLE* 72 (1985).

⁸⁸ Of course, guilty defendants may still find the sanction offered in the plea bargain excessive in light of the offense, the expected sanction at trial, or in comparison to other plea offers in similar cases. See Tor et al., supra note 10, at 107-09.

⁸⁹ Importantly, the processes we describe here, which generate the diverging risk attitudes of the innocent and the guilty, exert their effect above and beyond those universal risk seeking tendencies that are explored in recent, behaviorally-informed scholarship. See supra note 14 (and accompanying text).

to allocate a given sum of money to himself and another player ("Responder"), and the latter must choose whether to accept the offered allocation.⁹⁰ If Responder accepts, each party gets a share according to the offer; if Responder rejects the offer, both parties get nothing. The basic game is anonymous and without repetition, so strategic considerations, such as reputation, should be irrelevant.⁹¹

A rational Responder should accept any positive sum, since the alternative to acceptance is rejection without any payment. In reality, however, Responders tend to reject offers that are below 20-30% of the sum that stands for allocation, and Proposers usually offer an even greater proportion of 40-50% of the sum.⁹² Notably, these findings hold when the game is conducted with significant sums of money.⁹³ Responders' behavior reveals people's willingness to forgo substantial financial gain to punish even an anonymous Proposer they will never encounter again in response to an unfair offer. Further research shows, moreover, Responders' negative emotional reactions play a significant role in their costly decisions to reject unfair offers.⁹⁴

Unsurprisingly, therefore, other ultimatum game variants show Responders reject unfair allocations even where rejections have no impact on Proposers' payoff.⁹⁵ These findings are particularly important for our purposes, since Responders' costly rejections when they are unable to inflict harm on unfair Proposers more closely resemble defendants' predicament in plea bargaining than the traditional ultimatum game. After all, a plea rejection typically is costly for defendant but imposes a far smaller cost on the prosecutor. Defendants who react to unfair offers in the manner exhibited time and again in the ultimatum game and similar studies may thus reject otherwise attractive plea offers they deem particularly unfair—most notably when they are innocent—but accept such plea bargains when they are guilty.

A second way in which defendants' fairness-driven behavior may

⁹⁰ See, e.g., Werner Güth et al., *An Experimental Analysis of Ultimatum Bargaining*, 3 J. ECON. BEHAVIOR & ORG. 367 (1982) (an early report of the ultimatum game); Alvin E. Roth, *Bargaining Experiments*, in THE HANDBOOK OF EXPERIMENTAL ECONOMICS (John H. Kagel & Alvin E. Roth eds. 1995) (summarizing findings). The experimental economics ultimatum game literature is very large. One readable, high-quality summary is available in COLIN F. CAMERER, BEHAVIORAL GAME THEORY: EXPERIMENTS IN STRATEGIC INTERACTION 48–56 (2004).

⁹¹ CAMERER, *supra* note 90, at 62–63.

⁹² *Id.* & tab. 2.2.

⁹³ *Id.* at 60–62.

⁹⁴ See, e.g., Armin Falk et al., *On the Nature of Fair Behavior*, 41 ECON. INQUIRY 20 (2003); Madan M. Pillutla & J. Keith Murnighan, *Unfairness, Anger, and Spite: Emotional Rejections of Ultimatum Offers*, 68 ORG. BEHAV. & HUM. DEC. PROC. 208 (1996).

⁹⁵ See, e.g., Gary Bolton & Rami Zwick, *Anonymity Versus Punishment in Ultimatum Bargaining*, 10 GAMES & ECON. BEHAV. 95 (1995); Duncan K.H. Fong and Gary E. Bolton, *Analyzing Ultimatum Bargaining: A Bayesian Approach to the Comparison of Two Potency Curves Under Shape Constraint*, 15 J. BUS. & ECON. STAT. 335 (1997).

separate the innocent from the guilty follows from the somewhat subtle interaction among fairness perceptions and loss aversion. Unlike the hypothetical rational actor that populates 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 they appear better or worse than a psychologically neutral reference point.⁹⁶ Choice, in other words, is reference-dependent,⁹⁷ and decision makers are “loss averse”—they are not equally sensitive to positive and negative outcomes of similar magnitudes, but find the latter much more painful than the former attractive.⁹⁸

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 phenomenon known as the “framing effect.”⁹⁹ Thus when facing the prospect of gains, individuals are usually risk averse, choosing, for instance, a sure gain of \$100 over the risky prospect of \$200 with a 50% probability (and otherwise nothing); yet the opposite attitude of risk seeking is typically displayed when decision makers believe they are facing the prospect of a loss, preferring, for example, an 80% probability of losing \$100 to a sure loss of \$80.

Notably, the effects of framing also have been investigated in a number of civil litigation and settlement studies.¹⁰⁰ As in the criminal case, 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 for them.¹⁰¹ Prospect theory suggests that civil defendants’ risk attitudes will depend on

⁹⁶ Cf. Rachlinski, *supra* note 70.

⁹⁷ 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 et al., eds. 2004) (reviewing the development of such theories, how they fare in experimental tests, and how they can be used).

⁹⁸ See Kahneman & Tversky, *supra* note 97, at 277–80.

⁹⁹ 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).

¹⁰⁰ See, e.g., Rachlinski, *supra* note 70, at 137–41 (providing a detailed account and experimental and observational evidence regarding the potential role of framing 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).

¹⁰¹ See, e.g., George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 *J. LEG. STUD.* 1 (1984) (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. LEG. STUD.* 55 (1982) (proposing an economic model of litigation, accounting for allocation of costs).

whether they view the trial versus settlement decision as a choice between losses or between gains.¹⁰² For instance, a defendant who profited from a breach of contract and is being sued for damages may compare both trial and settlement to the status quo, view them as losses, and thus exhibit risk seeking.¹⁰³ The same defendant, however, would be risk averse if he were to evaluate these prospects in reference to his position before profiting from the breach of contract, which makes both trial and settlement appear as gains.¹⁰⁴

Yet 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.¹⁰⁵ Hence people will tend to exhibit risk aversion when choosing among fair outcomes but risk seeking when facing unfair ones.¹⁰⁶

We have already seen, however, that considerations of justice and fairness loom large in criminal defendants' plea bargaining decisions. Innocents, therefore, will tend to view the conviction and sanction required by the plea as unfair, negative, outcomes that facilitate risk seeking. At the same time, guilty defendants—insofar as they view conviction as fair (if undesirable) and the discounted plea offer as a positive outcome—will exhibit risk aversion. The interaction between loss aversion, framing effects, and considerations of fairness thus may reinforce the diverging plea attitudes of the innocent and the guilty, with the former, risk seeking, defendants rejecting plea offers that 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. To wit, the psychological literature reveals a number of ways in which individuals' preferences bias their judgments.¹⁰⁷ The effect of

¹⁰² Putting aside, for simplicity, the significant issue of attorney fees, which also differ across legal systems.

¹⁰³ See, e.g., Rachlinski, *supra* note 100, at 128–29.

¹⁰⁴ See *id.*

¹⁰⁵ Daniel Kahneman et al., *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 126 AM. ECON. REV. 728 (1986) (framing effects in fairness judgments).

¹⁰⁶ See Tor et al., *supra* note 10, at 104–07.

¹⁰⁷ See, e.g., Elisha Babad, *Wishful Thinking and Objectivity Among Sports Fans*, 2 SOC. BEHAV. 231 (1987); Elisha Babad & Yosi Katz, *Wishful Thinking—Against All Odds*, 21 J. APPLIED SOC. PSYCHOL. 1921 (1991); David V. Budescu & Meira Bruderman, *The Relationship Between the Illusion of Control and the Desirability Bias*, 8 J. BEHAV. DECISION MAKING 109 (1995); 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 (1983); Robert A. Olsen, *Desirability Bias Among Professional Investment Managers: Some Evidence from Experts*, 10 J. BEHAV. DECISION MAKING 65, 66–70 (1997); Roy M. Poses

phenomena such as wishful thinking or the desirability bias is particularly apparent where people have a measure of control over outcomes, as in the case of marriage.¹⁰⁸

But the evidence reveals that preferences bias expectations even in settings that more closely resemble the predicament of the criminal defendant, where decision makers have no control over outcomes. For example, people tend to overestimate the likelihood and degree of success of the candidate or party they favor in an election, the team they like better in a sports' match or the company in which they have invested, although their actions cannot exert any effect on these outcomes.¹⁰⁹ In the same vein, the strong negative reaction of innocents to the injustice of a plea bargain is 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”—they associate with the targets of judgment for the direct evaluation of these targets.¹¹⁰ This affect heuristic therefore simplifies judgmental processes by consulting readily available affective impressions.¹¹¹ In these cases, decision makers' evaluations of outcome are largely dependent on whether the outcomes are tagged as affectively positive or negative.

For instance, studies suggest variations in the probability of different outcomes matter relatively little when judgments are based on affective reactions.¹¹² Moreover, other research reveals people also rely on the affect heuristic when assessing the risks and benefits of different

& Michele Anthony, Availability, *Wishful Thinking, and Physicians Diagnostic Judgments for Patients with Suspected Bacteremia*, 11 MED. DECISION MAKING 159 (1991); George Wright & Peter Ayton, *Subjective Confidence in Forecasts: A Response to Fischhoff and McGregor*, 5 J. FORECASTING 117 (1986) (all reporting biases in predictions and estimates, under a variety of names, in the direction of participants' preferences, in both laboratory studies and observational data).

¹⁰⁸ See, e.g., Neil D. Weinstein, *Unrealistic Optimism About Future Life Events*, 39 J. PERSONALITY & SOC. PSYCHOL. 806, 808 (1980); see also Peter Harris, *Sufficient Grounds for Optimism?: The Relationship Between Perceived Controllability and Optimistic Bias*, 15 J. SOC. & CLINICAL PSYCHOL. 9, 24-25 (1996) (reviewing the findings on the relationship between the two phenomena, finding strong evidence for its existence in predictions of positive events and weaker evidence for its existence in predictions of negative ones).

¹⁰⁹ See, e.g., Badad, *Wishful Thinking and Objectivity*, *supra* note 107; Badad & Katz, *Wishful Thinking—Against All Odds*, *supra* note 107; Granberg & Brent, *supra* note 107.

¹¹⁰ Daniel Kahneman & Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, in HEURISTICS OF INTUITIVE JUDGMENT: EXTENSIONS AND APPLICATIONS 56–57 (2002) (noting that “[a]ffective valence is a natural assessment, and therefore a candidate for substitution in the numerous situations in which an affectively loaded response is required”).

¹¹¹ See Melissa L. Finucane et al., *The Affect Heuristic in Judgments of Risks and Benefits*, 13 J. BEHAV. DECISION MAKING 1 (2000); Paul Slovic et al., *The Affect Heuristic*, in HEURISTICS AND BIASES 397 (Thomas Gilovich et al. eds. 2002).

¹¹² 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); see also George F. Loewenstein et al., *Risk as Feelings*, 127 PSYCHOL. BULL. 267 (2001).

activities. This reliance on affect leads people erroneously to believe activities they deem beneficial—such as vaccinations—are also low-risk, while activities they dislike are high-risk, irrespective of the objective risks involved.¹¹³ Thus we might speculate that innocent defendants, who have a clear negative reaction to the plea offer, will judge trial 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 pay insufficient attention to trial risk altogether.¹¹⁴

C. *Experimental Evidence*

An extensive psychological literature outside the plea bargaining context suggests the innocence effect may be caused by the more optimistic beliefs of innocents regarding their trial prospects compared to guilty defendants, by the greater risk seeking of innocents compared to the guilty, or by some combination of these two causes. For legal analysis, 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.

To wit, the data provides evidence the Tulia defendants were at least partly driven by considerations of justice and fairness.¹¹⁵ 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 position would have been. This dataset revealed, moreover, that only three of the thirty defendants who followed those first eight refused their plea offers. Insofar as these innocents likely held fairness preferences similar to those of their earlier, plea refusing, counterparts, one might be tempted to attribute their overwhelming plea acceptance 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.¹¹⁶ If this were the case, however, optimistic judgments would appear to dominate plea bargain decision making, defendants' 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

¹¹³ See Finucane et al., *supra* note 111.

¹¹⁴ Cf. Jeffrey J. Rachlinski, *Bottom-Up Versus Top-Down Lawmaking*, 73 U. CHI. L. REV. 933, 942–43 (2006) (citing evidence for the role of the affect heuristic in the courtroom, where the likelihood of a decision favoring a given party may increase or decrease depending on the affective reaction the party generates in court).

¹¹⁵ See *supra* note 43–44 (and accompanying text).

¹¹⁶ See BLAKESLEE, *supra* note 40, at 160.

[2011]

THE INNOCENCE EFFECT

31

prospects.¹¹⁷

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 where conviction is not virtually certain. On the other hand, experiments comparing the behavior of the innocent and the guilty under controlled conditions can be informative regarding the processes that underlie the innocence effect.

The plea bargaining studies of Gregory et al. discussed in Part I.D. above provide initial insight into the effect while leaving important questions unresolved.¹¹⁸ Specifically, these early studies offered a direct comparison—which is inevitably absent from the field data—of the behavior of innocent and guilty defendant groups who face identical allegations and plea offers and manipulated culpability as an independent variable. Hence these experiments were able to identify a clear causal link between culpability and plea rates.

Nevertheless, Gregory et al. also found those innocent participants in the first, simulation experiment who were reluctant to accept plea offers also believed they were less likely to be convicted and that their (hypothetical) defense attorney and judge would be more likely to think them innocent, compared to their guilty counterparts.¹¹⁹ In other words, although the objective probability of conviction in this study was unknown, innocents were significantly more optimistic than guilty participants.

Such innocents, of course, must have found their plea offers less attractive than their less optimistic, guilty counterparts—despite the identical objective trial and plea prospects of the two groups—irrespective of fairness concerns. In this case, moreover, the experimental results—where participants were simply told whether they were culpable—likely understate the divergence between innocent and the guilty defendants' beliefs regarding their trial prospects where culpability is real and of paramount importance.

A similar divergence of beliefs also may have confounded the effects of fairness preferences and probability judgments in the second, more realistic experiment.¹²⁰ In fact, the guilty among these participants probably had a rational basis for believing their probability of

¹¹⁷ See *id.* (noting that “after Freddie’s trial resulted in yet another maximum sentence, defendants started pleading out in droves. They were encouraged to do so by increasingly reasonable offers from [the prosecutor] McEachern, who seemed eager to get the whole affair behind him”).

¹¹⁸ See Gregory et al., *supra* note 10. For further description and discussion of these studies see *supra* notes 53-56 and accompanying text.

¹¹⁹ See *id.* at .

¹²⁰ See *id.* at exp. 2.

conviction higher than the innocent ones. The former knew a potential witness (the experimental confederate) might incriminate them in a future proceeding, while the latter had no such concerns. Overall, therefore, the studies of Gregory et al.'s leave some uncertainty as to the independent role of fairness preferences in the innocence effect.¹²¹

Bordens extended Gregory et al.'s findings to gain better understanding of defendants' plea bargain decision making.¹²² Using a large factorial design he independently manipulated culpability, sentence offered in the plea bargain ("Offer"), a defense attorney's estimate of conviction likelihood ("Conviction Probability"), and the sentence defendant would receive if convicted at trial ("Sentence").¹²³

Participants were provided with a description of a negligent homicide by automobile with which they were charged and the evidence against them (three eyewitnesses). They were told whether they were innocent or guilty, given a scale measuring their initial likelihood of conviction estimates, which they were then explicitly told to disregard thereafter. They also were given information on their Offer, Conviction Probability, and Sentence.¹²⁴

The study found a clear innocence effect.¹²⁵ Before they were given the defense attorney's estimates, moreover, innocents believed they were significantly less likely to be convicted at trial than did the guilty, echoing the greater optimism exhibited by Gregory et al.'s innocent participants.¹²⁶ Unsurprisingly, the independent variables other than culpability also had significant main effects on participants' willingness to accept plea offers, which increased with Conviction Probability and Sentence and decreased with severity of Offer.¹²⁷

By directly manipulating conviction probabilities, which were objectively identical for the innocent and the guilty, Bordens' study overcame the earlier confound of preference and probability judgments.

¹²¹ Houlden sought to address this confounding phenomena in a study focusing on defendants' preferences regarding procedural aspects of plea bargaining. Her experiment included four car accident scenarios, and respondents were asked to imagine that they were the driver and had been charged with first-degree murder. The scenarios manipulated culpability and the strength of evidence against the driver. Participants' preferences for and perceptions of different plea bargaining procedures were measured. They also completed manipulation checks of their perceptions of culpability and strength of the evidence against them. However, Houlden neither compared the overall responses of guilty and innocent participants nor provided sufficient information to allow one to make such comparison based on her reported data. *See* Houlden, *supra* note 52.

¹²² *See* Bordens, *supra* note 10.

¹²³ *See id.* at 62.

¹²⁴ Bordens used four levels of Offer (probation, 6 months in prison, one year in prison, and three years in prison), three levels of Conviction Probability (10%, 50%, and 90%), and two levels of Sentence (one year more or five years more than Offer). *See id.* at 63-65.

¹²⁵ *See id.* at 65.

¹²⁶ *See id.* at 66-67.

¹²⁷ Similar findings were obtained using an additional dependent variable of "firmness of decision" that was used to complement the binary accept/reject choice regarding the plea offer.

[2011]

THE INNOCENCE EFFECT

33

Nevertheless, the important experimental finding of an innocence effect independently of participants' beliefs regarding their trial prospects is somewhat marred by the study's initial elicitation of these subjective beliefs. After all, although participants were instructed to ignore their own estimates after their elicitation, the extensive research on anchoring effects in judgment under uncertainty suggests that, once elicited, subjective estimates are likely to impact later decisions even when one seeks to ignore them.¹²⁸ In that case, however, the innocence effect Bordens consistently found for different probability levels might still reflect some combination of innocents' optimistic trial beliefs and fairness-driven preferences instead of the latter alone.

In sum, Bordens adduced evidence for the likely independent role of fairness preferences in the innocence effect, some potential confounding notwithstanding. The behavior of his participants also resembled the calculated defendant envisioned by shadow of trial models, insofar as these participants appeared to consider both Conviction Probability and Sanction when choosing between trial and plea bargaining.¹²⁹

More recently, the present authors and a colleague conducted a series of experimental tests of fairness in plea bargaining, which also examined the innocence effect.¹³⁰ These experiments administered hypothetical questionnaires involving lighter offenses to student participants, following the earlier research that found the results of such studies commensurate with those of more realistic simulations. Importantly, the studies also followed a simple design—providing participants with precise information regarding their trial prospects and avoiding the elicitation of subjective probabilities of conviction—to minimize the effects of those potential confounds encountered in previous studies.¹³¹

After replicating the innocence effect in Study 1, using a simple scenario concerning an academic violation and mid-range (60 percent) conviction probability,¹³² Tor et al. examined in Study 2 whether the effect generalizes to a broader probability range and a different

¹²⁸ See Amos Tversky & Daniel Kahneman, *Judgment under Uncertainty*, *supra* note 85, at 11–14. For a more recent review of anchoring conditions see GRETCHEN B. CHAPMAN & ERIC J. JOHNSON, INCORPORATING THE IRRELEVANT: ANCHORS IN JUDGMENTS OF BELIEF AND VALUE, HEURISTICS AND BIASES 120, 123–26 (Thomas Gilovich et al., eds. 2002); see also Clayton R. Critcher & Thomas Gilovich, *Incidental Environmental Anchors*, 21 J. BEHAV. DEC. MAKING 241 (2008); Nicholas Epley & Thomas Gilovich, *Putting the Adjustment Back in the Anchoring and Adjustment Heuristic*, 12 PSYCH. SCI. 391, 391–92 (2001).

¹²⁹ Importantly, the simultaneous manipulation of Conviction Probability and Sanction in this study also shed little light on defendants' risk preferences in plea bargain decision making. These risk preferences, however, play a significant role in present-day shadow of trial models, as noted *supra* Part II.A..

¹³⁰ See Tor et al., *supra* note 10 at 103–04.

¹³¹ See *id.* at 103.

¹³² See *id.* at 103–04.

scenario.¹³³ This second study also controlled for the effect of the expected sanction at trial by holding all plea offers equal to the expected sanction, without any plea discount. This design made the results compatible with shadow of trial models and participants' absolute risk attitudes transparent: Plea acceptance under these conditions meant risk aversion, its rejection reflected risk seeking, and indifference implied risk neutrality.¹³⁴

Sixty-four undergraduates from the University of Michigan participated in an online questionnaire survey that used a mixed design, manipulating culpability between subjects (so that each participant was either in the guilty or the innocent condition) and probability of conviction within subjects (so that each participant considered 5 different probability levels). Participants read a scenario about a lethal car accident in which they were facing criminal charges and personally knew if they exceeded the speed limit. They were told the outcome of their trial depended on whether the prosecution proves they exceeded the speed limit: If the prosecution succeeded in doing so, they will be convicted and given a mandatory 5-year (60 months) suspension of their driver's license; otherwise, they will walk free.¹³⁵

Participants were then asked to decide whether they would accept a plea bargain in five different circumstances: "Now, 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." At this point, participants read their five plea offers, in which they were asked to choose between going to trial, with a given sanction and probability of conviction, and accepting the plea offer. In each case, the sanction included in the bargain equaled the expected sanction at trial. Participants then chose between a 5% probability of receiving the full five-year suspension and a three-month plea bargain; a 30% probability and an 18-month offer; and so on.¹³⁶

In line with their main hypothesis and the evidence discussed above, Tor et al. found innocents were more risk seeking, overall, than their guilty counterparts. The results also revealed a significant interaction between guilt and probability, with innocents exhibiting greater risk seeking for most, but not all, of the probability range. From very low through low and intermediate probabilities of conviction (5%, 30% and 50%) approximately 30% fewer innocent than guilty participants accepted their plea offers. The gap between the two groups

¹³³ See *id.* at 104–07.

¹³⁴ See *id.* at 104. Note, however, that the experimental design aimed to examine the systematic differences in risk attitudes between the innocent and the guilty rather than to reach general conclusions about defendants' absolute risk attitudes, which depend on a multitude of factors well beyond the scope of the study.

¹³⁵ See Tor et al., *supra* note 10, at 105.

¹³⁶ See *id.*

narrowed, however, for the higher (70%) conviction probability and disappeared altogether—with innocents accepting slightly *more* plea offers—when conviction probability was very high (95%).¹³⁷

These findings contribute to our understanding of the innocence effect in a number of respects: First, they provide evidence for the effect where the subjective beliefs of innocent and guilty participants were unlikely to diverge, suggesting this manifestation of 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 different offers with identical expected values—suggests its broad relevance for shadow of trial models. Third, the diminishing difference between innocent and guilty defendants when conviction was likely and its later disappearance when conviction was almost certain reveals a possible boundary to the innocence effect. This pattern, moreover, is reminiscent of the behavior of later Tulia defendants, the great majority of whom accepted their plea offers—unlike their earlier counterparts—despite their innocence when faced with virtually certain conviction and heavily discounted plea offers.¹³⁸

In addition, Tor et al. sought to shed further light on the role of biased beliefs in the innocence effect. Earlier research revealed that innocents tend to be more optimistic than their guilty counterparts regarding trial prospects, thereby contributing to the innocence effect.¹³⁹ Specifically, we hypothesized that the fairness concerns of defendants may also lead to biased judgments of their culpability. Another study therefore used a variation the car accident scenario while adding condition where defendants were uncertain about their culpability.¹⁴⁰ As predicted, uncertain participants—who did not know whether they 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.¹⁴¹

All in all, the various experimental studies of plea bargaining not only corroborate the field evidence of the innocence effect, but also

¹³⁷ As the study noted: participants in the innocent condition tended to exhibit significant risk seeking and reject the plea offer across almost all the probability range, 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 risk averse, with plea acceptance rates of 47 percent, 38 percent, 56 percent, 53 percent, and 41 percent for the same five probability levels. *See id.* at 106.

¹³⁸ *See supra* note 46 (and accompanying text).

¹³⁹ Bordens *supra* note 10, at 65; Gregory et al., *supra* note 10, at .

¹⁴⁰ Tor et al., *supra* note 10, at 110–11 (study 4). This study also used a different response mode from the previous studies, to test the robustness of our measures.

¹⁴¹ *See id.*

offer further insight regarding its causes. In accordance with the broader psychological literature, these studies reveal the effect holds even when defendants know their objective trial prospects—that is, when it is driven by the diverging, fairness-driven preferences of innocent and guilty defendants alone, at least when conviction is not highly likely or near certain. In fact, fairness concerns are strong enough to lead even uncertain defendants—who may in fact be guilty—to form biased beliefs of their innocence and reject objectively fair plea offers as if they were innocent and the offers consequently unfair. More generally, however, innocents' plea reluctance is typically driven by their optimistically biased beliefs regarding their trial prospects as well.

These findings paint a plea bargaining picture that differs in important respects from what 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' strong reluctance to plea bargain and suggested this effect results from the combination of innocents' more optimistic predictions of trial prospects—compared to guilty defendants—and their aversion to accepting the unjust outcomes of the plea bargain. This part begins by considering 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. Guilty Bargainers

Innocent defendants exhibit a significantly greater aversion to pleading guilty than do their guilty counterparts, so that they often reject plea offers the latter would accept when faced with similar trial prospects. Prosecutors, who cannot distinguish the innocent from the guilty among those they decide to prosecute, must adjust their offers to secure plea bargains with the dramatic majority of all defendants.¹⁴² Consequently, plea offers are inevitably geared towards the typical, guilty defendant. Such offers are accepted by the great majority of the guilty even while many innocent defendants reject them, meaning that plea bargains overwhelmingly lead to the conviction of the guilty. For instance, a plea offer that is attractive to nearly all of the guilty, who accept it 95%

¹⁴² Of course, prosecutors typically will not pursue charges against defendants they believe innocent based on the available evidence.

of the time, will be accepted by the innocent only in a substantially smaller fraction of cases. Yet the ultimate proportion of innocents among the guilty pleaders is even smaller than the fraction of innocents who accept the prosecutors' offers might suggest. The innocent, after all, comprise only a small minority of all criminal defendants to begin with, so it is a small proportion of that minority that we will ultimately find among the ranks of the guilty pleaders.¹⁴³

While the innocence effect suggests the guilty are usually overrepresented among plea bargainers beyond their base rate among criminal defendants generally, a closer look at our findings suggests three possible limitations. That is, we found tentative evidence that more innocents accept plea offers when they believe they are facing the death penalty, when they believe their conviction at trial is extremely likely, or when they have falsely confessed during the police investigation.

The first limitation is straightforward, indicating the representation of the guilty among plea bargainers in death-penalty cases will not much exceed their base rate among death-penalty defendants. The second similarly might be taken to imply that innocents plead guilty at rates closer to those of guilty defendants when the prosecution's case is particularly strong. Importantly, however, for the effect to disappear in this case innocents must also *believe* they are facing near certain conviction, which may not happen often. In other words, while some innocents form reasonably accurate beliefs regarding their trial prospects and behave like the guilty when conviction is near certain, many other overoptimistic innocents will still be reluctant to plea even under this extreme condition. Consequently, the innocence effect may still be manifested, with the guilty overrepresented—albeit to a lesser degree—among plea bargainers who face near certain conviction. Finally, the third limitation suggests innocents who falsely confessed during investigation may not behave much differently from the guilty insofar as plea bargaining is concerned.

2. Innocents on Trial

The most direct implication of the innocence effect for trial rates is the mirror-view of its consequence for plea bargain rates. That is, most innocents—who reject their plea offers—face a full trial, even while the dramatic majority of cases involving guilty defendants are disposed of by plea bargain. Innocents, therefore, comprise a disproportionately large fraction of those criminal defendants who go to trial, with the exact proportion depending on the base rates of the guilty and innocent,

¹⁴³ To illustrate, if even 40% of the innocent defendants, who were to comprise 1% of all defendants, would accept those plea offers that attract 95% of the guilty, innocent defendants would make only slightly more than 0.4% or 1 out of approximately 250 of all guilty pleaders.

respectively, in the defendant population and the two groups' relative proportions of plea rejections.¹⁴⁴

Furthermore, paralleling our analysis of the proportion of the guilty among plea bargainers, innocents' likely representation in potential death-penalty trials will not be substantially higher than their small base rate proportion among such cases to begin with. In the same vein, when conviction at trial is near certain, some innocents will form reasonably accurate beliefs regarding their trial prospects and behave more like their guilty counterparts, while other, optimistic innocents will be reluctant to plea. Even under this extreme condition, therefore, we may still find an innocence effect, if diminished, with innocents overrepresented among those defendants who choose trial, even where conviction is objectively extremely likely.¹⁴⁵ On the other hand, innocents who falsely confessed to the police probably will not be significantly overrepresented among those facing a full trial, since we found they often plead guilty as well.

3. Wrongful Convictions

Beyond its direct effect on the proportions of the guilty among plea bargainers and the innocent among those who stand trial, the innocence effect and plea bargaining combine indirectly to reduce the *rate* of wrongful convictions compared to a system where all defendants go through a full-fledged trial. First, without plea bargaining some guilty defendants who now plead guilty inevitably would have been acquitted at trial, thereby indirectly increasing the rate of the innocent among those convicted in court.

Second, the plea bargains made with most defendants free recourse for the trials of those few defendants who contest the charges, improving these trials' accuracy and providing stronger protections for the innocent. Had all criminal proceedings led to full trials, resource constraints would force the lowering of the cost—and thus the quality—of trials to maintain a reasonable level of enforcement. In fact, historical studies show plea bargains have evolved largely due to the development of defendants' privileges and rights, such as the privilege against self-incrimination and the right to representation.¹⁴⁶ Plea

¹⁴⁴ Using the proportions in the preceding illustration, *supra* note 143, for instance, innocents would comprise about 11% of those criminal defendants facing a full trial.

¹⁴⁵ 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 0.5% of all defendants in these cases were innocent, who accept only 70% of the time those plea offers that are accepted by guilty defendants 99% of the time, then innocents would still comprise just under 13% of defendants in all such trials.

¹⁴⁶ See John H. Langbein, *Understanding the Short History of Plea Bargaining*, 13 LAW & SOC'Y REV. 261, 263–67 (1979). Even today one can see a distinct connection between

bargains leave the vast majority of defendants out of court, allowing the judiciary to ensure complex, costly, higher-quality trials to those who choose a trial, including most innocents.¹⁴⁷

4. The Cost of Innocence

The innocence effect, however, also imposes a significant, collective cost on innocent defendants—namely, innocents will be meted higher average sentences than guilty defendants who face similar evidence and are charged with a similar offense.

To illustrate the cost of innocence, suppose that in all cases with an eighty 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).¹⁴⁸ If, for instance, all innocents were to reject this offer and all the guilty to accept it, all 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, while the remaining twenty percent would be acquitted. The average sentence imposed on an innocent in this example, therefore, is eight years in prison, so these defendants are sentenced to longer average sentences due the combined impact of plea bargaining and the innocence effect. In contrast, a legal system without the plea bargain mechanism would force all defendants to face trial and receive the same average sentence regardless of culpability.

In fact, the above illustration likely understates the magnitude of the cost of innocence. If defendants only try to minimize the expected value of their punishment, the prosecution could settle for a sentence discount of just over twenty percent to ensure that all defendants with a twenty percent acquittal probability would accept the offer. In practice, however, the evidence suggests defendants generally are risk seeking: they will risk a higher expected sentence to preserve the chance of a full acquittal.¹⁴⁹ Consequently, the prosecution must offer deeper sentence discounts that inadvertently impose an even greater collective penalty

expanding the protections granted to defendants and the developing pressure for adopting 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. See 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. See Máximo Langer, *From Legal Transplants to Legal Translations: the Globalization of Plea-Bargaining and the Americanization Thesis in Criminal Procedure*, 45 HARV. INT'L L.J. 1, 45 (2004).

¹⁴⁷ See Scott & Stuntz, *supra* note 3, at 1932.

¹⁴⁸ The expected trial sentence is 80%*10 years = 8 years.

¹⁴⁹ See Bibas *supra* note 2, at 2494; Birke, *supra* note 14, at 208–10; Gazal-Ayal, *supra* note 60, at 2338–39.

on the innocent.

Additionally, independently of the innocence effect, defendants differ in their willingness to accept plea offers due to their idiosyncratic success rate assessments and risk preferences. However, in a budget-constrained system that brings to trial only approximately five percent of all criminal cases the prosecution cannot make offers that attract only the average defendant—and are therefore accepted about half the time. Instead, the prosecution must offer much more lenient sentences than the punishment expectancy at trial, offers that appeal to the vast majority of defendants. Yet insofar as the innocence effect leads a significant proportion of innocents to reject even these deeply discounted plea offers, the dynamics of plea bargaining in a budget-constrained system further increase the cost of innocence.

Somewhat ironically, the cost of innocence may be even more dramatic where the probability of acquittal is high. When prosecutors bring charges in such cases they must often completely waive actual incarceration, replacing it instead with community service or probation, meaning plea bargaining defendants face a qualitatively different and dramatically lighter type of sentence than those defendants who go to trial.¹⁵⁰ In these cases, therefore, the gap between the punishment imposed on guilty pleaders (most of whom are guilty) and the average sentence imposed on those who plead not guilty (amongst whom the innocent are overrepresented) is particularly large, with a concomitantly large cost of innocence.¹⁵¹

Finally, we should note the cost of innocence appears whenever there are both innocent and guilty defendants who face similar conviction probabilities and similar sentences upon conviction. In each and every such set of cases innocents bear higher average sanctions than a group of matched guilty defendants, although they comprise a minority of criminal defendants overall and an even smaller fraction of defendants for some conviction probabilities and anticipated sentences.¹⁵²

¹⁵⁰ For example, see the Tulia cases *supra* Part I.C., where all defendants convicted in a standard procedure were sentenced to prison terms while most of those who admitted guilt were sentenced to other penalties. Of course, it is difficult to know in case of a plea bargain which penalty would have been imposed absent the arrangement. For this reason it is difficult empirically to establish that arrangements that convert prison-term sentences to other punishments are common, although there have been rare instances where data showing the range of punishment after the trial and the punishment offered in the bargain itself was revealed.

¹⁵¹ Note also that our experimental findings suggest the innocence effect is strongest for medium to high acquittal probabilities, thereby further increasing the cost of innocence in these circumstances.

¹⁵² Because innocents are not evenly distributed across the spectrum of conviction probabilities and given the suggestive evidence regarding the diminishing magnitude of the innocence effect for very high probabilities of conviction, the magnitude of the cost of innocence depends on the probability of conviction. The effect obtains, however, whenever the innocence effect is manifested.

[2011]

THE INNOCENCE EFFECT

41

B. Normative Implications

Our findings on the innocence effect make clear that two assumptions that permeate the plea bargaining literature are wrong. First, the assumption of false pleading is clearly 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 conviction is extremely likely or that they are facing the death penalty, or when they falsely confessed during the investigation. Second, the innocence effect reveals the assumption of culpability irrelevance is plainly mistaken, since not only does defendants' willingness to accept plea offers depend on culpability, but so do the resulting plea bargain and trial rates.

Specifically, Part III.A. revealed the positive implications of the innocence effect include both the overrepresentation of the guilty among plea bargainers and the related overrepresentation of the innocent among those defendants who face the full criminal trial. Our analysis further found the innocence effect generates two additional consequences: One is a reduction in the rate of wrongful convictions, the other is the imposition of harsher sanctions on the average innocent compared to the average guilty defendant among any given group of defendants facing similar charges and conviction probabilities.

After examining the normative implications of these findings for the positions of both plea supporters and plea detractors, this part offers our own proposals for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether.

1. Plea Support for Plea Detractors

Opponents often argue plea bargaining is wrong because it puts pressure on innocent defendants falsely to plead guilty and thereby facilitates wrongful convictions—also known as the “innocence problem.” In fact, plea detractors assert society must not consciously embrace a procedure that facilitates false guilty pleas, the individual preferences of those falsely pleading defendants who wish to avoid the risk of trial notwithstanding.

For one, society has a moral obligation to prevent wrongful convictions,¹⁵³ as manifested by common statements that it is better that

Nonetheless, 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. Namely, when prosecutors judge that defendants face certain trial prospects based on the evidence (e.g. an 80% probability of conviction on a given charge), in fact innocents may face better prospects (e.g. 70%) while guilty defendants may face worse ones (e.g. 85%). The somewhat better trial prospects of innocent defendants with any given apparent probability of conviction at the plea bargain stage may therefore partly compensate for, and thus reduce, the magnitude of the cost of innocence.

¹⁵³ In regard to the importance of the duty to prevent false convictions see ZUCKERMAN, p.125:

many guilty persons escape conviction than that one innocent does not.¹⁵⁴ By leading to the conviction of some innocents who would have been acquitted in court, plea bargains are said to violate this moral principle.¹⁵⁵ Furthermore, knowingly convicting the innocent may be morally wrong irrespective of the direct costs of trials for the innocent and society at large.¹⁵⁶ According to this view, forcing defendants to face the risk of a heavier penalty at trial is morally preferable to assuring a wrongful conviction through guilty pleas.¹⁵⁷ Hence, plea bargaining detractors argue that even if an imperfect trial might end in a wrongful conviction, it is important this occasional unjust result follow a genuine attempt to get to the truth.¹⁵⁸

Notably, plea detractors who subscribe to this view place a much higher moral value on reducing the *rate* or proportion of wrongful convictions among convictions overall than on reducing the *sentences* meted out to those wrongfully convicted. These scholars find it morally preferable, for instance, that a single innocent defendant be convicted instead of ten innocents, even if the punishment inflicted on that single innocent were more than ten times harsher than the punishment the would have been meted out to all of the ten together.¹⁵⁹

Yet our findings on the innocence effect and its consequences reveal that the same considerations that traditionally have been used to attack plea bargains suggest this practice is less problematic than previously believed, maybe even socially beneficial, for two related reasons: First, the innocence effect means plea bargainers are predominantly guilty, while innocents disproportionately refuse the plea and go to trial.¹⁶⁰ Second and related, the innocence effect also combines with plea bargaining to diminish the rate of wrongful

(“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 only justified 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.”).

¹⁵⁴ See Blackstone’s famous saying: “Better that ten guilty persons escape, than that one innocent suffer” in WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 352 (1765-1769). The ratio of 1:10 is not acceptable to all. Along the human history, many scholars offered different ratios to better reflect the balance between the interest to convict the guilty and the need to insure the acquittal of the innocent. To review the different opinions see Alexander Volokh, *Guilty Men*, 146 U. PA. L. REV. 173 (1997).

¹⁵⁵ See Alschuler, *supra* note 2, at 60; Stephen J. Schulhofer, *Is Plea Bargaining Inevitable?*, 97 HARV. L. REV. 1037, 1985–86 (1984).

¹⁵⁶ See Dworkin, *supra* note 87, at 72.

¹⁵⁷ See: Schulhofer, *supra* note 155, at 1986.

¹⁵⁸ See Albert W. Alschuler, *The Changing Plea Bargaining Debate*, 69 CAL. L. REV. 652, 714 (1981).

¹⁵⁹ See *id.* at 715 (arguing that a system that convicts 10 innocent defendants and sentence each to one year of imprisonment is worse than a system that mistakenly convicts one defendant at trial and sentences him for 10 years).

¹⁶⁰ *Supra* Parts III.A.1 and III.A.2. respectively.

convictions compared to the all-trial system traditionally preferred by those opposed to plea bargaining.¹⁶¹ Altogether, therefore, our findings reveal the harm of plea bargains to be smaller and their benefits to be greater than previously believed, insofar as the rate of wrongful conviction is our normative yardstick.

2. Plea Detraction for Plea Supporters

Unlike the critics, plea bargain proponents emphasize the legitimate interest of innocents in minimizing their individual harm.¹⁶² 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 may even face a harsh penalty. In the eyes of many supporters of the practice, the “insurance” plea bargaining provides to those willing innocents should not be revoked in the name of protecting innocent defendants generally, in the abstract.

Yet our innocence effect findings should also give pause to plea supporters, for a number of related reasons: For one, our analysis revealed 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. In fact, the experimental evidence tentatively indicates the innocence effect may be particularly pronounced for low through intermediate probabilities of conviction.¹⁶³ Ironically, the same conditions of greater variance in trial outcomes that make the insurance function of plea bargaining particularly valuable for defendants also lead innocents to reject this insurance. Similarly, while the significance of the innocence effect diminishes where conviction is near certain, this is precisely the circumstance where the insurance function of plea bargaining is least valuable. The only clear settings, therefore, where plea bargaining appears to insure the innocent is when defendants face the death penalty or when they falsely confessed during the investigation, those additional conditions where innocents’ tendency to accept plea offers is stronger.

¹⁶¹ It is important to stress the principle of false convictions prevention emphasizes the rate of false convictions rather than their absolute number. As implied by Blackstone’s statement, *supra* note 154, the emphasis is put on the relationship between the interest in convicting the guilty and the interest in acquitting the innocent, instead of the absolute number of acquitted innocents. For example, jurisdictions that prosecute more defendants than others will commit higher absolute number of mistakes, yet this does not prove they provide less protection to the innocent than a smaller jurisdiction. It is the rate—not the number—of wrongful convictions that matters.

¹⁶² See Robert E. Scott & William J. Stuntz, *A Reply: Imperfect Bargains, Imperfect Trials, and Innocent Defendants*, 101 YALE L.J. 2011, 2013 (1992) (explaining the controversy between they and Schulhofer saying: “he 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.”); see also Church, Jr., *supra* note 7, at 515–16 (critiquing Alschuler’s objection to plea bargains with innocents); Bowers, *supra* note 7 (claiming that plea bargains are especially beneficial to innocent defendants).

¹⁶³ Tor et al., *supra* note 10.

Yet although important these narrow exceptions can hardly justify the pervasive reliance on plea bargaining throughout the criminal justice system.

Plea supporters might respond that plea bargaining still provides insurance-like benefits to some innocents—the ones who derive the greatest insurance value from it and therefore choose plea over trial despite the innocence effect. Moreover, by offering the plea option to innocent defendants we guarantee that the many innocents who refuse to plea are taking the risk of wrongful conviction at trial. However, our analysis showed plea rejections typically reflect not only innocents' fairness-driven preferences but also a systematic, optimistic bias regarding their trial prospects. Therefore, some biased innocents who refuse to plea would have accepted their offers were they unbiased. These defendants unwittingly give up the plea insurance their guilty counterparts routinely enjoy, instead facing trial risk against their own preferences.

The cost of innocence, however, poses a more significant problem for plea supporters, who aim to minimize innocents' individual harm. The combination of plea bargaining and the innocence effect imposes higher average penalties on innocents than on guilty defendants facing similar conviction probabilities and similar sentences in case of conviction. Since innocent defendants receive harsher average sentences, the rate of innocent inmates in prison is higher than it would have been absent plea bargaining. This outcome, which harms innocents collectively, would not occur in a no-plea system, which avoids the disproportional selection of guilty defendants to plea bargaining and innocents to trial. Paradoxically, therefore, the harm-minimization that traditionally is so important to plea supporters may be better-served by the restriction—rather than the encouragement—of plea bargaining.

3. Restrictions on Plea Offers

The preceding analysis made clear the innocence effect at least weakens the traditional positions of both sides to the plea bargaining controversy, if it does not mandate their actual reversal. Because of the innocence effect, plea bargains probably do not increase the rate of wrongful convictions, as some plea opponents argue, but also do not promote the interests of most innocents as plea supporters assert. Yet perhaps intermediate solutions—between the polar opposites of the absolute freedom to make plea offers practiced today and a complete ban on plea bargaining—may help simultaneously to minimize both wrongful convictions and harm to innocents. The following sections outline the basic contours of two such intermediate solutions.

One way to reduce the negative effect of plea bargaining on the

[2011]

THE INNOCENCE EFFECT

45

sentences of wrongfully convicted innocents is to limit the magnitude of plea discounts (or, alternatively, of trial penalties). The law can instruct judges to reject plea agreements that include a sentence significantly lower than the sentence expected after conviction by jury trial. Such a curtailment of prosecutors' ability to offer significant sentence discounts will result in plea rejections by those defendants who require considerable discount in exchange for their guilty pleas. Since the innocent demand significantly lighter average sentences than do guilty defendants, however, the proportion of innocents among those who plead guilty—as well as the number and rate of wrongful convictions—will be reduced.

A similar proposal was offered by one of us as a means for discouraging the prosecution from filing charges in weak cases.¹⁶⁴ Yet the present suggestion 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, since it would still allow the prosecution to bargain with most guilty defendants.

While the main normative goal of plea detractors is to reduce the rate of wrongful convictions, plea supporters are predominantly concerned with reducing the sentences imposed on innocents. Yet restricting the guilty plea discount also will minimize the gap between the sentence meted out to those who opt for a trial—including a large proportion of the innocent—and that imposed on guilty pleaders, whose ranks are dominated by the guilty. Even with such restrictions, innocents who are wrongfully convicted by a jury will still be sentenced to longer average terms than guilty pleaders, but the difference between the two groups will be reduced.

Practically speaking, the imposition of limits on sentence bargains is not particularly difficult. Courts can be instructed to reject plea bargains if the proposed sentence is substantially lower than that imposed in similar circumstances after a full trial. On the other hand, limiting charge or fact bargaining is much harder, because the parties can always explain the changes in charges and facts on an evidentiary basis. Nevertheless, even charge bargaining restrictions might still be accomplished if courts were instructed to reject plea agreement unless the remaining charges "adequately reflect the seriousness of the actual offense behavior."¹⁶⁵ The concern that prosecutors would find ways to continue to charge bargain on the sly remains, but most prosecutors would abide if they were instructed to expose the details of each plea agreement, thereby allowing courts to review charge bargaining as

¹⁶⁴ See Gazal-Ayal, *supra* note 60.

¹⁶⁵ For such a rule see U.S. SENTENCING GUIDELINES MANUAL § 6B1.2(a) (2004).

well.¹⁶⁶

4. Agreements on a Simplified Criminal Process

Another alternative that may satisfy the interests of both camps in the debate is bargaining for a simplified criminal process. The law can encourage parties to replace plea bargains with agreement on a shorter, simplified process in return for a sentence discount. For instance, parties can agree on a bench trial instead of a jury trial;¹⁶⁷ they can agree that defendants will be the first to testify, before the case for the prosecution is presented or make other stipulations that reduce the cost of trial for the prosecution. Innocent defendants will likely be much more willing to forego some of their procedural rights in return for a lower expected sentence than to plead guilty.¹⁶⁸

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 increases the likelihood of error—particularly of wrongful convictions—compared to a full-fledged trial. On balance, however, the many benefits of agreements on a simplified process with respect to both wrongful convictions and harm to convicted innocents clearly 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, while the cost of such procedures is higher than that of a traditional guilty plea, the cost gap between the two is smaller where a substantially simplified process is concerned. Additionally, most guilty defendants who currently plead guilty will continue to do so even when offered the option of a simplified process. After all, to be acquitted in such a procedure they would have to lie to the judge, something most defendants find psychologically difficult, particularly in those common cases where lying probably will not help in the face of conclusive evidence. We already discussed the finding, moreover, that most guilty defendants plead guilty simply because they are guilty.¹⁶⁹

Second, some innocent defendants who would have opted for trial absent another alternative to plea bargaining with its required guilty plea would now choose a simplified procedure. Because these procedures are cheaper than full trials, however, judicial resources will be spared. These resources, in turn, could be channeled towards the

¹⁶⁶ For a detailed proposal see Gazal-Ayal, *supra* note 60, at 2340.

¹⁶⁷ See Schulhofer, *supra* note 155.

¹⁶⁸ This dynamic may well be facilitated by innocents' optimistic beliefs regarding the trial process. See *supra* text accompanying notes 74-80.

¹⁶⁹ See *supra* notes 20-25 and accompanying text.

[2011]

THE INNOCENCE EFFECT

47

implementation of a simplified process that is more beneficial to innocents than plea bargaining, thereby advancing their interests without requiring additional resources.

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

Finally, where a simplified process occasionally would lead to a wrongful conviction, the moral gravity of this undesirable outcome will 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 them if they were given an opportunity to argue their case before an impartial arbiter before the verdict.¹⁷⁰ In fact, simplified procedures might provide defendants an even better opportunity to present their story than the adversarial jury trial.¹⁷¹

CONCLUSION

Part I of this article marshaled forth evidence of the innocence effect, namely the systematically greater reluctance of innocents to plea bargain compared to guilty defendants. Part II shed some light on the causes of this effect, showing it typically results from a combination of innocents' greater optimism regarding their trial prospects and their increased risk seeking compared to guilty defendants. Part III then examined the implications of the innocence effect and its causes, beginning with a positive analysis finding two basic assumptions of the plea bargaining literature are mistaken: The assumption that plea bargaining commonly facilitates false pleading was shown to be overstated, and the assumption that culpability has no effect on plea bargaining rates simply false. Moreover, this Part found the innocence effect generates both the overrepresentation of the guilty among plea

¹⁷⁰ See Tyler, *supra* note 16.

¹⁷¹ During a full trial the defendant may respond only when presenting the defense case after the prosecution rests. The defendant's response is subjected to the rules of the direct examination and cross examination, and the defendant cannot speak directly to the judge. In some cases, following the advice of the defense attorney, the defendant chooses to rest and not exercise his or her right to testify. Once the defendant's testimony ended, he or she will not be given another chance to speak before the verdict. In general, criminal law effectively encourages defendants not to tell their story and choose to remain silent. See 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 enabling the silencing of defendants).

bargainers and the related overrepresentation of the innocent among those defendants who face the full criminal trial. It also made clear the innocence effect reduces the rate of wrongful convictions, even while leading to the imposition of harsher sanctions on the average innocent compared to the average guilty among defendants facing similar charges and conviction probabilities. Finally, this Part explained how these findings require both plea supporters and its detractors to reevaluate their traditional positions, concluding with our own proposals for minimizing false convictions, better protecting the innocent, and improving the plea bargaining process altogether.

Empirical research on the factors that shape plea bargaining decision making is still in its infancy. We still need to learn, for instance, whether the type of defendant's innocence affects the reluctance to plea bargain; 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. Another important aspect for future study is whether the type of evidence against them impacts 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.¹⁷² Similarly, there is room for additional research on the impact of the strength of the evidence defendant is facing on the innocence effect, given our tentative findings of a diminished innocence effect when the probability of conviction is very high.¹⁷³ Plea bargaining policy would also benefit from learning whether factors that have been shown to affect the willingness to plead guilty of defendants generally—such as time spent in pretrial detention¹⁷⁴ or the pressure exerted by the defense

¹⁷² *Supra* note 33 and the accompanying text.

¹⁷³ One experimental study showed that the willingness to accept plea bargains, among the guilty, does not change when the chances for conviction rise from 50% to 90%, whereas among the innocent the difference is much more significant. See BORDENS, *supra* note 10, at 67. Another study found that when the chances for conviction are extremely high, the difference in the willingness to accept a plea bargain, between the innocent and the guilty disappears. See TOR ET AL., *supra* note 10, at Part II.C.2.

¹⁷⁴ Series of studies have shown that detention affects the willingness of defendants to plead guilty. See, e.g., WILLIAM M. LANDES, *Legality and Reality: Some Evidence on Criminal Procedure*, 3 J. LEGAL STUD. 287, 287–89 (1974); GAIL KELLOUGH & SCOT WORTLEY, *Remand for Plea: Bail Decisions and Plea-bargaining as Commensurate Decisions*, 42 BRIT. J. CRIMINOLOGY 186 (2002). When the defendant is in detention, he or she has greater incentives to quickly end the proceedings. In a field study that examined inconsistent admissions among women prisoners, it was shown that the desire to end the pre-trial detention was classified as one of the main reasons for accepting a plea bargain. See DELL, *supra* note 20, at 31–32. Even without being arrested, many defendants would be willing to admit in the framework of a plea bargain in order to save themselves the ongoing legal proceeding. See MALCOLM M. FEELEY, *THE PROCESS IS THE PUNISHMENT: HANDLING CASES IN A LOWER CRIMINAL COURT* (1992).

[2011]

THE INNOCENCE EFFECT

49

attorney¹⁷⁵—differently impact the guilty and the innocent.

However, it is already apparent that the legal literature's reliance on the shadow of trial model is excessive, as the extant evidence of the innocence effect reveals. Thus apart from the important positive and normative implications outlined in this Article, the available research on the impact of innocence illustrates both the benefits of and the need for further empirical research of plea bargaining, the procedure responsible for the overwhelming majority of criminal convictions.

¹⁷⁵ For a review of the different ways attorneys influence defendants' decisions and actions see: Alschuler, *supra* note 12. An extensive field study of this issue showed that a substantial number of defendants that refused to admit guilt changed their minds at the last minute following their attorney's advice. See JOHN BALDWIN & MICHAEL MCCONVILLE, *NEGOTIATED JUSTICE: PRESSURES TO PLEAD GUILTY* (1977).