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The Luck of the Draw: Using Random Case Assignment to Investigate Attorney Ability

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    One of the most challenging problems in legal scholarship is the measurement of attorney ability. Measuring attorney ability presents inherent challenges because the nonrandom pairing of attorney and client in most cases makes it difficult, if not impossible, to distinguish between attorney ability and case selection. Las Vegas felony case data, provided by the Clark County Office of the Public Defender in Nevada, offer a unique opportunity to compare attorney performance. The office assigns its incoming felony cases randomly among its pool of attorneys, thereby creating a natural experiment free from selection bias. We find substantial heterogeneity in attorney performance that cannot be explained simply by differences in case characteristics, and this heterogeneity correlates with attorneys' individual observable characteristics. Attorneys with longer tenure in the office achieve better outcomes for the client. We find that a veteran public defender with ten years of experience reduces the average length of incarceration by 17 percent relative to a public defender in her first year. While we find no statistical difference based on law school attended or gender, we find evidence that the public defender's race correlates with sentence length, with Hispanic attorneys obtaining sentences that were up to 26 percent shorter on average than those obtained by black or white attorneys. We also find evidence suggesting that differences in sentencing may be driven partly by different plea bargaining behavior on the part of the public defenders.

I. INTRODUCTION

Does the quality of legal representation matter? Intuitively, we believe the answer to be yes, and there is certainly anecdotal evidence to support this view. After all, it cannot be mere coincidence that prospective clients covet the legal services of attorneys such as William Bennett, David Boies, Alan Dershowitz, and W. Mark Lanier. One would imagine that they are in demand because they possess greater legal skills than their fellow members of the bar. Then again, perhaps their reputation is forged—or at least perpetuated—by handling favorable cases.

Assuming identifiable differences in attorney skill, this still leaves the question: what makes for a good lawyer? In the abstract, there are qualities we can easily identify: intelligence, organization, honesty, a strong work ethic, and so forth. The difficulty comes in trying to map these attributes onto something observable. What observable characteristics of the attorney best predict performance? Does the caliber of the law school the attorney attended influence case outcomes? Does the attorney's work experience matter? Do certain demographic characteristics of the attorney—for example, age, gender, and race—predict performance?

Evaluating performance in any labor market is difficult, but particularly so for the legal profession. First, the pairing of client and attorney in most legal transactions makes any comparison of attorneys difficult, if not impossible. A pairing typically occurs only if the client chooses to retain the attorney and the attorney similarly elects to represent the client. All things being equal, the client seeks to hire the best attorney she can afford, and the attorney wants to represent the clients with the strongest cases. The quality of the attorney matters because this selection will likely affect not merely the probability of prevailing on the merits, but also the magnitude of any resulting damage award. In civil cases, higher-ability plaintiff attorneys are more likely to win, and garner larger damage awards for their clients; higher-ability defense attorneys are more likely to avoid a finding of liability for their clients, or at least minimize the size of the damage award.

These incentives likely create significant selection effects. Clients with stronger cases may gravitate towards attorneys with stronger legal skills, or at least those purported to be stronger. Conversely, weaker cases may fall to attorneys possessing weaker legal skills, who are unable to attract clients with stronger cases. Alternatively, there may be a zero, or even inverse, relationship between a lawyer's ability and the type of case she attracts.[1] As a result of this nonrandom proc-

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[1] For example, consider the case of Attorney *A*, trained at a top law school, and Attorney *B*, trained at a lower-ranked school. Attorney *A* may have better objective measures of perform-

ess, case outcomes may reflect the matching process between clients and attorneys as much as the ability of the attorneys who represent their clients.

Second, in the legal profession it is often difficult to discern the contribution of an individual attorney. In certain legal practice settings such as law firms, multiple attorneys may work on the same case. While one may make comparisons across firms using measures such as gross revenue or profits per partner,[2] it is typically difficult to identify the specific or even relative contribution of each individual attorney who worked on the case. While the attorneys on the case may have a sense of their individual contributions, it is unlikely that any third parties have a similar ability to observe this.

Third, outcomes, at least in civil cases, are difficult to observe. In criminal cases, outcomes are publicly available, whether they result in plea bargaining or trial.[3] In civil cases, however, outcomes are readily observable only if they culminate in trial. Since the number of civil cases filed exceeds the number of criminal cases,[4] and most civil cases resolve before trial,[5] the majority of case outcomes are not observable.

Given the challenges in observing attorney performance, it is fair to ask: why is this question important? While the U.S. Constitution guarantees the effective assistance of counsel, it does so only in the context of criminal cases, and any judicial inquiry into attorney per-

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ance (that is, sentence length, acquittal rate) than Attorney *B*, but may actually be less effective. This can happen if Attorney *A* is able to choose defendants with stronger chances of acquittal, while Attorney *B* chooses defendants with weaker chances of acquittal. Even controlling for observed case characteristics will not fully eliminate this problem in evaluating lawyer performance, as there may be unobserved case differences.

  [2] For example, there are rankings such as the *AmLaw 100*, published annually by The American Lawyer, which rank the top 100 law firms based on their gross revenue. See, for example, The American Lawyer, *2006 AmLaw 100: Two More Billion Dollar Firms* (May 2006), online at http://www.law.com/jsp/article.jsp?id=1145803851920 (visited Sept 23, 2007).

  [3] See Emily Rubin, *Ineffective Assistance of Counsel and Guilty Pleas: Toward a Paradigm of Informed Consent*, 80 Va L Rev 1699, 1700 (1994) (noting that approximately 90 percent of criminal cases are disposed of in guilty pleas).

  [4] For example, in federal courts during the twelve-month period ending March 31, 2006, the number of civil cases filed was 244,068, while the number of criminal cases filed was 68,670. See Administrative Office of the U.S. Courts, *Federal Judicial Caseload Statistic* tables C and D (Office of Judges Programs Statistics Division, Mar 31, 2006), online at http://www.uscourts.gov/caseload2006/contents.html (visited Sept 23, 2007). The National Center for State Courts reports that in 2003, the total numbers of state civil and criminal cases filed in general and limited courts were 13,318,182 and 10,143,783, respectively. See Court Statistics Project, *State Court Caseload Statistics 2005*, 137–38 table 7 (National Center for State Courts 2006), online at http://www.ncsconline.org/D_Research/csp/2004_Files/SCCSTabl5-8.pdf (visited Sept 23, 2007).

  [5] See Marc Galanter and Mia Cahill, *Most Cases Settle: Judicial Promotion and Regulation of Settlements*, 46 Stan L Rev 1339, 1340 (1994) (noting that two-thirds of civil cases are resolved without "definitive judicial ruling").

formance is limited to whether the attorney has met constitutionally minimal standards.

There exist compelling reasons to better understand attorney performance. For example, Americans spend a staggering amount on legal representation. In 2004, the estimated reported legal revenue in the United States exceeded $200 billion.[6] That same year, the federal government allocated $1.5 billion for the United States Attorneys to prosecute civil and criminal cases.[7] The magnitude of expenditures alone warrants a better understanding of how attorneys perform their job.

In addition, attending law school is an expensive endeavor: annual tuition typically exceeds $30,000 for most law schools.[8] Moreover, if the *U.S. News and World Report* law school rankings are any indication,[9] students compete intensely to get into the best law school that they can. This creates the strong presumption that where one attends law school is of paramount importance, fortified by statistics that show a high correlation between law school rank and income.[10] But this leaves unanswered how schooling and other individual characteristics influence how attorneys perform in the workplace.

There are also strong policy reasons to better understand attorney performance. A recent study by Richard Sander examined the disparity in partnership rates at large firms between black law graduates and other racial groups, concluding that affirmative action was

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[6]   See U.S. Census Bureau, *North American Industry Classification System (NAICS) Professional, Scientific, and Technical Services (Except Notaries), Estimated Revenue for Taxable Employer Firms: 1998 Through 2005* table 6.1, online at http://www.census.gov/svsd/www/services/sas/sas_data/54/2005_NAICS54.pdf (visited Sept 23, 2007).

[7]   See Office of Management and Budget, *Department of Justice, The Budget for Fiscal Year 2006*, online at http://www.whitehouse.gov/omb/budget/fy2006/pdf/budget/justice.pdf (visited Sept 23, 2007) (listing actual amounts spent in 2004); U.S. Department of Justice, *FY 2003 Performance and Accountability Report: Consolidated Statements of Net Cost*, online at http://www.usdoj.gov/ag/annualreports/ar2003/pdf/afsnetcost.pdf (visited Sept 23, 2007) (describing the costs incurred by protecting "the Rights and Interests of the American People by Legal Representation, Enforcement of Federal Laws and Defense of U.S. Interests").

[8]   See American Bar Association, *Law School Tuition: Average and Median 1985–2005*, online at http://www.abanet.org/legaled/statistics/charts/stats%20-%205.pdf (visited Sept 23, 2007) (stating that the average law school tuition in 2005 was $30,520).

[9]   See, for example, Michael Sauder and Ryon Lancaster, *Do Rankings Matter? The Effects of* U.S. News & World Report *Rankings on the Admissions Process of Law Schools*, 40 L & Socy Rev 105, 115 (2006) (arguing that small differences in school rankings have a significant influence on applicants' perceptions of schools).

[10]   The median starting salaries for lawyers from the top ten most selective law schools was 26 percent higher than the median starting salary for lawyers from the next ten most selective schools. See NALP Foundation for Law Career Research and Education and American Bar Foundation, *After the J.D.: First Results of a National Study of Legal Careers*, 44 table 5.2 (2004), online at http://www.nalpfoundation.org/webmodules/articles/articlefiles/87-After_JD_2004_web.pdf (visited Sept 23, 2007).

the causal mechanism.[11] This study illustrates both the danger and the methodological challenges in trying to evaluate attorney performance. The cautionary maxim that "correlation does not equal causation" is particularly germane when trying to evaluate attorney performance. Developing a hypothesis to test the differential effect of attorney characteristics—such as race, gender, or schooling—makes sense only if we believe that attorneys work in identical—or at least comparable—environments.

This Article examines two pieces of common wisdom about attorneys: first, that legal skills vary significantly across individuals; and second, that this variation in skill influences case outcomes. Using a unique dataset provided by the Clark County Office of the Public Defender (CCPD) in Nevada (which obtains almost all of its cases from Las Vegas), we examine the performance of seventy-six public defenders (attorneys) for felony cases that were initiated between 2003–2005, representing 11,866 cases. The key feature of this office is that felony cases are randomly assigned among the attorneys, thus eliminating selection bias. Accordingly, each attorney receives cases with the same overall distribution of characteristics in expectation, which allows for meaningful comparisons across attorneys.

This novel dataset allows us to examine the impact of various lawyer characteristics on their performance, as measured by sentence

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[11]   See Richard H. Sander, *The Racial Paradox of the Corporate Law Firm*, 84 NC L Rev 1756, 1819 (2006) (arguing that affirmative action programs at both law schools and law firms, designed to benefit black law school graduates, actually serve to their detriment). See also Richard H. Sander, *A Systemic Analysis of Affirmative Action in American Law Schools*, 57 Stan L Rev 367 (2004) (analyzing legal education and law school admissions policies and concluding that racial preferences result in higher attrition rates and lower bar passage rates). For a critical discussion of Sander's claims about affirmative action, see David L. Chambers, et al, *The Real Impact of Eliminating Affirmative Action in American Law Schools: An Empirical Critique of Richard Sander's Study*, 57 Stan L Rev 1855, 1857 (2005) ("The conclusions in *Systemic Analysis* rest on a series of statistical errors, oversights, and implausible assumptions."). See also Daniel E. Ho, *Why Affirmative Action Does Not Cause Black Students to Fail the Bar*, 114 Yale L J 1997, 1997 (2005) (explaining that Sander "misapplies basic principles of causal inference, which enjoy virtually universal acceptance in the scientific community"); David B. Wilkins, *A Systematic Response to Systemic Disadvantage: A Response to Sander*, 57 Stan L Rev 1915, 1919 (2005) (arguing that the evidence "does not come anywhere close to proving" that black lawyers would be better off going to lower-ranked law schools); Michele L. Dauber, *The Big Muddy*, 57 Stan L Rev 1899, 1907–08 (2005) (arguing that Sander "had an inadequate empirical basis for making" his claims and that he failed to disclose the data he used to the editors of the Stanford Law Review or the academic community); Kevin R. Johnson and Angela Onwauchi-Willig, *Cry Me a River: The Limits of "A Systemic Analysis of Affirmative Action in American Law Schools,"* 7 Afr Am L & Policy Rep 1, 4 (2005) (noting the many factors Sander fails to take account of in *Systemic Analysis*); Ian Ayres and Richard Brooks, *Does Affirmative Action Reduce the Number of Black Lawyers?*, 57 Stan L Rev 1807, 1809 (2004) (arguing that "even within [Sander's] framework, there is not persuasive evidence indicating that affirmative action is responsible for lowering the numbers of black attorneys").

length and incarceration rate. Our work builds on existing scholarship that attempts to estimate returns to individual characteristics in the context of firm leadership[12] and education.[13] In addition, the random assignment in our data set addresses endogeneity concerns, a limitation that pertains to much of the related research.

We find that the attorney to whom a defendant is randomly assigned has a substantial impact on the likelihood and duration of the sentence. Defendants who are assigned attorneys in the ninetieth percentile of ability have an incarceration rate 14 percentage points lower than those with attorneys in the tenth percentile of ability. A similar comparison of expected sentence length yields an expected sentence reduction of 1.2 months, simply due to the randomly assigned attorney.

We also examine the correlation between attorney characteristics and case outcomes. Experienced attorneys achieve substantially more favorable outcomes for their clients (defendants) than less experienced attorneys. Defendants represented by more experienced attorneys are more likely to avoid a prison or jail sentence, and those who do receive a sentence serve shorter terms on average. We do not, however, find any statistically significant differences in sentencing based on the attorney's legal educational background. Attorneys who attended higher-tier law schools (based on 2005 *U.S. News & World Report* law school rankings) do not obtain better sentence outcomes for their clients than their peers who attended lower-tier schools. Lastly, and somewhat surprisingly, we find racial disparities in attorney performance: attorneys of Hispanic origin achieve lower average incarceration than all other racial attorney groups.[14]

The Article proceeds as follows: In Part II, we provide a brief review of the existing literature. In Part III, we present a simple theory for evaluating workplace performance. In Part IV, we discuss the CCPD data and our empirical strategy. We describe our findings in Part V, and provide interpretation and implications in Part VI. Part VII concludes.

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[12] See Marianne Bertrand and Antoinette Schoar, *Managing with Style: The Effect of Managers on Corporate Policy*, 118 Q J Econ 1169, 1204 (2003) (finding that "[t]he realization of all investment, financing, and other organization variables appear to systematically depend on the specific executives in charge").

[13] See Jonah Rockoff, *The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data*, 94 Am Econ Rev 247, 247–48 (2004) (showing that teacher quality and experience have demonstrable effects on students' test scores).

[14] The findings about attorney characteristics are impacted by potential selection in the hiring process based on these characteristics. This is discussed further in Part VI.

II. Existing Literature on Measuring Attorney Performance

Historically, the inquiry into attorney performance has focused on whether the attorney's representation of her client was so inadequate as to warrant legal remedies. For criminal cases, the Sixth Amendment of the United States Constitution guarantees criminal defendants the right to counsel at trial.[15] Since the Supreme Court held that the Sixth Amendment ensured the *effective* assistance of counsel,[16] courts[17] and legal scholars[18] have debated what constitutes effective assistance of counsel. In civil cases, clients may sue their attorneys for legal malpractice. The parameters for what constitutes legal malpractice in civil cases, however, appear even less defined than in criminal cases. While all states have codes of ethics for attorney conduct, states are divided as to how, if at all, to weigh these provisions in determining whether the attorney has committed legal malpractice.[19]

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[15]   The Sixth Amendment of the Constitution states:

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and *to have the Assistance of Counsel for his defense*.

(emphasis added). The Supreme Court has since held that the right to counsel extends to defendants in state court. See *Gideon v Wainwright*, 372 US 335, 342 (1963) (holding that the right to counsel is fundamental and was therefore incorporated into the Due Process Clause of the Fourteenth Amendment).

[16]   See *Strickland v Washington*, 466 US 668, 687 (1984) (holding that "the proper standard for attorney performance is that of reasonably effective assistance").

[17]   See, for example, *Wheat v United States*, 486 US 153, 165 (1988) (holding that "the Sixth Amendment provides protection for a criminal defendant's choice of counsel").

[18]   For discussions about the effectiveness of counsel, see William S. Geimer, *A Decade of* Strickland*'s Tin Horn: Doctrinal and Practical Undermining of the Right to Counsel*, 4 Wm & Mary Bill Rts J 91, 95 (1995) (arguing that Supreme Court decisions have undermined indigent defendants' right to counsel, and proposing a minimal standard of effectiveness for capital defense counsel); Barbara A. Babcock, *Fair Play: Evidence Favorable to an Accused and Effective Assistance of Counsel*, 34 Stan L Rev 1133, 1135–36 (1982) (using an analogy to fair play in sports to examine what the adversary system requires of its players). See also Gabriel J. Chin and Richard W. Holmes, *Effective Assistance of Counsel and the Consequences of Guilty Pleas*, 87 Cornell L Rev 697, 703 (2002) (arguing that failing to share information regarding "collateral consequences" of a guilty plea with a client should constitute ineffective assistance).

[19]   For example, Georgia and Tennessee courts have held that state ethics rules do not define standards of civil liability. See *Davis v Findley*, 262 Ga 612, 422 SE2d 859, 861 (1992) (holding that a cause of action for malpractice could not rely solely on a violation of the Code of Professional Conduct); *Lazy Seven Coal Sales, Inc v Stone & Hinds, PC*, 813 SW2d 400, 404 (Tenn 1991) (holding that the Code of Professional Responsibility itself prohibits its use as a standard of civil liability). Other states, such as Michigan and California, have held that state ethics rules are probative for determining standards of care. See *Lipton v Boesky*, 110 Mich App

Attempts by scholars and courts to measure attorney performance highlight the challenges of this inquiry. Recently, criminal law scholars have compared the performance of publicly funded and privately retained counsel[20] and the performance of different types of publicly funded counsel (for example, public defenders versus court-appointed private attorneys).[21] Political scientists studying the United States Supreme Court and courts of appeals have found a positive relationship between attorney characteristics and judicial decision-

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589, 313 NW2d 163, 167 (1981) (holding that "a violation of the Code is rebuttable evidence of malpractice"); *Mirabito v Liccardo*, 5 Cal Rptr 2d 571, 573 (Ct App 1992) ("The attorney's violation of those rules [of Professional Conduct] established his negligence.").

[20] See generally, for example, Richard T. Boylan and Cheryl X. Long, *Salaries, Plea Rates, and the Career Objectives of Federal Prosecutors*, 48 J L & Econ 627 (2005) (analyzing salaries and experience levels of federal prosecutors and, among other things, connections between experience and case outcomes); Talia Roitberg Harmon and William S. Lofquist, *Too Late for Luck: A Comparison of Post-*Furman *Exonerations and Executions of the Innocent*, 51 Crime & Delinquency 498 (2005) (finding, through logistic regression, evidence that attorney ability was critical to the outcome of capital cases); Joyce S. Sterling, *Retained Counsel versus the Public Defender: The Impact of Type of Counsel on Charge Bargaining*, in William F. McDonald, ed, *The Defense Counsel* 167 (Sage 1983) (finding that "defendants with privately retained attorneys did not consistently obtain more lenient outcomes"); Robert V. Stover and Dennis R. Eckart, *A Systematic Comparison of Public Defenders and Private Attorneys*, 3 Am J Crim L 265 (1975) (finding comparable performance between public defenders and private attorneys). But see Morton Gitelman, *The Relative Performance of Appointed and Retained Counsel in Arkansas Felony Cases—An Empirical Study*, 24 Ark L Rev 442, 450 (1971) (finding that although the performance of individual attorneys did not vary depending on whether they were appointed or retained, indigents with appointed counsel "plead guilty more frequently, receive fewer dismissals," and receive heavier sentences than defendants with retained counsel).

[21] In a recent series of investigative articles, the Las Vegas Review-Journal examined criminal defense representation by court-appointed private attorneys in Clark County, Nevada (the court appoints these attorneys when there is a conflict within the CCPD). The journal found that the system was expensive and inefficient, strongly suggesting that defendants fare significantly worse when represented by court-appointed private attorneys than by CCPD attorneys. See Alan Maimon, *Court Officials Review Indigent Defense*, Las Vegas Rev-J 1A (Mar 27, 2007); Alan Maimon, *Conflicted Justice*, Las Vegas Rev-J 1J (Mar 25, 2007); Alan Maimon, *Probe Finds Uneven Justice*, Las Vegas Rev-J 1A (Mar 5, 2007). Within the academic scholarship, see, for example, Radha Iyengar, *Not Getting Their Due Process: An Evaluation of Federal Indigent Defense* 3–4 (Princeton University working paper 2006), online at http://law.bepress.com/cgi/viewcontent.cgi?article=1681&context=alea (visited Sept 23, 2007) (finding that criminal defendants receive lower sentences when represented by federal public defenders than by court-appointed private attorneys); Pauline Houlden and Steven Balkin, *Costs and Quality of Indigent Defense: Ad Hoc vs. Coordinated Assignment of the Private Bar within a Mixed System*, 10 Just Sys J 159, 170 (1985) (finding that the method of assigning attorneys to criminal cases did not affect their outcomes); Pauline Houlden and Steven Balkin, *Quality and Cost Comparisons of Private Bar Indigent Defense Systems: Contract vs. Ordered Assigned Counsel*, 76 J Crim L & Criminol 176, 199 (1985) (determining that there was little difference in performance of private and public attorneys); Stuart S. Nagel, *Effects of Alternative Types of Counsel on Criminal Procedure Treatment*, 48 Ind L J 404, 424 (1973) (finding that hired attorneys provide some benefits to their clients over public defenders, but they also are "more likely to appear later in the case, . . . to consume more time while the defendant is in jail pending trial, and [are] more likely to have clients who receive longer prison terms if the defendant is imprisoned").

making.[22] While these studies provide a rich description of criminal defense and appellate practice, respectively, they are methodologically limited. Because they cannot establish that case assignment across attorneys was random, they raise serious questions regarding case selection bias, namely the aforementioned issue that case outcomes may reflect the matching between attorney and client, not simply attorney ability. For this reason, it is impossible to discern whether the differences in case outcomes are attributable to differences in quality across attorneys or differences in the distribution of cases across attorneys.

In civil litigation, the need to evaluate attorney performance arises in the context of judicial determination of attorneys' fees. Some courts assign attorneys' fees as a percentage of the total award,[23] with the exact percentage in each case left to the discretion of the judge. Other courts use a multi-factored approach, such as the lodestar method, based on the number of hours the attorney reasonably worked on the case and a reasonable hourly rate of billing;[24] or the pure factor-based method, which is based on twelve different factors.[25] In an attempt to create a more unified approach to attorneys' fees, the Supreme Court has adopted an approach that combines the lodestar approach and the pure factor-based approach.[26] Implicit in the courts' jurisprudence in determining attorneys' fees is an attempt to evaluate attorney performance. Perhaps not surprisingly, the aforementioned

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[22] See, for example, Timothy R. Johnson, Paul J. Wahlbeck, and James F. Spriggs II, *The Influence of Oral Arguments on the U.S. Supreme Court*, 100 Amer Polit Sci Rev 99, 108–09 (2006) (discussing how Justice Harry Blackmun's grades of the oral argument performance of attorneys appearing before the Court correlate with the Court's decisionmaking); Susan Brodie Haire, Stefanie A. Lindquist, and Roger Hartley, *Attorney Expertise, Litigant Success, and Judicial Decisionmaking in the U.S. Courts of Appeals*, 33 L & Soc Rev 667, 684 (2006) (finding that litigation experience positively correlates with court decisions); Kevin T. McGuire, *Explaining Executive Success in the U.S. Supreme Court*, 51 Polit Rsrch Q 505, 522 (1998) (same); Kevin T. McGuire, *Repeat Players in the Supreme Court: The Role of Experienced Lawyers in Litigation Success*, 57 J Polit 187, 187–88 (1995) (same).

[23] See, for example, *Central Railroad & Banking Co v Pettus*, 113 US 116, 128 (1885) (reducing the attorney's fees from 10 percent of the award in the case to 5 percent).

[24] See, for example, *Lindy Bros Builders, Inc v American Radiator & Standard Sanitary Corp*, 487 F2d 161, 167 (3d Cir 1973) ("A logical beginning in valuing an attorney's services is to fix a reasonable hourly rate for his time."). For a background discussion, see Justin Lamb, Comment, *The Lodestar Process of Determining Attorney's Fees: Guiding Light or Black Hole?*, 27 J Legal Prof 203, 214 (2003) (describing the development of the lodestar process and arguing that "the lodestar [process] has clearly . . . created more problems than it has solved").

[25] See *Johnson v Georgia Highway Express, Inc*, 488 F2d 714, 717–19 (5th Cir 1974) (outlining factors such as attorney effort, the difficulty of the case, opportunity cost, norms of compensation within the relevant legal community, attorney ability and seniority, and awarded fees in similar cases).

[26] See *Hensley v Eckerhart*, 461 US 424, 433–34 (1983).

approaches have drawn criticism for their limitations, such as inapplicability,[27] drain on judicial resources,[28] and false sense of precision.[29]

Economists have long been interested in measuring workplace performance. For example, one study of mutual fund managers found that those who attended higher-SAT undergraduate institutions achieved better performance on their funds.[30] Similarly, another study showing how directors affect the performance of their firms found that directors' age and education levels are positively correlated with more aggressive management strategies, which in turn are positively correlated with higher firm performance.[31] But as with the aforementioned studies comparing different types of attorneys, these economic studies are limited in that they cannot control for selection effect. In other words, when work assignments are not random, it is difficult, if not impossible, to know whether to attribute differences in performance to individual ability or the work assignment.

III. ECONOMIC MODEL

Neoclassical economic theory predicts that wages will equal the marginal product of labor.[32] This means one need only observe an individual's wages to determine that person's productivity. Thus, presumably, evaluating the ability of any worker should be as simple as looking at her income tax return.

In practice, measuring individual productivity is a bit more complicated. For one thing, wages in the model include difficult to quantify items such as job location, travel, work hours, fringe benefits, and so forth.[33] Further, there is the complication that employers may have preferences for different characteristics in employees that are not directly related to productivity. In perfectly competitive markets, these employers would lose business and eventually be driven out of business. But in the real world, markets deviate from perfect competition.

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[27]   See *In re Fine Paper Antitrust Litigation*, 751 F2d 562, 583 (3d Cir 1984).

[28]   See *Court Awarded Attorney Fees: Report of the Third Circuit Task Force*, 108 FRD 237, 242 (1985).

[29]   See id.

[30]   See Judith Chevalier and Glenn Ellison, *Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance*, 54 J Fin 875, 877 (1999).

[31]   See Bertrand and Schoar, 118 Q J Econ at 1172–73 (cited in note 12).

[32]   Walter Nicholson, *Microeconomic Theory: Basic Principles and Extensions* 505–07 (Dryden 3d ed 1985) (applying the standard competitive model to minimum wage laws and predicting that increasing wages above the competitive market equilibrium will result in unemployment).

[33]   Collectively these amenities and disamenities are known as compensating differentials.

This is particularly true of the market for attorneys, which is regulated[34] and for which there is a finite supply.[35]

Accurately measuring performance is very challenging for most jobs. For litigating attorneys, this endeavor is made easier by the fact that cases generally have clear outcomes. The difficulty is that for much civil litigation the meaning of a favorable outcome is highly subjective, undisclosed to the public, or, in many cases, both.[36] In criminal law, there is one straightforward dichotomous outcome, a finding of guilt or innocence. Given the high conviction rate of criminal defendants,[37] perhaps more important to the defendant is whether or not he receives incarceration, the length of his sentence, and any imposition of fines.

If individual attorney skill has an effect on case outcomes, then one should observe a difference in incarceration rates and sentence lengths across attorneys. But this heterogeneity could arise from other sources as well, such as differences in case characteristics. For example, cases with a higher probability of success may systematically fall to the higher-ability attorneys; alternatively, they may fall to the lower-ability. In addition, as with any empirical analysis, observed outcomes could simply be the result of sampling error. Assuming heterogeneity in case characteristics can be ignored,[38] one may find a measure of attorney-specific skill from the following ordinary least squares regression:

$$Y_{ict} = \alpha + \beta_i PD_i + MO_t + e_{ict} \qquad (1)$$

Here i indexes the attorney, c indexes the case, and t indexes the month-year of the case. Y_{ict} is a measure of attorney performance (like defendant sentence length) in an individual case, PD_i is a vector of dummy variables whose components are one for defendants represented by attorney i and zero otherwise, and MO_t is a set of dummy variables indicating the month-year of the case. The time variables are included to control for the fact that overall case mix may be changing over time.

[34] The regulation occurs in two ways. Most states require that one (a) attend law school and (b) pass the state bar examination.
[35] This is just one example of an important labor market that does not satisfy neoclassical assumptions. Others include the market for physicians, professional athletes, and accountants.
[36] For example, if Firm *A* sues Firm *B* for $100 million and they settle for $30 million, is this a victory for Firm *A* or Firm *B*?
[37] For example, the conviction rate for federal criminal defendants charged with felonies between 1989 and 2002 was over 80 percent. See Andrew D. Leipold, *Why Are Federal Judges So Acquittal Prone?* 83 Wash U L Rev 151, 180 table F (2005) (relying on statistics provided by the Federal Judicial Center). The conviction rate for state criminal defendants between 1990 and 2000 was approximately 75 percent. See Erica J. Hashimoto, *Defending the Right to Self Representation: An Empirical Look at the Pro Se Felony Defendant*, 85 NC L Rev 423, 448 table 1 (relying on statistics provided by the National Archive of Criminal Justice Data).
[38] We discuss this in detail below.

Assuming average case characteristics are the same across attorneys, the β_i coefficients give an unbiased estimate of attorney-specific ability. This would measure, for example, the average number of months of sentence length reduction or increase for a particular attorney, relative to the average. In any empirical estimation, there will be some differences across the β_i's from sampling variation. Thus, even if all attorneys have the same ability one might observe some heterogeneity in the β_i's, especially with a small sample. The greater the sample size, the smaller the expected sampling variation, and the closer the β_i's should be to their true values.

There are two straightforward ways to test statistically whether the observed variation is greater than what would be expected simply from sampling variation. The first method is called a Wald test, in which the null hypothesis is that all of the β_i's are equal. A rejection of the null (based on the *F*-statistic) would indicate that there is varying attorney ability.

The second method of testing for heterogeneity in attorney ability is a nonparametric analogue of the Wald test. The advantage of the nonparametric method is that it does not rely on certain assumptions[39] necessary to make the Wald test valid.[40] The nonparametric test explicitly constructs a counterfactual, that is, a simulated data set constructed from the original but in which the attorneys all have equal ability. The test then compares the distribution of coefficients estimated from the original data set to those estimated from the simulated data set. Rejection of the null hypothesis of equality of the distributions is evidence that the attorneys differ significantly from each other in terms of ability.

The validity of the foregoing discussion hinges, crucially, on an assumption mentioned above, namely that case characteristics are the same across attorneys, on average. This is the condition one would expect if cases were randomly assigned to attorneys. This assumption can be tested using a methodology very similar to that described above.

The regression takes the same form as in equation (1), but now the Y_{ict} refers to case characteristics, not case outcomes. If attorneys do not select, or influence, the selection of their cases then presumably any observable case characteristic average should be the same for all attorneys. This hypothesis is verified as above, using a Wald estimator to test for the equality of the β_i's. Case characteristics can include in-

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[39] These assumptions include homoskedastic and normally distributed errors.

[40] While this nonparametric approach has distinct advantages over a parametric approach, its use is less common because it requires more extensive programming, and is not built in to most statistical software packages, such as Stata and SAS. For our analysis, we wrote a nonparametric test.

formation such as defendant age, criminal history, gender, race, type of charge, and so forth.

The importance of random assignment cannot be overemphasized. With random assignment, the design closely approximates a real experiment. Baseball provides a helpful analogy: it is difficult to discern differences in ability across hitters by observing one at-bat, a game, or even a series. The circumstances that players face differ sufficiently from one another in a short time frame (for example, quality of the opposition and ballpark), making it impractical to draw meaningful comparisons across players. Over the course of a season, however, the comparisons are more reliable: starting pitchers face the same distribution of hitters; starting hitters face the same distribution of pitchers. From this, it is possible to make comparisons. The law of large numbers allows us to reasonably impute observed differences to ability.

The econometric design for our study mirrors that of the baseball analogy. Each attorney receives the same distribution of felony case characteristics, such as defendant race, defendant gender, and statutory offense. With enough observations, we can attribute the differences in outcomes to the individual attorney.

After addressing the question of whether there is variation across lawyers and ensuring that cases are randomly assigned, it naturally occurs to the researcher to ask: are there particular attorney characteristics that predict work performance? The characteristics that influence performance, of course, are specific to each job. For many jobs, the key determinant of performance is one's level of education. Workers with higher educational levels perform, on average, at higher levels than their less educated peers. It is therefore not surprising that economists have found a strong relationship between education and earnings.[41] Similarly, as one might expect, holding education levels—and all else—equal, individuals who attend more selective schools will perform better than those who attend less selective schools, either because more selective schools offer greater training or simply attract people with higher ability.[42]

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[41]   See generally David Card, *The Causal Effect of Education on Earnings*, in David Card and Orley Ashenfelter, eds, 3 *Handbook of Labor Economics* 1801 (North Holland 1999) (citing studies finding that "better-educated individuals earn higher wages"); Joshua Angrist and Alan Krueger, *Does Compulsory School Attendance Affect Schooling and Earnings?*, 106 Q J Econ 979 (1991).

[42]   Stacy Dale and Alan Krueger provide evidence to suggest that students' post-university earnings are dictated more by the talent universities attract than by the education they provide. See Stacy Berg Dale and Alan B. Krueger, *Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables*, 117 Q J Econ 1491, 1494 (2002) (arguing that students maximize future income by finding the right "fit" in a school instead of attending the most selective school that accepts them).

There are other factors that influence performance, such as work experience. The intuition here is that most jobs require learning, and that individuals perform better over time as they develop expertise while completing their assigned tasks and while navigating their environment. Another relevant measure is work ethic: one would expect, all things equal, that effort matters. Those who work harder outperform their peers. In the context of public defenders, another characteristic that can substantially impact performance is one's propensity to plea bargain. Because over 90 percent of cases end in a guilty plea,[43] this choice is perhaps the single most important one that a defendant makes through the public defender, and thus we investigate the relationship between this decision and the outcomes of interest.

If we could observe the full attorney labor market, we could obtain unbiased estimates of the impact of each worker characteristic on ability. But there is a complication in any labor market: observed workers are always ones that have been selected, by being hired, and presumably the hiring process depends at least partially on the very characteristics of interest. One strategy is to interpret any findings as applicable to the subset of hired attorneys. To be able to make a more general point about attorneys, we must have a model of the hiring process, which we detail here.

Assume the head public defender hires new public defenders (PDs) according to some linear function of observable and unobservable characteristics. If the function exceeds a threshold the individual is hired. We can write this as:

$$H = f(E, R, G, LS, U); \text{ Hire if } H > H^* \qquad (2)$$

where E = legal experience, R = race, G = gender, LS = law school rank, U = characteristics observable only to the head PD. The head PD uses the function f in the hiring decision because he believes it is predictive of some other linear function g that he really cares about:

$$S = g(E, R, G, LS, T, X, U) \qquad (3)$$

where T is tenure, X is case characteristics, and S is defendant sentence length. Now under these assumptions a regression of the form:

$$S = \alpha + \beta_E E + \beta_R R + \beta_G G + \beta_{LS} LS + \beta_T T + X + e \qquad (4)$$

will yield unbiased estimates of the β's if U is uncorrelated with the other characteristics. These coefficients may be interpreted as the re-

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43　See U.S. Department of Justice, *Compendium of Federal Justice Statistics 2004* 2 (GPO 2006), online at http://www.ojp.gov/bjs/pub/pdf/cfjs0404.pdf (visited Sept 23, 2007) ("The proportion of convicted defendants who pleaded guilty increased from 87 percent during 1990 to 96 percent during 2004.").

turns to various individual characteristics. The only impact of the selection process will be that those lawyers who are observed have $H > H^*$, that is they will have higher mean characteristics than the general population of lawyers. But since we have assumed linearity of both functions, the coefficients will still be meaningful for the general population of lawyers.

One important concern is that the characteristics the head PD observes when interviewing prospective PDs are correlated with other characteristics. For example, it is possible that those PDs who are hired from lower-ranked law schools may have a higher rank in class (which is unobservable in the data). This will cause the estimate of the importance of school quality to be biased towards zero. Thus the true impact of various observable characteristics on performance will be at least as large as the estimates we report—our estimates will be conservative.

IV. DATA

The source of our data is the Clark County Office of the Public Defender. Clark County is the most populous county in Nevada, and the sixteenth most populous county in the United States.[44] This growth has been fueled primarily by Las Vegas, a city within its borders. During the 1990s, Clark County was one of the nation's fastest growing counties.[45] Table 1 provides the county's summary statistics. The county's racial composition is more diverse than that of the national average, while its median household income, home prices, and poverty level track closely with the national median.[46] While Nevada has a crime rate that places it close to the national median,[47] Clark County has an overall crime rate, including homicide and violent crime,[48] that is relatively higher.

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[44]   This figure is as of 2005. See U.S. Census Bureau, Population Division, *100 Largest Counties* (July 1, 2005), online at http://www.census.gov/popest/counties/CO-EST2005-08.html (visited Sept 23, 2007).

[45]   See U.S. Census Bureau, *Counties Ranked by Percent Change in Population, 1990–2000* (Apr 2, 2001), online at http://www.census.gov/population/cen2000/phc-t4/tab04.pdf (visited Sept 23, 2007).

[46]   See U.S. Census Bureau, *State & County QuickFacts, USA* (Mar 23, 2007), online at http://quickfacts.census.gov/qfd/states/00000.html (visited Sept 23, 2007).

[47]   Calculation taken by the U.S. Department of Justice, Federal Bureau of Investigation, *Crime in the United States 2004* table 5 (listing crime rates for 2004 for all regions and states in the United States), online at http://www.fbi.gov/ucr/cius_04/offenses_reported/offense_tabulations/table_05.html (visited Sept 23, 2007).

[48]   See id Section II: Offenses Reported at 68, 74–75 table 4 (listing crime rates for regions and states), 89, 105 table 6 (listing crime rates for 2004 by metropolitan area), online at http://www.fbi.gov/ucr/cius_04/documents/CIUS_2004_Section2.pdf (visited Sept 23, 2007).

TABLE 1
GENERAL DEMOGRAPHIC INFORMATION
FOR CLARK COUNTY, NV, 1990–2005

Population (2005 estimate)	1,710,551
Population growth since 1990	231%
Gender (2004)	
Male	49%
Female	51%
Race (2004)	
American Indian	1%
Asian	7%
Black	10%
Hispanic	25%
White	80%
Income	
Median value of owner-occupied housing (2000)	$139,500
Median household income (2003)	$43,728
Persons living below poverty level (2003)	11%
Crime statistics (2000)	
Total	62,583
Murder	109
Rape	597
Robbery	3,992
Aggravated assault	3,431
Burglary	12,802
Larceny-theft	29,594
Motor vehicle thefts	11,637

Note: Population, demographic, and income statistics were taken from the U.S. Census Bureau, online at http://quickfacts.census.gov/qfd/states/32/32003.html (visited Sept 29, 2007). Crime statistics were taken from the Uniform Crime Reports, online at http://www.fedstats.gov/mapstats/crime/county/32003.html (visited Sept 29, 2007). The percentages for race exceed 100 percent because respondents identify with more than one race.

It is worth noting briefly the recent history of the CCPD, which has undergone significant reforms, spurred in large part from the publicity of a single case. In 1982, a man named Roberto Miranda was charged with the stabbing death of another man.[49] Represented by an inexperienced CCPD attorney, Miranda was convicted and sentenced to death. In 1996, the Nevada Supreme Court overturned his conviction

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[49] See Carri Geer Thevenot, *Settlement Ends Ex-Inmate's Saga*, Las Vegas Rev-J 1A (June 30, 2004).

on the ground that he received ineffective assistance of counsel.[50] Upon his release, Miranda initiated a § 1983 claim against his CCPD attorney, the CCPD public defender, and Clark County. His suit alleged, in part, that his CCPD attorney failed adequately to investigate and prepare for his case, and that his attorney lacked any experience handling capital cases. Clark County settled with Miranda in 2004 for $5 million.[51]

After Miranda filed suit, the county commissioned a study of the CCPD. The report which resulted was critical of the CCPD's training, case assignment, and case management.[52] In the aftermath of the study, the CCPD implemented several reforms, including a training program for new attorneys, a separate division for capital cases, and—particularly germane to our study—random case assignment.

The CCPD provides legal representation for criminal defendants who qualify for state-provided legal counsel, as required by the United States Constitution. Like many jurisdictions, Clark County has a separate government agency dedicated to handle criminal defense work for indigent clients. The CCPD attorneys handle all indigent cases, unless a conflict with the office arises, in which case the court will appoint a private attorney to serve as court-appointed counsel.[53] The CCPD handles both misdemeanors and felonies, including capital cases. Attorneys who join the CCPD begin by handling misdemeanor cases, and after six to twelve months move on to felony cases. There is also a small team of attorneys who work almost exclusively on capital cases. Our study focuses on noncapital felony cases.[54] We exclude capital and child sex cases because neither are subject to the random assignment process. Misdemeanors are also excluded because potential penalties are much less severe, and thus the attorney impact is likely to be less important. The exact caseload for each attorney may vary, but it is not uncommon for an attorney to close over one hundred felony cases in a calendar year.

As illustrated in Table 2, for each case the CCPD records the date of arraignment, the date of termination (that is, the date when the case is resolved, either by plea agreement or, in rare cases, trial), and the

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[50]   See *Miranda v Clark County*, 279 F3d 1102, 1105 (9th Cir 2002).

[51]   Thevenot, *Settlement Ends Ex-Inmate's Saga*, Las Vegas Rev-J at 1A (cited in note 49).

[52]   See National Legal Aid and Defender Association, *Evaluation of the Public Defender Office: Clark County, Nevada* 57 (Mar 2003), online at http://www.nlada.org/DMS/Documents/ 1051974411.43/Executive%20Summary%2C%20Table%20of%20Contents%20and%20Report %20%28without%20appendices%29.pdf (visited Sept 23, 2007) (warning that unless the performance plan was implemented the office would be held back by its culture).

[53]   Conflicts of interest typically arise when two defendants in the same case have interests that diverge. In these circumstances, the CCPD will represent one defendant and court-appointed counsel (typically a private attorney) will represent the other.

[54]   Felony attorneys will occasionally take on a misdemeanor case, but these instances are rare.

name, race, and gender of the defendant.[55] It also records the defendant's charged statutory offense(s), which we consolidated into one of five categories: drugs, embezzlement-theft-fraud, sex-related (for example, rape, sexual assault, prostitution), violence (for example, battery, assault), and other (for example, miscellaneous offense). The dataset also reports whether the defendant pled guilty to the criminal charges and the duration of the sentence, if one was imposed.

TABLE 2
SUMMARY CASE STATISTICS

Total cases	11,866
Case information	
Duration of case (months from arraignment to termination)	4.9
	(5.1)
Average sentence (months)	7
	(21.9)
Fraction of cases where defendant served time	39%
Gender of defendant	
Male	81%
Female	19%
Defendant race	
White	43%
Black	31%
Hispanic	21%
Asian	3%
American Indian	0.3%
Type of offense	
Embezzlement, theft, fraud	49%
Drugs	24%
Violent	16%
Sex-related	3%
Other	8%

Note: All figures computed from data provided by the Clark County Office of the Public Defender. Standard deviations are in parentheses.

The CCPD provided data of noncapital felony criminal cases represented by seventy-six CCPD attorneys for the period January 2003 through December 2005. The dataset includes all cases that *opened* during this period, which means it may include cases that were re-

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55   The CCPD records the defendant's race, but it is missing in 20 percent of the data.

solved subsequent to 2005.[56] The CCPD records all cases, regardless of resolution: that is, trial verdicts, plea agreements, and dismissals. In addition to limiting the data to noncapital felony cases, we excluded from the dataset missing observations for the aforementioned variables. This left us with 11,866 observations.[57]

TABLE 3
SUMMARY ATTORNEY STATISTICS

Total public defenders	76
Public defender information	
Gender	
Male	65%
Female	35%
Current age	42.1
Race	
Asian	10%
American Indian	0.3%
Black	4%
Hispanic	12%
White	75%
Rank of law school attended	
Tier 1	32%
Tier 2	41%
Tier 3	12%
Tier 4	16%

Note: All figures computed from data provided by the Clark County Office of the Public Defender.

In addition, the CCPD provided us with biographical information on its felony attorneys: name, date of birth, gender, and race. We also know the law school each attorney attended, which we consolidated into tiers based on the 2005 *U.S. News and World Report* law school rankings. Unfortunately, we were unable to obtain more detailed information about each attorney's educational background (for exam-

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[56] We chose the date range based on the case opening date rather than closing because the random assignment process occurs according to when cases begin. One potential difficulty with this method of case selection is truncation bias; that is, especially long cases will be excluded. In order to try to mitigate this potential source of bias we have chosen December 2005 as the end date for case initiation. Since the mean case duration is five months with a standard deviation of five months, over 90 percent of cases initiated in December 2005 are resolved in our data set. The fraction of cases begun earlier will be much higher, so overall, truncation bias should not impact the findings.

[57] There were several other steps in the data cleaning process that reduced the size of the data set. A full description of the process is available from the authors.

ple, LSAT score and academic performance during law school). Table 3 reports the summary statistics for attorneys.

We chose the CCPD because of two uncommon institutional features. First, the CCPD engages in *vertical* representation. An attorney assigned to the case is responsible for that case throughout its progression. This is in contrast to many other public defender offices, which use *horizontal* structures. Under a horizontal structure, different attorneys will handle different stages of representation, such as arraignment, pre-trial, and trial. At the CCPD, the attorney initially assigned to the case will be the attorney of record through its resolution.[58]

Second, the CCPD randomly assigns felony cases among its attorneys. The process works as follows: the felony division of the CCPD is divided into teams, each comprised of a team chief and approximately six attorneys. The team chief assigns attorneys within the team to the preliminary hearing dates months in advance. After the assignment and before the preliminary hearing date, the Justice Court (the court responsible for handling felony cases) will begin filling its calendar with cases, a process based entirely on the date the case comes in.[59]

Case assignment is random because attorneys are assigned cases before the judge, the prosecutor, or the team chief is informed of the defendant's identity or the criminal offense he or she is alleged to have committed.[60] This practice differs from many other public defender offices, where a senior attorney responsible for case assignment (often the deputy public defender) will match each incoming case with a specific attorney in the office.[61] Random assignment is the essential element for our research design, and we discuss its verification in greater detail in Part V.

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[58] There is one caveat: the office has an internal rule that all cases that proceed to trial have *two* attorneys. The second attorney serves as the second chair, solely to provide assistance to the lead attorney should the case proceed to trial. This feature should not affect our findings substantially, given that a very small percentage of felony cases result in trial. Further, unless there is a systematic bias to assignment of second chairs, this should bias our estimates towards zero.

[59] When a defendant is placed in custody, he has a right to a preliminary hearing within fifteen days (the "speedy trial" rule). See Nev Rev Stat § 171.196 (1998). If the defendant is placed out of custody, the court sets the preliminary hearing within forty-five days.

[60] There are a few caveats to this process. As mentioned above, newly hired attorneys are not part of the felony division, and the CCPD does not randomly assign capital and child sex crime cases. Second, the team chief may occasionally reassign cases when a disproportionate number of cases occur on a given preliminary hearing date; the court tries to avoid setting too many cases for the same day, but it is sometimes unavoidable given the number of cases that arise from the "speedy trial" rule.

[61] As part of this study, we contacted over fifty public defender offices across the United States. The overwhelming majority of these offices assign cases nonrandomly.

V. Results

In our analysis, we are primarily interested in two questions. First, do attorneys differ significantly from each other in ability (as measured by average client sentence length and incarceration rate)? Second, what attorney characteristics (if any) influence case outcomes? To answer these questions, we first examine the dispersion in attorney abilities. Next we investigate how attorney characteristics affect the defendants' likelihood of receiving a prison sentence, and finally how they affect sentence length itself.

A. Are Cases Randomly Assigned to PDs?

Before we can compare the performance of different attorneys to each other, we need to be certain that the set of cases each receives is randomly assigned. This is crucial to the subsequent analysis because it rules out the most important alternative explanation for different case outcomes, namely different case difficulty.

We perform the nonparametric test described in Part III to test for random assignment. The null hypothesis is that attorney fixed effects are equal. We test the hypothesis using three different case characteristics: defendant age, defendant gender, and defendant race. The results are reported in Table 4. In each case we cannot reject the null hypothesis. In all cases, the *p*-value is insignificant. These findings support that cases are randomly assigned to PDs.

A Pearson chi-squared test provides evidence of the stability of the defendant race distribution over time ($p = 0.401$). Thus a further test of random assignment also using a Pearson chi-squared test was performed to test the random assignment of defendant race to attorneys, where race was represented by a categorical variable including White, Hispanic, and African-American. The results of this test ($p = 0.449$) support the finding displayed in Table 4, that one may not reject the null hypothesis that the distribution of defendant race comes from random assignment.[62]

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[62] Although we only test for random assignment using a limited number of case characteristics, we take this as evidence of random assignment on all observed and unobserved variables, since case characteristics are highly correlated.

TABLE 4
TESTING FOR RANDOM ASSIGNMENT

Case characteristic	*p*-value	Observations
Defendant sex	0.851	10,129
Defendant age	0.253	9,803
Defendant race	0.098	7,145

Note: Each row reports results from a separate simulation to test for the equality of public defender fixed effects. Defendant sex is a dummy variable for whether the defendant is male. Defendant race is 0 for black defendants and 1 for white defendants.

This feature of the CCPD allows us to measure workplace performance in a nonexperimental format that allows for meaningful comparisons across attorneys. Because cases are randomly assigned, we are able to exclude heterogeneity of case characteristics as a plausible explanation for differences in attorney performance. Accordingly, any differences we observe we can attribute to characteristics of the attorneys themselves.

B.   Are All Attorneys the Same?

We have now found evidence indicating that cases are randomly assigned to CCPD attorneys so, on average, the attorneys will get the same distribution of cases across all dimensions, including defendant age, sex, and race. Crucially, we assume that this provides evidence that unobservables are also randomly assigned (due to correlation with observables). Now we may use this fact to answer the question of whether attorney ability differs across individuals in the CCPD.

The two measures of ability we use are incarceration rate and sentence length. The method (and specification) here is identical to that for the random assignment check. First we regress the outcome of interest on public defender fixed effects and time dummy variables. Then we run a Wald test on the equality of the coefficients on the public defender dummy variables. A significant *F*-statistic indicates public defenders differ significantly in their ability to get defendants shorter sentences, or to avoid incarceration.

Table 5 reports the findings from this test. We reject the null hypothesis that each PD has equal impact on the incarceration rate at a confidence level of less than 0.001. Similarly, for the sentence length outcome, we reject the null at $p < 0.001$.

Going from the tenth to ninetieth percentile of public defender ability decreases the defendant's expected sentence length by 5.8 months, or 82 percent of the mean sentence. Clearly, the public defender to whom a defendant is assigned—albeit through a random

process—has a significant impact on how much time the defendant will serve. In the next Part, we investigate how attorney characteristics affect case outcomes.

TABLE 5
TESTING FOR ATTORNEY HETEROGENEITY

Outcome	F-statistic	p-value	Observations
Sentence	19.107728	< 0.001	11,866
Incarceration	2.4956698	< 0.001	11,866

Note: Each row reports results from a separate F-test on the equality of public defender fixed effects, controlling for time with monthly dummy variables. Sentence measures sentence length in months and incarceration is a dummy variable that is one if the defendant is sentenced to incarceration.

TABLE 6
OLS ESTIMATES FOR WHETHER THE DEFENDANT
RECEIVED A PRISON SENTENCE

	(1)	(2)
Tenure in Las Vegas PD office	-0.00115	-0.00168
	(0.00069)	(0.00073)*
Law school—Tier 1	-0.00328	-0.0095
	(0.0124)	(0.0128)
Law school—Tier 2	-0.00346	-0.00675
	(0.0119)	(0.0122)
Law school—Tier 3	-0.0036	-0.00451
	(0.0141)	(0.0143)
Male PD	0.01067	0.0135
	(0.0101)	(0.0103)
Black PD	0.00046	-0.0045
	(0.0163)	(0.0172)
Asian PD	-0.0200	-0.0183
	(0.0141)	(0.0151)
Hispanic PD	0.0180	-0.00917
	(0.0144)	(0.0153)
Control for presiding judge	N	Y
R-squared	0.3	0.31
Observations	11,866	11,866

Note: All regressions control for time using month-year dummies. Robust standard errors in parentheses.
* significant at 5%; ** significant at 1%

C.   Whether the Defendant Is Incarcerated

Table 6 reports the ordinary least squares (OLS) regression results measuring how attorney characteristics influence whether the defendant receives a sentence of incarceration or not. We use OLS rather than probit or logit for two reasons: ease of interpretation of the coefficients and ability to control for judge fixed effects (the presence of which would yield biased coefficients in a probit or logit model).[63] Each column reports results from a separate regression; robust standard errors are in parentheses. Column (1) presents the basic results, controlling for time trends using month-year dummy variables. It is important to include the time dummies because random assignment of cases is done on a daily basis. If they were excluded, spurious results could result from simultaneously changing case and PD characteristics.[64] Column (2) adds judge fixed effects to control for the possibility that results are driven (or mitigated) by judge-PD pairings, and not simply PD characteristics.

Tenure is a continuous variable of the years an attorney has been in the CCPD office. As may be expected from the labor economics literature,[65] we find that tenure has a negative effect on the probability of incarceration. The effect becomes significant at the 0.05 level when controlling for judge fixed effects. Our findings suggest that a defendant has a 1.7 percentage point lower probability of incarceration for every extra ten years of his attorney's experience. Given that the overall mean incarceration rate is 39 percent, this means a twenty-five year veteran PD could reduce the likelihood of incarceration by over a tenth, relative to a new PD.

We estimate the effect of law school education by tier (Tier 4 schools are omitted from the regression, meaning that they are the baseline measure for the other schools). As with tenure, we find that the direction of the coefficients comports with what one might expect: defendants with attorneys who attended Tier 1 schools are less likely to be incarcerated than those with attorneys from Tier 4 schools. We find a similar, although less pronounced advantage from being represented by an attorney who attended a Tier 2 or Tier 3 school. None of these coefficients, however, were statistically significant.

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[63]   We control for judge even though cases are randomly assigned to public defenders because public defenders often appear before the same judge repeatedly.

[64]   For example, assume drug cases increase over time, and that they result in a higher conviction rate. Then one would find a spurious negative correlation between tenure and incarceration rate, as newer PDs simply get a case mix with a higher mean incarceration rate.

[65]   See Katharine G. Abraham and Henry S. Farber, *Job Duration, Seniority, and Earnings*, 77 Am Econ Rev 278, 278–79 (1987) (presenting evidence that wages do rise with seniority, but at a lower rate than previously estimated when accounting for unobserved quality).

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Finally, we examine whether demographic characteristics, such as gender and race, have an impact on attorney performance.[66] We report the impact of attorney race using Asian public defenders as the omitted (baseline) group. We find no statistically significant effect of attorney race on likelihood of incarceration.[67] Similarly, the gender of the public defender has little power to predict the attorney's defendant incarceration rate.

TABLE 7
OLS ESTIMATES FOR SENTENCE LENGTH

Mean (months)	7.2	7.2	18.7	18.7
	(1)	(2)	(3)	(4)
Tenure in Las Vegas PD Office	-0.126	-0.122	-0.252	-0.212
	(0.0359)**	(0.0380)**	(0.0813)**	(0.0842)*
Law school—Tier 1	-0.0452	-0.627	-0.230	-1.62
	(0.751)	(0.777)	(1.79)	(1.84)
Law school—Tier 2	-0.368	-0.725	-0.788	-1.90
	(0.789)	(0.824)	(1.90)	(2.01)
Law school—Tier 3	0.520	-0.0501	1.15	-0.383
	(0.827)	(0.885)	(1.97)	(2.11)
Male PD	0.198	0.261	-0.137	-0.255
	(0.583)	(0.600)	(1.39)	(1.44)
Black PD	0.00309	-0.476	-0.114	-1.11
	(0.611)	(0.718)	(1.41)	(1.70)
Asian PD	-1.04	-1.18	-1.68	-2.27
	(0.668)	(0.713)	(1.67)	(1.76)
Hispanic PD	-1.00	-1.96	-3.45	-4.83
	(0.679)	(0.777)*	(1.54)*	(1.78)**
Control for presiding judge	N	Y	N	Y
Include zero sentence length	Y	Y	N	N
R-squared	0.09	0.11	0.07	0.12
Observations	11,866	11,866	4,607	4,607

Note: Dependent variable is sentence length, measured in months. All regressions control for time and case characteristics. Robust standard errors in parentheses.
* significant at 5%; ** significant at 1%

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[66] We do not include age because there is not sufficient variation to avoid a collinearity with tenure.

[67] We discarded the data from the single American-Indian attorney in the CCPD.

D.   Sentence Length

The results of Table 6 suggest that attorney characteristics may influence the likelihood of a defendant being incarcerated. However, this measure does not tell the whole story of attorney skill. A slight improvement in incarceration rate may be more than outweighed by a longer expected sentence when a defendant is incarcerated. For this reason, we now examine how attorney characteristics influence the length of sentence.

Columns (1) and (2) of Table 7 both include defendants who do not receive any incarceration in the regressions; columns (3) and (4) include only those defendants who received some nonzero sentence. All four regressions report significant coefficients on tenure, reinforcing the findings from Table 6. Not only is a more experienced lawyer more likely to keep his client out of jail, but those clients who do serve time do not serve as long. Using the coefficient from column (2) (controlling for judge fixed effects), we find that an attorney with 11 years of experience will, on average, obtain sentences that are 1.2 months shorter than someone with only one year of experience. Given that the average sentence length is 7.2 months, this is a reduction of 17 percent. As for educational background, we find that the coefficients go in the same direction as those in Table 6, except for Tier 3 attorneys, which now appear slightly worse than Tier 4 in some specifications. Attorneys from Tier 1 and Tier 2 schools obtain shorter sentences than those who attended Tier 4 schools, but these results are not statistically significant.

With respect to demographic characteristics, we find stronger evidence for racial heterogeneity when using sentence length as the outcome rather than incarceration rate. Hispanic attorneys obtain the lowest sentences for their clients of all racial groups across all specifications. The difference between Hispanic and Asian attorneys is only statistically significant when conditioned on a nonzero sentence length (as shown in columns (3) and (4)). However, compared to black and white attorneys, Hispanic attorneys obtain significantly lower sentence lengths in all four specifications. The difference is substantial, and depending on the specification, Hispanic attorneys' clients receive sentences as much as 4.8 months shorter than white attorneys' clients. This surprising finding is discussed further in Part VI.

TABLE 8
OLS ESTIMATES FOR WHETHER THE DEFENDANT
PLEADS TO THE CHARGE

Mean plea rate	0.74	0.74
	(1)	(2)
	Defendant pleads	Defendant pleads
Tenure in Las Vegas PD office	-0.00227	-0.00371
	(0.00095)*	(0.00097)**
Law school—Tier 1	0.0204	0.0228
	(0.0169)	(0.0167)
Law school—Tier 2	-0.00815	-0.00792
	(0.0166)	(0.0162)
Law school—Tier 3	-0.00635	0.00302
	(0.0189)	(0.0186)
Male PD	0.0250	0.0297
	(0.0136)	(0.0134)*
Black PD	0.0175	0.0120
	(0.0195)	(0.0199)
White PD	0.0274	0.0211
	(0.0183)	(0.0185)
Hispanic PD	-0.0391	-0.0263
	(0.0190)*	(0.0190)
Control for presiding judge	N	Y
R-squared	0.14	0.24
Observations	7,296	7,296

Note: All regressions control for time and case characteristics. Robust standard errors in parentheses. Dependant variable is a dummy variable that is 1 if defendant pled to the original charge and zero if there was a plea to a reduced charge.
* significant at 5%; ** significant at 1%

E.   Defendant Pleads to the Charge

Tables 6 and 7 together suggest that experience and race have an effect on whether the defendant will receive a prison sentence, and how long he or she will serve. The question that naturally arises is how exactly do these differences emerge in the way the attorney represents the defendant? Observing attorney performance in any context is a challenge. Other than at trial, attorneys work in private and their work product is confidential. While the limitations of the data prevent us from fully exploring the mechanisms for performance, one variable we can observe is whether the defendant pleads to the original charge or pleads to a reduced charge. Using this variable, we examine whether

the defendant, in reaching a plea agreement, accepts the charge as stated in the indictment.[68]

We believe this variable is potentially important because the vast majority of criminal cases in CCPD resolve without a trial.[69] This means that a large part of the representation rests on how the attorney negotiates a plea agreement. In reaching an agreement, attorneys may differ from one another in their approach. Some attorneys may focus their energies on convincing the prosecutor to forego the top plea and instead offer the defendant an opportunity to plead to a lesser charge. For example, a defense attorney may convince the prosecutor to reduce a felony charge of aggravated battery to simple battery. Other attorneys may instead prefer to proceed to trial, but work to minimize the imposed sentence.

Table 8 reports the results on the defendant pleading, with the same specifications as Table 6 and Table 7. We find similar results: experience is again a statistically significant factor in the full model. An attorney with an additional ten years of experience is 3.7 percentage points less likely to have his client accept a plea to the original charge than a less experienced attorney. Looked at another way, more experienced attorneys will either plead to a reduced charge or take a case to trial 14 percent more frequently than those with less experience. As with our other analyses, we find no statistically significant relationship between the tier of school attended and the outcome. But we again observe a statistically significant difference between Hispanic attorneys and other racial attorney groups. Hispanics are *less* likely than all other racial groups to have their clients plead to the charge; the difference is statistically significant with respect to Asians, but not compared to white or black attorneys.

One additional finding of interest from examining pleading behavior is that we observe a statistically significant difference between male and female attorneys. Male attorneys are 3.0 percent more likely than female attorneys to have their client plead to the original charge. This is a curious result, given that Tables 6 and 7 do not reveal any statistically significant difference between male and female attorneys on whether the defendant receives a prison sentence or the length of the sentence. This result suggests that male and female attorneys might employ different bargaining strategies to achieve substantively similarly results for their clients.

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[68]   If there are multiple charges, the relevant plea is the top count.
[69]   The CCPD does not keep formal statistics, but the public defender informed us that far less than 5 percent of felony cases go to trial.

VI. INTERPRETATION

The results presented in Part V show that although felony cases are randomly assigned to attorneys in the CCPD, outcomes for criminal defendants are not random, due to heterogeneity in public defender ability. Some attorneys obtain better outcomes for their clients than others, and these outcomes are related to observable characteristics. The magnitude of the heterogeneity is striking. A defendant who is randomly assigned the tenth percentile public defender has a 14 percentage point greater chance of receiving incarceration than one assigned to the ninetieth percentile public defender. Given an overall incarceration rate of 39 percent, this translates to a 36 percent reduction in the probability of incarceration simply due to the attorney assignment.

Once we establish the substantial impact of individual attorneys on case outcomes, we investigate what characteristics correlate with the outcomes. We find that attorney experience matters. Defendants fare better when experienced attorneys represent them. Such defendants are marginally less likely to receive a prison sentence. If they do receive a prison sentence, their sentence is shorter, on average. These outcomes comport well with our predictions, as well as the economic literature on work experience and tenure.[70] Most workers improve over time, which is the primary rationale for paying workers more as they accrue seniority.[71] We fully expect that CCPD attorneys should perform better over time. This may reflect greater knowledge of criminal law and procedure or—perhaps equally relevant—institutional knowledge of the police, the prosecutors, and the judges.

The relationship between experience and sentence outcome is worth additional comment. The true effect of experience on sentence outcome may be even greater than what we observe, if public defend-

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[70] See, for example, Christian Dustmann and Costas Meghir, *Wages, Experience and Seniority*, 72 Rev Econ Stud 77, 77–79 (2005) (reporting that skilled workers experience positive returns to wages from experience and firm tenure). See also Daron Acemoglu and Jörn-Steffen Pischke, *The Structure of Wages and Investment in General Training*, 107 J Polit Econ 539, 560 (1999) (describing how firms create de facto "specific" rather than "general" skills, which may encourage workers to remain at the firm); Abraham and Farber, 77 Amer Econ Rev at 279 (cited in note 65) (finding that individuals who remain with the same employer have higher earnings than others with similar job sector experience but lower firm tenure). But see Joseph G. Altongi and Robert A. Shakotko, *Do Wages Rise with Job Seniority?*, 54 Rev Econ Stud 437, 454 (1987) (finding that the effect of tenure on wages is small and that most wage growth can be explained by the general labor market and switching of jobs).

[71] See Thomas E. MaCurdy, *An Empirical Model of Labor Supply in a Life-Cycle Setting*, 89 J Polit Econ 1059, 1060–66 (1981) (constructing an economic and empirical model of employment that incorporates long-term as well as short-term incentives). See also George Baker, Michael Gibbs, and Bengt Holmstrom, *The Wage Policy of a Firm*, 109 Q J Econ 921, 923 (1994) (describing how in addition to wage differences within individuals over time, there are also wage differences across cohorts).

ers with higher ability leave the office at greater rates than those with lower ability. In this instance, our coefficient on experience is biased downward. Conversely, if public defenders with *lower* ability are more inclined to leave the office, then the positive effect of experience we observe is biased upward.

By contrast, we find that the educational background does not play an important role in predicting outcomes. Our initial expectations were that education would be a strong predictor for attorney performance. If higher-tier schools attract students of higher ability—as measured by LSAT or undergraduate GPA, it logically follows that graduates from higher-tier schools should obtain better outcomes for their clients. Even if educational background and performance are positively correlated, however, data limitations may hide the correlation. Unlike the assignment of cases, the attorneys who join the CCPD are not randomly selected. Attorneys decide whether to apply to the CCPD, and the CCPD decides whether to hire them.

This study leaves unexplored the process by which attorneys are hired. While we establish that case assignment among attorneys is random, we cannot make the same claim about the hiring process since we observe only those attorneys hired into the CCPD. Hiring may significantly affect the results we observe through the incentives of both the job applicant (attorney seeking a job in the CCPD) and the hirer (the head public defender).

This factor can be illustrated through a simple example. For the purpose of this hypothetical, suppose two facts are true about the population of attorneys: (1) female attorneys possess higher legal ability than male attorneys, and (2) graduates from higher-ranked schools possess higher legal ability than those from lower-ranked schools. If hiring into the office were random, then we should observe that women obtain lower sentences for defendants, as do graduates in higher-ranked schools. Of course, hiring is not random. Through the interview process, the hiring attorney helps ensure that each hired applicant meets a certain standard. In so doing, the aforementioned differences between men and women—and graduates of different tiers of schools—that we would otherwise observe, wash away.

Besides educational background, we also found that gender did not seem to be a significant correlate of attorney performance. One could list potential factors for which the attorney's gender would play a role: the majority of defendants are male, as are prosecutors and judges. But there is no reason to believe that a male attorney would be more successful when representing a client, opposing a prosecutor, or arguing in front of a judge of the same gender. This is all the more true given that women now make up approximately half of all law students.

The differences in how clients plead to the initial charge, however, suggest a possible difference in legal strategy between the genders. Male attorneys were 3.5 percent more likely than female attorneys to have their client plead to a charge. This may reflect a stronger inclination in male attorneys to believe that the client is better served by pleading to the charge and negotiating for a lower sentence, while female attorneys are more inclined to negotiate for a lesser charge as a means of minimizing their client's sentence. That we did not see a statistically significant difference in sentence outcome suggests that a different legal approach did not have a differential effect on clients.

Given the insignificant impact of attorney gender, we were surprised to observe consistent and significant differences based on attorney race. Hispanic attorneys obtained the lowest sentences for their clients, irrespective of the clients' racial background. Hispanic attorneys' overperformance was statistically significant relative to Asian, black, and white attorneys. Defendants represented by Hispanic attorneys were less likely to receive prison sentences, and those who did go to prison served, on average, a sentence two months shorter than defendants represented by white or black attorneys, and one month shorter than defendants represented by Asian attorneys. While two months may not seem like a long time, it is a considerable reduction (roughly 27 percent) from the average sentence of seven months. Hispanic attorneys were also 4 percent less likely to have their clients plead to the charge than white attorneys, a statistically significant difference (although insignificant when including judge fixed effects). Unlike our analysis by gender, the differences by race suggest that pleading to a charge may adversely affect the client.

Hispanic attorneys' potential language advantage may account for their superior performance (for example, the attorney and client may both speak Spanish, which may allow for more effective communication than when the attorney and client have to communicate through an interpreter). In fact, the data reveal that the differential performance between Hispanic and other attorneys is greatest for Hispanic clients. But language skills explain only part of the racial difference across attorney performance—Hispanic attorneys achieve better outcomes than their racial peers regardless of their clients' race.

The reason for Hispanic attorneys' outperformance can not be identified using CCPD data, but the trend is consistent with a theory of positive selection bias of Hispanic attorneys into the CCPD. In the profession as a whole, average salaries of Hispanic attorneys fall be-

low those of white or Asian attorneys.[72] This may be due to self-selection of Hispanic attorneys into lower-paying legal jobs or it may reflect discrimination by the legal market. It could also reflect greater compensating differentials for Hispanic attorneys provided by CCPD. Whatever the cause, if we believe that the overall distribution of ability (however defined) of Hispanic attorneys is similar to those of other racial groups, then the differences in performance that we observe may reflect a selection effect on Hispanic attorneys in the CCPD.

VII. CONCLUSION

This Article makes an empirical investigation into attorney ability and its effect on case outcomes. We first ask whether there is significant heterogeneity in case outcomes across attorneys. We then investigate whether observable attorney characteristics correlate with these outcomes. Finally, we take an initial look at one of the mechanisms underlying the heterogeneous outcomes, plea bargain behavior.

In this Article, we have a rare opportunity to examine attorney performance in criminal cases, in a jurisdiction where felony cases are randomly assigned within a pool of attorneys. CCPD attorneys have diverse educational and racial backgrounds and have worked for varying amounts of time.

We find that there are substantial differences in case outcomes across attorneys. Drawing a good attorney in the random assignment process can save a defendant several months of incarceration, on average. In our analysis we find that more experienced attorneys—as opposed to those who attended higher-tier law schools—obtain lower sentences for their clients. We also find that Hispanic attorneys systematically outperform their racial peers, suggesting possible positive selection of Hispanic attorneys into the office.

Given the overall incarceration rate and average length of sentence, a veteran PD could reduce the likelihood of incarceration by as much as a fourth. Based on our findings in Tables 6 and 7, we find that an attorney with 11 years of experience will, on average, obtain sentences that are 1.2 months shorter than someone with only one year of experience. Because the average sentence length is 7.2 months, this is a reduction of approximately 17 percent.

What do our findings tell us about other sectors of the legal profession? At this point we caution against drawing broad generalizations. It may be that the relevant skills for successful criminal defense

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[72] See NALP Foundation and American Bar Foundation, *After the J.D.* at 68 table 9.3 (cited in note 10) (listing the average salaries of attorneys by racial group). The overall medians are as follows: Asians, $80,000; whites, $73,000; Hispanics, $71,000; blacks, $65,000.

practice differ from those in transactional or commercial litigation. The issue of adequate legal representation remains vitally important, both in a civil and a criminal context.

Additional research is needed to better understand performance in the legal profession. In future research we hope to learn more about the hiring process so that we can better understand whether the differences we observe across attorneys in our study are reflective of the general population. This Article is a first step in providing empirical evidence that attorney impact is substantial, and varies with observable characteristics.