


1987

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Recommended Citation

Douglas A. Smith, Plea Bargaining Controversy, The, 77 J. Crim. L. & Criminology 949 (1986)

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THE PLEA BARGAINING CONTROVERSY*

DOUGLAS A SMITH**

Guilty pleas became a major method of case disposition in the late 19th century and today account for over 85% of all felony convictions,¹ yet pleas are a continuing source of controversy. Some critics argue that a system of negotiated justice undermines the deterrent effectiveness of punishment and can be used by influential defendants to evade legal sanctions. Others maintain that defendants with prior criminal records, and hence more firsthand experience with the justice system, are able to negotiate more favorable sentences.² Proponents of these views see plea bargaining as undesirable because it weakens the deterrent and incapacitative effectiveness of the law by allowing some defendants to minimize their punishment.

Additional attacks on plea bargaining focus on the alleged coerciveness of the process.³ This viewpoint characterizes plea bargaining as a series of threats and promises by legal officials that induce defendants to forfeit many of their legal rights and plead guilty. The coercion argument rests on the belief that defendants convicted at trial are sentenced more harshly than those convicted by plea.⁴ Since a defendant seeks to minimize his punishment, pleading guilty

* This research was made possible, in part, by a grant from the Bureau of Justice Statistics (83-BJ-CX-0007). The views expressed in this article are those of the author and do not necessarily reflect the views of the sponsoring agency.

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¹ See generally Alschuler, *Plea Bargaining and Its History*, 79 COLUM. L. REV. 1, 1-43 (1979); Friedman, *Plea Bargaining in Historical Perspective*, 13 LAW & SOC. REV. 247, 247-59 (1979). Heuman, *A Note on Plea Bargaining and Case Pressure*, 9 LAW & SOC. REV. 515, 515-27 (1975).

² D. NEWMAN, *CONVICTION: THE DETERMINATION OF GUILT OR INNOCENCE WITHOUT TRIAL* (1966). J.Q. WILSON, *THINKING ABOUT CRIME* (1975).

³ See, e.g., Alschuler, *supra* note 1; Blumberg, *The Practice of Law as a Confidence Game: Organizational Cooperation of a Profession*, 1 LAW & SOC. REV. 15, 15-39 (1967); Dash, *Cracks in the Foundation of Justice*, 46 ILL. L.F. 393 (1951).

⁴ See, e.g., Brereton & Casper, *Does it Pay to Plead Guilty? Differential Functioning of Criminal Courts*, 16 LAW & SOC. REV. 45, 47-70 (1981-82); NARDULLI, *Plea Bargaining: An*

is made attractive by an explicit agreement or implication that his sentence will be reduced in exchange for a guilty plea.⁵ This promise convinces defendants that pleading guilty serves their own interests. This dual sentencing structure has been criticized because it penalizes defendants for exercising constitutionally guaranteed legal rights and subordinates due process concerns to crime control objectives.⁶

Not all views of plea bargaining are unfavorable, however. In support of negotiated pleas, some scholars argue that statutory penalties are often too harsh, and that tailoring punishment through charge and sentence "adjustments" makes the criminal justice system more responsive to the exigencies of individual cases.⁷ Plea bargaining is also considered an efficient method of allocating justice system resources.⁸ Prosecutors seek to maximize the deterrent or incapacitative value of their available resources, while defendants seek to minimize their individual costs of criminal activity.

Plea bargaining also accommodates the interests of both defendants and the state. Prosecutors benefit from plea bargaining because it enables them to secure high conviction rates while avoiding the expense, uncertainty, and opportunity costs of trials. By obtaining guilty pleas, prosecutors can pursue more cases, potentially resulting in greater aggregate deterrent or incapacitative effects with a finite amount of resources.⁹

Defendants may also benefit from plea bargaining, especially if they are factually guilty. Indeed, it is the presumption of factual guilt in cases that are not quickly dismissed that drives the process of negotiation.¹⁰ For the defendant, the presumption of guilt focuses the negotiation on the type and severity of the sentence.¹¹ A defendant's decision to plead guilty may be rational if the sentence

Organizational Perspective, 6 J. CRIM. JUST. 217, 217-31 (1978); Uhlman & Walker, *A Plea is no Bargain: The Impact of Case Disposition on Sentence*, 60 SOC. SCI. Q. 218, 218-34 (1979).

⁵ A. ROSETT & D. CRESSEY, *JUSTICE BY CONSENT: PLEA BARGAINS IN THE AMERICAN COURTHOUSE* (1976).

⁶ Halberstam, *Towards Neutral Principles in the Administration of Justice: A Critique of Supreme Court Decisions Sanctioning the Plea Bargaining Process*, 73 J. CRIM. L. & CRIMINOLOGY 1, 1-49 (1982).

⁷ See, e.g., P. UTZ, *SETTLING THE FACTS: DISCRETION AND NEGOTIATION IN CRIMINAL COURTS* (1978); Manard, *Defendant Attributes in Plea Bargaining: Notes on the Modeling of Sentencing Decisions*, 29 SOC. PROBS. 347, 347-60 (1983).

⁸ See, e.g., Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEG. STUD. 289, 289-332 (1983).

⁹ *Id.*

¹⁰ W. RHODES, *PLEA BARGAINING: WHO GAINS? WHO LOSES?* (1978).

¹¹ Mather, *Some Determinants of the Method of Case Disposition: Decision-making by Public Defenders in Los Angeles*, 8 LAW & SOC. REV. 187, 187-216 (1974).

he receives by pleading guilty is implicitly based on both the probability that he would be convicted at trial and the likely sentence if convicted. For example, if the likely sentence following a trial conviction is ten years and the defendant estimates that his probability of conviction is .7, then a plea to a sentence of seven years represents a rational choice. In this example a sentence reduction of 30% would be a rational compromise between the defendant and the state.¹² To the extent that defendants, like prosecutors, face uncertainty in the justice system, pleading guilty may represent a rational means for resolving an uncertain situation.

This article examines several issues in the plea bargaining controversy. First, do defendants convicted by plea receive more lenient sentences than similarly situated defendants convicted by trial? If a sentence differential does exist, what is its magnitude? Is the differential consistent across subcategories of offenders and offenses, or does it vary systematically with case characteristics and offender attributes, such as strength of evidence or prior criminal history? The magnitude of a sentence differential, if any, should provide some evidence as to whether plea negotiations are largely rational or coercive. If sentence differentials vary across offenders, analysis may indicate whether certain types of offenders systematically benefit from pleading guilty. Answers to these questions provide a tentative empirical basis on which to evaluate the implications of plea bargaining for the allocation of legal sanctions.

PLEA BARGAINING: A VIEW FROM THE DATA

Several studies have examined determinants of guilty pleas and the issue of sentence differentials between pleaded and tried cases. In addition, descriptive case studies have focused on factors which may influence whether a case is pleaded or proceeds to trial. Mather, for example, conducted extensive interviews with court participants and found the strength of the prosecutor's case and the seriousness of the offense increased the likelihood of a negotiated settlement.¹³ Other evidence suggests that prosecutors and defense

¹² This example may conservatively estimate the rational reduction from expected sentences. Specifically, some argue that defendants and prosecutors discount the value of future time. For example, the possibility of spending the next year in jail may be seen as more severe than the possibility of spending a year in jail seven years from now. If such positive time preferences were operative, reductions in excess of 30% in the instant example would still be consistent with a rational market model of plea bargaining. For a discussion of this position see Easterbrook, *supra* note 8; P. Cook, *Research in the Criminal Deterrence: Laying the Groundwork for the Second Decade*, in 2 CRIME AND JUSTICE: AN ANNUAL REVIEW OF RESEARCH 211, 211-68 (1980).

¹³ See Mather, *supra* note 11.

attorneys use similar criteria to establish the worth of a case. One study analyzed interviews with 138 prosecutors and 105 defense attorneys and found that general agreement emerged among court participants about the importance of offense seriousness, offender history, and case strength in determining an appropriate sentence bargain.¹⁴ This study confirmed that prosecutors and defense attorneys generally agree on the "usual" sentence for a given case and that such agreements enhance the likelihood of negotiated pleas.

Quantitative research on plea bargaining has often studied the relationship between mode of disposition (plea vs. trial) and sentence outcomes. Although evidence from numerous studies indicates that defendants who plead guilty are sentenced less severely than defendants convicted at trial, few control variables are generally included in these studies.¹⁵ One notable exception is Brereton and Casper's examination of sentencing dispositions for robbery and burglary defendants in three California jurisdictions.¹⁶ Their analysis included the original charge, mode of disposition, type of attorney, defendant's demographic characteristics, and prior criminal record.¹⁷ The authors found that by controlling for arrest charge and prior criminal record, the sentencing differential between pleaded and tried cases was reduced, but not eliminated.¹⁸ Additionally, the size of this sentencing differential varied considerably across jurisdictions and categories of offenses.¹⁹

Additional support for sentence differentials between pled and tried cases appears in Uhlman and Walker's study of dispositions of 29,295 convicted felons.²⁰ Substantial sentence differentials existed between defendants who pled guilty and those convicted at trial.²¹ For example, pled cases were 53% less likely to result in incarceration than cases where the defendant was convicted by a jury.²² When the researchers controlled for severity of charge and crime type, the relationship between disposition mode and sentence out-

¹⁴ H. MILLER, W. McDONALD & J. CRAMER, *PLEA BARGAINING IN THE UNITED STATES* (1980).

¹⁵ See, e.g., P. NARDULLI, *THE COURTROOM ELITE* (1979); Hagen, Hewitt & Alwin, *Ceremonial Justice*, 58 *SOC. FORCES* 506, 506-27 (1979); Nardulli, *supra* note 4; Talarico, *Judicial Decisions and Sanction Patterns in Criminal Justice*, 70 *J. CRIM. L. & CRIMINOLOGY* 117, 117-24 (1979); Uhlman & Walker, *supra* note 4.

¹⁶ See Brereton & Casper, *supra* note 4.

¹⁷ *Id.* at 53.

¹⁸ *Id.* at 55.

¹⁹ *Id.* at 61.

²⁰ See Uhlman & Walker, *supra* note 4, at 230.

²¹ *Id.* at 224.

²² *Id.*

comes was smaller, but not eliminated.²³ The authors suggested that charge severity and type of offense influenced the decision to plead guilty or to proceed to trial, and they noted that defendants convicted at jury trials were charged with more serious crimes than those convicted by plea.²⁴ Thus, while their findings showed that defendants receive a bargain in exchange for a plea of guilty, they concluded that the benefits may be somewhat exaggerated, since defendants who opt for trial may be acquitted.²⁵

Two studies take exception to the finding of more lenient dispositions for defendants who plead guilty. Eisenstein and Jacob studied felony cases from criminal courts in Chicago, Detroit, and Baltimore and examined sentence disparities between pleaded and tried cases.²⁶ Their study included defendant attributes (age, race, prior record, and pre-trial release status), strength of evidence, type of counsel, and a variable which identified the sentencing judge.²⁷ Their analysis indicated that when these variables were controlled for, the influence of disposition mode in explaining both decisions to incarcerate and sentence length was diminished substantially.²⁸ In light of these findings, they suggested that tangible sentencing advantages for defendants who pleaded guilty were more imagined than real.²⁹

Using a different analytic method, Rhodes examined plea bargaining in the District of Columbia for felony defendants charged with assault, larceny, burglary, or robbery and found no net sentencing differential between pleaded and tried cases.³⁰ Rhodes estimated the expected sentence defendants would have received if they were convicted at trial from models estimating the probability of conviction at trial and the expected sentence if convicted.³¹ These predictions permitted a comparative analysis of actual versus expected outcomes of plead cases. Rhodes concluded that, with the exception of robbery, the sentences received by defendants who entered guilty pleas were roughly equivalent to the expected sentences from conviction at trial.³²

Studies employing more control variables have found less dif-

²³ *Id.* at 226.

²⁴ *Id.* at 231.

²⁵ *Id.*

²⁶ J. EISENSTEIN & H. JACOB, *FELONY JUSTICE* (1977).

²⁷ *Id.* at 175.

²⁸ *Id.* at 263.

²⁹ *Id.* at 286.

³⁰ See W. RHODES, *supra* note 10, at 43.

³¹ *Id.* at 78.

³² *Id.* at 43.

ference in sentence between pled and tried cases than studies failing to use such variables. The importance of control variables is confirmed by a recent National Academy of Sciences report on sentencing research.³³ The report emphasized that the statistical evidence on sentencing differentials by mode of conviction may be biased by measurement error and selection bias.³⁴ Moreover, "these potential biases are particularly troubling because they would result in *overestimate* of the effect of the discount."³⁵ If, for example, offense seriousness was poorly measured or omitted from the analysis, the consequences would be to attribute to the mode of conviction a sentencing differential that was actually due to offense severity.

Finally, some research examined whether certain case or offender characteristics may be related to sentence discounts in exchange for guilty pleas. Research has consistently shown, for example, that prosecutors are less inclined to offer substantial sentence reductions when they have a strong case against a defendant.³⁶ Other studies suggest that prosecutors are also less likely to offer significant discounts if the offense is serious or if the defendant has an extensive criminal record.³⁷ Some studies suggest, however, that defendants with prior records may fare better, or at least no worse, in negotiating sentence reductions than offenders with less experience with the bargaining process.³⁸

DATA AND VARIABLES

The data used in this analysis were collected as part of a larger evaluation of plea bargaining practices by Miller, McDonald and Cramer in 1978.³⁹ Information on demographic and social characteristics of defendants, the type of offense, pleas entered, evidentiary and case characteristics and sentencing outcomes were collected for 3,397 felony cases in six sites: New Orleans, Norfolk,

³³ A. BLUMSTEIN, J. COHEN, S. MARTIN & M. TONRY, *RESEARCH ON SENTENCING: THE SEARCH FOR REFORM* (1983).

³⁴ *Id.* at 108.

³⁵ *Id.* at 115 (emphasis in original).

³⁶ See, e.g., D. NEUBAUER, *CRIMINAL JUSTICE IN MIDDLE AMERICA* (1974); Alschuler, *supra* note 1; Mather, *supra* note 11.

³⁷ See, e.g., W. CHAMBLIS & R. SEIDMAN, *LAW, ORDER AND POWER* (1971); H. MILLER, W. McDONALD & J. CRAMER, *supra* note 14; D. NEUBAUER, *supra* note 36; Lagoy, Senna & Siegel, *An Empirical Study on Information Usage for Prosecutorial Decision Making in Plea Negotiations*, 13 AM. CRIM. L. REV. 435, 435-71 (1976).

³⁸ See, e.g., D. NEWMAN, *supra* note 2; Forst & Brosi, *A Theoretical and Empirical Analysis of the Prosecutor*, 6 J. LEG. STUD. 177, 177-92 (1977).

³⁹ These data are available from the Inter-University Consortium for Political and Social Research at the University of Michigan under the title *Plea Bargaining in the United States*: 1978.

Seattle, El Paso, Tucson, and Delaware County, Pennsylvania. From these cases, a sample was selected for analysis on the basis of certain criteria. First, only individuals who plead guilty or went to trial were included in the analysis. Second, the analysis was restricted to males charged with robbery or burglary because these offenses represent a large portion of defendants processed by the justice system that frequently result in incarceration. Data from El Paso were also excluded because of large amounts of missing data on key variables. Finally, only cases handled by judges presiding over ten cases or more were included in the final sample so that models could be estimated controlling for the effects of judges on sentencing outcomes. These selection criterion resulted in a final sample of 1,533 pled and 387 tried cases.

Specific variables used in the analysis of pled cases are shown in Table 1, along with respective means and standard deviations. The dependent variable, incarceration, is defined as a sentence to prison for a period of one year or longer; about 42% of defendants pleading guilty received such a sentence in these data.

The variables, probability of incarceration and probability of conviction, were constructed using information on the sample of cases that went to trial. In order to estimate the probability of conviction at trial for pled cases, a logit model predicting conviction/acquittal was estimated using tried cases. From this model, presented in Appendix A, an estimate of the probability of conviction at trial for each defendant who pled guilty was obtained. These estimates ranged from a low of .108 to a high of .990. Of course, not all defendants convicted at trial are incarcerated. To estimate the probability of incarceration given a conviction at trial, a logit model was estimated to predict incarceration from the sample of cases convicted at trial ($N=279$). Results from this model, also shown in Appendix A, were used to generate expected probabilities of incarceration given conviction at trial for defendants who pled guilty. These estimates ranged from .125 to .995. These two variables, estimated probability of conviction and estimated probability of incarceration, were used to measure the *expected* outcome of each pled case if the case had proceeded to trial.

Several characteristics of defendants are also included in these data. A number of these variables were dichotomous measures: race (1=white), juvenile record (1=yes), drug history (1=yes), relational distance between victim and defendant (1=known), and detention status (1=yes). For example, 46.6% of those who pled guilty had a record of juvenile arrests, 25.6% had a history of using drugs, and only 7.6% of the victims knew their assailant in the bur-

TABLE 1
MEANS AND STANDARD DEVIATIONS OF VARIABLES
FOR PLEAD SAMPLE
(N = 1533)

VARIABLE	MEAN	STANDARD DEVIATION
Incarceration*	.424	(.494)
Estimated probability of conviction at trial	.797	(.147)
Estimated probability of incarceration if convicted at trial	.565	(.248)
Sentence bargain*	.373	(.484)
Charge bargain*	.273	(.446)
White defendant*	.587	(.493)
Age of defendant	25.407	(6.40)
Juvenile record*	.466	(.499)
Number of prior arrests	2.153	(2.459)
Employment status	.946	(1.314)
1 = unemployed		
2 = irregular		
3 = part-time		
4 = full-time		
Drug history*	.256	(.437)
Detained post arraignment*	.446	(.497)
Victim known to defendant*	.076	(.265)
On probation/parole at time of arrest*	.329	(.470)
Pending charges*	.206	(.439)
Eyewitness identification*	.614	(.487)
Number of witnesses	5.764	(3.542)
Robbery charge*	.271	(.445)
Physical evidence*	.845	(.362)
Harm to victim*	.071	(.256)
Private counsel*	.213	(.409)

* A binary variable where yes is coded 1 and no is coded 0.

glary and robbery cases. Employment status of the defendant was measured by a four category ordinal variable coded (1) unemployed, (2) irregularly employed, (3) part-time employed, and (4) full-time employed. Defendants' age and number of prior felony arrests were interval measures, with the number of prior felony arrests having an upper level of eight or more.

These data also contain information on case characteristics. Several of these measures were also dichotomous: physical evidence (1=present), physical harm of victim (1=yes), type of coun-

sel (1=private), and eyewitness indentification (1=yes). Information on the number of eyewitnesses was also included. Other variables included type of plea, offense, and jurisdiction in which the case was processed. Type of plea was represented by two dummy variables, one indicating a sentence bargain, the other a charge bargain. The third category, guilty pleas without an explicit charge or sentence agreement, were treated as the reference category in subsequent analysis. For type of offense, robbery was coded 1 and burglary was coded 0. Finally, jurisdictions were dummy coded with Delaware County, Pennsylvania serving as the reference category against which the others were compared.

FINDINGS

PLEA BARGAINING IN THE AGGREGATE

The analysis begins with an examination of issues involving plea bargaining in the aggregate. Table 2 presents summary statistics on actual and expected case outcomes. In these data the probability of being found guilty once a defendant has gone to trial is .72, a figure consistent with other research.⁴⁰

By contrast, the *estimated* probability of conviction for defendants who pled guilty, had they gone to trial is .80. This small difference between the two samples is not surprising since in some proportion of tried cases legitimate doubt about guilt probably existed which would slightly lower the overall rate of conviction for tried cases.

Considering incarceration decisions, 71% of the 279 defendants convicted at trial received prison sentences of one year or longer compared to only 42% of defendants who pled guilty. On the surface this finding would appear to support claims that considerable sentencing discounts are exchanged for guilty pleas. Such a simple comparison is misleading, however, as it assumes that characteristics of pleaded and tried cases are homogeneous. Recent studies have shown that offender and case characteristics are different in cases when conviction is by plea rather than by trial.⁴¹ Moreover, data from the current study indicate a number of significant differences between cases convicted by plea and trial (*See* Table 3). Several variables on which these samples differ, such as harm to victim, eyewitness indentification, and pretrial detention, are associated with the odds of conviction or the severity of sentence. Thus, direct comparison of the proportion of incarcerated defendants con-

⁴⁰ W. Rhodes, *supra* note 10, at 45.

⁴¹ *Id.*

TABLE 2
ACTUAL AND EXPECTED VALUES OF CONVICTION,
INCARCERATION AND SENTENCE LENGTH

1. Probability of conviction at trial (N=387)	.72
2. Estimated probability of conviction at trial for defendants pleading guilty (N=1533)	.80
3. Probability of incarceration for defendants convicted at trial (N=279)	.71
4. Probability of incarceration for defendants pleading guilty (N=1533)	.42
5. Estimated probability of incarceration if convicted at trial for defendants pleading guilty assuming a 1.0 probability of conviction at trial (N=1533)	.56
6. Estimated probability of incarceration if convicted at trial for defendants pleading guilty weighted by the estimated probability of conviction at trial	.45

victed by plea (.42) or by trial (.71) overstates the sentencing differential which is uniquely attributable to mode of conviction.

Using the model of determinants of incarceration estimated from the sample of persons convicted at trial (*See* Appendix A), it is possible to ask what would have been the sentence if defendants who pleaded guilty had proceeded to trial and had been convicted. To address this question, the probability of being incarcerated if convicted at trial was predicted for each defendant who pleaded guilty.⁴² The mean expected probability of incarceration for defendants who pled guilty is .56. Thus, if all defendants who pled guilty had proceeded to trial and had been convicted, we would estimate that 56% of them would be incarcerated.

Comparing the proportion of defendants incarcerated after having pleaded guilty (.42) with the *estimated* proportion of these defendants who would have been incarcerated if they had been convicted at trial (.56) adjusts for differences in sample composition and

⁴² This was accomplished by calculating a predicted logit for each pleaded case, using the estimated weights for each variable in Appendix A. Specifically, the predicted probability of incarceration, following a hypothetical conviction at trial, for each defendant who pleaded guilty was obtained using coefficients from the model in Appendix A. For example, a defendant who pleaded guilty in Seattle, charged with robbery, with no juvenile record but two prior arrests, who was detained would have a predicted probability of incarceration, if convicted at trial, of $1 / (1 + e^{-BX})$; where BX in this example would be $(-1.948) + (.690 * 1) + (1.876 * 1) + (.265 * 2) + (.651 * 1) = 1.799$. Hence the predicted probability of incarceration for this case would be .858.

TABLE 3
COMPARISON OF CHARACTERISTICS OF DEFENDANTS PLEADING
GUILTY RELATIVE TO DEFENDANTS CONVICTED AT TRIAL

	PLEAD GUILTY N=1533	CONVICTED AT TRIAL N=279	T-VALUE
Percent detained	45.0	56.9	3.70*
Prior felony arrests	2.2	3.0	4.71*
Number of witnesses	5.7	6.4	1.95
Employment status	.94	.89	.56
Percent with pending charges	26.3	16.1	4.09*
Percent charged with robbery	26.4	49.5	7.20*
Percent with physical evidence	84.5	75.3	3.37*
Percent White	58.3	36.9	6.78*
Percent with harm to victim	6.9	16.5	4.10*
Percent where victim knows offender	7.5	8.2	.41
Percent with private counsel	21.0	19.7	.49
Percent on probation or parole at time of arrest	33.2	38.7	1.73
Age	25.4	26.8	3.01*
Percent with drug history	25.8	25.1	.25
Percent with juvenile record	46.6	46.2	.11
Percent of cases with positive eyewitness I.D.	61.2	76.7	5.48*

* Significant difference of means or proportions test at .05 level.

accounts for about half of the differential probability of imprisonment. Pleading guilty, however, still appears advantageous. This comparison may nonetheless overstate the sentencing differential between pleaded and tried cases since it assumes that all defendants who pled guilty would be convicted if they had proceeded to trial.

Some proportion of defendants who pleaded guilty would have been acquitted at trial, and other data indicate that the estimated probability of conviction at trial for these defendants is about .8 (See Table 2). Hence, a more appropriate estimate of the *expected* probability of incarceration for each defendant would involve combining the likelihood of incarceration if convicted at trial with the probability of a trial conviction. Using this approach, 45% of defendants who pleaded guilty would be predicted to be incarcerated if they had gone to trial instead. When compared to the 42% of defendants who did plead guilty and were incarcerated, the differential between actual (.42) and expected (.45) probabilities of incarcer-

ation for pleaded cases appears insignificant. Thus, if plea bargaining is viewed as a market system in which negotiated pleas set the price of crime relative to a set of expectations (outcomes anticipated if the case proceeds to trial) the *aggregate* rationality of plea bargaining can be determined by comparing actual with expected outcomes of pleaded cases. In this analysis the overall system of negotiated justice appears relatively rational with respect to decisions to incarcerate. In this context "rational" only refers to whether pled cases receive sentences that would be expected to occur if these cases were to proceed to trial.

INDIVIDUAL IMPLICATIONS OF PLEA BARGAINING

A finding of little aggregate disparity between actual and expected outcomes does not rule out the possibility of considerable differences in specific types of cases. It is possible that some types of defendants may reduce their expected sentences by pleading guilty while others may fare better at trial. To address the question of whether plea bargaining is more effective for certain types of defendants, the actual and expected proportions of pleaded cases resulting in incarceration were calculated for different categories of the independent variables. These data are presented in Table 4. Figures under the column labelled "actual" are the proportions of pleaded cases in which the defendant was sentenced to prison. Figures under the column labeled "expected" are derived from the models reported in Appendix A and represent the proportion of cases which would be predicted to result in a prison sentence if all cases proceeded to trial. For example, sentence bargains appear to result in larger discounts with respect to the likelihood of incarceration than either charge bargains or no bargains. Consequently, sentence bargains are real bargains in the sense that the actual probability of incarceration was lower than the expected probability of incarceration if the case had proceeded to trial (.319 versus .422)

TABLE 4
ACTUAL AND EXPECTED PROBABILITIES OF DEFENDANTS RECEIVING
A PRISON SENTENCE AFTER PLEADING GUILTY
(N = 1533)

VARIABLE	(N)	ACTUAL	EXPECTED
All Cases	(1533)	.424	.453
Deal			
None	(544)	.480	.469
Sentence	(571)	.319	.422
Charge	(418)	.495	.447
Detained			
No	(849)	.269	.332
Yes	(684)	.617	.603
Felony arrests			
No prior arrests	(527)	.243	.328
1-2 prior arrests	(504)	.431	.438
3+ prior arrests	(502)	.608	.599
Probation/parole at time of arrest			
No	(1028)	.347	.420
Yes	(505)	.580	.520
Number of witnesses			
Less than 5	(845)	.372	.430
6 or more	(688)	.488	.481
Employment status			
Unemployed	(956)	.470	.460
Irregular	(114)	.465	.537
Part-time	(53)	.359	.432
Full-time	(410)	.315	.415
Pending charges			
None	(1134)	.375	.448
Yes	(399)	.564	.467
Offense type			
Burglary	(1118)	.350	.385
Robbery	(415)	.624	.636
Physical evidence			
None	(237)	.430	.459
Yes	(1296)	.423	.452
Race			
Black	(633)	.525	.534
White	(900)	.353	.396
Harm to victim			
None	(1425)	.411	.438
Yes	(108)	.602	.647

TABLE 4
(CONTINUED)

VARIABLE	(N)	ACTUAL	EXPECTED
Relationship to victim			
Stranger	(1417)	.431	.463
Non-stranger	(116)	.336	.333
Type of counsel			
Non-private	(1207)	.440	.464
Private	(326)	.365	.412
Drug history			
None	(1140)	.367	.412
Yes	(393)	.590	.573
Age of defendant			
Under 21	(428)	.372	.426
21 - 25	(595)	.388	.425
26+	(510)	.510	.508
Juvenile record			
None	(819)	.380	.401
Yes	(714)	.475	.512
Eyewitness identification			
None	(592)	.389	.369
Yes	(941)	.446	.506
Jurisdiction			
Eastern Penn.	(418)	.428	.348
New Orleans	(96)	.688	.525
Tucson	(224)	.469	.441
Seattle	(505)	.321	.463
Norfolk	(290)	.476	.571

These results indicate that pleading guilty represents a real bargain for defendants who have not been detained, those with no charges pending, and those not on probation or parole at the time of arrest. Additionally, defendants with no prior felony arrests or without a history of drug involvement reduce their odds of incarceration by pleading guilty. Defendants who are employed full-time also appear less likely to receive a prison sentence if they plead guilty in comparison with irregularly or unemployed defendants who gain no advantage by pleading guilty. Additionally, pleading guilty is slightly advantageous, with respect to the likelihood of incarceration for defendants under twenty-five years of age and for whites but it has no effect for older (over twenty-six years) or black defendants.

Considering case characteristics, discounts for pleading guilty are greater for cases with fewer witnesses (less than five) relative to

those with more witnesses. However, the lack of eyewitness identification does not appear to be advantageous for defendants pleading guilty. In cases where harm has been inflicted on the victim, discounts are smaller compared to cases where no harm occurred. Defendants with private counsel fare slightly better by pleading guilty compared to those represented by public defenders. Finally, pleading guilty to burglary slightly reduces the odds of incarceration. Most of the differences mentioned are small, though not unimportant. It should be noted that jurisdictional variations in discounts granted for guilty pleas are quite substantial: sentencing advantages for pleading guilty are evident in Seattle and Norfolk but not in Pennsylvania, New Orleans, or Tucson.

Results reported in Table 4 only partly explain who gains and who loses in the plea bargaining process. To obtain a more refined and realistic assessment, a multivariate method is necessary to estimate the influence of each variable on sentence discounts while simultaneously controlling for the effects of other variables. To address this issue the following steps were taken. First, a logit model predicting incarceration/no incarceration for those defendants convicted by plea was estimated. Two independent variables were included in this model: the estimated probability of incarceration if the case was tried and the estimated probability of conviction if the case resulted in conviction at trial. Both of these variables have strong positive effects on the actual probability of incarceration.⁴³ The finding that expected sentences are good predictors of actual sentences was not the primary aim of estimating this model. More importantly, the residuals from this model represent deviations between actual and expected probabilities of incarceration for pleaded cases, and this is our primary interest. Thus, the next step is to examine whether these discrepancies are systematically influenced by defendant and cases characteristics.

Data addressing this issue are presented in Table 5, which reports the results of two logistic regression models. Both models are estimated with the coefficients for the variables representing estimated conviction and incarceration probabilities are considered to equal their values from the two-variable model just discussed. The two equations differ in that Model 5.1 controls for the effects of jurisdiction and Model 5.2 controls for the effects of judges.

Model 5.1 indicates that certain case and defendant characteris-

⁴³ A test for interaction among these two exogenous variables was not significant suggesting that these expectations combine additively to form an expectation which serves as the basis for evaluating the decision to plead.

TABLE 5
LOGIT ESTIMATES OF PROBABILITY OF INCARCERATION
FOR DEFENDANTS PLEADING GUILTY
(N = 1533)

VARIABLE	MODEL 5.1		MODEL 5.2	
	M.L.E. ^a	S.E.	M.L.E.	S.E.
Probability of incarceration if convicted at trial	4.198 ^b		4.198 ^b	
Probability of conviction at trial	.888 ^b		.888 ^b	
Sentence bargain	-.052	.186	-.212	.163
Charge bargain	.319	.189	.327*	.164
Probation/parole at arrest	.455*	.144	.509*	.148
Pending charges	.515*	.154	.666*	.153
Eyewitness identification	-.257	.136	-.287*	.140
Victim and offender known	.124	.257	.013	.266
Detained before trial	.267*	.137	.166	.136
Number of witnesses	.114*	.022	.109*	.021
Robbery	-.092	.160	.014	.165
Drug history	.609*	.148	.586*	.151
Employment status	-.128*	.051	-.138*	.053
Physical evidence	.415*	.182	.406*	.185
Harm to victim	.190	.251	.205	.262
Number of prior arrests	.021	.031	.030	.032
Private counsel	-.197	.177	-.284	.172
Juvenile record	-.268*	.135	-.312*	.138
Age of defendant	-.017	.011	-.018	.012
White	-.056	.135	.025	.136
New Orleans	.031	.290		
Norfolk	-.388	.211		
Seattle	-.989*	.218		
Tucson	-.093	.248		
Judge			4.497*	.517
CONSTANT	-3.87		-5.38	
L ^c	514.16		578.12	

^a = Maximum likelihood coefficient with standard error

^b = Restricted coefficient

^c = Likelihood ratio test

* = Logit coefficient significant at .05

tics do systematically influence the discrepancy between actual and expected sentencing decisions with respect to incarceration. Specifically, defendants on parole or probation at the time of arrest, those with pending charges, and those detained after arraignment receive

less of a discount when pleading guilty. Since the coefficients on the estimated probabilities of incarceration and conviction are constrained, the coefficients on the other dependent variables indicate the influence of each variable on the *difference* between actual and expected probabilities of incarceration. Thus, *positive* coefficients indicate less of a discount for pleading guilty while *negative* coefficients indicate a *greater* discount relative to the expected sentence. For example, the positive coefficient for pending charges in Model 5.1 indicates that defendants with pending charges who plead guilty receive less of a trial discount relative to their expected sentence at trial than defendants who do not have pending charges.

Results from Model 5.1 indicate that in certain circumstances pleading guilty reduces the probability of incarceration relative to the expected probability of incarceration if the case was settled at trial instead. Some defendants also appear to fare better than others in the plea bargaining process, at least with respect to the probability of incarceration. Contrary to popular belief, however, the more marginal, less serious offenders with fewer prior arrests receive the largest sentence discounts. In these data, there is no evidence to suggest that the more serious or frequent offenders routinely evade justice by pleading guilty. Instead, these data indicate that, on average, serious offenders who plead guilty receive prison sentences similar to the expected outcome if they had gone to trial.

These data also permit an analysis of the effects of judges in sentencing decisions. By examining the coefficients for the other variables in Model 5.2, we can determine which effects are independent of particular judges presiding over sentencing decisions and which effects are conditional on judges in this sample. For example, Model 5.1 indicates that detained defendants who pleaded guilty received less of a reduction in the expected odds of incarceration than defendants who had not been detained. In the model which controls for judge effects, the effect of detention is no longer significant, which suggests that the gains apparent to non-detained defendants are conditional on specific judges and do *not* represent a more general pattern across all judges. Model 5.2 also indicates that once the effects of judges are included in the model, defendants with private counsel are significantly more likely to reduce their odds of incarceration by pleading guilty than defendants represented by public offenders or appointed counsel. However, all other variables which were significant in Model 5.1 are also significant in Model 5.2. Therefore, the effects noted in Model 5.1 appear to be independent of the presiding judge with the two noted exceptions.

DISCUSSION

A continuing source of controversy in plea bargaining concerns whether the process is a coercive or rational method of allocating legal sanctions. The coercion argument rests on the claim that plea bargaining makes possible a dual sentencing structure in which defendants who proceed to trial are sentenced more harshly than those who plead guilty. The data examined in this article indicate that when actual sentences are compared to expected sentences, little evidence emerges to support the coercion argument. While a substantial difference exists between the proportion of defendants incarcerated after pleading guilty (.42) compared to those convicted at trial (.71), this difference is largely attributable to two factors: first, not all defendants who pleaded guilty would have been convicted at trial, and second, characteristics of cases convicted by plea differ in important ways from those resulting in conviction at trial. When these factors are taken into account, plea bargaining appears to reflect a rational rather than coercive process.

Data from this study also address the question of whether plea bargaining erodes the deterrent and incapacitative effect of law. While certain defendants do appear to reduce their expected probability of incarceration by pleading guilty, defendants in serious cases and offenders with prior criminal histories do not benefit. Defendants who gain the most from pleading guilty are the less serious marginal offenders with less evidence against them. Conversely, defendants who are on parole or probation at the time of arrest, those with more prior felony arrests and those with histories of drug abuse—factors considered by many to be associated with serious career offenders—do not escape incarceration by pleading guilty.

Collectively, these findings suggest that plea bargaining is a neutral component in the processing of criminal cases which neither erodes the deterrent effect of law nor results in a two tier sentencing system. Perhaps the primary advantage of a system of negotiated pleas is that it allows prosecutors to pursue more cases than otherwise would be possible. Based on current data, for example, prosecutors appear to gain one conviction (which would have been lost at trial) for every five pleas they accept. The manifest consequence of such a system is that legal sanctions are applied to a larger base of offenders, thus heightening the certainty of punishment. Hence, rather than eroding the deterrent effect of punishment, plea bargaining may contribute to the general deterrent effectiveness of legal sanctions.

Finally, much research remains to be done in the area of plea

bargaining. First, this research examined incarceration decisions but did not directly examine other aspects of sanction severity, such as sentence length. While the coercion argument is not supported with these data concerning whether defendants go to prison, the findings may not generalize to the issue of sentence length. Further analysis is required to determine whether defendants convicted at trial receive longer sentences than those convicted by plea. Second, results in this paper suggest that plea bargaining and sentence discounts vary substantially across different jurisdictions, and we need to know more about the factors which may contribute to this inter-jurisdictional variation. Third, these results need to be replicated and the base of crime types extended. A number of other data sets may exist that would allow an analysis similar to the analysis presented in this article. Since results from this article suggest that many commonly held beliefs regarding plea bargaining are more myth than fact, such replication is essential to advance our understanding of plea bargaining.

APPENDIX A
LOGIT ESTIMATES OF DETERMINANTS OF CONVICTION AT TRIAL
(MODEL A) AND DETERMINANTS OF INCARCERATION GIVEN TRIAL
CONVICTION (MODEL B)

VARIABLE	MODEL A (N = 387)		MODEL B (N = 279)	
	M.L.E./S.E.	T-RATIO	M.L.E./S.E.	T-RATIO
Drug history	1.08/40	2.675		
Eyewitness identification	.74/28	2.635		
Relationship to victim	-1.38/42	-3.263		
Harm to victim	.64/40	1.591		
Private counsel	-.31/31	-1.009		
White	-.29/29	-1.003		
Physical evidence	.54/29	1.888		
Robbery	-.54/28	-1.908	1.88/36	5.252
Detained before trial	.50/26	1.948	.65/33	1.977
Number of prior arrests	—	—	.26/07	3.708
Juvenile record	—	—	.62/32	1.920
New Orleans	-.80/38	-2.110	1.92/60	3.174
Norfolk	.80/37	2.154	1.07/48	2.237
Seattle	1.22/43	2.814	.69/45	1.520
Tucson	.35/41	.851	1.01/56	1.823
CONSTANT	-.13/46	-.275	-1.95/48	4.089
Likelihood Ratio	68.28		82.56	
Percent correctly classified	70.54%		73.48%	