Bargaining in the Shadow of the Judge

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1. INTRODUCTION

For almost half a century now, "bargaining in the shadow of trial" (BST) is the predominant model used to explain and study plea bargaining dynamics in criminal cases. Under the model, prosecutors negotiate each case based on the expected sentence in the event of conviction, the probability of conviction, and the resources saved by not pursuing trial. Landes (1971) was the first to develop this argument, and it has since been broadly recognized both theoretically (e.g., Easterbrook 1983; Scott and Stuntz 1992) and empirically (e.g., Albonetti 1990; Boylan 2012; Elder 1989; Lacasse and Payne 1999; Smith 1986; Snyder 1990).

The theory has important implications for the legitimacy of plea bargains and of the criminal justice system. If plea bargains reflect the expected resolution of the case in court, then they can be viewed as a cost-effective way to resolve criminal cases and relieve the burden on courts, without compromising the legitimacy of the outcomes in criminal cases (e.g., Smith 1986). If, however, plea bargains do not reflect the shadow of the courts, then this brings rise to concerns regarding the substitution of judicial discretion by prosecutorial discretion, the uneven bargaining power of prosecutors and defendants, and the potential miscarriage of justice resulting from plea bargains (e.g., Bibas 2004).

Surprisingly, the model and the discourse surrounding it suffer from a crucial, and unappreciated simplification. It only evaluates the defendant's choice between two available options: conducting trial or pleading guilty as part of a plea bargain. In reality,

[*] I am grateful for helpful comments and discussions to Oren Bar-Gill, Bernie Black, Josh Bowers, Giuseppe Dari-Mattiacci, Roni Factor, Michael Gilbert, Gillian Hadfield, Lewis Kornhauser, Russell Korobkin, Haggay Porat, Alex Stremitzer, and workshop participants at the UCLA Law and Economics Workshop, Max Planck Institute for Research on Collective Goods in Bonn Lab Meeting, Tel-Aviv University Law and Economics Workshop, University of Amsterdam Empirical Legal Studies Workshop, and the 2018 Comparative Law and Economics Forum Annual Meeting.

defendants face three main choices: they can choose to trial their cases on the merits, to reach a plea bargain with the prosecution, or they can choose to plead guilty without a bargain and leave sentencing to the discretion of the judge. The distinction between the latter two options—i.e., that guilty pleas can be negotiated or non-negotiated—has mostly escaped scholarly attention. Yet, this distinction is not a merely theoretical quibble. From data on sentencing in 33,205 cases by 51 judges in Philadelphia Courts of Common Pleas from 2001-2012, about 26% of cases went to trial, in 55% of cases plea bargains were reached, and *19% of cases ended in non-negotiated guilty pleas*.

My first contribution is to highlight the fact that defendants face, and indeed utilize, not a dual but a triple choice. Although termed "bargaining in the shadow of the trial," the BST model poses, and entangles together, two separate questions: One is the question of what is the "trial penalty" saved by forgoing the right to trial—i.e., the difference between cases ending in trial and cases ending in a guilty plea, either negotiated or non-negotiated. The second, is the question of how are parties bargaining in the shadow of the expected resolution of a case outside the negotiations—i.e. the difference between cases ending in plea bargains and cases ending by judicial decisions, whether after trial, with a "trial penalty," or by a non-negotiated guilty plea, without the "trial penalty." In other words, the question we should be asking is not how are parties negotiating in the shadow of the *trial*, but rather how are parties negotiating in the shadow of the *judge*.

Reframing the question as one of bargaining in the shadow of the judge, in turn, entails three important implications for the study of plea bargaining. First, it means that our current empirical estimations of the extent to which plea bargains reflect the shadow of the judge may be upward-biased. Because scholars who empirically studied the choice between trial and plea did not distinguish between negotiated and non-negotiated guilty pleas, they in fact only estimated the defendant's choice between a trial and a guilty plea, but not between a trial and a plea *bargain* (Abrams 2011; Albonetti 1990; Boylan 2012; Bushway and Redlich 2012; Lacasse and Payne 1999; Landes 1971; Snyder 1990). Lumping negotiated plea bargains together with non-negotiated guilty pleas—the latter sentenced by judges themselves—can bias the estimates towards indicating greater impact for "the shadow of the judge" than there really is.

Second, this omission has made attempts to empirically test the theory difficult. If one compares the defendant's choice between a trial and a plea bargain, estimating the expected sentence after trial requires information not only on the expected sentence in the event of conviction, but also on the probability of conviction. Available datasets

rarely include such information (Bushway and Redlich 2012). Recognizing the defendant's additional option—a non-negotiated guilty plea—can help to overcome this problem: When a defendant pleads guilty, she expects her probability of conviction to equal one. Therefore, one can directly compare the expected sentence if sentenced by the judge with the expected sentence if taking a plea bargain.

Last, the fact that a considerable percentage of cases are resolved through non-negotiated guilty pleas raises the question: Why would defendants forgo a plea bargain only to admit their guilt in court? For the BST model, this is a puzzle. The second contribution of this paper is to highlight another distinction that is often blurred in the literature: the distinction between the shadow of the *law* and the shadow of the *judge*. When prosecutors and defendants try to estimate the expected sentence in court, their estimates can be driven by different sources of variation in punishments. One such source is the law: what is the expected sentence for the conviction offense, as set by penal codes, sentencing guidelines, or minima and maxima sentencing provisions. Another source of variation is the sentencing judge—some judges are harsher while others are more lenient. The willingness of parties, in particular of prosecutors, to account for idiosyncratic judicial tendencies might be different than their willingness to account for sentencing variation resulting from the law.

Indeed, the counter-intuitive results in this paper suggest that prosecutors do not fully update their plea offers to judicial propensity to punish. On average, when a case is assigned to a judge with one standard deviation harsher (more lenient) sentencing tendencies, the likelihood of reaching a plea bargain increases (decreases) by 6.7 percentage points ($p<.006$), and the sentences in cases ending by plea bargains are shorter (longer) than the sentence in cases ending by non-negotiated guilty pleas by an additional 2.1 months ($p=.002$). For judges with above-median propensity to punish, plea bargains result in sentences that are shorter from the sentences that those judges order for non-negotiated guilty pleas. But for judges with a below-median propensity to punish, plea bargains result in sentences that are longer than the sentences that those judges order for non-negotiated guilty pleas.

I explain this pattern as resulting from prosecutors' incentives to maintain higher sentencing levels overall. The BST model assumes prosecutors seek to maximize the sentence in *each case*. Unlike private parties, however, prosecutors care about other considerations as well. In particular, the prevalence of plea bargains makes them not only "contractual agreements" between the parties. Rather, plea bargains can create a

prosecutorial policy setting the "going rate" for an offense, and judges might question later decisions not to apply the same policy in other similar cases. If prosecutors need to offer similar sentences to similarly situated defendants, they can no longer maximize *overall* sentences by maximizing the sentence in *each* case. Instead, they may prefer to offer the same (relatively high) sentence to all defendants. Defendant who face a harsher judge will be more inclined to take the bargain, and defendants who face a more lenient judge will be more inclined to forgo the bargain and leave sentencing to the discretion of the judge.

2. BARGAINING IN THE SHADOW OF WHAT?

2.1 The Choice Between Trial and a Plea Bargain

Lands (1971) develops the classic model for bargaining in criminal cases. Under the model, prosecutors negotiate each case based on the expected sentence in the event of conviction (S_T), the probability of conviction (P), and the resources saved by not pursuing trial ($f\Delta c^p$). Prosecutors aim to maximize convictions and sentences while minimizing resource investment and offer defendants a minimal plea bargain of $S_B \geq PS_T - f\Delta c^p$. When choosing between conducting trial or taking a plea bargain, defendants wish to maximize their overall welfare by minimizing both the expected cost of punishment and the expected trial costs ($f\Delta c^d$), and thus will accept the plea bargain as long as $S_B \leq PS_T + f\Delta c^d$. Main predictions of the model, therefore, are that the higher the expected sentence (if convicted at trial) the higher the probability that trial will ensue (because the costs savings will be less substantial), and if a plea bargain is reached, the higher the sentence agreed upon in the bargain will be.

Over the years, the BST model has been put to the empirical test. Scholars have shown that a higher probability of conviction increases the likelihood of plea, and that more serious offenses, for which conviction may yield longer sentences, increase the probability of trial (Albonetti 1990; Elder 1989; Snyder 1990). With regard to the impact of the identity of the judge on plea outcomes, Boylan (2012) finds that increased expected sentence by the judge is associated with increased probability of trial and increased sentences in pleas, and Lacasse and Payne (1999) find that the identity of the judge affects plea sentences, but to a lesser extent than its effect on trial sentences. As for the "trial penalty," some studies find a sentencing discount associated with pleading guilty (Elder

1989; Ulmer and Bradley 2006; Ulmer et al. 2010) while others do not (Abrams 2011; Bushway and Relich 2012).

2.2 Introducing the Option of a Non-negotiated Guilty Plea

The BST model portrays the defendant's choice as one between only two available options: conducting trial or pleading guilty. In reality, however, defendants face, and indeed utilize, three main choices: they can choose to trial their cases on the merits, to reach a plea bargain with the prosecution, or to plead guilty without a bargain and leave sentencing to the discretion of the judge. Recognizing the triple, instead of dual choice, faced by defendants, changes the predictions regarding the negotiation range for the plea bargain.

When only comparing the choice between trial and plea, the prosecutor can offer the defendant any sentence up to the expected sentence after trial, and the defendant will accept the offer as long as $S_B \leq PS_T + f\Delta c^d$. Notice that the expected sentence after trial, PS_T, includes two components: a punitive component (S^*) and a "trial penalty" (π). The prosecutor's minimal offer to the defendant will be $S_B \geq P(S^* + \pi) - f\Delta c^p$, but the prosecutor can also extract that trial penalty from the defendant even as part of a bargain. From the defendant's perspective, the utility reduction from accepting the bargain will be lower than the utility reduction from going to trial as long as $S_B \leq P(S^* + \pi) + f\Delta c^d$. The higher the probability of conviction, the greater portion of the trial penalty that the prosecutor can extract from the defendant.

The bargaining dynamics change when adding the option to plead guilty without a plea bargain and leave sentencing to the discretion of the judge. For a defendant who pleads guilty in court without a bargain, a conviction is certain, but she does not suffer the trial penalty associated with conducting trial. She can expect a sentence of $S_G = S^*$. The defendant's choice will thus be between the lowest of $Min(S_B, PS_T + f\Delta c^d, S_G)$, and the plea offer that a rational defendant will accept will be capped by the lower of the two alternatives available to the her. The defendant's choice between her options outside of the negotiation will depend on her estimates of the probability of conviction, and the plea bargain will reflect:

$$S_B \leq \begin{cases} P(S^* + \pi) + f\Delta c^d, & P < \dfrac{S^* - f\Delta c^d}{S^* + \pi} \\ S^*, & P \geq \dfrac{S^* - f\Delta c^d}{S^* + \pi} \end{cases}$$

When $P \geq \frac{S^* - f\Delta c^d}{S^* + \pi}$, the maximal sentence that the defendant will agree to accept as part of a plea bargain is the sentence she expects to receive from the judge if she pleads guilty without a bargain, S^*, which does not include the trial penalty. If the prosecutor's offer is higher than S^*, the defendant can reject the offer, plead guilty without a bargain and argue openly about the sentence.

2.3 Implications for the Study of Plea Bargaining

The above analysis entails two important implications for the study of plea bargaining. First, it means that the decision to take the case to trial or to reach a plea bargain are not necessarily mirror images of one another. Facing a tougher prosecutor, for example, may affect the desirability of plea bargaining with the prosecution, making bargains less likely. But it won't necessarily increase the likelihood of trials as a result; defendants could also opt to plead guilty without a bargain (and avoid the "trial penalty"). If a court imposes a very substantial "trial penalty" that can make trials less likely. But it won't necessarily increase the rate of plea bargains, as defendants can simply opt to plead guilty without a bargain. This means that we need to evaluate the impact of various factors on two questions separately—the likelihood of trial (versus any guilty plea), and the likelihood of successful bargaining (versus any judicial disposition).

Second, it means that our current estimates of the shadow of trial might be upward biased. Studies that empirically estimated the BST have in fact only studied the decision to go to trial. By lumping negotiated and non-negotiated pleas together, such studies might not be completely capturing the effect of the expected sentence on parties' negotiations. Imagine, for example, a prosecutor who is completely insensitive to the expected sentence in court, and always offers defendants an unrealistically high sentence in plea bargains. Imagine also that under such terms no defendant is taking the plea offer, but rather all defendants plead guilty without a negotiated deal and argue for sentencing before the judge. The sentences for *guilty pleas* would likely be highly correlated with the sentences by judges after trial (minus the trial penalty); but under such circumstances

the correlation is not the result of successful *bargaining* in the shadow of trial, but rather of the complete failure of bargaining. Clearly, this is an extreme example, but the data suggests a considerable portion of cases, approximately 19%, ends in such a way. And those cases are *not* random; they are the cases in which defendants *chose* not to accept a plea offer, possibly because those were the cases with the greatest discrepancies between the prosecutor's offer and the expected sentence by the judge. As a result, lumping both negotiated and non-negotiated guilty pleas together could bias the estimates toward indicating greater correlation between the sentences in trials and pleas than there would be between the sentences of trials and bargains.

There is, however, a positive side. The above analysis also offers a potential avenue to test the BST model and overcome these problems. The solution lies in focusing not on the choice between a trial and a plea bargain, but rather on the choice between a plea bargain and a non-negotiated guilty plea.

Recall that when comparing only the choice between a trial and a plea bargain, evaluating whether parties are negotiating in the shadow of the trial requires information on both the expected sentence after trial and the probability of conviction, as well as some estimates as to the cost differential associated with resolving cases through trial or a plea bargain. Recognizing the triple choice defendants make can help to overcome this problem: If a defendant will only accept the bargain when: $S_B \leq Min(P(S^* + \pi) + f\Delta c^d, S^*)$, then the defendant's choice between a trial and a guilty plea depends on the defendant's estimation of the probability of conviction and on the defendant's trial costs, but the defendant's choice between a plea bargain and a non-negotiated guilty plea does not.

The defendant's choice between her options outside the negotiation depends on her estimate of the probability of conviction. When $P \geq \frac{S^* - f\Delta c^d}{S^* + \pi}$, the expected sentence from a non-negotiated guilty plea is lower than the expected sentence after trial, $S^* \leq P(S^* + \pi) + f\Delta c^d$, and the defendant prefers a non-negotiated guilty plea over trial. Because under both negotiated and non-negotiated guilty pleas the probability of conviction equals one and the cost savings from not pursuing trial are materialized, the defendant will accept a plea bargain if $S_B \leq S^* \leq P(S^* + \pi) + f\Delta c^d$. Otherwise, the defendant will plead guilty without a bargain and leave sentencing to the discretion of the judge. Testing the predictions of the BST model then becomes straightforward: I can directly compare the sentences for plea bargains with the sentences ordered by judges for

non-negotiated guilty pleas, and test whether, and in what way, does a higher expected sentence by the judge affects the sentences in plea bargains and the likelihood of plea bargains.

3. EMPIRICAL FRAMEWORK

3.1 Data

To estimate whether prosecutors and defendants in criminal cases bargain in the shadow of the judge, I use sentencing data from Philadelphia Courts of Common Pleas, acquired from the Pennsylvania Commission on Sentencing (PCS). The data cover a 12-year period between 2001 and 2012 and include all misdemeanor and felony offenses for which the offender was convicted and sentenced by the Courts of Common Pleas. The PCS data are widely used in studies of sentencing outcomes because of their inclusiveness and the rich information provided about offender and case characteristics, sentencing guidelines factors, sentences imposed by the court, and identifiers for judges, which allow an analysis at the individual judge level (for an overview, see Bergstrom and Mistick 2003). I focus on Philadelphia because it is the largest county in Pennsylvania, with dozens of judges, that employs random assignment of cases. I econometrically test for random assignment of cases to judges based on defendants' characteristics (race and gender) using Monte Carlo–simulations (Abrams et al. 2012).

Pennsylvania has an indeterminate-sentencing system, where the court orders both a minimum and a maximum sentence. The sentencing guidelines and most mandatory-sentencing provisions address only the minimum sentence. Following the convention in prior research, the analysis looks at the decisions on minimum sentences, as this part of the sentence reflects the court's discretion over sentencing, while the range between the minimum and maximum sentences is considered a part of the sentence to be decided later under the parole board's discretion.

Pennsylvania prescribes sentencing guidelines that judges must consider when deciding on the minimum sentence, but they retain discretion about whether to impose a sentence within the guidelines range in particular cases (subject to mandatory minimum and maximum statutory sentences when such apply). The sentencing guidelines set a range for the minimum sentence between a lower and an upper limit (both stated in months of incarceration) that is based on two scores assigned by the guidelines for each offense: an offense-gravity score (OGS), which takes into account the gravity of the

current conviction offense and ranges between 1 and 14,[1] and a prior-record score (PRS), which weighs the seriousness and extent of the offender's prior criminal record, and is divided into 8 categories.[2] Both scores are predetermined by the sentencing guidelines for particular offenses.

If a case includes several counts, the judge must sentence each count separately and decide whether to impose the sentence concurrently or consecutively with sentences for other counts in the same case. For cases with multiple counts I use the most serious offense in the judicial proceeding and calculate the total overall sentence. Because the analysis focuses on cases involving incarceration, following with the convention in the literature, I exclude charges that are subject to mandatory life or death sentence, as well as charges for which incarceration sanction is inapplicable.

I employ several sample restrictions. First, I only include cases ending by one of the main four dispositions of interest: bench trial, jury trial, plea bargain, or non-negotiated guilty plea.[3] Second, I exclude cases with missing values for the control variables.[4] Last, to ensure a sufficient number of cases per judge for statistical power, I only keep judges who heard at least 100 cases during the sample period, and at least 50 cases in a given year. To avoid the impact of extreme values, I trim sentences at the 99th percentile. In the main analysis I also exclude two outlier judges.[5] The results are consistent when including outliers as well, and are presented in Appendix A. The final sample includes 51 judges, hearing 33,205 cases. Table 1 presents the descriptive statistics for the sample.

As can be seen from Table 1, only 55.1% of cases in the data end in plea bargains. A substantial proportion, but what explains the failure of negotiations in over 44% of cases? In 25.5% of cases defendants end up taking their case to trial on the merits. This sounds

[1] The exceptions are murder 1 and murder 2 felonies that do not have an OGS and are prescribed mandatory life or death sentences and life sentences, respectively.

[2] The categories, in order of increasing severity, are no prior record (0), categories based on the number and severity of the prior record (1-5), repeat felony offender (RFEL), and repeat violent offender (REVOC). I recode the PRS for RFEL as 6 and for REVOC as 7.

[3] A small percentage of cases in the sample are coded as resolved by nolo contendere (1.6%) or "other" (0.5%).

[4] This led to dropping 3.5% of the sample.

[5] These judges had sentencing propensities of 23 and 27 months each—approximately 2.5 times those of the judge with the next closest propensity score (10.5), and 5 to 6 standard deviations remote from the mean.

like a high number, but it is similar to that found by several other studies of state courts.[6] Notice also that only 5.2% of cases go through a full jury trial. 20.3% of cases are resolved by bench trials. Bench trials are cheaper and quicker. They do not impose the additional costs of jurors' time, and they often focus on a specific point of disagreement—regarding a particular evidence, or a legal argument. Because bench trials consume less resources, they accordingly carry with them a lower trial penalty. They can therefore be a desirable option for defendants who wish to trial a particular point in their case, while minimizing the expected sanction in the event of conviction.

More interesting is that 19.4% of cases end by non-negotiated guilty pleas. In those cases, defendants plead guilty to the charges of the indictment, without any agreement with the prosecution regarding the charge or the sentence. Why would defendants who are pleading guilty—i.e. they expect to receive a conviction and a sentence—plead guilty without a bargain? They should only do so if they expect the sentence by the judge following the conviction to be lower than that offered by the prosecutor. In other words, defendants should only plead guilty without a bargain if they think the plea bargain offered to them does *not* reflect the shadow of the judge.

Table 1. Summary Statistics

	N	Mean	SD	Min	Max
Sentence (months)	33,205	21.1	25.5	0	180
Propensity (months)	33,205	−.488	4.45	−8.64	10.9
Plea Bargain	33,205	.551	.497	0	1
Bench Trial	33,205	.203	.402	0	1
Jury Trial	33,205	.052	.223	0	1
Non-negotiated Guilty Plea	33,205	.194	.396	0	1
OGS	33,205	6.64	2.63	1	14
PRS	33,205	2.42	2.12	0	7
Mandatory Minimum (months)	33,205	3.27	13.4	0	120
White Defendant	33,205	.177	.382	0	1
African American Defendant	33,205	.692	.462	0	1
Hispanic Defendant	33,205	.112	.315	0	1
Female Defendant	33,205	.076	.265	0	1

[6] Abrams (2011) reports 11.6% trials. Albonetti (1990) reports 24% trials. Bushway and Redlich (2012) report 16% trials. Elder (1989) reports 19% trials. Landes (1971) reports 19% trials.

3.2 Methodology

To test how do parties to criminal cases bargain in the shadow of the expected resolution of the case by the judge, I first calculate judges' propensity to punish. I account for the triple choice defendants make by separating between trials, plea bargains, and non-negotiated guilty pleas. I calculate judicial propensity to punish based on cases where judges *have discretion* how to punish (whether following trial or a non-negotiated guilty plea) and excluding cases that end in plea bargains. The specification is shown in Equation 1 where the sentence in a case ($Sentence_{ijym}$) is regressed on the judge dummies ($Judge_j$), a set of controls (including indicators for trial, indicators for offense type, OGS, PRS, mandatory minimum sentence, race, and gender), and year (γ_y) and month (θ_m) fixed effects.

(1) $$Sentence_{ijym} = \alpha + \beta_j \times Judge_j + X_{ijdy} + \gamma_y + \theta_m + \varepsilon_{ijym}$$

The distribution of judicial propensities to punish is shown in Figure 1, with the median judge's propensity set to zero. Judges vary considerably in their propensity to punish—standard deviation across judges is 4.45 months, with the most extreme judges showing tendencies to render sentences as far as 9.09 months lower or 10.5 months higher than the median judge. With an average sentence in the sample of 21.1 months, a one standard deviation difference in judicial propensity to punish equals 21% of the average sentence. In the next Part I test how judicial propensity to punish in non-negotiated cases affects the likelihood of reaching a plea bargain and the sentence agreed upon in a plea bargain.

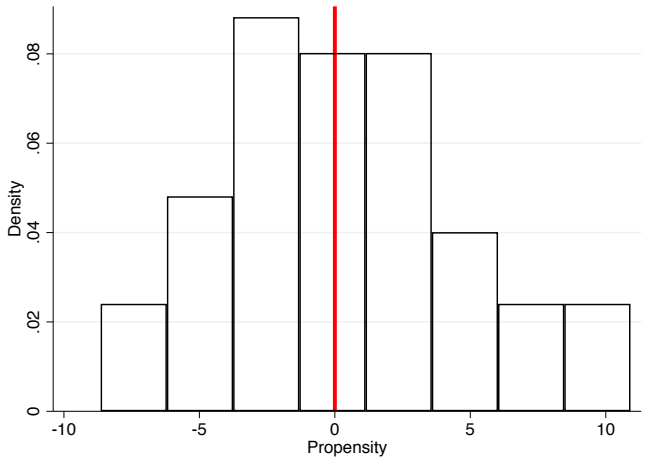


Figure 1. Distribution of judicial propensity to punish
Note. N = 51 judges. The median judge is marked by a red line.

4. RESULTS

4.1 Plea Bargains Rates

The first prediction of the BST is that the percentage of trials will be higher and the percentage of plea bargains lower the higher the expected sentence. Table 2 and Figure 2 depict the rates of different ways to resolve the criminal case. Statistical differences were determined by Student's t-test. The results indicate that judges with different propensity to punish have substantially and significantly different compositions for the final resolution of cases, but *not* in the predicted direction. Plea bargains consist of 57.1% of cases for judges with above-median propensity to punish, in comparison to only 53.6% of cases for below-median judges—a difference of 3.5 percentage points (t=–6.27). The differences are even starker when looking at judges at the top and bottom quartiles: 59.7% of the case of judges in the 4th quartile end by plea bargains, in comparison to only 51.5% of the cases of judges in the 1st quartile—a difference of 8.2 percentage points (t=–9.75).

The difference in plea bargaining rates across judges with different propensity to punish is not explained by differences in trial rates. There is no significant difference between above- and below-median judges in the proportions of cases ending by trial (25.3% and 25.5% respectively, t=0.39), and only a 2 percentage points difference between judges in the 4th and 1st quartiles (26.6% and 24.5% respectively, t=3.02). This is opposite to the BST predictions, but compatible with accounting for the triple choice defendants make. Defendants might only wish to face the potential increase in their sentence in the event of conviction due to the trial penalty, when they expect a reasonable chance of acquittal—a choice driven more by the legal and evidentiary basis of the case than by the judge's propensity to punish (in the event of conviction). However, there is a substantial and significant difference in what kind of trials defendants choose. Lenient judges have more defendants choosing bench trials and less defendants choosing jury trials, than harsher judges.

What counters the difference in plea bargaining rates across judges with different propensities to punish, is the rates of ending cases by non-negotiated guilty pleas. Non-negotiated guilty pleas consist 20.9% of cases for judges with below-median propensity to punish, in comparison to only 17.5% of cases for above median judges—a difference of 3.4 percentage points (t=7.44). Again, differences are even starker when looking at judges at the top and bottom quartiles: 21.9% of the case of judges in the 1th quartile end by non-negotiated guilty pleas, in comparison to only 15.9% of the cases of judges in the

4st quartile—a difference of 6 percentage points (t=8.87). Table 2, therefore, illustrates how an analysis that includes non-negotiated guilty pleas reveals a different picture with regard to plea bargaining dynamics than an analysis that compares only trials versus guilty pleas.

Table 2. Case Disposition by Judicial Propensity to Punish

	Below Median	Above Median	t-statistic	1st Quartile	4th Quartile	t-statistic
Plea Bargain	.536***	.571***	–6.27	.515***	.597***	–9.75
	(.004)	(.004)		(.005)	(.007)	
Trial	.255	.253	0.39	.266**	.245**	3.02
	(.003)	(.004)		(.004)	(.006)	
Bench Trial	.226***	.163***	13.9	.238***	.137***	14.9
	(.003)	(.003)		(.004)	(.005)	
Jury Trial	.029***	.091***	–24.3	.028***	.106***	–20.5
	(.001)	(.003)		(.002)	(.004)	
Non-Neg. Guilty Plea	.209***	.175 ***	7.44	.219***	.159***	8.87
	(.003)	(.003)		(.004)	(.005)	

Note. There are 25 judges above-median, 25 judges below-median, and 13 judges in each of the 1st and 4th quartiles. Standard errors are in parentheses.

*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

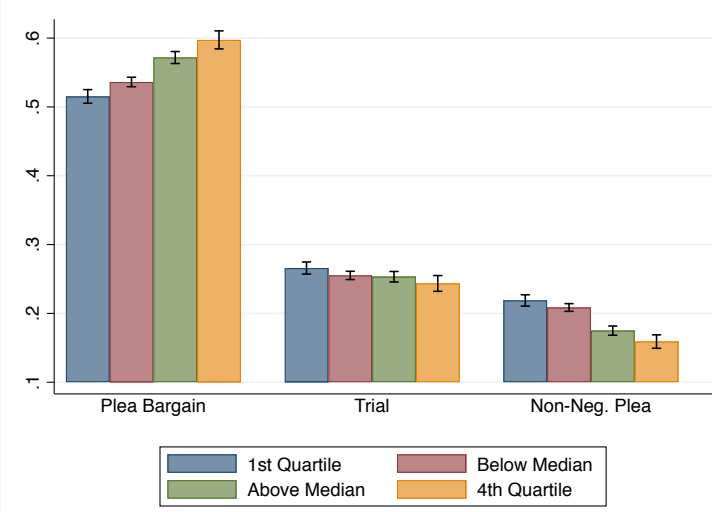


Figure 2. Case Disposition by Judicial Propensity to Punish
Note. There are 25 judges above-median, 25 judges below-median, and 13 judges in each of the 1st and 4th quartiles.

The same pattern holds when accounting for various controls in the regression and analyzing judicial propensities to punish as a continuous variable. I employ a Logit model with the following specification:

$$(2)\quad Disposition_{ijym} = \alpha + \beta_p \times Propensity_j + X_{ijym} + \gamma_y + \theta_m + \varepsilon_{ijym},$$

where $Disposition_{ijym}$ is an indicator variable for the mode of disposition for the resolution of the case for defendant *i* whose case is heard by judge *j* on year *y* and month *m*. I test for the likelihood of each mode of disposition using five separate dummy variables: Plea Bargain, Trial (including both bench and jury trials), Bench Trial, Jury Trial, and Non-Negotiated Guilty Plea. Each dummy variable equals 1 if the case ended in that particular mode of disposition, and 0 otherwise.

$Propensity_j$ is the judge's propensity to punish relative to the median judge (in months) calculated in Section 3.2. β_p estimates the impact of the judge's propensity to punish on the likelihood of each mode of disposition.

The term *X* is a vector of case and defendant characteristics for defendant *i* sentenced by judge *j* on year *y* and month *m*. Case characteristics include the OGS as prescribed by the sentencing guidelines, the length of the mandatory minimum sentence (in months) where such applies, and the type of offense based on six offense categories (violent, property, sex, drug, DUI, and other). Defendant characteristics include gender (accounting for female), race (accounting for African American and Hispanic), and the defendant's PRS. The model also includes year (γ_y) and month (θ_m) fixed effects. Standard errors are robust and clustered at the judge level.

Table 3 and Figure 3 report the logit marginal effects evaluated at the sample mean (Table B1 in the Appendix presents the regression coefficients). When a case is heard by a judge with a higher propensity to punish, there is a significantly higher probability of ending the case with a plea bargain, and a significantly lower probability of entering a non-negotiated guilty plea. At the margin, a one-month higher judicial propensity to punish is associated with an approximately 1.5 percentage point increase in the probability of a plea bargain (p=.006), and an approximately 0.6 percentage points decrease in the probability of a non-negotiated guilty plea (p=.046). The effect of a judge's propensity to punish on defendants' likelihood of taking the case to trial is significant at the 10% level (MEM=-.007, p=.059), but the judge's propensity to punish significantly affects defendants' choice whether to have a bench trial (MEM =-.014, p=.000) or a jury trial (MEM =.004, p=.000).

The results also reveal a difference between the impact of "shadow of the law" and the "shadow of the judge." I account for the shadow of the law by controlling for the

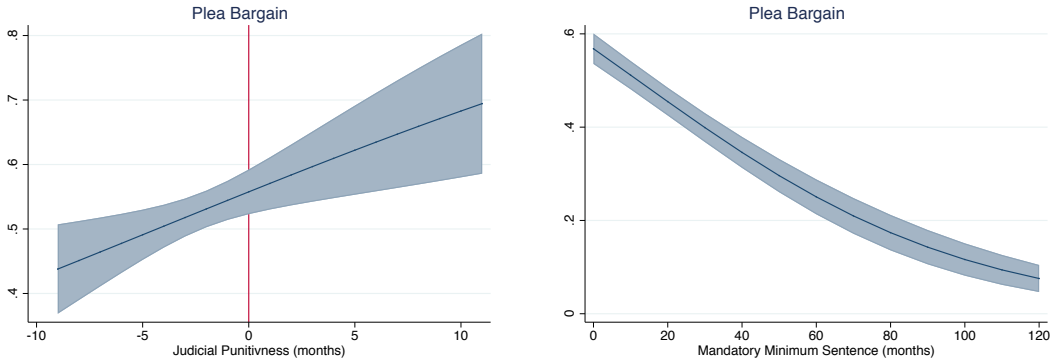
sentence prescribed by mandatory minimum sentencing provisions (in months). A one-month higher mandatory minimum sentence significantly increases the likelihood of trial by 0.4 percentage points (p=.000), and significantly decreases the likelihood of a plea bargain by -0.6 percentage points (p=.000). At the same time, there is no effect for the mandatory minimum sentence on the likelihood of a non-negotiated plea (MEM=.000, p=.744). These results support the prevalent view that legal rules cast their shadow on bargaining outside the courtroom (Mnookin and Kornhauser 1979), and that a harsher expected sentence for the offense increases the probability of trial (Landes 1971). The fact that the probability of a non-negotiated guilty plea is affected by judicial propensity to punish, but not by the expected minimum sentence, is an indication that parties' bargaining reflects the expected sentence prescribed by the law to a greater extent than it reflects the expected sentence by the judge.

Table 3. Likelihood of Dispositions by Judicial Propensity to Punish

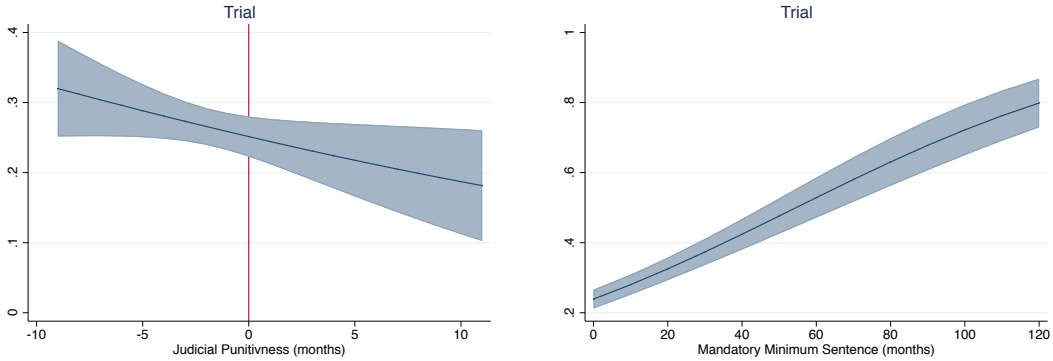
	(1) *Plea Bargain*	(2) *Trial*	(3) *Bench Trial*	(4) *Jury Trial*	(5) *Non-negotiated Guilty Plea*
Propensity (months)	0.015**	-0.007+	-0.014***	0.004***	-0.006*
	(0.005)	(0.004)	(0.003)	(0.001)	(0.003)
	[0.006]	[0.059]	[0.000]	[0.000]	[0.046]
OGS	-0.004	-0.004	-0.012**	0.005***	0.007***
	(0.004)	(0.004)	(0.004)	(0.001)	(0.002)
	[0.382]	[0.332]	[0.001]	[0.000]	[0.001]
PRS	-0.025***	0.018***	0.013***	0.003***	0.005*
	(0.003)	(0.002)	(0.001)	(0.001)	(0.002)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.043]
Mandatory Minimum (months)	-0.006***	0.004***	0.002***	0.001***	0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.744]
African-American Defendant	-0.059***	0.071***	0.048***	0.012***	-0.011
	(0.009)	(0.008)	(0.007)	(0.003)	(0.009)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.181]
Hispanic Defendant	-0.030+	0.045**	0.034*	0.005	-0.007
	(0.018)	(0.017)	(0.015)	(0.006)	(0.013)
	[0.095]	[0.008]	[0.022]	[0.342]	[0.607]
Female Defendant	-0.014	-0.020+	-0.011	-0.006+	0.032**
	(0.015)	(0.011)	(0.010)	(0.003)	(0.011)
	[0.368]	[0.061]	[0.237]	[0.076]	[0.004]
Pseudo-R^2	0.073	0.065	0.076	0.165	0.025
N	33,205	33,205	33,205	33,205	33,205

Note. Coefficients are for logit regressions and are reported as marginal effects evaluated at the sample mean. All models include controls for offense type and year fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.
*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

A. Plea Bargain



B. Trial



C. Non-negotiated Guilty Plea

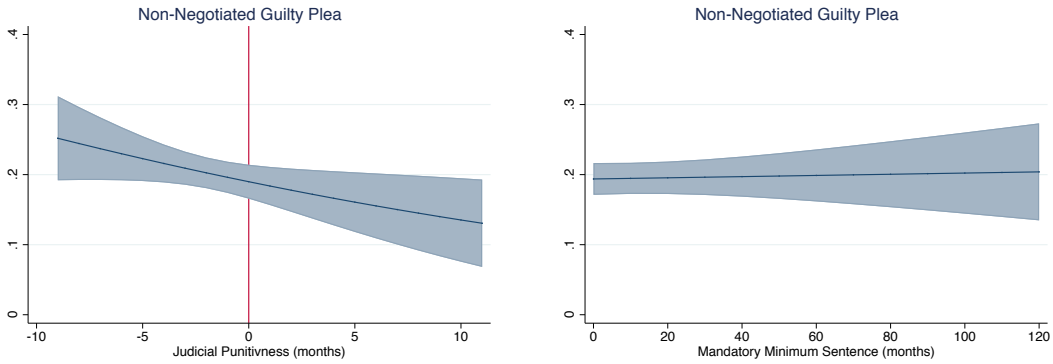


Figure 3. Likelihood of dispositions by judicial propensity to punish and mandatory minimum sentence length

Note. Coefficients correspond to the logit regressions reported in Table 3, and are reported as marginal effects evaluated at the sample mean. Shaded area marks 95% confidence intervals.

4.2 The Trial Penalty and the Plea Bargain "Discount"

The second prediction of the BST is that the sentences in plea bargains would reflect the expected sentence in the case. To test this hypothesis, I evaluate the trial penalty and plea-bargain discounts for criminal cases, both for the full sample, and by judges' propensity to punish. I employ an ordinary least squares model with the following specification:

$$(3)\quad Senetence_{ijym} = \alpha + \beta_p \times Propensity_j + \beta_t \times Trial_i + \beta_b \times Plea\ Bargain_i + \beta_{pt} \times Propensity_j \times Trial_i + \beta_{pb} \times Propensity_j \times Plea\ Bargain_i + X_{ijym} + \gamma_y + \theta_m + \varepsilon_{ijym},$$

where $Senetence_{ijym}$ is the sentence (in months) ordered for defendant i whose case is heard by judge j in year y in month m.

$Propensity_j$, X, γ_y, and θ_m are the same as before. $Trial_i$ is an indicator variable equals 1 if the case proceeded to trial (0 otherwise). $Plea\ Bargain_i$, is an indicator variable equals 1 if the case ended in a plea bargain (0 otherwise). The baseline category is non-negotiated guilty plea. β_t captures the trial penalty—i.e. the impact of taking a case to trial on the sentence—and β_{pt} captures the impact of the interaction between the judge's propensity to punish and taking the case to trial. β_b captures the plea-barging "discount"—i.e. the impact of reaching a plea bargain on the sentence—and β_{pb} captures the impact of the interaction between the judge's propensity to punish and taking a plea bargain.

The results are reported in Table 4. Column 1 depicts the trial penalty and bargain discount in the full sample. In comparison to the baseline of pleading guilty without a bargain, conducting a trial increases the expected sentence on average by 6.22 months (p=.000), and reaching a plea bargain with the prosecution does not significantly affect the sentence (β=.352, p=.517). These results can perhaps explain the prevalence of BST in the scholarship. When not accounting for the potential heterogeneity in prosecutors' responses to different judges, the data suggests that plea bargains reflect the expected resolution of the case in court (minus the trial penalty).

Table 4. The Trial penalty and the Bargain "Discount" (OLS)

	(1)	(2)
Trial	6.220***	6.350***
	(0.742)	(0.646)
	[0.000]	[0.000]
Plea Bargain	0.352	-0.458
	(0.540)	(0.460)
	[0.517]	[0.324]
Propensity		0.815***
		(0.080)
		[0.000]
Trial* Propensity		0.270+
		(0.158)
		[0.094]
Plea Bargain* Propensity		-0.481***
		(0.108)
		[0.000]
OGS	5.881***	5.780***
	(0.233)	(0.208)
	[0.000]	[0.000]
PRS	2.251***	2.300***
	(0.109)	(0.106)
	[0.000]	[0.000]
Mandatory Minimum	0.497***	0.477***
	(0.017)	(0.014)
	[0.000]	[0.000]
African-American Defendant	1.354***	1.503***
	(0.289)	(0.282)
	[0.000]	[0.000]
Hispanic Defendant	1.642***	1.713***
	(0.408)	(0.395)
	[0.000]	[0.000]
Female Defendant	-2.911***	-3.171***
	(0.418)	(0.410)
	[0.000]	[0.000]
R^2	0.598	0.609
N	33,205	33,205

Note. Coefficients are for OLS regressions. All models include controls for offense type, and year and month fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.
*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

The data reveals a very different story, however, once judicial propensity to punish in accounted for, in column 2. The interaction between judicial propensity to punish and the sentence agreed upon in the plea bargain is significant, and in a counter-intuitive direction. A one-month *higher* judicial propensity to punish, leads to plea bargains that are on average -0.481 months *shorter* (p=.000) than the sentence of a non-negotiated guilty plea. When facing a judge with one-month higher (lower) judicial propensity to punish the expected sentence following trial will increase (decrease) by 1.085 months ($\beta_p+\beta_{pt}$),

the expected sentence following a non-negotiated guilty plea will increase (decrease) by 0.815 months (β_p), but the expected sentence if accepting a plea bargain will increase (decrease) only by 0.334 months ($\beta_p+\beta_{pb}$). The plea bargain offered by the prosecutor, therefore, is such that a defendant facing a harsher judge would prefer taking, but a defendant facing a more lenient judge will be better off rejecting.

This pattern is also evident from Figure 4, which illustrates the marginal effects evaluated at the sample mean for the interaction between judicial propensity to punish and sentencing outcomes across the different modes of disposition. For cases ending by trial, in comparison to the sentences of non-negotiated guilty pleas, very lenient judges have a low trial penalty, and the trial penalty increases with judicial punitiveness. The harsher the judge, the greater the trial penalty. Plea bargained sentences, however, are not as consistent. For above-median judge there is a sentencing discount associated with talking a plea bargain: the sentences in cases ending by plea bargains are significantly lower than the sentences in cases ending by trial or by a non-negotiated guilty plea. For below-median judges, on the other hand, not only is there no discount, plea bargains carry a penalty—plea bargained sentences are significantly harsher than the sentences lenient judges would have ordered in non-negotiated cases ending by a guilty plea. Further, plea bargained sentences are similar to the sentences that very lenient judges would have ordered in non-negotiated cases ending by trial.

Notably, the plea bargain discount in cases heard before above-median judges is not unexpected. There might still be some costs saving associated with an agreed resolution of the case, saving the need to prove certain sentencing elements and to calculate the applicable sentencing guidelines ranges. Defendants are also more likely to accept plea offers that are milder than the expected sentence by the judge in open argument, and to reject plea offers that are harsher—leading accepted plea bargains to reflect a lower average sentence than that of offered plea bargains, even if prosecutors' offers are, on average, higher. The plea-bargain penalty before lenient judges, however, is more surprising and more disturbing. It suggests that prosecutors offer and defendants take plea bargains that are worse than their expected sentence in court.

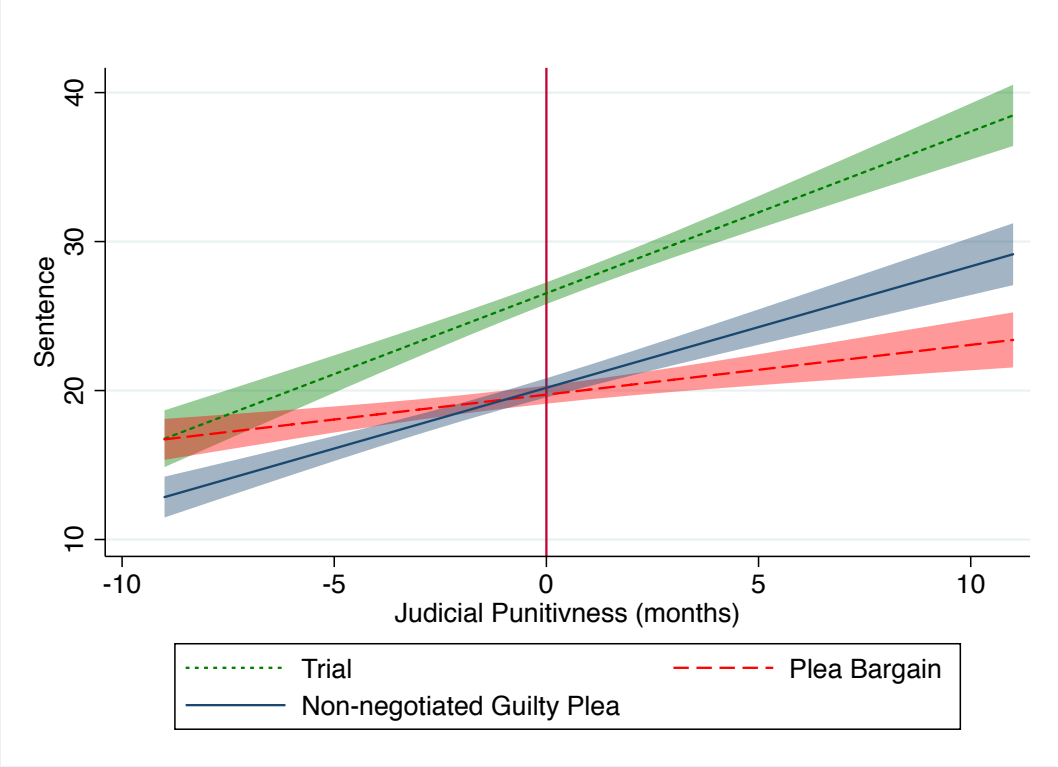


Figure 4. The impact of judicial punitiveness on sentences by mode of disposition

Note. Coefficients are for OLS regression reported in Table 4 column 2, and are reported as marginal effects evaluated at the sample mean. Shaded area marks 95% confidence intervals.

5. IMPLICATIONS

A critical assumption of the BST model is that prosecutors in criminal cases bargain in the same way as private parties in one-shot schemes—they try to maximize the sentence and minimize litigation costs in each case, and thus any factor that can affect the expected sentence in court will be taken into account when crafting the plea bargain. The evidence in this paper, in the contrary, suggest that prosecutors are repeat players who behave like such. Prosecutors seem to offer generally uniform plea bargains to defendants, with a lesser account to the identity of the judge in the case. They offer larger discounts (relative to the expected sentence by the judge) to defendants facing harsher judges, while offering sentencing penalties (relative to the expected sentence by the judge) to defendants facing lenient judges. Defendants rationally react to the difference between prosecutorial offers and the expected sentence by the judge; they are more (less)

likely to take a plea bargain when assigned to harsher (more lenient) judge from whom they can expect a harsher (milder) sentence.

A potential explanation is that prosecutors, unlike private parties, are repeat players, whose incentives may extend beyond the outcome of a particular case. When the source of variation in punishment results from the law—the sentence prescribed for the offense by penal codes, sentencing guidelines, or minima and maxima sentencing provisions—prosecutors might be generally inclined to embrace it, as the law reflects the upper bound for sentencing in the case. But when variation stems from judicial idiosyncrasies, even if prosecutors only care about maximizing sentencing levels, it is not necessarily that maximizing the sentence in *each* case will maximize *overall* sentences. The prevalence of plea bargains in the criminal justice system makes the sentences of plea bargains an expression of current "going rates," and makes prosecutors the ones setting the rates. Judges, defense attorneys, and the public may view prosecutorial agreements in plea bargains as reflecting prosecution policy, and question later decisions not to apply the same policy to other similar cases. If a plea offer in one case can establish a prosecutorial policy toward other cases, prosecutors might not be willing to offer very lenient plea bargains. Prosecutors who are concerned about public opinion may also rather not to conceded to lower sentences, even if they know they are facing a lenient judge, to shift responsibility and public criticism from the prosecution to the courts.

Prosecutors might also care about sentencing uniformity and equitable treatment, either intrinsically or strategically. If prosecutors wish to maintain more uniform treatment of offenders for example, taking account of the punishments prescribed by law promotes this goal as they equally apply to all cases raising the same circumstances. But prosecutors who care about maintaining an equitable treatment across cases would be disinclined to offer differential sentences to similarly situated defendants solely because of the identity of the trial judge. Note though, that the fact that the sentences offered by prosecutors do not reflect the full extent of variation in judicial behavior, does not necessarily imply uniformity in sentencing. It is possible that prosecutors are more uniform than judges, but it is also possible that inter-judge disparities are being replaced by inter-prosecutor disparities, shifting rather than eliminating discretion and sentencing disparities in the criminal justice system.[7]

[7] Unfortunately, the data does not include identifiers for the prosecutor handling each case, and therefore does not enable to test this question.

The implications are far reaching. The results in this paper provide evidence in support of the concern that in a reality in which the majority of cases end by plea bargains, prosecutors hold tremendous power over sentencing outcomes. If plea bargains do not reflect the shadow of the judge, then it is the prosecutor—not the judge—who determines individual sentences and overall sentencing levels. Because prosecutors play a different public role than judges, and care about different considerations, the results provide support for the often-raised concern of the accumulation of sentencing power in prosecutors' hands.

APPENDIX A. RESULTS INCLUDING OUTLIER JUDGES

Table A1. Likelihood of Dispositions by Judicial Propensity to Punish (including outlier judges)

	(1) *Plea Bargain*	(2) *Trial*	(3) *Bench Trial*	(4) *Jury Trial*	(5) *Non-Neg. Guilty Plea*
Propensity (months)	0.010*	-0.004	-0.014***	0.003***	-0.005*
	(0.004)	(0.003)	(0.003)	(0.000)	(0.002)
	[0.023]	[0.193]	[0.000]	[0.000]	[0.020]
OGS	-0.006	-0.003	-0.011**	0.004***	0.008***
	(0.005)	(0.004)	(0.004)	(0.001)	(0.002)
	[0.188]	[0.456]	[0.003]	[0.000]	[0.000]
PRS	-0.025***	0.018***	0.013***	0.003***	0.005*
	(0.003)	(0.002)	(0.001)	(0.001)	(0.002)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.032]
Mandatory Minimum (months)	-0.006***	0.004***	0.002***	0.001***	0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.740]
African-American Defendant	-0.066***	0.074***	0.050***	0.012***	-0.007
	(0.009)	(0.008)	(0.007)	(0.003)	(0.008)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.373]
Hispanic Defendant	-0.037+	0.049**	0.038*	0.006	-0.003
	(0.020)	(0.018)	(0.016)	(0.005)	(0.013)
	[0.065]	[0.007]	[0.016]	[0.272]	[0.845]
Female Defendant	-0.007	-0.023*	-0.013	-0.006+	0.029**
	(0.015)	(0.011)	(0.009)	(0.003)	(0.010)
	[0.615]	[0.027]	[0.175]	[0.067]	[0.005]
Pseudo-R^2	0.066	0.060	0.071	0.174	0.024
N	36,265	36,265	36,265	36,265	36,265

Note. Coefficients are for logit regressions and are reported as marginal effects evaluated at the sample mean. All models include controls for offense type and year fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.

*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

Table A2. The Trial penalty and the Bargain "Discount" (including outlier judges) (OLS)

	(1)	(2)
Trial	6.459***	6.343***
	(0.790)	(0.621)
	[0.000]	[0.000]
Plea Bargain	0.396	-0.321
	(0.534)	(0.456)
	[0.462]	[0.484]
Propensity		0.754***
		(0.066)
		[0.000]
Trial* Propensity		0.312**
		(0.106)
		[0.005]
Plea Bargain* Propensity		-0.347**
		(0.107)
		[0.002]
OGS	5.911***	5.7225***
	(0.233)	(0.207)
	[0.000]	[0.000]
PRS	2.202***	2.261***
	(0.106)	(0.107)
	[0.000]	[0.000]
Mandatory Minimum	0.495***	0.480***
	(0.019)	(0.015)
	[0.000]	[0.000]
African-American Defendant	1.315***	1.372***
	(0.265)	(0.258)
	[0.000]	[0.000]
Hispanic Defendant	1.521***	1.543***
	(0.388)	(0.381)
	[0.000]	[0.000]
Female Defendant	-2.966***	-3.175***
	(0.453)	(0.437)
	[0.000]	[0.000]
R^2	0.591	0.609
N	36,265	36,265

Note. Coefficients are for OLS regressions. All models include controls for offense type, and year and month fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.
*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

APPENDIX B. LOGIT COEFFICIENTS

Table B1. Likelihood of Dispositions by Judicial Propensity to Punish (Logit)

	(1) *Plea Bargain*	(2) *Trial*	(3) *Bench Trial*	(4) *Jury Trial*	(5) *Non-Neg. Guilty Plea*
Propensity	0.059**	-0.041+	-0.097***	0.126***	-0.041+
	(0.022)	(0.022)	(0.023)	(0.019)	(0.021)
	[0.007]	[0.068]	[0.000]	[0.000]	[0.054]
OGS	-0.016	-0.022	-0.084***	0.149***	0.049**
	(0.018)	(0.023)	(0.025)	(0.025)	(0.015)
	[0.384]	[0.324]	[0.001]	[0.000]	[0.001]
PRS	-0.101***	0.102***	0.087***	0.095***	0.031*
	(0.012)	(0.011)	(0.011)	(0.019)	(0.015)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.044]
Mandatory Minimum	-0.025***	0.023***	0.012***	0.021***	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.775]
African-American Defendant	-0.242***	0.413***	0.347***	0.431***	-0.074
	(0.038)	(0.048)	(0.051)	(0.114)	(0.055)
	[0.000]	[0.000]	[0.000]	[0.000]	[0. 175]
Hispanic Defendant	-0.119+	0.238**	0.224*	0.164	-0.044
	(0.071)	(0.084)	(0.089)	(0.162)	(0.087)
	[0.092]	[0.005]	[0.012]	[0.311]	[0.613]
Female Defendant	-0.055	-0.116+	-0.080	-0.215+	0.198**
	(0.061)	(0.063)	(0.070)	(0.128)	(0.066)
	[0.367]	[0.067]	[0.250]	[0.093]	[0.003]
Pseudo-R^2	0.073	0.065	0.076	0.165	0.025
N	33,205	33,205	33,205	33,205	33,205

Note. Coefficients are for the logit regressions reported in Table 3. All models include controls for offense type and year fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.

*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

APPENDIX C.—ASSESSING LIKELIHOOD OF DISPOSITION AND SENTENCE LENGTH BY JUDICIAL PROPENSITY TO PUNISH IN OTHER YEARS

Table C1. Likelihood of Dispositions by Judicial Propensity to Punish in Other Years (Logit)

	(1) *Plea Bargain*	(2) *Trial*	(3) *Bench Trial*	(4) *Jury Trial*	(5) *Non-Neg. Guilty Plea*
Propensity	0.037*	-0.023	-0.076***	0.091***	-0.030*
	0.018	0.018	0.018	0.010	0.015
	0.038	0.203	0.000	0.000	0.049
OGS	-0.014	-0.022	-0.083***	0.143***	0.047**
	0.019	0.023	0.025	0.025	0.015
	0.452	0.348	0.001	0.000	0.002
PRS	-0.102***	0.102***	0.087***	0.092***	0.031*
	0.012	0.011	0.011	0.019	0.015
	0.000	0.000	0.000	0.000	0.040
Mandatory Minimum	-0.024***	0.022***	0.012***	0.022***	0.000
	0.002	0.002	0.002	0.002	0.002
	0.000	0.000	0.000	0.000	0.891
African-American Defendant	-0.248***	0.418***	0.350***	0.439***	-0.072
	0.038	0.049	0.052	0.108	0.055
	0.000	0.000	0.000	0.000	0.187
Hispanic Defendant	-0.118	0.239**	0.222*	0.169	-0.047
	0.072	0.084	0.089	0.154	0.087
	0.101	0.004	0.013	0.273	0.586
Female Defendant	-0.043	-0.129*	-0.092	-0.202+	0.197**
	0.061	0.064	0.070	0.121	0.065
	0.475	0.042	0.189	0.096	0.003
Pseudo-R^2	0.070	0.063	0.074	0.158	0.024
N	33,664	33,664	33,664	33,664	33,664

Note. All models include controls for offense type and year fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.

*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

Table C2. The Trial penalty and the Bargain "Discount" (OLS)

	(1)	(2)
Trial	6.637***	6.829***
	0.820	0.650
	0.000	0.000
Plea Bargain	0.497	-0.114
	0.553	0.511
	0.373	0.824
Propensity		0.542***
		0.081
		0.000
Trial* Propensity		0.325*
		0.123
		0.011
Plea Bargain* Propensity		-0.197+
		0.103
		0.061
OGS	6.015***	5.870***
	0.237	0.214
	0.000	0.000
PRS	2.263***	2.317***
	0.109	0.111
	0.000	0.000
Mandatory Minimum	0.488***	0.477***
	0.019	0.016
	0.000	0.000
African-American Defendant	1.396***	1.497***
	0.288	0.289
	0.000	0.000
Hispanic Defendant	1.663***	1.778***
	0.400	0.395
	0.000	0.000
Female Defendant	-3.075***	-3.215***
	0.449	0.425
	0.000	0.000
R^2	0.593	0.604
N	33,664	33,664

Note. Coefficients are for OLS regressions. All models include controls for offense type, and year and month fixed effects. Robust clustered standard errors are in parentheses, p-value in brackets.
*+ p < .1. * p < .05 ** p < .01 *** p < .001.*

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