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BOOK REVIEW

AGAINST JUDGMENT

Katherine Y. Barnes†

AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE. By *Bernard E. Harcourt*. Chicago and London: The University of Chicago Press, 2007. Pp. 336. \$25.00.

INTRODUCTION

In his seminal work, *Against Method*, Paul Feyerabend argued that the scientific method was an inadequate way to gain knowledge.¹ Feyerabend preferred anarchistic science—science without rules about how to proceed in the quest for knowledge.² He argued that the scientific method was too regimented and prescribed to allow for learning about the infinite complexity of the natural world.³ With a nod to this influential work, Bernard Harcourt's *Against Prediction: Profiling, Policing, and Punishing in an Actuarial Age* challenges the use of actuarial methods in the criminal justice system.⁴ In this provocative and innovative book, Harcourt argues that prediction has serious flaws and, more importantly, warps society's view of justice by focusing solely on justice that is quantifiable. *Against Prediction* seeks to redefine the debate in criminal justice from how society uses actuarial methods to whether society should use those methods at all. Harcourt answers this second question, as the title of his book suggests, in the negative—he argues that society should not use prediction in criminal justice. While *Against Prediction* falls short of redefining the debate, its criticism of actuarial methods provides a compelling critique of criminal justice decision making.

† Associate Professor and Director of the Rogers Program in Law and Society, University of Arizona James E. Rogers College of Law. I would like to thank David Adelman for lively discussions of *Against Prediction* and for pointing me to Paul Feyerabend's work. I would also like to thank Nicholas Kasirer and John Hobbins, Dean and Law Librarian of McGill Law Faculty, respectively, for providing me with an office and library privileges during the summer of 2007. Finally, I would like to thank Bernard Harcourt for writing such a thought-provoking book.

¹ PAUL FEYERABEND, *AGAINST METHOD: OUTLINE OF AN ANARCHISTIC THEORY OF KNOWLEDGE* (Verso 1978) (1975).

² *See id.* at 17.

³ *See id.* at 18.

⁴ BERNARD E. HARCOURT, *AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE* (2007).

Initially, Harcourt focuses his arguments on the use of prediction in the criminal justice system. He defines actuarial predictions as “criminal justice determinations that do not rest simply on probabilities but on statistical correlations between group traits and group criminal-offending rates.”⁵ In particular, Harcourt focuses on three prediction scenarios: profiling in investigation, sentencing systems, and parole board decisions.⁶ Harcourt’s arguments can be summarized as: first, while actuarial methods “work” in a limited sense, they often have unintended consequences, and therefore relying on predictions results in flawed and often counterproductive policy decisions;⁷ and second, by focusing solely on prediction, society ignores anything that it cannot measure and allows the measurement threshold to control what it finds important.⁸ Despite Harcourt’s careful narrowing of his argument to prediction in the criminal justice system, his arguments against prediction extend to other contexts. Two examples suffice to make this point. First, for environmentalists, many of Harcourt’s criticisms will sound familiar, as they map directly onto arguments criticizing cost-benefit analysis and the economization of the environment.⁹ Second, in the field of medical diagnosis, some critics believe that the impulse to control or conquer a disease leads to excessive healthcare costs and overtesting, which generates poorer results than those produced by either the traditional tools of diagnosis or the targeted use of a smaller number of tests.¹⁰ Thus, while Harcourt limits his discussion to the criminal justice context, his arguments extend well beyond this arena and have important consequences in a wide range of policy settings.

Against Prediction provides three central criticisms of the use of actuarial methods in the criminal justice system. Harcourt first challenges the argument that actuarial methods are efficient by demonstrating that profiling can lead to significant inefficiencies in many situations.¹¹ Second, Harcourt assails the selective incapacitation argument favoring actuarial methods by arguing that it results in fundamentally unfair outcomes.¹² Third, Harcourt argues that actuarial methods warp society’s view of justice by causing society to abjure the responsibility of determining what is just—actuarial methods focus

⁵ *Id.* at 18.

⁶ *See id.* at 77–107.

⁷ *See id.* at 110–44.

⁸ *See id.* at 173–92.

⁹ *See, e.g.*, FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING (2004).

¹⁰ *See, e.g.*, MALCOLM GLADWELL, BLINK: THE POWER OF THINKING WITHOUT THINKING (2005).

¹¹ *See* HARCOURT, *supra* note 4, at 111–14.

¹² *See id.* at 145–72.

solely on the portion of “justice” that can be measured.¹³ Harcourt concludes *Against Prediction* by proposing to eliminate the use of actuarial methods, which he argues is the only way to avoid the pitfalls of prediction.¹⁴

Part I of this Book Review outlines Harcourt’s three criticisms against prediction and discusses how these criticisms interrelate. Part II focuses on Harcourt’s solution to the prediction problem and illuminates an implicit theme running throughout *Against Prediction*, namely, Harcourt’s distrust of human judgment in the predictive decision-making context. Part III further considers the use of actuarial methods in criminal justice and outlines an alternative solution to the serious flaws that Harcourt uncovers.

I

HARCOURT’S THREE CRITIQUES OF PREDICTION

Before beginning his critique of actuarial methods, Harcourt frames *Against Prediction* with a fascinating description of the rise of actuarial methods in the criminal justice system. As his primary example, he highlights the use of predictive instruments to determine the likelihood of repeat offenses following parole.¹⁵ To modern readers, these instruments are little more than validations of stereotypes; having categorized individual prisoners according to personality types such as “Farm boy,” “Ne’er-do-well,” and “Mean citizen,” the sociologist-actuary simply looks up the probability of reoffending for a particular personality type and uses this probability to determine whether parole is appropriate for such a prisoner.¹⁶

It is easy to dismiss this early use of prediction as misguided at best and bigoted at worst. Such amorphous categories are not used today because reliability and validity of categorization are too important.¹⁷ But lest modern actuaries become too complacent about the advanced state of prediction today, Harcourt reminds us that recent practice in devising predictive instruments remains spotty at best. For example, in the 1970s, California adopted a parole-prediction instrument that explicitly relied on race as one of four factors.¹⁸ More fundamentally, Harcourt uncovers two flaws in arguments supporting prediction analysis that he considers fatal: the first implicates the efficiency argument,¹⁹ and the second undermines the selective incapaciti-

¹³ See *id.* at 173–92.

¹⁴ See *id.* at 237–39.

¹⁵ See *id.* at 47–76.

¹⁶ See *id.* at 56–59.

¹⁷ See, e.g., Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 83–97 (2002) (describing the importance of reliability and validity of coding in empirical work).

¹⁸ See HARCOURT, *supra* note 4, at 72.

¹⁹ See *id.* at 22–26.

tation argument.²⁰ Having demonstrated significant flaws in the justifications for prediction, Harcourt's third critique demonstrates how prediction invidiously alters society's sense of justice, providing an additional argument for eliminating prediction in the criminal justice system.²¹

A. The Efficiency Argument: Elasticities Matter

In his discussion of economic efficiency, Harcourt assumes the role of the insider. Arguments that use the master's tools to tear down his house are appealing but difficult to achieve. Harcourt does not quite tear down efficiency as an argument for predictive methods, but he does make a strong case that the model on which the argument rests is inadequately narrow.

The economic efficiency argument assumes a rational choice framework—individuals will decide when and whether to commit crimes rationally, based on the likelihood of their being caught and their expected punishment.²² Changing the expected punishment (for example, via parole decisions) or the likelihood of apprehension (for example, via profiling) should change the behavior of potential criminals and therefore change crime rates.²³ The efficiency argument also assumes that police and other actors in the criminal justice system act rationally.²⁴ For example, police will choose whom to stop and search in order to maximize their own goals within cost constraints.²⁵ In a rational choice framework, therefore, defining the goals of the police and potential criminals in turn defines their actions.

In the context of racial profiling, which Harcourt explores in great depth, economists John Knowles, Nicola Persico, and Petra Todd (KPT) provide the leading model of profiling. In their article *Racial Bias in Motor Vehicle Searches: Theory and Evidence*, KPT outline a rational choice model of profiling that differentiates between efficient

²⁰ See *id.* at 26–31.

²¹ See *id.* at 31–34.

²² See *id.* at 112–13.

²³ See *id.* at 113 (“[T]he economic model of racial profiling predicts that police officers will target the higher-offending group (minorities), for police searches because they will achieve better hit rates for their stops and searches. Profiling the higher-offending group and searching them disproportionately, however, will increase the cost of offending for members of this higher-offending group and thus eventually reduce their rate of offending. As the search rate of minority suspects increases, for instance, their payoff for transporting contraband will decrease, so that fewer minority suspects will carry contraband.”).

²⁴ See *id.* at 112.

²⁵ See *id.* at 112–13.

profiling and profiling motivated by racial animus.²⁶ The key point of the KPT model is that individuals and police officers update their behavior—ultimately, their behavior converges to equilibrium.²⁷ As KPT describe their model: “[S]uppose that searching one subgroup of motorists yielded a higher return. Then police would always search these motorists, who would in turn react by carrying contraband less often, until the returns to searching are equalized across groups.”²⁸

Harcourt argues that the KPT model and, more generally, the efficiency rationale for predictive methods ignore the elasticities of criminal offending.²⁹ Elasticity of criminal offending measures how an individual who is contemplating whether to commit a criminal offense reacts to a small change in policing strategy.³⁰ More formally, it is the normalized ratio of the change in crime rate given a small change in police strategy (e.g., increasing searches for young black men).³¹ Harcourt proves that police can counterproductively increase the total amount of crime while acting “rationally” by using profiling. As Harcourt shows, the KPT model and the test of racial animus based thereon are only efficient under certain situations, depending on the relative elasticities of the profiled group and the ignored group.³² This is a powerful critique of the leading economic model of profiling. Harcourt explains how using the best current profiling techniques actually increases crime in a variety of situations.³³ Harcourt astutely stresses that elasticities matter when determining whether profiling is efficient—because we know little about the elasticities of different groups in relation to changes in the level of apprehension, it is difficult to discern whether profiling is efficient.³⁴

However, Harcourt’s emphasis on elasticities is not a devastating critique of rational choice theory or of economic models in general. The KPT model fails to minimize crime not because it ignores elasticities but because minimizing crime is not the goal of the police in the KPT model. In an earlier work, Harcourt made this point more forcefully,³⁵ but here it is more of a side note; for KPT, the goal of the

²⁶ See John Knowles et al., *Racial Bias in Motor Vehicle Searches: Theory and Evidence*, 109 J. POL. ECON. 203 (2001).

²⁷ See *id.* at 206.

²⁸ *Id.*

²⁹ See HARCOURT, *supra* note 4, at 123.

³⁰ See *id.* at 23.

³¹ See *id.*

³² See *id.* at 125–27.

³³ See *id.* at 125–32.

³⁴ Indeed, even Harcourt’s simple model assumes that elasticities within groups are uniform. However, there is little reason to believe that every potential criminal within a targeted group will react the same to changes in police strategy—one would expect heterogeneous elasticities.

³⁵ See Bernard E. Harcourt, *Rethinking Racial Profiling: A Critique of the Economics, Civil Liberties, and Constitutional Literature, and of Criminal Profiling More Generally*, 71 U. CHI. L.

police is to maximize the percentage of searches in which contraband is found and not to minimize crime.³⁶ Harcourt's critique forcefully points out that these two goals often lead to different results. His critique is also a reminder that police *should* have the goal of reducing crime. While Harcourt's reminder may seem unnecessary, police may respond to the more immediate payoff of finding contraband given the difficulty of measuring the effect of policing on the crime rate. Foreshadowing Harcourt's third critique, the problem is that an effective crime-reduction strategy encompasses more than merely those attributes capable of measurement. By focusing solely on maximizing the percentage of successful searches, police make decisions based on what they see in an individual police-citizen contact rather than on the wider scope of what happens when the police are not watching. Hit rates are the police officers' measuring stick of performance in the KPT model precisely because they can be measured.

B. The Selective Incapacitation Argument: A Ratchet Effect

Harcourt next criticizes prediction methods for creating what he terms a "ratchet effect."³⁷ The ratchet effect is easiest to understand in the prototypical racial profiling arena. Assume that the police stop and search young black men at a higher rate than they stop and search other motorists under the theory that black men are more likely to be drug dealers. This results in the overrepresentation of young black men among drug dealers caught by police as compared to the underlying population of drug dealers. Police then rely on these data of positive hits to allocate future resources—they update their profile based on the current data, which already overrepresents young black men. In round two of profiling, the police stop and search young black men at even higher rates, claiming to do so because the data point them in that direction. This process repeats and the overrepresentation of the targeted group—young black men—increases each time the police update their profile. This is the "ratchet"—the one-way lever that increases the level of scrutiny police impose on young black men without questioning whether the data upon which the profile relies are skewed in any way.

REV. 1275, 1281 (2004) ("[T]he new economic models and the debates over 'policing efficiency' are *maximizing the wrong thing*: instead of maximizing the success rate of searches, the police should seek, first and foremost, to maximize the reduction in the profiled crime and associated policing costs—in other words, to minimize the social costs associated with the profiled crime and profiling technique. As a result, the new economic models *track the wrong statistic*: rather than focusing on hit rates, the models should focus on the overall amount of profiled crime and costs to society of the searches.").

³⁶ See HARCOURT, *supra* note 4, at 123.

³⁷ See *id.* at 147.

Harcourt's ratchet-effect critique attacks the selective incapacitation argument supporting actuarial methods. The selective incapacitation rationale argues that the best way to lower crime rates is to incapacitate individuals most likely to commit crimes.³⁸ In an era of scarce crime prevention resources, the argument goes, it is wise to focus on individuals likely to commit the largest number of crimes.³⁹ The ratchet effect, as Harcourt acknowledges in a subsequent essay, is neither consistent with rational behavior nor justified by rational choice theory.⁴⁰ If potential criminals were rational, they would alter their behavior when faced with a higher likelihood of being caught (due to increased searches against the targeted group) and would choose not to commit crimes. Then, assuming the police engage in rational behavior as well, they would break the one-way ratchet and *decrease* the oversampling of the targeted group. The ratchet effect also assumes imperfect information—people rely on poor statistics without recognizing, or fully accounting for, biases in the data.⁴¹ This critique highlights and foreshadows Harcourt's final critique, which focuses on the way that data shape our perceptions.

Harcourt's first two arguments are fundamentally about poor prediction methods that police should abandon even though they may be the best methods currently available. But an alternative view is that Harcourt's first two arguments simply suggest that a lot of people use prediction poorly—even with such imperfect methods, one could do better by recognizing their shortcomings when using them. The ratchet effect depends on police implementing policy based on slavish reliance on biased data; the efficiency argument fails when police maximize the factor they can measure easily (hit rates) rather than minimize the factor people care about (total crime rates). Neither of these serious flaws in current practice is fatal, and both can be ameliorated, if not completely eliminated. The ratchet effect simply requires police to acknowledge the biased sample from which their data derives and limit the use of biased data; even better would be for the police to use an unbiased sample.⁴² Fixing the efficiency problem requires being able to measure the effect of policing on different popu-

³⁸ See *id.* at 145.

³⁹ See *id.* at 147.

⁴⁰ See Bernard E. Harcourt, *A Reader's Companion to Against Prediction: A Reply to Ariela Gross, Yoram Margalioth, and Yoav Sapir on Economic Modeling, Selective Incapacitation, Governmentality, and Race* 12–13 (Univ. of Chi. John M. Olin Law & Econ., Working Paper No. 350 (2d series), Univ. of Chi. Pub. Law and Legal Theory, Working Paper No. 175, 2007), available at http://ssrn.com/abstract_id=1007073.

⁴¹ See HARCOURT, *supra* note 4, at 156 (noting the “paucity of reliable information on natural offending rates”).

⁴² The use of an unbiased sample foreshadows both Harcourt's solution to the prediction problem, see *id.* at 237–39, and my own solution, see *infra* Part III.

lations. Harcourt seems to assume that these are insurmountable obstacles.⁴³

Given Harcourt's third critique of actuarial methods, I am wary of offering the hope that actuarial methods simply need to be improved—that if we properly measure the important variables, the pitfalls of prediction will disappear.⁴⁴ Harcourt would likely accuse me of falling into the seductive trap of prediction, where the goal—to know the criminal—is doomed to fail. This is Harcourt's third, and most powerful, critique of actuarial methods.

C. The Measurement Critique

Finally, Harcourt argues that relying on prediction alters society's sense of justice in invidious ways. As Harcourt writes, "What we have done, in essence, is to displace earlier conceptions of just punishment with an actuarial optic. Today, the criminal sentence is related, primarily, to prior criminal history as a proxy for future offending . . ." ⁴⁵ In essence, Harcourt argues that society has allowed what it can *measure* to govern what it should *know*. To the extent that society has allowed this to happen—and I have no doubt that it has—Harcourt's illumination of the problem is an important insight.

But Harcourt sees the problem as more than just measurement. He describes the issue as the misplaced desire to understand "the criminal" and to determine how the criminal mind works in order to control criminal impulses and to make the rest of society safe.⁴⁶ This desire must remain unfulfilled because it is impossible to know people completely or to control situations fully. Harcourt argues that this desire leads us to value only measurable aspects of the criminal mind.⁴⁷

Valuing only what is measurable is not an inevitable consequence of using actuarial methods. While the impulse to value only what one can measure may be strong, good actuaries build models based on initial decisions about what is important and modify those models based on what is measurable while retaining the humility to understand that their models are flawed.⁴⁸ Thus, being cognizant of a given model's flaws and how those flaws affect its analysis is important. That people overuse prediction is not a problem with prediction but a

⁴³ See Harcourt, *supra* note 40, at 4.

⁴⁴ Despite being wary, I propose a method to do exactly this in Part III. I recognize, however, that no method is perfect and admit that the data and methods proposed are not a panacea for all the problems with prediction.

⁴⁵ HARCOURT, *supra* note 4, at 188 (emphasis omitted).

⁴⁶ See *id.* at 174.

⁴⁷ See *id.* at 180.

⁴⁸ As George Box, a famous statistician, once said: "Essentially, all models are wrong, but some are useful." GEORGE E.P. BOX & NORMAN R. DRAPER, *EMPIRICAL MODEL-BUILDING AND RESPONSE SURFACES* 424 (1987).

problem with human judgment. Indeed, taken individually or combined, none of Harcourt's critiques of prediction are fatal. Each critique has a solution that can be summed up succinctly: recognize the limitations of prediction.⁴⁹

II

JUDGMENT AS THE KEY PITFALL OF PREDICTION

Harcourt lays out his solution to the prediction problem in the final chapter of the book, which comprises a mere three pages, after 236 pages of text critiquing prediction. Perhaps Harcourt meant the final chapter to be an initial exploration, rather than a robust discussion, of randomization, but his description does not warn the reader of this limited discussion. This, however, is the quibble of a reader who was tantalized by hints of a solution to the thorny problem of prediction and the three critiques that Harcourt levels against it.

Harcourt's solution is bold: he argues that we should forego all prediction.⁵⁰ Harcourt does not, however, endorse returning to a preprediction world where individual human judgment, with all its flaws and biases, formed the basis for decisions. Instead, Harcourt moves to the opposite extreme and argues that complete randomization⁵¹ is the only way to avoid the pitfalls of prediction.⁵² If Harcourt had simply believed that the costs of actuarial methods outweigh their benefits, he could have argued for a clinical model of decision making where probability models provide a framework within which people exercise judgment or, like Feyerabend, argued for no method at all.⁵³ Both choices avoid the pitfalls that Harcourt illuminates.⁵⁴ By advocating randomization, Harcourt tips his hand; he is not against prediction *per se* but the human judgment involved in prediction. By using randomization, he does not avoid the pitfalls of prediction but rather the pitfalls of human judgment—of using statistics poorly, blindly, and without giving thought to the deeper ramifications of their use.

⁴⁹ In many complex contexts, actuaries understand this point. Financial markets, business consulting, and, in some cases, medical diagnosis are three fields in which judicious use of actuarial methods has yielded positive results. These examples are very different from the criminal justice system, but it may be useful to determine the structural differences between these contexts, where individuals appropriately use prediction, and the criminal justice system, where using prediction has led to disastrous results.

⁵⁰ See HARCOURT, *supra* note 4, at 237 ("The only way to achieve our ideal of criminal justice is to avoid actuarial methods and to police and punish color-blind, gender-blind, or class-blind. To police and punish, in essence, *prediction-blind*.").

⁵¹ I use the phrase "complete randomization" to mean that decisions would be random and would not use predictive models.

⁵² See HARCOURT, *supra* note 4, at 237.

⁵³ See FEYERABEND, *supra* note 1.

⁵⁴ Of course, each choice also has different drawbacks.

Harcourt simply does not trust fallible people to make decisions using actuarial methods.

Harcourt defines his randomization solution as “(1) using random sampling in police practice and (2) eliminating the use of predictions of future dangerousness in postconviction processes.”⁵⁵ The details of Harcourt’s randomization solution, however, remain hazy in *Against Prediction*.⁵⁶ His definition of randomization does not describe, for example, where to implement randomization; one assumes that all decisions should be randomized. Randomizing all decisions is impossible, however, because human judgment must exist at some point in the process. Consider stops and searches on the highway. Who do the police stop and search? Which highway(s) should they patrol? How often? How many resources should police allocate to patrolling versus investigating “more serious” crimes? What is a “more serious” crime? At the very least, a person has to create the randomization program. Indeed, other attempts to tame human judgment have invariably left that judgment intact while merely shifting it to other outlets. The great, recent example of such shifting is the enactment of the federal sentencing guidelines, through which Congress intended to rationalize and tame the judgment of federal judges. But with the judges’ discretion curtailed, the human judgment of other actors in the system—the sentencing commission and, most importantly, prosecutors—increased in importance.⁵⁷ Prosecutors now largely control sentencing outcomes through their charging and plea bargaining practice.⁵⁸ Simply put, it is impossible to eradicate human judgment—to randomize completely, as Harcourt seems to suggest.

Randomization is also likely inefficient. While efficiency itself may not be a goal of the criminal justice system, large inefficiencies waste sufficient resources to call into question the ability to implement our true goals, such as minimizing crime.

⁵⁵ HARCOURT, *supra* note 4, at 239.

⁵⁶ Harcourt has a working paper that provides more details but still does not grapple with the basic issue of where and when randomization should occur. See Bernard E. Harcourt, *Embracing Chance: Post-Modern Meditations on Punishment* (Univ. of Chi. John M. Olin Law & Econ., Working Paper No. 318 (2d series), Univ. of Chi. Pub. Law and Legal Theory, Working Paper No. 143, 2007), available at <http://ssrn.com/abstract=948774>.

⁵⁷ Many scholars have argued persuasively that the federal sentencing guidelines have displaced, rather than eliminated, discretion in sentencing. See, e.g., Ilene H. Nagel & Stephen J. Schulhofer, *A Tale of Three Cities: An Empirical Study of Charging and Bargaining Practices Under the Federal Sentencing Guidelines*, 66 S. CAL. L. REV. 501 (1992) (examining the role of discretion under the federal sentencing guidelines). This changed balance of discretionary power may change again because of *United States v. Booker*, 543 U.S. 220 (2005), which held that the federal sentencing guidelines were discretionary rather than mandatory.

⁵⁸ See Nagel & Schulhofer, *supra* note 57, at 501–02.

Harcourt also fails to engage straightforward questions about the constitutionality of randomization. While Harcourt seems more interested in morality than constitutionality, some discussion of the constitutionality of random policing or punishment under the Fourth and Eighth Amendments is necessary if Harcourt's proposal is to be more than academic. A constitutional search requires at least some level of suspicion⁵⁹ or the consent of the searched.⁶⁰ Human judgment is necessary to satisfy either of these requirements. In the Eighth Amendment context, the Supreme Court has been hostile to "arbitrary and capricious" application of punishment.⁶¹ Randomly punishing individuals certainly violates the core notion of fairness that Harcourt criticizes society for ignoring in its hunger for prediction.

I do not intend these criticisms to detract from the significant contribution that *Against Prediction* makes in demonstrating the serious flaws of current actuarial methods and highlighting the dangers of relying too heavily on these methods to determine just outcomes. Indeed, as I note above, Harcourt's solution to the pitfalls of prediction is one small portion of *Against Prediction*.

I also sympathize with Harcourt's distrust of human judgment in criminal justice. I agree that the U.S. criminal justice system is, in some fundamental way, broken. Between 1985 and 2005, the United States doubled its incarceration rate, reaching a level that may not be sustainable.⁶² The direct cost of incarceration has become enormous;⁶³ indirect costs to families and entire communities are even

⁵⁹ The Fourth Amendment requires all searches and seizures to be reasonable. See U.S. CONST. amend. IV; see also *Illinois v. Gates*, 462 U.S. 213, 230–31 (1983) (elaborating on the level of suspicion required to constitute probable cause); *Terry v. Ohio*, 392 U.S. 1, 8–9, 28–31 (1968) (requiring reasonable suspicion for even minimally intrusive stops and frisks).

⁶⁰ See *Schneekloth v. Bustamonte*, 412 U.S. 218, 219 (1973) (“[O]ne of the specifically established exceptions to the requirements of both a warrant and probable cause is a search that is conducted pursuant to consent.”).

⁶¹ See *Gregg v. Georgia*, 428 U.S. 153, 189 (1976).

⁶² The incarceration rate increased from 313 to 738 prisoners per 100,000 residents in the two decades since 1985. DARRELL K. GILLIARD & ALLEN J. BECK, BUREAU OF JUSTICE STATISTICS, PRISON AND JAIL INMATES AT MIDYEAR 1996, at 2 tbl.1 (1997), available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/pjimy96.pdf> (calculating an incarceration rate in 1985 of 313 prisoners per 100,000 residents); PAIGE M. HARRISON & ALLEN J. BECK, BUREAU OF JUSTICE STATISTICS, PRISON AND JAIL INMATES AT MIDYEAR 2005, at 2 tbl.1 (2006), available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/pjim05.pdf> (calculating an incarceration rate in 2005 of 738 prisoners per 100,000 residents).

⁶³ The United States spent \$167 billion for “police protection, corrections, and judicial and legal activities” related to criminal justice in 2001. LYNN BAUER & STEVEN D. OWENS, BUREAU OF JUSTICE STATISTICS, JUSTICE EXPENDITURE AND EMPLOYMENT IN THE UNITED STATES, 2001, at 1 (2004), available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/jeeus01.pdf>.

larger.⁶⁴ And while crime rates have also decreased⁶⁵ (likely due in part to the mass incarceration of criminals),⁶⁶ it is not at all clear that this was the most effective use of the billions of dollars spent.

Finally, I also agree with Harcourt's unstated assumption that the misuse of actuarial methods played a large part in the failure described above. But, unlike Harcourt, I do not believe that the solution is to remove human judgment from the process; even if that were possible, people rather than methods are responsible for the current state of our criminal justice system. Human judgment has broken our criminal justice system, but I cannot agree that we must eliminate human judgment to fix it. To the contrary, human judgment is necessary if society is to incorporate its core moral values into the criminal justice system.

III

MIXING METHODS: AN ALTERNATE SOLUTION

Harcourt's criticisms of prediction expose serious flaws with the use of prediction in the criminal justice system. Depending on elasticities, prediction may be quite inefficient. Unless individuals using current data resources recognize that the data are seriously biased, the ratchet effect will continue to plague prediction. And society must remain vigilant and not allow actuarial methods to define just punishment.

As I discuss above, Harcourt's randomization solution is not practical because it gives up too much. In recognizing the flaws in human judgment, randomization attempts to remove judgment from decisions. Harcourt essentially argues that we must abandon human judgment in favor of randomization simply because judgment cannot be perfect.

This is not to say that randomization should play no role at all in the criminal justice system. As a statistician, I enthusiastically support randomization. Randomized experiments are the "gold standard" in empirical methods to answer interesting and important questions. But human judgment is fundamental to justice as well. Fairness and compassion are both necessary in a criminal justice system but cannot be programmed into a machine. They require that people, with all their biases, make decisions regarding punishment and policing.

⁶⁴ See generally *INVISIBLE PUNISHMENT: THE COLLATERAL CONSEQUENCES OF MASS IMPRISONMENT* (Marc Mauer & Meda Chesney-Lind eds., 2002) (examining the negative familial, racial, and communal effects of policies that allow for mass incarceration).

⁶⁵ See SHANNAN M. CATALANO, BUREAU OF JUSTICE STATISTICS, *CRIMINAL VICTIMIZATION*, 2005, at 1 (2006), available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/cv05.pdf> (estimating that violent crime rates decreased 58% between 1993 and 2005).

⁶⁶ See Steven D. Levitt, *Understanding Why Crime Fell in the 1990s: Four Factors That Explain the Decline and Six That Do Not*, 18 J. ECON. PERSP. 163, 177-79 (2004).

That said, randomization does have a place in the criminal justice system. Limited use of randomization and experiments will teach us significantly more about how the criminal justice system currently works and greatly improve our use of actuarial methods. In fact, limited use of randomization can significantly reduce the impact of the three problems that Harcourt illustrates in *Against Prediction*. Each problem is based on reliance on incomplete or biased data. Randomization creates unbiased data and, if done thoughtfully, can also produce the information that police, parole boards, and others need to avoid the pitfalls of prediction that Harcourt outlines.

An example using racial profiling in highway stops and searches helps illustrate how randomization can be effective. One could randomize highway police stops on certain days. (One could even randomize which days are “profiling” days and which days are “random” days.) On “profiling” days, the highway police would use actuarial methods to decide whom to stop and search; on “random” days, the highway police could randomly decide whom to stop and ask for permission to search from the near-complete sample of people who speed on the highway⁶⁷—they would decide whether to stop an individual based on the flip of a weighted coin.⁶⁸ This proposal is not perfect randomization—the police cannot search without motorists’ consent—but very few motorists, including those carrying drugs, refuse.⁶⁹ This scenario limits human judgment because police officers do not determine whether probable cause to search a vehicle exists or which motorists are most likely to carry drugs. The data collected from this experiment would correctly depict crime rates among and between different groups. These data would also accurately assess whether profiling is more efficient than randomization. Most importantly, these data would accurately evaluate how individual motorists change their behavior in response to changing police tactics—the data would correctly measure the criminal-offending elasticities of different groups of offenders. Because the data accurately depict crime rates across groups, they will fix the ratchet effect, as police will have an unbiased sample of data from which to create a new profile. Implementing this new profile would provide even more data about how motorists respond to changing police strategies. In addition, the data

⁶⁷ Almost all motorists speed. See Samuel R. Gross & Katherine Y. Barnes, *Road Work: Racial Profiling and Drug Interdiction on the Highway*, 101 MICH. L. REV. 651, 664 (2002) (reporting data from a study of speeding on Maryland highways). Even if a driver does not speed, there are myriad other violations that police may have probable cause to believe occurred. See Gary Webb, *DWB*, ESQUIRE, Apr. 1999, at 118, 123 (quoting a California highway patrol officer stating, “The vehicle code gives me fifteen hundred reasons to pull you over . . .”).

⁶⁸ The weighting of the coin would make the overall probability of being stopped much smaller than fifty percent.

⁶⁹ See Gross & Barnes, *supra* note 67, at 675.

gathered from this ongoing experiment will eliminate the efficiency problem because it will make clear whether crime is increasing due to profiling based on elasticities.

In fact, in the racial profiling context, a little randomization works *better* than complete randomization. Complete randomization does not provide ongoing data about how individual motorists respond to changing police strategies, whereas switching between randomization and profiling does. Complete randomization also may be inefficient, depending on elasticities and differences in absolute levels of criminal activity, but limiting the use of randomization also limits this inefficiency. This is not to say that partial randomization is the cure for all the pitfalls of prediction. The data may still be biased by selection occurring during the experiment, such as the decision to refuse a search or to obey every traffic law. This experiment does not clarify whether limited randomization would work in other predictive contexts within the criminal justice system. Profiling may be unique given that one can rely on speeding norms to minimize bias in the sample via randomization. But, at least in this context, limited randomization is a practical and useful improvement over current methods.

CONCLUSION

Bernard Harcourt's *Against Prediction* is a significant contribution to the debate regarding the proper role of actuarial methods in the criminal justice system. His critiques of the use of actuarial methods provide key insights to the misuse of actuarial methods and the consequences of relying too heavily on prediction. Although Harcourt provides an abbreviated outline of a solution, no solution can remove Harcourt's true enemy: the flawed judgment that allows poor actuarial methods to control our decisions about just punishment. Harcourt's provocative solution—to do away with all actuarial methods and rely solely on randomization—is an innovative, if impossible, answer to the key problems of prediction that he illuminates. While this solution falls short of its full promise, the concept of randomization is a very useful one, which if judiciously used, can alleviate the pitfalls of prediction.