

ABSTRACT

Title of thesis: PROCESSING AND PUNISHMENT: EXAMINING THE
RELATIONSHIP BETWEEN TIME TO DISPOSITION, MODE
OF CONVICTION, AND SENTENCE SEVERITY

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The literature on sentencing assumes a strong relationship between processing time and case outcomes, both directly and in connection with the mode of conviction. Yet, the role of time has largely been ignored in research on court actor decision making. The current study examines this important, although rarely empirically tested, dimension of the criminal justice process. By combining data from the Maryland State Commission on Criminal Sentencing Policy with information from court records, this study explores the effect of time to disposition on sentence severity and assess the impact that controlling for time to disposition has on mode of conviction effects. Findings support the importance of time to sentencing, demonstrating a significant, positive effect of time to disposition on sentence severity. Time to disposition, however, does not mediate the effects of mode of conviction, which raises important theoretical questions about the mechanisms driving trial penalties.

PROCESSING AND PUNISHMENT: EXAMINING THE RELATIONSHIP
BETWEEN TIME TO DISPOSITION, MODE OF CONVICTION, AND SENTENCE
SEVERITY

by

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CHAPTER 1: INTRODUCTION

Time is important to all involved in the criminal justice process. It is often said that “justice delayed is justice denied”, a statement that is true for both victims and defendants. Victims of crime desire resolution of the injury incurred. For defendants, time spent in processing is itself a punishment, as the unconvicted face the possibility of pretrial detainment, attorneys’ fees, disruption of employment, damage to social relationships, and the psychological pain of uncertainty (Eisenstein and Jacob, 1977; Zatz and Lizotte, 1985). To prosecutors, judges, and defense counsel, time is a scarce resource not to be squandered. It translates into efficiency in the disposition of cases, and is likely to be closely tied to the cost of a case (Zatz and Lizotte, 1985). Much of the literature on court actor behavior assumes that this shared goal of case processing efficiency directs the behavior of court actors such that decisions reflect more the mutual interests of prosecutors, judges, and defense counsel than the ideals of justice or due process (Nardulli, 1978). This means that case outcomes may be understood, at least in part, as a product of the organizational resources associated with case processing time.

This organizational efficiency perspective has been used to explain the “trial penalty,” the finding that offenders whose cases are disposed of by trial receive harsher sentences than similarly-situated offenders who plead guilty. The trial penalty (or plea reward, as it is sometimes referred to) is well documented in the literature on criminal sentencing, occurring in state (King et al., 2005) and federal courts (Ulmer, Eisenstein, and Johnson, 2010), across different types of offenders, including white-collar offenders (Albonetti, 1998), violent offenders (Ulmer and Bradley, 2006), less serious offenders (Kramer and Ulmer, 2009), drug offenders (Albonetti, 1997; Engen and Steen, 2000), and

terrorists (Bradley-Engen et al., 2012; Smith and Damphousse, 1998), and under sentencing guidelines systems (Engen et al., 2003; Johnson, 2003a; Johnson, Ulmer, and Kramer, 2008; Kramer and Ulmer, 2002; Moore and Miethe, 1986). Its ubiquity has prompted several theoretical interpretations, one of which looks to time as the underlying mechanism. This prominent line of thinking posits that trials are generally undesirable to all members of the courtroom workgroup, since they require significant time and effort and are inherently uncertain events (Eisenstein and Jacob, 1977). Court actors' common desire to avoid the inconvenience of a trial therefore leads to the development of an institutionalized sentencing practice whereby reduced sentences serve to induce offenders to "play the game" and plead guilty. This particular interpretation has been reflected in judges' explicit invocation of time as a justification for the trial penalty – the "he takes some of my time, I take some of his" explanation (Uhlman and Walker, 1980: 324).

Given its importance to theories of court actor behavior, the lack of research explicitly incorporating time into analyses of sentencing is surprising. Existing scholarship on the topic is limited to two studies, one conducted over twenty years ago and another that exclusively considers terrorist offenders. The present study aims to help fill this gap in the literature by empirically examining the role of time in sentencing outcomes, specifically, the effect of time to disposition on sentence severity. Not only is it necessary to provide empirical verification of an oft-assumed relationship, but this research is also consistent with Ulmer's (2012) recent call for examinations of sentencing to be situated within the context of prior case processing. Until this point, most sentencing research has included case processing variables merely as controls in focusing on the influence of some other offender characteristic, such as race/ethnicity or gender.

Moreover, these case processing variables are often limited to mode of conviction (conceptualized as a simple plea/trial dichotomy) and to a lesser extent, type of counsel.

Yet, case processing factors can be significant sources of disparity in sentencing, as they are often connected with offender characteristics. Just as researchers (e.g., Albonetti, 1990; Spohn, Gruhl, and Welch, 1981-82) have determined that net of other factors, Black offenders are less likely than White offenders to plead guilty, so too may there be racial/ethnic differences in case processing time (see, for example, Zatz and Lizotte [1985]). Race/ethnicity may thus indirectly affect sentencing outcomes through case processing time, if Black offenders have longer case processing times than White offenders and offenders whose cases take longer to dispose of are sentenced more severely. As Zatz (1987: 70) cautions, such an indirect effect “reflects more subtle institutionalized biases, but still falls within the purview of discrimination.”

In addition to furthering knowledge on time as an important dimension of the sentencing process, this study also provides greater insight into the meaning of the trial penalty. Although sentencing disparity associated with the mode of conviction has largely been interpreted as driven by efficiency needs as previously described, it has also been cast in terms of substantive rationality. The substantive rationality perspective views the sentencing process in general as aiming to produce appropriately-tailored punishments within a system of strict, harsh laws (Rosett and Cressey, 1976; Savelsberg, 1992). From this competing viewpoint, pleading guilty may result in less severe sentences because an admission of guilt by the offender signifies acceptance of responsibility for the crime (Ulmer and Bradley, 2006). Similarly, the harsher sentencing of trial-convicted offenders may reflect the fact that “bad facts” about the offender or the crime are more likely to

come out during the course of a trial than in the plea-bargaining process (Ulmer and Bradley, 2006).

These two main interpretations of the trial penalty are not necessarily mutually exclusive. Nevertheless, each holds different implications for the notion of fairness in sentencing, since the organizational efficiency perspective in particular concedes that the punishment decision is influenced by factors beyond the offender's control (Bradley-Engen et al., 2012). The relevance of time to each theoretical explanation is different as well. That is, from the perspective of organizational efficiency, the trial penalty may be primarily construed as a time penalty (Bradley-Engen et al., 2012). Thus, examining time to disposition as a case processing variable, separate from the mode of conviction, is a potentially useful way of investigating the organizational efficiency and substantive rationality interpretations of the trial penalty. Previous research on the trial penalty has to a small extent attempted to empirically test its theoretical underpinnings by examining variation in plea/trial disparities (Kramer and Ulmer, 2009; Ulmer and Bradley, 2006; Ulmer, Eisenstein, and Johnson, 2010). Disentangling time to disposition from the mode of conviction provides an alternative, novel avenue for making theoretical sense of the trial penalty.

In order to examine the relationship among time to disposition, mode of conviction, and sentence severity, the present study utilizes thirteen years (1999 to 2012) of sentencing data from the Maryland State Commission on Criminal Sentencing Policy, supplemented with information on case processing time obtained from Maryland Judiciary Case Search. In doing so, it makes several notable improvements to prior research. First, it uses a large sample of offenders convicted of a range of person,

property, and drug offenses, thus providing an estimate of the effect of time to disposition that applies to a broad population of offenders. Second, by utilizing data from Maryland, it conducts sentencing research in a relatively new context, as the majority of prior research on judicial decision making under sentencing guidelines has been limited to a select group of states (Kurlychek and Johnson, 2010). Third, it employs a more appropriate measure of disposition type that distinguishes between guilty pleas, bench trials, and jury trials to allow for a better understanding of sentencing disparities associated with the mode of conviction and the theoretical mechanisms that may account for these differences. And fourth, it makes use of Tobit regression to examine sentence severity, demonstrating its utility for capturing both the likelihood of incarceration and the length of confinement ordered.

CHAPTER 2: LITERATURE REVIEW

Research on criminal sentencing generally can be divided into studies of offender characteristics, studies of judge characteristics, and studies of court contexts (Johnson, 2003b). Although more recent scholarship (e.g., Johnson, 2005, 2006; Johnson, Ulmer, and Kramer, 2008; Ulmer and Johnson, 2004) has emphasized the interrelatedness of these three areas and incorporated them simultaneously into multilevel analyses of sentencing outcomes, most of the sentencing literature falls singly within the first category. In examining the effect of individual-level factors on sentencing, this group of studies primarily focuses on the comparative influence of legally relevant versus legally irrelevant factors. Legally relevant factors are those that judges are legally authorized to take into consideration, such as the offender's criminal history and the seriousness of the offense, whereas legally irrelevant factors are variables that either judges are legally prohibited from considering or have no rational relationship to the purposes of sentencing (Spohn, 2009). In this regard, much consideration has been given to the effects of race/ethnicity, gender, age, and their interaction (e.g., Steffensmeier, Ulmer, and Kramer, 1998). There has been significantly less attention paid to case processing factors, which occupy a unique position due to their ambiguity as legitimate or illegitimate considerations in sentencing (King et al., 2005; Kramer and Ulmer, 2009). Three case processing variables in particular have been linked to sentencing outcomes: the mode of conviction (by plea or trial), the pretrial status of the defendant (whether released prior to disposition or detained in custody), and the type of defense representation (public defender or private attorney). While mode of conviction is the most frequently studied among the case processing variables, notably absent from this list is case processing time,

which is indirectly tied to the processing strategy. The present work therefore exists at the intersection of these two factors, differentiating between the mode of conviction and time to disposition in order to provide a better understanding of how each influences sentencing outcomes. Before proceeding, the extant literature on mode of conviction and time to disposition is discussed in detail as a framework for this investigation.

Research on Mode of Conviction

Over the years, a substantial body of empirical research has accumulated on the effect of mode of conviction. Studies conducted in the 1970s and 1980s mostly failed to find evidence of trial penalties. Eisenstein and Jacob (1977), in their seminal study of courtroom workgroups in Baltimore, Chicago, and Detroit felony courts, found that very little (between 3.3% and 10.9% for the decision to incarcerate and between 3.3% and 7.2% for the length of sentence) of the variance in sentencing outcomes was accounted for by disposition mode. Based on this, the researchers concluded that the notion of the trial penalty is empirically false, although what actually matters in maintaining a steady flow of guilty pleas is the *impression* that guilty pleas are rewarded while trial-convicted defendants are penalized. Rhodes (1979) likewise argued that the benefits of plea bargaining are more of an illusion than a reality for defendants. Using data from Washington, D.C. on arrests for larceny, burglary, robbery, and assault, Rhodes (1979) estimated a model of the type of sentence received for defendants convicted at trial, which he then used to predict the sentence defendants who pled guilty would have received if they had gone to trial and lost. Comparing the predicted and actual sentences, Rhodes (1979) determined that in cases of assault, larceny, and burglary, defendants who pled guilty received sentences similar to what they would have received had they been

convicted at trial. He also found that defendants who pled guilty had roughly the same predicted rate of conviction at trial as defendants who went to trial, implying that those who plea-bargain are not necessarily “legally guiltier” than individuals who exercise their right to trial. Rhodes (1979) therefore concluded that more defendants should go to trial, since doing so allows for the possibility of acquittal without risking a more severe sentence.

Brereton and Casper (1981-82), however, caution that the results of these two studies may be less conclusive regarding the existence of trial penalties than they appear. First, Brereton and Casper (1981-82: 52) argue that Eisenstein and Jacob (1977) are incorrect in rejecting the trial penalty hypothesis based on the small amount of variance explained by disposition mode, since the question is not whether mode of conviction is the major factor in sentencing decisions, but whether it makes a difference *ceteris paribus*. They also point out that in Rhodes’s (1979) analysis, individuals who pled guilty did receive sentencing concessions in robbery cases. Brereton and Casper (1981-82) note that sentencing differences between plea-bargained cases and trials may be more observable for serious offenses such as robbery, where the defendant, facing a greater potential punishment, has a greater incentive to go to trial with the hope that he or she will be acquitted. In such instances, a larger inducement will be needed for the defendant to plead guilty.

Framing the issue in terms of selection bias, LaFree (1985) argued that the potential for acquittal may offset the greater penalty imposed on trial-convicted offenders, thereby making pleading guilty less of a bargain than implied by assessments that focus exclusively on convicted offenders. In line with his hypothesis, LaFree’s

(1985) analysis of robbery and burglary cases from six diverse jurisdictions in the United States showed consistently more severe sentences for guilty verdicts than for guilty pleas, although the effect of mode of conviction disappeared once cases that resulted in acquittal at trial were included in the analysis. Thus, LaFree (1985: 292) underscores that examination of the trial penalty involves two separate but related issues: first, whether defendants who plead guilty receive less severe sentences than defendants who are convicted at trial, and second, whether defendants who plead guilty receive less severe sentences than defendants who go to trial. Additional support for LaFree's (1985) argument is provided by Smith (1986)'s study of felony burglary and robbery cases involving male defendants in New Orleans, Norfolk, Seattle, El Paso, Tucson, and Delaware County, Pennsylvania. Taking a similar approach to that of Rhodes (1979), Smith (1986) predicted the probability of incarceration for defendants who pled guilty if they had gone to trial, adjusting for the probability of conviction at trial. Comparison of the predicted probability of incarceration with the actual probability of incarceration for the plea-bargained cases showed a difference of only 3%. By contrast, Smith (1986) determined that comparing the proportion of defendants incarcerated after pleading guilty with the predicted proportion of these defendants who would have been incarcerated if they had proceeded to trial *and been convicted* would imply that pleading guilty was advantageous. Smith's (1986) results are particularly compelling given that he was able to include in his estimates variables not typically available but recognized as important to sentencing outcomes, such as measures of evidentiary strength, the victim-offender relationship, and defendant drug and employment history.

Interestingly, subsequent studies of selection bias in sentencing research suggest

exactly the opposite conclusion. Zatz and Hagan (1985) reported a significant effect of pleading guilty only when the sample of offenders included all cases sent for prosecution, compared to the same sample narrowed to convicted offenders. As a potential explanation for this discrepancy, Zatz and Hagan (1985) reasoned that selection bias may be more likely to conceal the effects of pleading guilty in certain jurisdictions, particularly those that employ determinate sentencing and thereby afford greater discretion to prosecutors. Similarly, in her analysis of felony cases in Washington, D.C., Albonetti (1991) found that failing to include a statistical correction for bias introduced from restricting the sample to convicted offenders substantially underestimated the effect of trial conviction on sentence severity. It should be noted, however, that Albonetti's (1991) measure of sentence severity in this analysis, which rank ordered different sentence types into a single scale, means that her results should be interpreted with caution, as Blumstein et al. (1983) have discussed the problems inherent in attempting to capture the sentencing decision in this manner.

Studies examining samples of convicted offenders more consistently support the notion that disposition mode is a meaningful factor in sentencing outcomes. Much of this research does not directly focus on the mode of conviction, but rather includes it as a control variable in analyses of sentencing. In one early study, Moore and Miethe (1986) tested the influence of various legally proscribed factors on sentencing outcomes in an effort to evaluate the effectiveness of Minnesota's newly instituted sentencing guidelines. Despite the fact that the Minnesota Sentencing Guidelines Commission specifically prohibited judges from taking into account whether the offender exercised his or her right to trial when determining sentences, the researchers found that conviction by trial

increased the length of incarceration ordered. Another study that examined the influence of gender on sentencing under Pennsylvania's presumptive guidelines determined that mode of conviction had a significant effect on the judge's decision to incarcerate as well as on sentence lengths (Steffensmeier, Kramer, and Streifel, 1993). With regard to the incarceration decision, pleading guilty reduced the odds of each successive level of confinement, such that the overall odds of incarceration (jail or prison versus probation), the odds of prison versus jail or probation, and the odds of prison versus jail were lower for offenders who pled guilty (Steffensmeier, Kramer, and Streifel, 1993). Similarly, Holleran and Spohn (2004), in arguing for the distinction between jail and prison in analyses of sentencing outcomes, found that conviction by trial increased the odds of receiving prison as opposed to probation as well as the odds of receiving prison as opposed to jail in Philadelphia. In their analysis of the influence of age, race, gender, and employment status on sentencing in three large urban jurisdictions, Spohn and Holleran (2000) found that pleading guilty reduced the odds of incarceration for offenders in two of the jurisdictions, Miami and Kansas City. Comparing the sentencing of juvenile and young adult offenders in adult criminal court, Kurlychek and Johnson (2004) reported a significant negative effect of jury trial conviction on sentence severity.

Similar results also appear in research on the impact of race/ethnicity on sentencing. Spohn, Gruhl, and Welch (1981-82) concluded that offenders who pled guilty were sentenced to incarceration less often, and that this, together with the fact that Blacks were less likely to plead guilty, may partially account for the harsher sentencing of Blacks compared to Whites (see also Albonetti [1990]). Investigating unwarranted racial/ethnic disparity under Maryland's voluntary sentencing guidelines, Souryal and

Wellford (1997) found that offenders adjudicated by open plea, by negotiated plea, and by court trial were each less likely to be incarcerated and received shorter sentences than offenders adjudicated by jury trial. Furthermore, these effects were largely consistent across the three main crime categories of person, property, and drug offenses. In Washington State, Steen, Engen, and Gainey (2005) examined the sentencing of White and Black drug offenders, and found that pleading guilty decreased sentence lengths for both groups, although it exerted a significant effect on the odds of incarceration for White offenders only. And in the federal court system, Steffensmeier and Demuth (2000) reported that going to trial resulted in a greater likelihood of imprisonment and longer sentence lengths across Whites, Blacks, and Hispanics in the case of both drug and nondrug offenses.

An effect of mode of conviction has likewise been found for individuals convicted of specific types of crimes, suggesting that trial penalties are robust across diverse groups of offenders. Albonetti (1997), for instance, studied offenders convicted of simple drug possession or drug trafficking in federal court and found that pleading guilty reduced the probability as well as the length of imprisonment for offenders, although this effect was rather small compared to other factors. Relatedly, Engen and Steen (2000) determined that for first-time drug offenders in Washington State, irrespective of legislature-enacted reforms designed to constrain the discretion of the sentencing judge, trial-convicted offenders received more severe sentences and less favorable charging decisions than offenders who pled guilty. In a subsequent analysis of white-collar offenders (those convicted of money laundering, embezzlement, bribery, fraud, or larceny) sentenced under the Federal Sentencing Guidelines, Albonetti (1998) reported a significant,

“nontrivial” effect of the mode of conviction. Specifically, she found that pleading guilty produced a decrease in both the length of imprisonment for offenders sentenced to incarceration and the probability of imprisonment for offenders receiving a nonincarceration sentence. Smith and Damphousse (1998) focused on the sentencing of offenders indicted as a result of FBI investigations for “terrorism/terrorism-related” activities, finding a strong effect of pleading guilty on sentence length. They also concluded that compared to a matched sample of non-terrorists tried and convicted of “traditional crimes” in federal court, pleading guilty had a much larger impact for the terrorist offenders. Arguing that examining offenders convicted of serious crimes, with their accompanying higher trial rates, provides an ideal opportunity to study trial penalties, Ulmer and Bradley (2006) analyzed the effect of mode of conviction for violent offenders in Pennsylvania. The researchers reported that both conviction by court trial and conviction by jury trial increased the probability and length of incarceration, with court trial-convicted offenders faring substantially better than jury trial-convicted offenders. Kramer and Ulmer (2009) later extended this analysis to less serious offenders and found a similar pattern of trial penalties.

The proliferation of sentencing guidelines in the federal court system and in many states has led to a shift in studies of sentencing. Sentencing guidelines aim to increase uniformity in sentencing and eliminate unwarranted disparity by instituting a return to formally rational judicial decision making whereby sentences are determined by an offender’s criminal history and the characteristics of the instant offense (Salvesberg, 1992). Yet, in actuality, formal rationality must coexist with substantive concerns (Ulmer and Kramer, 1996). A primary demonstration of this in the context of sentencing

is the judge's decision to depart from the guidelines, as Kramer and Ulmer (2002) have argued that departures represent "corrections" to guidelines recommendations when there is a disjuncture between logically formal sentencing rules and local courtroom actors' substantive concerns of sentencing. In this regard, departures from sentencing guidelines allow for the exercise of judicial discretion and hence the possible reintroduction of unwarranted disparity (Johnson, 2003a).

Consequently, researchers concerned with studying extralegal sentencing disparity have begun to recognize the importance of examining departure decisions as the outcome of interest. The literature on trial penalties is no exception, and suggests that disposition by trial is also associated with harsher sentencing outcomes through the differential use of guidelines departures for plea-bargained versus trial-convicted offenders. With regard to Minnesota's sentencing guidelines, Moore and Mieth (1986) examined dispositional departures, which pertain to whether a sentence is stayed or executed, as well as durational departures, which concern the length of sentence, and found that offenders who were convicted by trial were significantly less likely to receive either a mitigated dispositional or mitigated durational departure from the guidelines. By contrast, the researchers did not find that the mode of conviction had an effect on the probability of receiving an aggravated dispositional or durational departure. A subsequent analysis of the Minnesota sentencing guidelines largely confirmed these findings, as Frase (1992-93) found that trial conviction decreased the probability of receiving a mitigated dispositional departure but had no influence on the probability of receiving an aggravated dispositional departure. Similarly, Kramer and Ulmer (2002) found that for serious violent offenders sentenced under Pennsylvania's sentencing guidelines,

conviction by trial substantially lowered the odds of receiving a downward departure, compared to non-negotiated pleas. Johnson (2003a) also focused on Pennsylvania in comparing the effects of legal and extralegal factors on guidelines departures across different modes of conviction. Looking at overall differences between non-negotiated pleas, negotiated pleas, bench trials, and jury trials, he determined that conviction by jury trial decreased the odds of a downward departure and increased the odds of an upward departure, while conviction by bench trial decreased both the odds of a downward departure and the odds of an upward departure.

In a similar vein, Engen et al. (2003) examined not only discretionary departures from Washington's sentencing guidelines, but also the use of structured sentencing alternatives. They reasoned that since structured sentencing alternatives are another mechanism for sentencing below the standard range under Washington's sentencing guidelines, the use of such sentencing alternatives may also produce unwarranted disparities. The results of their analysis supported this argument, underscoring the necessity of distinguishing between different mechanisms for departing from sentencing guidelines in examining the influence of extralegal factors. In particular, Engen et al. (2003) found that while pleading guilty increased the overall odds of a below-guidelines departure, this was primarily accounted for by the significant effect of pleading guilty on the odds of receiving the First Time Offender Waiver (FTOW) and the odds of receiving the Special Sex Offender Sentencing Alternative (SSOSA), two specific structured sentencing alternatives. Conversely, mode of conviction did not have a significant effect on the odds of receiving the Alternative Sentence Conversion or on the odds of a discretionary departure, whereby the judge may depart from the standard guidelines range

for “substantial and compelling” circumstances. It is also noteworthy that the FTOW and the SSOSA were treatment-focused, reflecting a rehabilitative philosophy. Thus, that pleading guilty had an effect only for these two mechanisms of departing from the guidelines may imply that such plea discounts are driven by the defendant’s signaled remorsefulness as indicating rehabilitative potential, as argued by Ulmer and Kramer (1996).

Trial conviction appears to have a particularly significant effect on departures in the federal court system, where the Federal Sentencing Guidelines explicitly build in reasons for sentencing discounts that function as de facto plea rewards (Ulmer, 2005; Ulmer, Eisenstein, and Johnson, 2010). Kempf-Leonard and Sample (2001) reported that for both male and female offenders, pleading guilty increased the odds of a downward departure from the guidelines by almost 12 times in the Eighth Circuit. In addition, Johnson, Ulmer, and Kramer (2008) concluded that trial conviction reduced the odds of a downward departure under Federal Rule 5K1.1, which is granted for offenders who have rendered “substantial assistance” to law enforcement, as well as the odds of a downward departure under Rule 5K2, which permits the judge to deviate from the guidelines if extenuating circumstances exist that were not sufficiently considered in determining the guidelines. With regard to the former type of departure, the researchers found that the effect of mode of conviction was immense, as trial-convicted offenders had almost no possibility of receiving a downward departure for providing substantial assistance. Furthermore, among offenders who received a downward departure under either Rule 5K1.1 or 5K2, Johnson, Ulmer, and Kramer (2008) reported a significant effect of mode of conviction on the magnitude of the sentence reduction, with offenders convicted at

trial receiving sentence discounts that were 21% smaller on average in the case of substantial assistance departures and 12% smaller on average in the case of Rule 5K2 departures.

Analysis of sentencing guidelines departures also provides an opportunity to determine whether plea/trial sentencing differentials are more accurately characterized as plea discounts or trial penalties, as Kramer and Ulmer (2009) show. Although these terms are often used interchangeably in the sentencing literature, they convey subtle differences in meaning, particularly from a normative perspective. From their interviews with courtroom personnel, Ulmer and Kramer (1996: 395) provide examples of judges' greater preference for the term "plea reward," with one judge explicitly stating, "I choose not to call it a sentencing penalty." Conceptualizing mode-of-conviction differences in this way may help assuage the uneasiness that accompanies the notion of penalizing the exercise of a constitutionally guaranteed right. In empirically assessing the appropriateness of the terms "plea discount" versus "trial penalty," Kramer and Ulmer (2009) reasoned that in the case of plea discounts, one should observe sentences below the guidelines range for plea-bargained cases and sentences within the guidelines range for trials. By contrast, sentences for trial-convicted offenders should be above the guidelines range and sentences for offenders who pled guilty should be within the guidelines range if they are in fact trial penalties. Examining cases sentenced in Pennsylvania, Kramer and Ulmer (2009) found that trials were more likely to result in above-guidelines departures while guilty pleas were more likely to eventuate in sentences at or below the guidelines range, leading the researchers to conclude that these plea/trial sentencing differentials appear to be trial penalties.

Overwhelmingly, the majority of research on mode of conviction is concerned with the difference in sentencing outcomes between guilty pleas and trials. Yet, attention is increasingly being paid to potential differences among types of trials, namely bench (or court) trials and jury trials. This movement beyond the typical plea/trial dichotomization has been prompted by studies highlighting the fundamentally different processes underlying bench trials and jury trials and the inappropriateness of combining these two modes into a single category. In particular, Eisenstein and Jacob (1977) document how in certain jurisdictions, especially those in which features of the local court environment discouraged effective plea-bargaining, bench trials became the functional equivalent of a “slow plea.” The researchers note the practical benefit that bench trials offer all members of the courtroom workgroup, in that they take less time (approximately one to two hours, compared to a full day or more for a jury trial), require less preparation, and are marked by greater informality. Ulmer (1997) makes a similar observation, explaining that jury trials involve a more elaborate sentencing process whereby the judge learns more about the case and the defendant. Thus, whether due to saving the court time and effort or concealing bad facts about the defendant, there is reason to believe that bench trials may result in greater sentencing leniency than jury trials. This means that treating all trials as one homogeneous category may conceal the true benefit of pleading guilty, which is exactly what LaFree (1985) demonstrates. First comparing guilty pleas with only jury trials, and then comparing guilty pleas with all trials (both bench and jury), LaFree (1985) concluded that the effect of adjudication type on sentencing was substantially weaker when bench trials were included in the analysis.

In accordance with LaFree’s (1985) findings, much research that separates bench

trials from jury trials shows that bench trial sentences are on average less severe than jury trial sentences, but more severe than sentences for guilty pleas. Souryal and Wellford (1997) found that compared to jury trials, bench trials resulted in reduced odds of incarceration and shorter sentence lengths, with the effect on sentence length being smaller than that of negotiated and non-negotiated pleas (with regard to the likelihood of incarceration, disposition by plea and by bench trial resulted in roughly the same reduction in odds). Similarly, using Pennsylvania sentencing data, Steffensmeier and Herbert (1999) reported a significant positive effect of disposition by bench trial on the length of sentence ordered that was smaller than the effect of disposition by jury trial. The researchers failed to find, however, an effect of bench trial conviction on the likelihood of incarceration.

Other research on sentencing in Pennsylvania finds this relationship for both the in/out and sentence length decisions. Ulmer and Kramer (1996) determined that compared to non-negotiated pleas, disposition by bench trial increased the odds of receiving jail or prison time as opposed to probation as well as the odds of receiving prison time as opposed to probation or jail time, although the greater increase in odds resulted from disposition by jury trial. Furthermore, bench trial sentences of incarceration were on average 5.9 months longer than sentences of incarceration resulting from non-negotiated pleas, whereas jury trial sentences were 16.3 months longer. More recently, Ulmer and Bradley (2006) found that for serious violent offenders, the odds of incarceration following a bench trial were 2.2 times the odds for a guilty plea, while a jury trial conviction had roughly 2.7 times the incarceration odds of a guilty plea. This pattern was likewise found for sentence length, as the researchers concluded that

offenders found guilty by bench trial received longer sentences than those who pled guilty, but received shorter sentences than offenders convicted by jury trial. Kramer and Ulmer (2009) subsequently reported similar findings for offenders convicted of less serious crimes. Specifically, they found that while bench trials and jury trials increased both the odds of incarceration and incarceration length relative to pleading guilty, the penalty was most severe for jury trials compared to bench trials.

Differences among guilty pleas, bench trials, and jury trials also appear in the context of sentencing guidelines departure decisions. Examining the use of downward departures for serious violent offenders in Pennsylvania, Kramer and Ulmer (2002) concluded that there were significant differences in the likelihood of a downward departure from the guidelines across the four modes of conviction of non-negotiated pleas, negotiated pleas, bench trials, and jury trials. In particular, they found that conviction by jury trial decreased the odds of a downward departure by the greatest amount, followed by conviction by bench trial. Johnson (2003a) examined the influence of mode of conviction on judges' decisions to depart above and below Pennsylvania's sentencing guidelines. Like Kramer and Ulmer (2002), he found that compared to pleading guilty, conviction by bench trial decreased the odds of a downward departure, although the greatest decrease in odds came from a jury trial conviction. Interestingly, Johnson (2003a) also found that conviction by bench trial actually decreased the odds of an upward departure from the guidelines more so than negotiating a plea did. He attributes this unexpected finding to a single county's practice of using bench trials as "implicit pleas," thereby underscoring that there is meaningful jurisdictional variation in bench trial usage.

Studies that examine sentencing in multiple states produce more equivocal results regarding the influence of bench trial conviction. King et al. (2005) analyzed differences in sentencing outcomes between guilty pleas, bench trials, and jury trials in Maryland, Pennsylvania, Kansas, Washington, and Minnesota, five states that use sentencing guidelines. Consistent with other research, they found that bench trials resulted in odds of incarceration and sentence lengths that were greater than those for guilty pleas but less than those for jury trials in Maryland and Pennsylvania, the two states with less restrictive sentencing guidelines. In the remaining states, however, bench trial sentences followed a less predictable pattern. In Washington and Minnesota, King et al. (2005) found that for certain crimes, offenders who were convicted by bench trial were punished more severely than both offenders who pled guilty and those who were convicted by a jury. The remaining offenses in these two states and almost all offenses studied in Kansas exhibited no statistically significant effects for disposition by bench trial. To account for the harsher treatment of bench trial-convicted offenders compared to jury trial-convicted offenders in certain instances, the researchers argued that bench trials may draw more horrible crimes than jury trials. King et al. (2005) point to responses from interviews conducted with court actors suggesting that when the facts of a case are particularly egregious, the defense may push for a bench trial with the hope that a judge may be more objective than a jury. As additional support for this explanation, King et al. (2005) found that the offenses where incendiary facts are most likely – sexual offense and aggravated assault cases – had the highest proportion of bench trials compared to the other offense types.

Also drawing from a multi-state sample of cases, Weidner, Frase, and Shultz

(2005) utilized the Bureau of Justice Statistics' State Court Processing Statistics dataset in analyzing jurisdictional variation in the effects of various individual- and county-level characteristics on the probability of incarceration. The researchers considered the effect of mode of conviction, and like Johnson (2003a), cast doubt on whether bench trials consistently result in greater sentence severity than pleading guilty. In particular, Weidner, Frase, and Shultz (2005) found that offenders who were convicted by bench trial were approximately half as likely to receive a prison sentence as those who pleaded guilty, although they acknowledged the possibility that this unexpected finding may be due to some unobserved factor that is highly correlated with bench trial conviction.

The effect of bench trial conviction on sentence severity is thus more qualified than that of jury trial conviction. Important in this regard, however, is that there is great variability in what bench trials represent and how they are used across courtrooms (Schulhofer, 1984). As King et al. (2005: 968) remarked, "compared to plea bargains or jury trials, relatively little is known about bench trials *generally*" [emphasis added]. This variation is evident not only from the interviews conducted by King et al. (2005), but from other accounts of bench trials as well. In contrast to Eisenstein and Jacob's (1977) and Johnson's (2003a) descriptions of bench trials serving as slow pleas in Baltimore and Philadelphia, respectively, Wright and Miller (2002), for example, note that bench trials in New Orleans did not involve sentence negotiations. Therefore, the lack of a consistent effect of bench trial conviction among studies that examine different jurisdictions or different offenses is somewhat unsurprising, as variation in bench trial processes means that the implications of a bench trial conviction for the sentence outcome may also vary.

Moving beyond the question of whether trial penalties exist, a few studies seek to

improve understanding of trial penalties by examining how they vary. This variation has been studied across both individual- and county-level factors. Consistent with the considerable attention that has been devoted to racial/ethnic and gender disparity in sentencing, on the individual level, scholars have focused primarily on racial/ethnic and gender differences in trial penalties. With regard to gender, Steffensmeier, Kramer, and Streifel (1993) reported that in Pennsylvania, the effect of trial conviction on the likelihood of incarceration and sentence length was approximately the same for male and female offenders. Ulmer and Bradley (2006) reported similar results for serious violent offenders in Pennsylvania, as they failed to find a statistically significant difference in the jury trial penalty between men and women for either the incarceration or sentence length decision. In the federal court system, Albonetti (1998) found that the trial penalty did not vary according to gender for white-collar offenders. Ulmer, Eisenstein, and Johnson (2010) reached the same conclusion using a general sample of offenders. While the gender of the offender thus does not seem to influence the size of the trial penalty, there is limited evidence that the gender of the sentencing judge does matter. Examining whether male and female judges in Pennsylvania differed in the weight they gave to certain sentencing criteria, Steffensmeier and Herbert (1999) found a significant interaction effect between the gender of the judge and mode of conviction on sentence length, with female judges giving harsher jury trial penalties than male judges.

In contrast to the literature on gender, research on race/ethnicity and the trial penalty for the most part finds significant interaction effects. These findings are consistent with Spohn's (2009: 188) observation that "the combination of race or ethnicity and other legally irrelevant characteristics produces greater disparity than race

or ethnicity alone.” Zatz (1984), in examining felony offenders sentenced under California’s determinate sentencing laws, found that Hispanics were particularly disadvantaged, with sentence reductions from pleas of guilty and slow pleas (also called “conviction by transcript”) being significantly shorter for Hispanics than for Blacks and Whites. Steen, Engen, and Gainey (2005) investigated racial differences in various determinants of sentencing in Washington State and found that pleading guilty produced larger reductions in the length of incarceration for Whites than it did for Blacks. In their study of offenders in the U.S. district courts, Steffensmeier and Demuth (2000) reported significant differences in trial penalties between White, Black, and Hispanic offenders in terms of sentence length. The researchers determined that trial penalties were smallest for Whites across all offenses, while they were largest for Blacks in the case of drug offenses and for Hispanics in the case of nondrug offenses. In addition, Johnson (2003a) found that mode of conviction conditioned racial/ethnic disparity, specifically that Blacks relative to Whites were less likely to receive downward departures from the guidelines if they were convicted by trial.

Not all studies find that trials exacerbate racial/ethnic disparity in sentencing, however. Albonetti (1997) reported no difference in the effect of pleading guilty across White, Black, and Hispanic drug offenders in the federal court system, which led her to conclude that guilty plea negotiations were not a mechanism through which racial/ethnic disparity was introduced under the Federal Sentencing Guidelines. Similarly, Ulmer and Bradley (2006) initially found an interaction between race and jury trial conviction for serious violent offenders in Pennsylvania, but this effect disappeared once they controlled for the interaction between mode of conviction and the percentage Black in the county.

Finally, although Ulmer, Eisenstein, and Johnson (2010) found that race interacted with mode of conviction to influence sentence length, they determined that Whites actually faced a more severe trial penalty than Blacks.

Trial penalties have also been found to vary according to legally relevant offender characteristics, namely criminal history and offense severity. Contrary to expectations, Ulmer and Bradley (2006) determined that both the likelihood of incarceration and sentence length following conviction by jury trial decreased as an offender's Prior Record Score under the Pennsylvania sentencing guidelines increased. Among offenders convicted of less serious offenses, Kramer and Ulmer (2009) likewise reported that increases in the Prior Record Score substantially decreased the incarceration trial penalty. Ulmer, Eisenstein, and Johnson (2010) found that in the federal court system as well, trial-convicted offenders with more serious criminal histories experienced less severe trial penalties, although the effect was more modest. The opposite pattern appears to hold for offense severity. For offenders convicted of violent offenses as well as those convicted of lesser crimes, increases in the Offense Gravity Score under the Pennsylvania sentencing guidelines led to more severe trial penalties (Kramer and Ulmer, 2009; Ulmer and Bradley, 2006). Relatedly, Ulmer, Eisenstein, and Johnson (2010) found that more severe Federal Sentencing Guidelines recommendations were associated with increased trial penalties, an effect which they argued was likely driven by offense severity.

Research on contextual variation in trial penalties is based on the premise that as distinct social worlds (Ulmer, 1997), courts possess organizational cultures that differentially shape case processing and sentencing norms. Included among these norms are those concerning trials, and thus the practice of penalizing offenders who exercise

their right to trial is likely to vary among courts (Ulmer, Eisenstein, and Johnson, 2010). These studies predominantly examine the impact of local court context on trial penalties by focusing on variation according to county-level characteristics, as this approach attempts to determine not only whether jurisdictions vary in their use of trial penalties, but also why (Johnson, 2003b). By far the most commonly studied characteristic in this respect is caseload pressure. Ulmer and Johnson (2004) determined that in Pennsylvania, higher caseload pressure increased the trial penalty in relation to the odds of incarceration; however, it did not influence the trial effect for the sentence length decision. Ulmer and Bradley (2006), using a sample of serious violent offenders in Pennsylvania, also found that caseload pressure conditioned the effect of trial conviction, although for the length of sentence only. In the U.S. district courts, Johnson, Ulmer, and Kramer (2008) found that increases in court caseloads further decreased the odds of a downward departure following trial conviction, while Ulmer, Eisenstein, and Johnson (2010) found that caseload pressure increased the effect of trial conviction on sentence length.

The impact of county trial rates on trial penalties has also been examined, with researchers reaching differing conclusions. Whereas studies by Ulmer and Johnson (2004) and Kramer and Ulmer (2009) conducted in Pennsylvania found that the size of the trial penalty did not depend on the trial rate, Ulmer, Eisenstein, and Johnson (2010) reported that higher trial rates were associated with smaller trial penalties in the federal court system. Although this might suggest that counties with higher trial rates are more tolerant of trials and thus less likely to penalize defendants for going to trial, Ulmer, Eisenstein, and Johnson (2010) caution that the relationship is likely reciprocal. In

particular, they note that defendants may be more inclined to go to trial when there is less of a penalty for doing so.

Several other county-level factors have been explored in relation to trial penalties, albeit to a lesser extent. In particular, Dixon (1995) compared courts of differing levels of judicial and prosecutorial bureaucratization in Minnesota and found evidence of a trial penalty only in jurisdictions with high levels of bureaucratization. Kautt (2002) found that trial penalties were greater in district courts that had higher rates of granting substantial assistance departures, which is consistent with Ulmer, Eisenstein, and Johnson's (2010) finding that substantial assistance departures under Rule 5K1 accounted for a substantial portion of the trial effect in the federal courts. Additionally, Ulmer and Bradley (2006) concluded that the percentage Black in the county, the violent crime rate, and the size of the jurisdiction exerted significant effects on the jury trial penalty for sentence length. Kramer and Ulmer's (2009) results for less serious offenders mostly mirror those of Ulmer and Bradley (2006), as they reported more severe effects for trial conviction in larger, urban jurisdictions and in jurisdictions with higher Black populations.

Such findings about variation in the effect of mode of conviction are useful in that they provide information on the underlying meaning of trial penalties. This is demonstrated by Kramer and Ulmer (2009), Ulmer and Bradley (2006), and Ulmer, Eisenstein, and Johnson (2010), who link variation in trial penalties along certain factors to specific theoretical explanations. These researchers situate plea/trial sentencing differentials within substantive rationality and organizational efficiency interpretations of sentencing behavior, hypothesizing that trial penalties may be motivated by attributions

about the culpability of and danger posed by the offender in addition to the organizational need for efficient case processing. Empirically testing for variation in trial penalties along certain individual- and county-level factors, then, offers evidence regarding the salience of these explanations of the trial penalty.

In particular, Kramer and Ulmer (2009), Ulmer and Bradley (2006), and Ulmer, Eisenstein, and Johnson (2010) tie individual-level variation in trial penalties to the substantive rationality perspective, arguing that offender characteristics may influence judges' perceptions of offender blameworthiness and dangerousness that result in more or less severe trial penalties. Evidence of trial penalty variation along such offender characteristics therefore supports the notion that trial penalties are motivated by substantive concerns about the blameworthiness and dangerousness of the offender. Relevant in this regard are findings of racial/ethnic disparity in trial penalties, as Kramer and Ulmer (2009) explain that minorities may be perceived as more dangerous than Whites, which may in turn account for their greater trial penalties. Similarly, the researchers underscore findings that trial penalties increased with offense severity, reasoning that trials may provide an opportunity for offenders to be portrayed as more blameworthy or dangerous.

On the other hand, scholars (e.g., Johnson, Ulmer, and Kramer, 2008; Kramer and Ulmer, 2009; Ulmer and Bradley, 2006; Ulmer, Eisenstein, and Johnson, 2010) point to findings of variation in trial penalties according to caseload pressure as support for the organizational efficiency interpretation of the trial penalty. Ulmer and Bradley (2006), for instance, reason that if the need to keep cases moving efficiently is the driving force behind trial penalties, then the stakes should be higher, and trial penalties should be

greater, as court caseloads increase. Yet, they also suggest that persisting variation in trial penalties even after caseload pressure is taken to account implies that organizational efficiency is not the main reason for trial penalties. This may not necessarily be the case, however, as there has been debate (see Nardulli, 1978) as to whether courtroom actors' interest in efficient case disposition is the result of caseload pressure. If that is true, then focusing on caseload pressure may not be the most appropriate way to examine the merit of the organizational efficiency explanation of the trial penalty.

Given this potential limitation, two other studies are helpful in considering the organizational efficiency interpretation of the trial penalty. Rather than testing for variation in the effect of trial conviction by caseload pressure, Zatz (1984) examined the effect on sentence length of several modes of conviction ranging in efficiency, from a plea of *nolo contendere* (no contest) to conviction by jury. Consistent with the organizational efficiency perspective, she concluded that those methods that saved the court the most time were rewarded with the shortest prison terms, as compared to a jury trial conviction, pleading *nolo contendere* was associated with the largest decrease in sentence length, followed by an initial plea of guilty, a change of plea to guilty, conviction by transcript, and finally, conviction by the court. Yet, research by LaFree (1985) calls these findings into question, as his results suggest that, among offenders who plead guilty, when the plea is entered does not impact sentencing leniency. Specifically, he found that regardless of the level of prosecutorial control in a jurisdiction, whether the offender pled guilty at the first formal opportunity had no effect on sentence severity.

Research on Case Processing Time

At present, only two studies have explicitly incorporated time to disposition in

analyses of sentencing. The first, by Zatz and Hagan (1985), did so as part of a larger examination of selection bias in sentencing research. The primary aim of the researchers was to demonstrate that, since the sentencing outcome represents the culmination of a long chain of prior processing decisions, estimates of the effects of certain predictors are biased when only cases reaching later stages in the process are included in the analysis. Using three years of felony arrest data from California, Zatz and Hagan (1985) specified three separate models of sentence length that incorporated offense, offender, and case processing factors, including time to disposition. Each model used a different selection criterion for the same sample, such that the samples included all cases sent to the prosecutor, cases resulting in conviction, and cases resulting in incarceration. By comparing results across models, Zatz and Hagan (1985) concluded that excluding censored observations generally resulted in biased parameter estimates. Furthermore, in examining the effects of the specific study variables, the researchers found that the number of days between arrest and case disposition had a significant effect on sentence length, and that the size of the effect was largely invariant across all three samples. Notably, longer processing times resulted in shorter sentences of incarceration, although Zatz and Hagan (1985) acknowledged that this may be due to time served in pretrial detention being counted toward sentence length.

More recently, Bradley-Engen et al. (2012) examined the effect of time to conviction on sentence length specifically in regard to the plea/trial disparity. They found not only that time to conviction had a significant, positive effect on sentence length, but that including a measure of processing time substantially decreased the effect of mode of conviction. The researchers interpreted this latter finding as evidence in support of the

organizational efficiency explanation of the trial penalty, although they argued that the remaining significance of trial disposition, with time to conviction controlled, implies an additional mechanism at work in the trial penalty. Bradley-Engen et al. (2012) also found a significant interaction effect between time to conviction and mode of conviction, in that processing time had a greater positive effect on sentence length for trial-convicted offenders than for offenders who pled guilty. While the researchers argued that this interaction effect lacks a clear theoretical interpretation, their result is consistent with conclusions by Zatz and Hagan (1985) and Flemming, Nardulli, and Eisenstein (1987) that trial time is kept to a minimum relative to other processing time because it is considered more costly to court actors. Methodological limitations of Bradley-Engen et al.'s (2012) study, however, call into question the validity of these findings. In particular, they conducted their analysis using cases sentenced in federal court for charges resulting from FBI investigations for terrorism-related activities, which is problematic given that Smith and Damphousse (1998) determined that the magnitudes of various predictors of sentence length, especially the mode of conviction, significantly differed for "traditional" offenders compared to terrorist offenders. Additionally, Bradley-Engen et al. (2012) used ordinary least-squares regression as their method of analysis, making no correction for selection bias introduced from restricting the study sample to cases that received sentences of incarceration.

Summary

Overall, the significant amount of research on mode of conviction supports the conventional wisdom of many courtroom participants that defendants who exercise their right to trial and lose will be penalized. This "trial tax" is pervasive, as it has been found

to operate in the federal and state courts, among different types of offenders, and under sentencing guidelines systems. Moreover, prior research indicates that trial penalties are not evenly assessed, but vary according to offender characteristics and court contextual features. Yet, when mode of conviction is disaggregated beyond simply guilty pleas and trials, the findings become more complex, as inconsistencies exist in the literature regarding the effect that bench trial conviction has on sentencing outcomes. This is likely due to variation in bench trial processes, and thus it is important that research examine differences among guilty pleas, bench trials, and jury trials in new contexts in order to develop a more complete picture of mode of conviction effects. Furthermore, despite the amount of attention that has been devoted to the topic, relatively little is still known about the theoretical mechanisms that underlie trial penalties. While several studies provide limited evidence about possible explanations for trial penalties, few, if any, are directly concerned with uncovering their meaning.

In contrast to mode of conviction, the effect of case processing time has received scant attention in the sentencing literature, and what little research there is on the subject is divided. While time to disposition appears to influence sentencing outcomes, less clear is whether a longer processing time serves to increase or decrease sentence severity. Findings are also tentative regarding the impact that including time to disposition in models of sentencing has on the relative influence of mode of conviction. These issues may be attributable to the limitations of prior research. Specifically, Zatz and Hagan's (1985) inability to distinguish credited pretrial detention time from post-sentencing incarceration makes it difficult to interpret their finding of a negative relationship between case processing time and sentence length, as it is possible that the observed

effect is due to time served in pretrial detention being counted toward sentence length. Furthermore, it is uncertain whether the persistent effect of mode of conviction when processing time is controlled primarily reflects the particularly large trial penalty for terrorist offenders. Clearly, additional research is needed for a better understanding of the effect of case processing time, the meaning of trial penalties, and the ways in which the two interact to influence sentence outcomes. The current study does not claim to fully remedy the many issues discussed above, but it is a step in this direction.

CHAPTER 3: THEORY AND HYPOTHESES

The conceptual approach of this study is grounded in the organizational efficiency theoretical perspective of court actor behavior.¹ This perspective holds that courts are primarily driven by the operational goal of efficient case processing, to the detriment of formal legal or political goals (Dixon, 1995). According to the organizational efficiency perspective, prosecutors, judges, and defense counsel share a common interest in disposing of cases, which thereby results in the development of institutionalized case processing strategies designed to expedite the movement of cases through the system (Dixon, 1995). This approach not only suggests the differential sentencing of guilty pleas, bench trials, and jury trials as a means to induce more efficient modes of disposition, but also implies that case processing time itself, as a factor immediately tied to efficiency concerns, may have a strong effect on sentence outcomes. The following chapter discusses the organizational efficiency perspective in detail and draws upon that theoretical framework in addition to prior research in developing several hypotheses regarding the effects of case processing time and mode of conviction on sentencing.

The Organizational Efficiency Perspective

The organizational efficiency perspective of court actor behavior has been traced to “Michels’ law.” As Dixon (1995: 1162) explains, “[a]ccording to Michels (1915), the imperatives of organizational maintenance deflect the system from the pursuit of formal rational goals and result in the development of operating goals by organizational elites.” Applied to the criminal justice process, Michels’ law implies that courts are organized

¹ While the organizational efficiency perspective is not considered a theory, it is useful in that it identifies a motivation underlying decision making by court actors. The lack of theory to explain criminal justice processes has been noted by several scholars (e.g., Dixon, 1995; Johnson, 2003b; Ulmer, 2012).

according to an organizational maintenance process created by courtroom elites (Dixon, 1995). The “courtroom elite” consists of prosecutors, judges, and defense counsel, who have almost unfettered power in the handling of criminal court cases (Nardulli, 1978). Nardulli (1978) argues that the power of the courtroom elite emanates from the low visibility of and difficulty in evaluating its decisions, combined with the fact that legally it is vested with the responsibility for the majority of the vital tasks involved in processing criminal cases, such as initiating and dismissing charges, making and ruling on legal motions, ruling on guilt or innocence, and sentencing. In contrast to other players in the courtroom setting, the power of the courtroom elite enables it to effectuate its interests (Nardulli, 1978).

Based on the conception of courts as organizations (Eisenstein and Jacob, 1977; Nardulli, 1978), the courtroom elite is characterized by the interdependence among its members and the informal, cooperative relations that develop as a result. The coalition among the courtroom elite is shaped by their mutual interests, as Nardulli (1978: 71) explains, “these interests define the common ground upon which cooperative relations can be based.” According to the organizational efficiency perspective, the most important of these shared interests is the efficient processing of cases, which each member of the courtroom elite desires for a different reason. For judges and prosecutors, high disposition rates communicate efficiency and accomplishment in their craft (Eisenstein and Jacob, 1977; Flemming, Nardulli, and Eisenstein, 1992). Furthermore, prosecutors benefit from speedy case dispositions because as cases draw on, evidence from witnesses becomes less reliable, thereby lessening the chance of securing a conviction (Eisenstein and Jacob, 1977). The motivation for defense counsel depends upon their status as either

public defenders or private attorneys. Public defenders responsible for representing indigent defendants have an overwhelming amount of clients, and quick case dispositions allow them additional time to devote to other cases (Eisenstein and Jacob, 1977; Nardulli, 1978). On the other hand, private defense attorneys have a particular financial incentive to expeditiously process cases. Most private defense attorneys are paid on a case-by-case basis, and since most clients can barely afford even moderate fees, these attorneys must depend on a high turnover with a minimal expenditure of effort in order to be financially profitable (Eisenstein and Jacob, 1977; Nardulli, 1978). While other motivations for case processing efficiency among the courtroom elite, namely caseload pressure, have also been ventured (see Blumberg [1967]), most important for the organizational efficiency perspective is the premise that it is in the interests of each to process cases expeditiously.

For all members of the courtroom elite, an additional aspect of criminal court work – their perception of their work – reinforces their interest in efficient case disposition and its impact on court operations. Court actors' perceptions of their work is primarily shaped by the presumption of guilt, which Nardulli (1978) describes as the shared belief that weak cases are screened out at an earlier stage of the criminal justice process, and thus the cases that remain to be dealt with by the system are those for which there is no serious dispute regarding the guilt or innocence of the defendant. The presumption of guilt has significant consequences for the courtroom elite's perception of its work in that prosecutors, judges, and defense counsel come to view themselves as merely responsible for deciding what to do with defendants who are guilty (Nardulli, 1978). This perception orients the courtroom elite away from the ideal of doing justice and toward managing a mundane, routinized process, where the focus is on the means

rather than the ends.

The common interest of the courtroom elite in efficiently disposing of cases, as well as the courtroom elite's power to effectuate its interests, leads to important implications for the operations of criminal courts (Nardulli, 1978). In particular, out of the cooperative relations of the courtroom elite develop informal case processing strategies that are intended to ensure the smooth, efficient disposition of cases (Dixon, 1995). Johnson (2003b) explains that over time, these strategies become part of the case processing norms of the courtroom elite, norms which consequently become embedded in the court culture. The classic instance of a case processing strategy theorized to have developed in response to the goal of organizational efficiency is the practice of plea bargaining, with the court rewarding defendants who plead guilty and penalizing those who go to trial. Guilty pleas allow members of the courtroom elite to dispose of cases with minimal effort (Dixon, 1995), where by contrast, trials use valuable court time and resources, are disruptive of normal working relationships among the courtroom elite, and introduce uncertainty (Eisenstein and Jacob, 1977; Flemming, Nardulli, and Eisenstein, 1992). Thus, the informal policy of more severely sentencing offenders who exercise their right to trial serves to encourage guilty pleas as a way of maintaining an orderly, efficient system.

The organizational efficiency perspective is primarily supported by qualitative evidence from prior research (e.g., King et al., 2005; Kramer and Ulmer, 2002; Uhlman and Walker, 1980; Ulmer and Kramer, 1996; Ulmer, Eisenstein, and Johnson, 2010), as interviews with prosecutors, judges, and defense counsel explicitly point to efficient case disposition as a common rationale for court actor behavior. As a particularly noteworthy

example, Ulmer, Eisenstein, and Johnson (2010) surveyed federal judges and found that 34% of respondents agreed or strongly agreed with the statement, “efficient case processing is an end in itself.” Quantitative studies of sentencing likewise lend credence to this perspective. Dixon (1995), finding a strong effect of pleading guilty in models of imprisonment and sentence length under conditions of high prosecutorial and judicial bureaucratization, concluded that sentencing reflects organizational maintenance processes in at least certain contexts. Furthermore, Engen and Steen (2000) determined that the impact of sentencing reforms designed to increase sentence severity depended on the mode of conviction, based on which they concluded that it is largely organizational efficiency concerns that drive sentencing practices.

Hypotheses of Time and Mode of Conviction Effects

If, according to the organizational efficiency perspective, courts seek to discourage time-consuming trials by imposing harsher sentences on offenders who are convicted at trial, then one would expect to observe significant differences in sentences between guilty pleas and trials. This disparity should be especially pronounced for offenders who exercise their right to trial by jury, given that jury trials require the most preparation, take the most time, and are the most elaborate among the possible modes of conviction (Brereton and Casper, 1982; Eisenstein and Jacob, 1977; Ulmer and Bradley, 2006). The consistent finding of a positive effect of jury trial conviction on sentence severity in prior literature (e.g., Johnson, 2003a; King et al., 2005; Kramer and Ulmer, 2002, 2009; Souryal and Wellford, 1997; Steffensmeier and Herbert, 1999; Ulmer and Bradley, 2006; Ulmer and Kramer, 1996; Zatz, 1984) further supports this expectation.

Hypothesis 1: Offenders convicted by jury trial will receive more severe sentences

than offenders convicted by guilty plea.

The organizational efficiency perspective also implies that bench trials should be afforded greater sentencing leniency than jury trials, but less sentencing leniency than guilty pleas. Compared to jury trials, bench trials consume fewer organizational resources in that they are significantly shorter and more informal, thereby requiring less preparation (Eisenstein and Jacob, 1977; Schulhofer, 1984). Yet, it is reasonable that bench trials still represent an increase in organizational cost over pleading guilty. Indeed, the very description of bench trials as “slow pleas” in much of the literature (e.g., Eisenstein and Jacob, 1977; Johnson, 2003a; Schulhofer, 1984; Zatz, 1984) directly suggests that they are less efficient than plea-bargaining in that they are a “slower, more drawn out manner of pleading guilty” (Levin, 1977: 80). Prior research by King et al. (2005) and Souryal and Wellford (1997) supports this hypothesis, as both studies reported effects for bench trial conviction that fell in between those for guilty plea conviction and jury trial conviction for offenders sentenced in Maryland’s circuit courts.

Hypothesis 2: Offenders convicted by bench trial will receive more lenient sentences than offenders convicted by jury trial, but will receive more severe sentences than offenders convicted by guilty plea.

While the organizational efficiency perspective is most commonly invoked to explain differences in sentencing outcomes between guilty pleas and trials, this perspective suggests that potentially any factor that impedes efficiency goals may influence sentencing (Johnson, 2003b). In the most basic sense, efficiency refers to time. As a scarce resource, the time required to dispose of a case is directly related to its organizational cost (Zatz and Lizotte, 1985). By the logic of the organizational efficiency

perspective, then, which generally views sentencing as a function of the organizational resources invested (Bradley-Engen et al., 2012), disposition time itself should have a direct effect on sentence severity. Just as the court punishes defendants who insist on exercising their right to trial, so too may an incentive structure exist to discourage defendants from prolonging a case and taking up the court's valuable time, regardless of the way in which the case is adjudicated. Although the time it takes to dispose of a case may also be influenced by factors beyond the defendant's willingness to cooperate, from the perspective of court actors, delay due to other reasons is likely to be minor compared to that believed to be caused by the defendant, who has the ability to plead guilty at almost any point during the process. Zatz and Lizotte (1985) emphasize the many ways in which a defendant can slow case processing, explaining that a defendant who has information to give in return for a more lenient sentence may hold out on a plea deal in order to obtain a better bargain. Moreover, a defendant facing a potentially harsh sentence may attempt to drag out a trial in the hopes of dismissal due to loss of witnesses, evidence, and media interest over time (Zatz and Lizotte, 1985). Although prior research on time to disposition (e.g., Bradley-Engen et al., 2012; Zatz and Hagan, 1985) is split regarding the directionality of the effect, the above rationale expects time to disposition to positively impact sentence severity.

Hypothesis 3: Offenders whose cases take more time to disposition will receive more severe sentences than offenders whose cases take less time to disposition.

The preceding argument necessitates an additional hypothesis. If time to disposition has a direct effect on sentencing outcomes, then it should also mediate sentence differences between guilty pleas and trials, given that trials generally take longer

than guilty plea convictions (Bradley-Engen et al., 2012). Whether and how much of the plea-trial disparity is accounted for by time to disposition therefore depends upon the underlying rationale for trial penalties. While this study relies upon the organizational efficiency perspective to explain trial penalties, an alternative interpretation views plea-trial sentencing differences as largely a result of substantively rational decision making. In line with this perspective, recent research on trial penalties has drawn from focal concerns theory. Focal concerns theory posits that judges base their sentencing decisions on three focal concerns: offender blameworthiness, community protection/offender dangerousness, and practical constraints (Steffensmeier, Ulmer, and Kramer, 1998). In the face of limited information and uncertainty, judges make assessments of these focal concerns that are colored by attributions about the offender (Steffensmeier, Ulmer, and Kramer, 1998). When this theory is applied to trial penalties, it suggests that pleading guilty versus being convicted at trial may provide certain information about an offender that influences the judge's assessments of blameworthiness and dangerousness (Ulmer, Eisenstein, and Johnson, 2010). Consequently, a large trial penalty even when taking into consideration time to disposition would imply that reasons other than efficiency, such as the substantively rational concerns of offender dangerousness and blameworthiness posited by focal concerns theory, are responsible for the harsher sentencing of trial-convicted offenders. On the other hand, if it is organizational maintenance processes that primarily motivate trial penalties, then time to disposition should account for all but a small portion of the trial penalty. Of course it is possible that time to disposition may not fully capture the organizational cost of a case, however, researchers seeking to test theoretical perspectives of sentencing behavior are often forced to rely on the use of

proxy measures (see Hartley, Maddan, and Spohn, 2007). Given that the importance of processing speed is so heavily emphasized in explanations of the organizational efficiency perspective, time to disposition arguably represents a strong operationalization of this theoretical construct.

Under this line of reasoning, it is expected that time to disposition will account for some, but not all, of the jury trial penalty, since certain features of jury trials in particular may allow for heightened consideration of offender dangerousness and blameworthiness. Importantly, jury trials may bring out disparaging facts about the offender, thereby increasing perceived blameworthiness (Kramer and Ulmer, 2009; Ulmer and Bradley, 2006). In addition to giving the prosecutor an opportunity to disclose more information about the offender and/or the gravity of the crime, emotional witness or victim testimony could harm the offender in the eyes of the sentencing judge. Furthermore, offenders convicted by jury trial may be seen as less remorseful, and therefore more dangerous, for refusing to accept responsibility for their crime (Kramer and Ulmer, 2009; Ulmer and Bradley, 2006). This is unlikely to be the case for bench trials, as King et al. (2005) argue that sentencing differentials associated with bench trials are driven almost exclusively by efficiency concerns. Bench trials are less elaborate and entail less information disclosure than jury trials (Ulmer, 1997), and in jurisdictions where they consist of recitations of stipulated facts, do not involve potentially damaging witness or victim testimony (King et al., 2005). It is likewise possible that if bench trials resemble slow or “implicit” pleas, judges may be more inclined to view offenders as cooperative and remorseful, similar to plea-bargained offenders. Thus, if efficiency is a more salient concern for bench trials, then time to disposition should account for more of the bench trial penalty than the jury

trial penalty.

Hypothesis 4a: After controlling for time to disposition, the effect of bench trial conviction and the effect of jury trial conviction on sentence severity will be reduced.

Hypothesis 4b: The effect of bench trial conviction on sentence severity will be reduced by a greater proportion than the effect of jury trial conviction after controlling for time to disposition.

While the effect of mode of conviction is thus expected to be at least partially explained by time to disposition, there is also reason to believe, based on the organizational efficiency perspective, that mode of conviction may condition the effect of time to disposition. As previously mentioned, research (e.g., Eisenstein and Jacob, 1977; Flemming, Nardulli, and Eisenstein, 1992; Ulmer, 1997) describes how trials are unpleasant to members of the courtroom workgroup, introducing conflict and interrupting the normal flow of court activity. On this basis, time spent in processing may represent different costs to court actors depending on whether the case is plea-bargained or resolved by trial. In particular, court actors may perceive trial time to be more costly than non-trial time, which is exactly what Zatz and Lizotte (1985) suggest. In examining the influence of various factors on the rate at which cases moved from arrest to disposition, Zatz and Lizotte (1985) found a negative effect of case duration for guilty pleas and a positive effect of case duration for trials. They interpreted this case duration effect as evidence that courts aim to minimize costly trial time, arguing that the results suggest that “the system attempts to conserve resources by hastening processing when it is costly and slowing processing when it is cheap” (Zatz and Lizotte, 1985: 331). As additional support

for this claim, Zatz and Lizotte (1985) point to an earlier study by Flemming, Nardulli, and Eisenstein (1987), which found that the longer cases stayed in district court, the faster their resolution once they reached the circuit court. The basic premise of Zatz and Lizotte's (1985) argument is that time devoted to trials poses a greater cost to court actors than other case processing time, which would imply an interaction between time to disposition and mode of conviction, such that increases in case processing time should be penalized more severely for trials than for plea-bargained cases. Empirically, this hypothesis is supported by Bradley-Engen et al. (2012), who reported a significant, positive interaction between case processing time and mode of conviction for terrorist offenders convicted in federal court.

Hypothesis 5: Time to disposition will interact with mode of conviction, with increases in time to disposition resulting in greater sentence severity for offenders convicted by trial than for offenders who pled guilty.

CHAPTER 4: DATA AND METHODOLOGY

Chapter 4 describes the specific data and method of analysis used to test the hypotheses developed in the previous chapter. This chapter begins with a description of the Maryland sentencing guidelines and then proceeds to a discussion of the data, including the various sources of the data and the sample selection procedure employed. Next, an explanation of the dependent, independent, and control variables included in the analysis is provided. Finally, the analytic technique chosen for this study is described, along with the rationale for its use.

The Maryland Sentencing Guidelines

Sentencing guidelines have been in effect in Maryland since July 1, 1983, when the Maryland Judicial Conference voted to implement the guidelines statewide. The main goals of Maryland's sentencing guidelines are to: (1) increase equity in sentencing by reducing unwarranted disparity while retaining judicial discretion to individualize sentences; (2) articulate an explicit sentencing policy while providing a regular basis for policy review and change; (3) provide information for new or rotating judges; and (4) promote increased visibility and aid public understanding of the sentencing process (Maryland State Commission on Criminal Sentencing Policy, 2014). The sentencing guidelines are purely descriptive, as they were developed based on extensive collection and analysis of data on the past sentencing practices of Maryland judges (Maryland State Commission on Criminal Sentencing Policy, 2014). Judicial compliance with the sentencing guidelines is periodically assessed to determine whether revision is needed to make the guidelines more in line with current sentencing trends.

The Maryland sentencing guidelines apply to criminal cases prosecuted in circuit

court. In Maryland, the district courts have jurisdiction over cases involving misdemeanor offenses, whereas the circuit courts have jurisdiction over cases involving felony offenses. The district and circuit courts have concurrent jurisdiction for cases involving misdemeanor offenses for which the penalty is confinement for three years or more or a fine of \$2,500 or more and for cases involving certain felonies, which are generally lower-level fraud- and theft-type offenses. In addition, any district court case in which the defendant is entitled to and demands a jury trial is transferred to circuit court.² The following cases are excluded from guidelines coverage: demands for a jury trial from district court, unless a pre-sentence investigation (PSI) is ordered; appeals from district court, unless a PSI is ordered; crimes that carry no possible penalty of incarceration; and violations of public local laws and municipal ordinances (Maryland State Commission on Criminal Sentencing Policy, 2014). The sentencing guidelines recommend whether an offender should be sentenced to incarceration as well as provide a sentence length range that refers to non-suspended time. The sentencing guidelines recommendation is determined by the intersection of an Offense Score and an Offender Score. Maryland employs a sentencing guidelines system that utilizes three separate guidelines matrices for person, property, and drug offenses. For property and drug offenses, the Offense Score is determined by the seriousness category of the offense, which ranges from I (the most serious) to VII (the least serious). For person offenses, the Offense Score is calculated based on the seriousness category of the offense, the physical or psychological injury to the victim, the presence of a weapon, and the vulnerability of the victim. Across all three offense types, the Offender Score is determined by the severity of the

² Jurisdiction of Maryland's district courts and circuit courts is governed by Courts and Judicial Proceedings Article, §4-301 and §4-302, Annotated Code of Maryland.

individual's prior juvenile offending and prior adult criminal record, whether the offender was in the criminal justice system at the time of the offense, and whether the offender has any prior probation or parole violations (see Appendix A for the Maryland sentencing guidelines matrices).

Maryland's sentencing guidelines are voluntary, although Criminal Procedure Article, §6-216, Annotated Code of Maryland requires judges to consider the sentencing guidelines when deciding on the proper sentence. In addition, judges are mandated to provide a reason for sentencing outside the recommended sentence range when they choose to depart from the guidelines. Even though few formal incentives exist for judges to adhere to the sentencing guidelines, compliance with the guidelines is high, as the overall judicial compliance rate has ranged from approximately 73% to 80% over the past ten years (Maryland State Commission on Criminal Sentencing Policy, 2014).

Data

To investigate the effects of time to disposition and mode of conviction on sentencing, this study utilizes data collected by the Maryland State Commission on Criminal Sentencing Policy (MSCCSP). The MSCCSP is an independent state agency created to oversee sentencing policy and monitor Maryland's sentencing guidelines. In fulfillment of its responsibilities, the MSCCSP collects sentencing guidelines worksheets, which are used to calculate the guidelines and record sentence information, and automates the information contained in the worksheets into the Maryland Sentencing Guidelines Database. The Database includes sentencing information for cases dating back to 1983, however, only partial data is available prior to 1999, when the MSCCSP assumed responsibility for the sentencing guidelines from the Administrative Office of

the Courts.

The Maryland Sentencing Guidelines Database offers several advantages for this research. First and foremost, the Database contains detailed information on a variety of individual-level characteristics, including offender and offense attributes such as date of birth, gender, race and ethnicity, criminal history, specific offense type and severity, offense date, and recommended sentence range. Case processing variables are also included, which consist of the date of sentencing, mode of conviction, attorney type, jurisdiction, and whether a PSI was ordered. In addition, the Database contains the sentence outcome for each case, including the amount of incarceration time, suspended time, credit for time served, home detention time, and length of the probation term. Another important feature of the Database is that since Maryland's sentencing guidelines apply only to cases disposed of in circuit court, more serious cases are represented in the Database, which is ideal for studying trial penalties. Finally, data entry and verification procedures employed by the MSCCSP staff ensure a high level of confidence in the accuracy of the information contained in the Database. The MSCCSP staff reviews the sentencing guidelines worksheets for accuracy when they are received, and possible errors or omissions are resolved through Maryland Judiciary Case Search or by contacting the individual(s) responsible for worksheet completion (Maryland State Commission on Criminal Sentencing Policy, 2014). Furthermore, the MSCCSP staff spends a significant amount of time each year routinely checking and cleaning the data maintained within the Database (Maryland State Commission on Criminal Sentencing Policy, 2014).

Nevertheless, the Maryland Sentencing Guidelines Database has certain

limitations. Because it is the responsibility of circuit court staff to provide the sentencing guidelines worksheets to the MSCCSP, information on guidelines-eligible cases may be missing from the Database if circuit court staff fails to complete and/or submit worksheets for those cases. While the MSCCSP has determined that overall, sentencing guidelines worksheets are received for most eligible cases, worksheet submission rates vary substantially across jurisdictions. Most important for the present study, however, is that the Database lacks information that would permit an accurate calculation of time to disposition for each case. To remedy this, the indictment filing date was researched for each case in the sample using the Maryland Judiciary Case Search (<http://casesearch.courts.state.md.us>). The Maryland Judiciary Case Search is maintained by the Maryland Judiciary and provides free public access to detailed court records. Based on docket numbers and offender names contained in the Maryland Sentencing Guidelines Database, indictment filing dates were successfully retrieved and matched to approximately 96% of cases in the sample.

The sample for this study consists of cases sentenced between January 1, 1999 and June 30, 2012 (the end of Fiscal Year 2012). The data were limited to single-count cases,³ since analysis of multiple-count cases introduces additional complexities. In particular, in Maryland, one set of sentencing guidelines is calculated for each sentencing case, and in multiple-count cases, the guidelines are calculated differently depending on whether the counts are determined to be part of one or several criminal “events.”

Furthermore, the possibility for either concurrent or consecutive sentences affects the

³ Single-count cases are those involving one convicted offense for which the judge must impose a sentence. Because merged and *nolle prosequi* offenses are not considered in the calculation of Maryland’s sentencing guidelines and therefore do not contribute to the overall offense count, it is possible that cases designated as single count involved more than one offense.

overall sentence length calculation in multiple-count cases. This approach has been adopted by prior research on sentencing in Maryland (e.g., Bushway and Piehl, 2001; Bushway, Owens, and Piehl, 2012; Souryal and Wellford, 1997) and by the MSCCSP in its annual reports.⁴ Reconsiderations for a Crime of Violence (as defined in Criminal Law Article, §14-101, Annotated Code of Maryland), three-judge panel reviews, and revocations of probation were also excluded from the sample. These restrictions resulted in the inclusion of 119,399 cases in the sampling frame. All cases with a bench trial (1,367 cases) or jury trial (1,762 cases) conviction were included in the sample to ensure that these disposition types were sufficiently represented. For cases resolved by guilty plea, a stratified random sampling procedure was employed to select 550 cases within each of the person, property, and drug offense types in proportion to the number of American Bar Association (ABA) plea agreements,⁵ non-ABA plea agreements, and pleas with no agreement in the population, totaling 1,650 cases convicted by guilty plea. After eliminating 204 cases for which the indictment filing date was not available,⁶ an additional 130 observations (approximately 2.7% of the initial sample) were removed due to missing information,⁷ leaving a total of 4,423 cases available for analysis. Statistical

⁴ Single-count cases account for approximately 75% of the sentencing guidelines worksheets received in a given year (Maryland State Commission on Criminal Sentencing Policy, 2014). A comparison of single-count and multiple-count cases sentenced between January 1, 1999 and June 30, 2012 showed that drug offenses were overrepresented by 13.1% in single-count cases, whereas cases in which a PSI report were ordered and jury trials were overrepresented by 14.4% and 7.8%, respectively, in multiple-count cases. In addition, offenders in multiple-count cases had significantly greater guidelines sentence recommendations and sentence lengths. For both the guidelines sentence recommendation and the length of imprisonment, the difference in means between single-count and multiple-count cases was approximately five years.

⁵ An ABA plea agreement is one that the court has approved relating to a particular sentence, disposition, or other judicial action; under Maryland Rule 4-243(c), the agreement is binding on the court (Maryland State Commission on Criminal Sentencing Policy, 2014).

⁶ In the course of researching indictment filing dates, 22 of the 4,779 cases were removed from the sample, as it was discovered that these cases were either violations of probation or appeals, and thus were erroneously included in the data. This resulted in a sample of 4,757 cases before exclusions due to missing data.

⁷ This number includes: 63 cases missing sentence length; 17 cases missing the guidelines sentence

power analysis performed using G*Power 3.1 (Faul et al., 2009) indicated that a sample size of 395 cases is needed to achieve a power level of 0.80, given a small effect size (measured by Cohen's [1988] f^2) and a 0.05 significance threshold for a two-tailed t test of a regression coefficient. Thus, the resulting sample should be of more than adequate size to test the hypotheses of this study.

Variables

Dependent Variable

This study focuses on sentence severity as the outcome, represented by the length of incarceration ordered in months. The length of incarceration variable refers to the amount of jail or prison time to be served from the date of sentencing, and therefore excludes credit for time served as well as suspended time.⁸ Lengths of incarceration range from 0 to 720 months,⁹ with values of 0 months indicating non-confinement sentences and values of 720 months indicating life sentences. While research by Holleran and Spohn (2004) has argued that qualitative differences between jail and prison sentences necessitate disaggregation of the sentencing decision beyond simply incarceration, doing so is not feasible in this instance since a clear distinction between sentences to jail and to prison is not available for all cases in the Maryland Sentencing Guidelines Database.

recommendation; 32 cases missing the Offender Score; 15 cases missing age; 3 cases missing gender; and 23 cases missing race/ethnicity. Some cases were missing information on more than one of these variables.

⁸ An additional analysis was performed in which the dependent variable was the Guidelines Applicable Sentence, which is the portion of the sentence that is considered when determining whether a given sentence is compliant with the sentencing guidelines. The Guidelines Applicable Sentence is calculated as the sum of jail or prison time to be served from the date of sentencing, home detention time, and credit for time served. The results remained the same in magnitude, directionality, and significance as those from the analysis that used length of incarceration as the dependent variable.

⁹ Two cases in the sample had lengths of incarceration of 840 and 960 months, however, both were recoded to 720 months. Maryland Judiciary Case Search indicated that for the first case, a sentence of life was ordered, although the sentence was recorded as 70 years. Similarly, the sentence for the second case was a life term with all but 80 years suspended. Since the MSCCSP assigns life sentences a numerical equivalent of 60 years, the sentences for these two cases should nevertheless be considered life terms.

Independent Variables

The two main variables of interest for this study are time to disposition and mode of conviction. Time to disposition indicates the amount of time from the indictment filing date to the date of sentencing in months. The date the indictment was filed for a case provides a reasonable starting point for when that case entered the Maryland circuit court system and has been used by prior research (e.g., Bradley-Engen et al., 2012) in measuring case processing time. Although the sentencing date can oftentimes be the same as the date of conviction, the present study uses the former to mark the termination of a case. This is done both out of necessity (the Maryland Sentencing Guidelines Database does not include date of conviction) and because additional court time and resources can be expended from conviction to sentencing. For cases in the sample, time to disposition ranges from 0.1 months (3 days) to 137.5 months (approximately 11 years). The high skew to this variable was addressed by top-coding cases at 44.2 months. This value served as a natural cut point in the distribution of time to disposition, as several cases had disposition times either equaling or close to 44.2 months, whereas there was a visible gap in disposition times after this point.¹⁰

Mode of conviction is recorded in the Maryland Sentencing Guidelines Database

¹⁰ This approach affected 12 cases. A sensitivity analysis was conducted to determine whether the results were altered when the original disposition times for these cases were used. Overall, the results for Model 2 were similar in magnitude, directionality, and significance. The most substantial change occurred in the mode of conviction-specific models, as the effect of time to disposition on sentence severity for guilty pleas reduced to non-significance. For 9 of the 12 cases, Maryland Judiciary Case Search indicated that the case involved a failure to appear by the offender that spanned multiple years. As a result, these cases arguably represent anomalies with regard to time to disposition, in which case top-coding is reasonable. Removing these cases from the analysis did not substantively alter the results from when they were top-coded. An alternative method of top-coding suggested by Nagin and Smith (1990) was also considered in a supplemental analysis, whereby extreme outliers were recoded to the 99th percentile (32.6 months). The results from this analysis were similar to those when 44.2 months was used as the top-coding value.

as one of the following: ABA plea agreement, non-ABA plea agreement, plea with no agreement, bench trial, or jury trial. Given that the interest of this study is in sentencing differentials specifically associated with bench trials and jury trials, the three types of plea dispositions are collapsed into a single category. In general, ABA plea agreements are the most common type of plea, accounting for approximately 50% of all guilty pleas, followed by non-ABA plea agreements and finally pleas with no agreement. Thus, mode of conviction is captured using two dummy variables, one for bench trials and one for jury trials, with guilty pleas serving as the reference.

Control Variables

Based on prior research, several legal and extralegal variables are included as controls. The legal variables consist of the guidelines sentence recommendation, the prior criminality of the offender, the offense type, the level of the offense, and whether the offense carries a mandatory minimum penalty. The guidelines sentence recommendation is included to control for the influence of offense seriousness and criminal history on the sentence outcome in a way that accounts for nonlinear effects of these variables under the sentencing guidelines (see Engen and Gainey, 2000a). As Kurlychek and Johnson (2010) noted, use of the guidelines sentence recommendation is additionally advantageous in this research context since under the Maryland sentencing guidelines, different metrics of offense seriousness are used for person, property, and drug offenses. While the guidelines sentence recommendation has been captured differently depending on the specific sentencing guidelines system, this study follows prior research on sentencing in Maryland (e.g., Bushway and Piehl, 2001; Kurlychek and Johnson, 2010) and uses the midpoint of the guidelines range. The prior criminality of the offender, captured by the Offender

Score calculated under the sentencing guidelines, is additionally included, as Ulmer (2000) argued that including measures of criminal history and offense seriousness is important even when one has already controlled for the guidelines sentence recommendation. In this regard, the Offender Score variable represents the influence of criminal history on the sentencing decision above and beyond its role in determining the guidelines sentence recommendation (Engen and Gainey, 2000b). Because the guidelines sentence recommendation is highly correlated with offense seriousness ($r = 0.73$ for person offenses, $r_s = 0.68$ for drug offenses, and $r_s = 0.46$ for property offenses), the latter is not included.

Three additional factors are included to control for legally relevant considerations. The offense type is measured with two dummy variables representing property and drug offenses, with offenses against a person serving as the reference category. The level of the offense is also captured with a dummy variable, coded 1 for felony offenses and 0 for misdemeanor offenses. Since cases involving offenses that carry legislatively-required mandatory minimum penalties may be “dead-bang” cases that progress more quickly through the courts (Zatz and Lizotte, 1985), and because such mandatory minimums have a substantial influence on the final sentence, a dummy variable indicating whether a non-suspendable mandatory minimum penalty is attached to the offense is included as well.

In addition to the above legal variables, several extralegal variables are employed as controls. Offender characteristics include the age, gender, and race/ethnicity of the offender, which have been found to be important determinants of the sentencing decision (e.g., Steffensmeier, Ulmer, and Kramer, 1998). Offender age is calculated as of the date of sentencing using the offender’s birth date. A dummy variable, coded 1 for males and 0

for females, is used to measure the gender of the offender. The race/ethnicity of the offender is distinguished with dummy variables for Blacks, Hispanics, and offenders of other races (including Native Hawaiian/Pacific Islanders, American Indian/Alaskan Natives, Asians, and other or unidentifiable groups), with Whites serving as the reference category. Several case-processing variables are also included. A dummy variable for whether a PSI report was ordered is used to control for possible exposure to negative information about the offender that occurs apart from the mode of conviction. Since 11.6% of cases were missing information on whether a PSI was ordered, a dummy-coded missing data indicator for this variable is included, which allows cases with missing values to be retained in the analysis without biasing the other coefficients. Because there is considerable debate regarding the effectiveness of different attorney types (Cohen, 2014; Hartley, Miller, and Spohn, 2010), the type of representation is also included, which compares private attorneys with public defenders and other representation (including court-appointed attorneys, self-representation, and unknown representation).¹¹ Finally, given that prior research has demonstrated significant contextual variation in sentencing (e.g., Johnson, 2006; Ulmer and Johnson, 2004), the jurisdiction where the case was heard is captured with a series of dummy variables distinguishing among the eight judicial circuits in Maryland (the Eighth Circuit is used as the reference category).¹²

¹¹ There were very few cases in which the type of representation was court-appointed or self (25 and 83 cases, respectively). An additional analysis was conducted that included separate dummy variables for public defenders, court-appointed attorneys, self-representation, and missing representation type. The results remained the same regardless of which of the two ways was used to measure the type of representation.

¹² Each of the 23 counties in Maryland and the city of Baltimore has its own circuit court, which is grouped into one of eight geographical circuits. The counties in each judicial circuit are provided in Appendix B. It was not possible to include county-level dummy variables due to the small number of cases in certain counties. To control for correlation among cases sentenced within the same jurisdiction, the analysis was performed with standard errors adjusted for clustering of observations across circuits.

Analytic Technique

The present study has two purposes: to examine the effect of time to disposition on sentence outcomes, and to assess the role of time in the trial penalty by examining the impact that controlling for time to disposition has on mode of conviction effects. To this end, a three-step analysis is performed. First, a typical model of sentencing that includes mode of conviction as well as controls for legal and extralegal factors is estimated. The next step involves estimation of a second model that builds on the first by incorporating a measure of time to disposition. Finally, models using time to disposition to predict sentence severity are estimated separately for each mode of conviction category, along with a combined bench/jury trial category. In this way, the second and third steps provide estimates of the effect of time to disposition on sentence severity, while comparison of the models from the first and second steps reveal the change in the effect of mode of conviction that results from the inclusion of time to disposition.

For each of these models, Tobit regression (Tobin, 1958) is utilized as the method of analysis. Tobit regression is suitable for this study given the limited nature of the dependent variable. Specifically, sentence length fits the definition of a corner solution outcome, as it is continuously distributed over a range of strictly positive values, but takes on the value zero with positive probability (Wooldridge, 2010). The dependent variable is additionally bounded at the value 720, since sentence lengths are capped at 60 years. Wooldridge (2010) argues that in such instances, Tobit regression is preferable to ordinary least-squares regression, since use of the latter results in biased and inconsistent parameter estimates, allows for negative predicted values, and incorrectly imposes constant partial effects and a linear relationship between the parameters and the

conditional expectation of the observed outcome.

The Tobit regression model is a type of censored regression model¹³ that conceptualizes the dependent variable as a latent, unobserved variable, y_i^* , to which the explanatory variables, \mathbf{x}_i , are linearly related:

$$y_i^* = \mathbf{x}_i\boldsymbol{\beta} + \varepsilon_i$$

The outcome that is actually observed, y_i , depends upon the value of the latent variable such that the observed outcome will be the same as the latent variable when the value of the latent variable is between the threshold values, in this case zero and 720, otherwise the threshold values will be observed. In mathematical terms:

$$y_i = 0 \text{ if } y_i^* \leq 0;$$

$$y_i = y_i^* \text{ if } 0 < y_i^* < 720;$$

$$y_i = 720 \text{ if } y_i^* \geq 720.$$

Although Wooldridge (2010) cautions against placing too much emphasis on the latent variable in the case of corner solution outcomes, in this particular instance, the latent variable can be thought of as sentence severity, whereas the observed variable refers to the length of incarceration ordered (Kurlychek and Johnson, 2010). Using maximum likelihood, the Tobit regression model estimates a vector of coefficients, $\hat{\boldsymbol{\beta}}$, representing the effects of the predictors on the conditional expectation of the latent variable, $E[y_i^* | x_i]$. This prediction of the latent variable captures both the probability of falling within the threshold values and the expectation of the outcome conditional on falling within the threshold values. Thus in this research context, the use of Tobit

¹³ Wooldridge (2010) notes that for corner solution outcomes, the term “corner solution model” is more appropriate, however, this class of models is commonly referred to as censored regression models.

regression accounts for the likelihood of incarceration as well as the length of confinement for those offenders receiving a sentence of incarceration (Kurlychek and Johnson, 2004). In addition to reporting the Tobit coefficients, the present study reports fully-standardized coefficients, represented as $SD(\beta)$, to permit a comparison of the magnitudes of the effects of the variables. The fully-standardized coefficients are interpreted as the standard deviation change in the latent variable that is associated with a one standard deviation increase in the predictor, and are calculated as $\frac{\sigma_k \beta_k}{\sigma_{y^*}}$, where σ_k is the standard deviation of the predictor k , β_k is the Tobit coefficient for the predictor k , and σ_{y^*} is the unconditional standard deviation of the latent variable (Long, 1997). While fully-standardized coefficients facilitate assessment of effect sizes, they do not easily lend themselves to substantive interpretation, as the meaning of a standard deviation increase in the predictor is often unclear, especially for dummy variables (Long, 1997). For this reason, in the subsequent chapter, findings are discussed in terms of y-standardized coefficients, which provide the standard deviation change in the latent variable associated with a one unit change in the predictor.¹⁴ In this regard, retaining the standardization of the dependent variable, sentence severity, is useful given the arbitrary nature of its scale (Long, 1997).

As is true of all statistical models, the Tobit regression model has some restrictions. Most importantly, it assumes that the predictors that affect whether an observation falls within the threshold values are the same predictors that affect the

¹⁴ Y-standardized coefficients are calculated as $\frac{\beta_k}{\sigma_{y^*}}$, where β_k is the Tobit coefficient for the predictor k and σ_{y^*} is the unconditional standard deviation of the latent variable (Long, 1997). Both fully-standardized and y-standardized coefficients were calculated in STATA using Long and Freese's (2014) `listcoef` postestimation command with the `std` option, which is compatible with the Tobit regression model.

expectation of the observed outcome conditional on falling within the threshold values. Substantively, this means that the same factors are responsible for the decision to incarcerate and the length of incarceration ordered, therefore implying that judicial decision making follows a one-step process (Bushway and Piehl, 2001). While much research (e.g., Kramer and Ulmer, 2009; Ulmer and Bradley, 2006; Ulmer and Johnson, 2004; Ulmer, Eisenstein, and Johnson, 2010) argues for modeling sentencing as a two-step process, Bushway and Piehl (2001) and Bushway, Johnson, and Slocum (2007) note that this assumption is largely based on research by Wheeler, Weisburd, and Bode (1982: 642) on white-collar offenders sentenced in the federal district courts, in which judges indicated that “the first and hardest decision the judge makes is whether the person will go to prison or not.” Yet, as Bushway and Piehl (2001) explain, Wheeler, Weisburd, and Bode’s (1982) study was conducted during the era of indeterminate sentencing, when the length of an offender’s prison sentence was primarily determined by the parole board. Following sentencing reform, which introduced sentencing guidelines and significantly limited the discretion of parole boards, the assumption of a two-step judicial decision-making process became less valid (Bushway and Piehl, 2001; Bushway, Johnson, and Slocum, 2007). Furthermore, when sentencing is conceptualized as a two-step process, the appropriate analytical technique is to use a selection model, which requires specification of exclusion restrictions (factors that influence the in/out decision but not the incarceration length decision) in order to avoid issues of multicollinearity and inflated standard errors (Bushway, Johnson, and Slocum, 2007). Identification of proper exclusion restrictions is difficult, however, as Bushway, Johnson, and Slocum (2007) explain that rarely have criminologists been able to come up with theoretically-defensible

exclusion restrictions. Thus, given that judicial decision making in Maryland takes place under sentencing guidelines, it seems justified to model sentencing as a one-step process in this study.

A second restriction of the Tobit regression model is that it assumes that error terms associated with the latent variable are normally distributed and homoscedastic (Wooldridge, 2010). These assumptions are important, since violating them may result in biased and inconsistent parameter estimates (Wooldridge, 2010). While it is not possible to directly test these assumptions (Bushway and Piehl, 2001), possible violations can be detected by comparing coefficient estimates from the Tobit regression model with those provided by semiparametric censored regression models (Chay and Powell, 2001). Accordingly, the present study compares coefficient estimates from the Tobit regression, Symmetrically Trimmed Least Squares (Powell, 1986), and Censored Least Absolute Deviations¹⁵ (Powell, 1984) models. Both the Symmetrically Trimmed Least Squares estimator and the Censored Least Absolute Deviations estimator impose weaker distributional assumptions than the Tobit regression model. In particular, the Symmetrically Trimmed Least Squares estimator requires the assumption that the error terms associated with the latent variable are symmetrically distributed around zero (Chay and Honoré, 1998). The estimator is motivated by a trimming of the data to restore the symmetry in the distribution of the actual error terms that is ruined by censoring, which then allows the regression coefficients to be estimated by least squares (Chay and Powell, 2001). The coefficient estimates from the Symmetrically Trimmed Least Squares estimator are interpreted in the same way as those from the Tobit regression model, as

¹⁵ The data for this study meet the requirements for the Censored Least Absolute Deviations model in that fewer than 50% of the observations fall outside of the threshold values.

they provide the effects of the predictors on the conditional expectation of the latent variable. Compared to the Symmetrically Trimmed Least Squares estimator, the Censored Least Absolute Deviations estimator makes a less restrictive distributional assumption, specifically, that the conditional median of the error terms associated with the latent variable is zero (Chay and Powell, 2001). It too trims the data so as to make the median of the observed variable unaffected by censoring, thus enabling the coefficients to be estimated by least absolute deviations (Chay and Powell, 2001). Because the coefficients from the Censored Least Absolute Deviations estimator are estimated by median regression, they represent the effects of the predictors on the conditional median of the latent variable (Britt, 2009). Yet, the assumption of a zero conditional median of the error terms necessitates that the coefficient estimates from the Censored Least Absolute Deviations estimator are directly comparable to those from the Tobit regression model and the Symmetrically Trimmed Least Squares estimator. Since the Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations estimators delete observations in estimation, they are less efficient than the Tobit regression model. Nevertheless, the estimators are useful for producing consistent parameter estimates and assessing potential bias in the Tobit regression model.

CHAPTER 5: FINDINGS

Table 1 presents descriptive statistics for the variables included in the analysis. With regard to the outcome of interest, the mean sentence length for offenders in the sample is 56.7 months. Of the 4,423 cases in the sample, 1,226 have sentence lengths of zero months, representing non-confinement sentences, and 68 have sentence lengths of 720 months, representing sentences of life imprisonment. Consistent with the notion of trial penalties, the mean sentence length for offenders convicted by jury trial is substantially longer than that for plea-bargained offenders, with the mean sentence length for offenders convicted by bench trial falling in between. On average, offenders who pled guilty received sentences of 19.9 months, compared to 42.6 months for bench trial-convicted offenders and 101.8 months for jury trial-convicted offenders.¹⁶

The mean length of time between indictment filing and sentencing is 8.1 months. As would be expected, offenders who pled guilty have the shortest mean length of time to disposition, followed by offenders convicted by bench trial and finally offenders convicted by jury trial. The average time to disposition for guilty pleas, bench trials, and jury trials is 6.5, 8.2, and 9.6 months, respectively. Figure 1 shows the distributions of time to disposition by mode of conviction. These distributions suggest that for each disposition type, there is considerable variability in the amount of time, and therefore possibly the organizational cost, involved in disposing of cases.

The study sample is predominantly male (89.5%) and African-American (66.0%), with an average age of 31.4 years. The mean Offender Score (on a scale of 0 to 9) is 3.1,

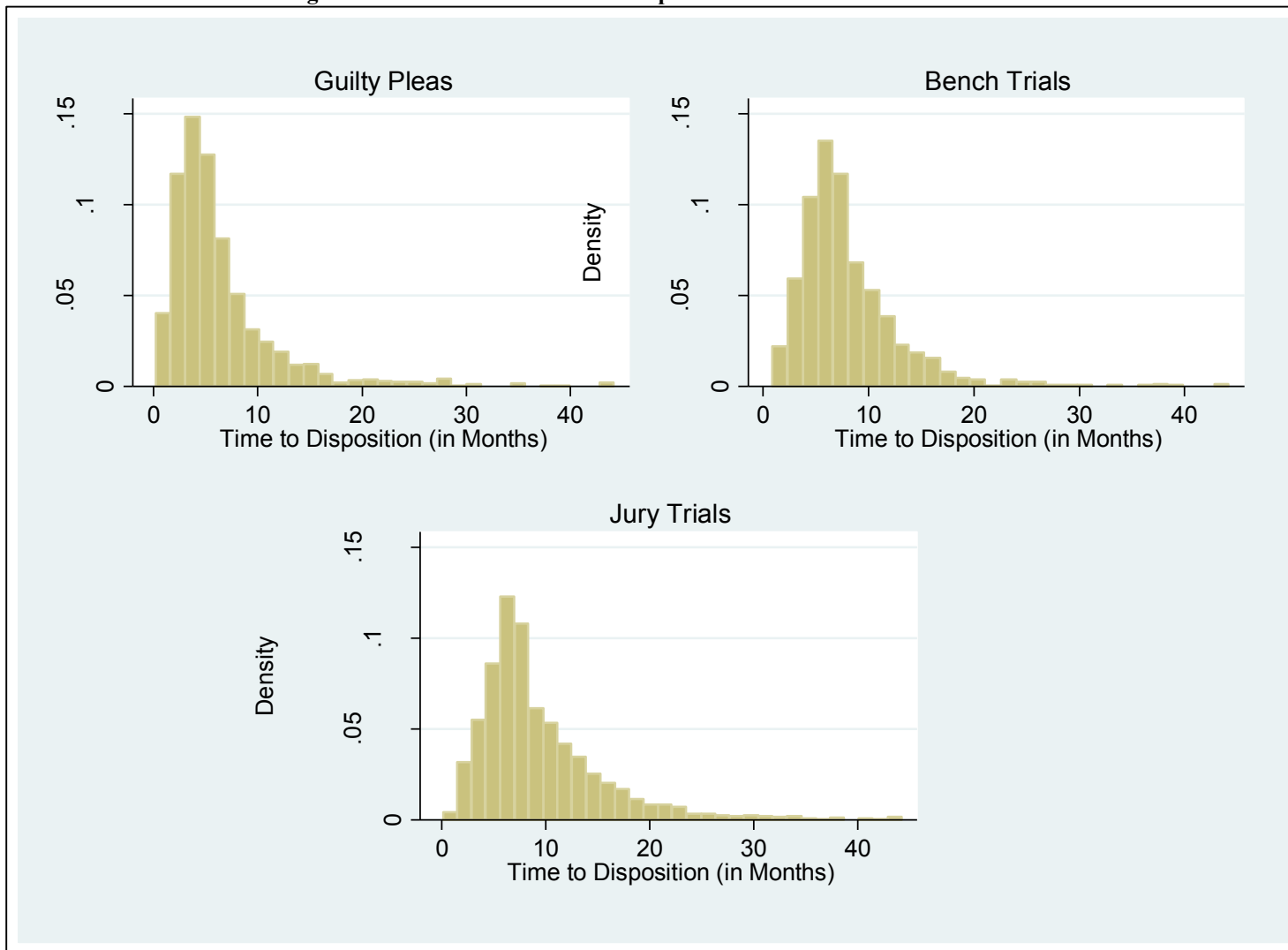
¹⁶ For offenders receiving a sentence of incarceration, the mean sentence length is 78.5 months for all modes of conviction, 36.1 months for guilty pleas, 59.1 months for bench trials, and 115.0 months for jury trials.

and the mean guidelines sentence recommendation, represented by the midpoint of the guidelines range, is 68.7 months. Reflecting the greater overall seriousness of circuit court cases, 64.4% of offenders in the sample were convicted of a felony offense, although only 2.4% of offenders were convicted of an offense carrying a mandatory minimum penalty. A PSI report was ordered for a little less than half (41.6%) of the sample. Slightly more offenders were represented by a public defender than by private counsel (42.7% versus 35.5%); 21.8% had another or unknown type of representation. By far the greatest percentage of the sample, 24.3%, was convicted in the Eighth Circuit, which is comprised exclusively of Baltimore City.

Table 1. Description of Sample (N = 4,423)

Variables	Frequency	%	Mean	SD
Sentence length (capped at 720 months)				
All cases			56.74	112.87
Guilty pleas			19.91	46.99
Bench trials			42.56	85.39
Jury trials			101.79	152.50
<i>Independent variables</i>				
Time to disposition (capped at 44.2 months)				
All cases			8.11	5.93
Guilty pleas			6.48	5.62
Bench trials			8.22	5.35
Jury trials			9.56	6.23
Mode of conviction				
Guilty plea	1,525	34.48		
Bench trial	1,256	28.40		
Jury trial	1,642	37.12		
<i>Control variables</i>				
Guidelines sentence recommendation (months)			68.73	105.51
Offender Score			3.08	2.56
Offense type				
Person	2,088	47.21		
Drug	1,387	31.36		
Property	948	21.43		
Level of offense				
Misdemeanor	1,577	35.65		
Felony	2,846	64.35		
Mandatory minimum penalty				
No	4,315	97.56		
Yes	108	2.44		
Age			31.38	10.64
Gender				
Female	463	10.47		
Male	3,960	89.53		
Race/ethnicity				
White	1,308	29.57		
Black	2,920	66.02		
Hispanic	153	3.46		
Other	42	0.95		
PSI report ordered				
No	2,074	46.89		
Yes	1,840	41.60		
Missing	509	11.51		
Type of representation				
Private attorney	1,572	35.54		
Public defender	1,888	42.69		
Other representation	963	21.77		
Jurisdiction				
First Circuit	464	10.49		
Second Circuit	302	6.83		
Third Circuit	741	16.75		
Fourth Circuit	223	5.04		
Fifth Circuit	487	11.01		
Sixth Circuit	317	7.17		
Seventh Circuit	813	18.38		
Eighth Circuit	1,076	24.33		

Figure 1. Distribution of Time to Disposition across Modes of Conviction



Bivariate correlations among the independent and dependent variables in the study are presented in Table 2 (in the interest of space, correlations between the independent and control variables are omitted). As preliminary support for the hypotheses in this study, time to disposition has a positive, significant relationship with sentence length ($r = 0.21$). Furthermore, jury trial conviction is positively and significantly related to both time to disposition ($r = 0.19$) and sentence length ($r = 0.31$). Contrary to expectations, the correlation between bench trial conviction and sentence length, while significant, is negative ($r = -0.08$). It is also worth noting that in line with prediction, bench trial conviction is positively associated with time to disposition ($r = 0.01$), though this relationship failed to reach statistical significance.

Table 2. Correlation Matrix of Independent and Dependent Variables

	Sentence length	Time to disposition	Bench trial	Jury trial
Sentence length	--			
Time to disposition	0.2127***	--		
Bench trial	-0.0791***	0.0109	--	
Jury trial	0.3067***	0.1870***	-0.4839***	--

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The highest correlations between the independent and control variables in the study are those between the mode of conviction variables ($r = -0.48$), the representation type variables ($r = -0.46$), the guidelines sentence recommendation and the Offender Score variables ($r = 0.36$), and the offense type variables ($r = -0.35$). This is to be expected, since the mode of conviction, representation type, and offense type variables are dummy coded and thus inherently related to each other (Cohen and Cohen, 1983). The moderate correlation between the guidelines sentence recommendation and the Offender Score variables is also not surprising, given that the Offender Score, together with the Offense Score, determines the guidelines range. Overall, the sizes of these correlations do not raise concern regarding multicollinearity.

To test the study hypotheses regarding the effects of time to disposition and mode of conviction, the analysis proceeded in three steps. In the first step, a baseline model (Model 1) predicting sentence severity was estimated, which included mode of conviction in addition to legal and extralegal control variables. Next, time to disposition was incorporated in a second model (Model 2) of sentence severity. The results of Models 1 and 2 are presented in Table 3. Model 1 shows that, compared to offenders who plead guilty, offenders convicted by bench trial and offenders convicted by jury trial receive sentences that are significantly more severe. Furthermore, the effect of jury trial conviction on sentence severity is greater than that of bench trial conviction.¹⁷ Being convicted by bench trial increases sentence severity by 0.1491 standard deviations, whereas being convicted by jury trial increases sentence severity by 0.4077 standard deviations. Together, these results provide strong support for Hypotheses 1 and 2. In fact, conviction by jury trial has the second largest effect of all of the variables in Model 1, behind only the guidelines sentence recommendation. The effect of bench trial conviction is also substantial, as it exerts a greater effect on sentence severity than any of the other extralegal variables, with the exception of the First Circuit variable.

Except for the Offender Score, all of the legal control variables in Model 1 are significant in predicting sentence severity. Not surprisingly, offenders with higher guidelines sentence recommendations and those convicted of felony offenses receive generally more severe sentences relative to other offenders, whereas offenders convicted of drug offenses, property offenses, and offenses that carry a mandatory minimum

¹⁷ A Wald test of equality of the coefficients for bench trial conviction and jury trial conviction in Model 1 reported an F-statistic of 35.51 and an associated p-value of close to 0.000, which suggests that the effects of these two variables on sentence severity are significantly different from one another.

penalty receive less severe sentences. The non-significance of the Offender Score variable may suggest that at least for this sample of offenders, the effect of criminal history operates primarily through the sentencing guidelines. With regard to the extralegal control variables in the model, gender, race/ethnicity, and type of representation exert significant effects on sentence severity, such that males, Blacks, Hispanics, and offenders represented by a public defender (compared to offenders represented by private counsel) are more likely to receive harsher sentences. Offenders for whom a PSI report was ordered are also sentenced more severely. It should be noted that the dummy variable indicating missing information for whether a PSI report was ordered is not significant, which suggests that missing data on this variable may be random in relationship to sentence severity. Unexpectedly, the effect of offender age on sentence severity is not significant; however, this finding is consistent with prior research that examines sentencing in Maryland using Tobit regression (i.e., Bushway and Piehl, 2001).¹⁸ Finally, the results from Model 1 show that the judicial circuit in which the case is heard significantly influences the sentence an offender receives. Compared to the Eighth Circuit, all of the other judicial circuits mete out substantially more severe sentences, with the First Circuit being especially punitive (although the effect of the Seventh Circuit on sentence severity is only marginally significant).

Consistent with Hypothesis 3 and the organizational efficiency perspective of court actor behavior, the results for Model 2 reveal a significant, direct effect of time to disposition on sentence severity.¹⁹ For a 1-month increase in time to disposition, sentence

¹⁸ Based on earlier work by Steffensmeier, Kramer, and Ulmer (1995), the analysis was also performed with an additional quadratic term for age; however, the quadratic term was not significant.

¹⁹ To test for a possible nonlinear effect of time to disposition on sentence severity, Model 2 was re-estimated with an additional quadratic term for time to disposition. The results from this analysis showed

severity is expected to increase by 0.005 standard deviations. Although time to disposition does not have one of the largest effect sizes among the variables in Model 2, its effect on sentence severity is nevertheless similar in magnitude to extralegal factors such as race/ethnicity and representation type that are a prominent focus of sentencing research. Comparing Model 1 with Model 2, however, shows that Hypotheses 4a and 4b are not supported. Contrary to the organizational efficiency explanation of trial penalties, controlling for time to disposition barely decreases the effects of bench trial conviction and jury trial conviction on sentence severity, which remain large and significant in Model 2. Specifically, Model 2 reports that being convicted by bench trial increases sentence severity by 0.1444 standard deviations, and being convicted by jury trial increases sentence severity by 0.3957 standard deviations. This translates into a 3.14% reduction in the size of the coefficient for bench trial conviction and a 2.95% reduction in the size of the coefficient for jury trial conviction from Model 1 to Model 2. There is likewise considerable overlap in the 95% confidence intervals associated with the mode of conviction coefficients between Models 1 and 2, indicating that the changes in these coefficients are not statistically significant at $p = 0.05$.²⁰ In addition, although technically the effect of bench trial conviction is reduced by a greater percentage than that of jury trial conviction, the difference between the two percentages is only 0.19. Thus, in Model 2, substantial bench and jury trial penalties remain that are not accounted for by time to disposition. The effects of the legal and extralegal control variables also remain relatively consistent across the two models.

that the quadratic term was not significant.

²⁰ The 95% confidence interval for the bench trial conviction coefficient is [3.22, 35.71] in Model 1 and [3.11, 34.59] in Model 2. The 95% confidence interval for the jury trial conviction coefficient is [27.35, 79.09] in Model 1 and [26.56, 76.75] in Model 2.

Table 3. Tobit Regression Models of Sentence Severity, All Modes of Conviction

	Model 1			Model 2		
	β	S.E.	SD(β)	β	S.E.	SD(β)
Constant	-90.76	10.97	--***	-95.10	10.80	--***
<u>Independent Variables</u>						
Time to disposition	--	--	--	0.65	0.22	0.03**
Bench trial	19.46	8.29	0.07*	18.85	8.03	0.07*
Jury trial	53.22	13.19	0.20***	51.65	12.80	0.19***
<u>Control Variables</u>						
<i>Legal</i>						
Guidelines sentence recommendation	0.94	0.05	0.76***	0.93	0.05	0.75***
Offender Score	-0.77	0.71	-0.02	-0.80	0.70	-0.02
Drug offense	-20.60	5.04	-0.07***	-20.61	4.92	-0.07***
Property offense	-8.76	2.64	-0.03**	-8.55	2.68	-0.03**
Felony offense	17.56	3.34	0.06***	17.13	3.51	0.06***
Mandatory minimum penalty	-18.45	8.89	-0.02*	-18.48	8.95	-0.02*
<i>Extralegal</i>						
Age	-0.15	0.17	-0.01	-0.16	0.18	-0.01
Male	18.08	2.93	0.04***	18.06	2.85	0.04***
Black	9.53	2.72	0.03***	9.26	2.79	0.03**
Hispanic	16.22	7.43	0.02*	15.61	7.53	0.02*
Other race	12.27	11.44	0.01	11.53	11.21	0.01
PSI report ordered	10.51	4.55	0.04*	9.66	4.50	0.04*
Missing PSI report	2.11	1.92	0.01	1.98	2.01	0.004
Public defender	4.99	2.29	0.02*	5.94	2.27	0.02**
Other representation	8.27	4.37	0.03†	8.99	4.55	0.03*
First Circuit	38.91	4.30	0.09***	41.10	4.27	0.10***
Second Circuit	16.40	6.03	0.03**	17.45	5.93	0.03**
Third Circuit	15.35	4.07	0.04***	15.65	3.95	0.04***
Fourth Circuit	22.87	4.11	0.04***	25.20	4.12	0.04***
Fifth Circuit	12.89	3.26	0.03***	13.89	3.24	0.03***
Sixth Circuit	12.52	5.01	0.02*	14.09	4.99	0.03**
Seventh Circuit	10.23	6.28	0.03	11.01	6.18	0.03†
Sigma	68.03	2.63		67.94	2.65	
N		4,423			4,423	

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

As previously mentioned, Tobit regression is sensitive to violations of the assumptions of normality and homoscedasticity of the error terms associated with the latent variable, in that such violations can result in inconsistent parameter estimates (Wooldridge, 2010). To check for possible misspecification, Models 1 and 2 were re-estimated using the Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations estimators, the results for which are reported in Table 4. The coefficient estimates for time to disposition from the Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations estimators closely match that given by the Tobit regression model, as the Tobit regression model reports $\hat{\beta} = 0.65$, the Symmetrically Trimmed Least Squares estimator reports $\hat{\beta} = 0.64$, and the Censored Least Absolute Deviations estimator reports $\hat{\beta} = 0.61$. This suggests that the choice of the Tobit regression model is not biasing the effect of time to disposition. Although the results from the Symmetrically Trimmed Least Squares estimator indicate that the effect of time to disposition on sentence severity is not significant, this is likely due to the relative inefficiency of the estimator, which deletes additional observations in estimation. This inefficiency is apparent in the larger standard error for time to disposition reported by the Symmetrically Trimmed Least Squares estimator ($S.E. = 0.41$) compared to that reported by the Tobit regression model ($S.E. = 0.22$).

A comparison of the coefficient estimates for bench trial conviction and jury trial conviction from the Tobit regression model, Symmetrically Trimmed Least Squares estimator, and Censored Least Absolute Deviations estimator reveal non-negligible differences among the three estimators for these variables. That is, for bench trial conviction, the Tobit regression model reports $\hat{\beta} = 18.85$, the Symmetrically Trimmed

Least Squares estimator reports $\hat{\beta} = 69.53$, and the Censored Least Absolute Deviations estimator reports $\hat{\beta} = 39.57$ in Model 2. Similarly, for jury trial conviction, the Tobit regression model reports $\hat{\beta} = 51.65$, the Symmetrically Trimmed Least Squares estimator reports $\hat{\beta} = 117.69$, and the Censored Least Absolute Deviations estimator reports $\hat{\beta} = 68.11$ in Model 2. Despite these varying estimates, however, the substantive conclusions remain the same across estimators. Like those from the Tobit regression model, the results from the Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations estimators show large, significant effects of bench trial conviction and jury trial conviction on sentence severity, with a greater effect for jury trial conviction than for bench trial conviction. Furthermore, the results from the Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations estimators similarly indicate very little change in the magnitude of the effects of bench trial conviction and jury trial conviction from including time to disposition in Model 2. Specifically, the Symmetrically Trimmed Least Squares estimator reports a 2.86% decrease in the effect of bench trial conviction and a 3.00% decrease in the effect of jury trial conviction from Model 1 to Model 2, and the Censored Least Absolute Deviations estimator reports a 1.30% decrease in the effect of bench trial conviction and a 3.47% decrease in the effect of jury trial conviction from Model 1 to Model 2. Consequently, regardless of the estimator used, it appears that time to disposition is not primarily responsible for the effects of bench trial conviction and jury trial conviction on sentence severity.

Table 4. Symmetrically Trimmed Least Squares and Censored Least Absolute Deviations Models of Sentence Severity, All Modes of Conviction

	Symmetrically Trimmed Least Squares				Censored Least Absolute Deviations			
	Model 1		Model 2		Model 1		Model 2	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Constant	-193.69***	29.44	-195.42***	29.04	-103.05*	15.20	-106.73*	14.21
Independent Variables								
Time to disposition	--	--	0.64	0.41	--	--	0.61*	0.26
Bench trial	71.52***	15.17	69.53***	15.61	40.09*	13.81	39.57*	12.74
Jury trial	121.33***	14.59	117.69***	15.26	70.56*	13.23	68.11*	12.83
Control Variables								
<i>Legal</i>								
Guidelines sentence recommendation	0.93***	0.03	0.93***	0.03	0.97*	0.01	0.96*	0.01
Offender Score	-2.68*	1.06	-2.69*	1.04	-0.05	0.53	-0.27	0.71
Drug offense	-32.90***	4.64	-32.60***	4.60	-17.11*	4.09	-16.23*	5.12
Property offense	-28.68***	5.87	-27.29***	5.78	-9.78*	3.92	-8.80*	4.37
Felony offense	43.89***	7.41	43.42***	7.19	12.04*	3.84	10.43*	4.14
Mandatory minimum penalty	-39.01***	9.81	-38.80***	9.84	-6.59	6.25	-6.79	6.07
<i>Extralegal</i>								
Age	0.28	0.22	0.24	0.21	-0.13	0.11	-0.10	0.12
Male	35.70†	18.31	34.12†	18.03	20.29*	9.42	24.19*	8.89
Black	22.94**	6.86	23.16**	6.91	8.32*	4.01	6.98	3.59
Hispanic	25.80*	11.96	25.68*	11.77	16.89	10.34	14.06	8.17
Other race	29.01*	14.59	28.78*	13.45	23.49	17.03	24.29	15.97
PSI report ordered	1.07	5.43	0.42	5.49	2.05	3.67	1.10	3.80
Missing PSI report	-8.17	8.54	-8.00	8.49	0.24	4.64	1.45	5.10
Public defender	4.82	4.80	5.97	4.87	3.52	2.68	1.94	3.25
Other representation	9.63	6.48	10.00	6.43	4.88	3.86	2.90	3.96
First Circuit	22.47**	7.22	26.48***	7.30	22.25*	6.14	23.09*	6.68
Second Circuit	-17.69	13.43	-14.14	13.24	12.19	6.52	11.90	7.23
Third Circuit	16.58*	7.20	17.65*	7.11	8.32	4.78	8.66	4.90
Fourth Circuit	-2.72	10.62	1.26	11.08	21.43*	7.63	23.16	7.15
Fifth Circuit	5.13	8.76	5.47	8.76	4.47	6.87	2.17	6.97
Sixth Circuit	-4.93	9.34	-2.41	9.69	-3.66	7.58	-1.67	6.13
Seventh Circuit	0.93	7.36	3.20	7.46	4.06	6.21	5.16	6.04
<i>N</i>	1,861		1,874		2,359		2,411	

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

In order to determine whether the effect of time to disposition is conditioned by the mode of conviction, as a third step in the analysis, models predicting sentence severity were estimated individually for guilty pleas, bench trials, jury trials, and all trials combined. Table 5 presents the results from the four Tobit regression models. Statistical tests for significant differences in coefficients across models (Paternoster et al., 1998) were also performed, and are reported in Table 6.²¹ As Table 5 demonstrates, time to disposition is a significant predictor of sentence severity for cases that are resolved by guilty plea. For these cases, a 1-month increase in time to disposition increases sentence severity by 0.0055 standard deviations. This effect is greater than that of being convicted of an offense that carries a mandatory minimum penalty, being Hispanic, or being represented by a public defender. Interestingly, while time to disposition is not a significant predictor of sentence severity in the individual bench and jury trial models, it reaches statistical significance in the model that considers bench and jury trials together. This discrepancy may be due to differences in statistical power between the models or the larger variation in time to disposition for both bench and jury trial cases. For trials, the coefficient for time to disposition is slightly larger than that for guilty pleas, with a 1-month increase in time to disposition increasing sentence severity by 0.0062 standard deviations. Table 6 indicates that the difference in the effect of time to disposition between guilty pleas and trials is statistically significant at $p = 0.10$. By contrast, a statistical comparison of the coefficient estimates for time to disposition across the guilty plea, bench trial, and jury trial models failed to demonstrate that the effect of time to

²¹ Paternoster et al. (1998) state that their formula for testing for differences between regression coefficients across independent samples is applicable to the Tobit regression model.

disposition is significantly different across the three modes of conviction.²² These results therefore appear to provide support for Hypothesis 5, which predicted a greater effect of time to disposition on sentence severity for trials than for guilty pleas.

Several other noteworthy findings emerge from the mode of conviction-specific models. The results indicate that the effect of the guidelines sentence recommendation on sentence severity is significantly greater for cases convicted through bench or jury trials than for cases convicted through guilty pleas, which follows if sentences for guilty pleas are more likely to deviate from the sentencing guidelines. In addition, significance tests demonstrate that the effects of conviction for a property offense and conviction for a felony offense are significantly greater for jury trials compared to other cases, although these differences become non-significant when bench and jury trials are combined into a single category. Also important is that the overall effect of being convicted of an offense carrying a mandatory minimum penalty, which Table 3 shows is negative, appears to be driven largely by jury trials. Indeed, Table 6 reports that this effect is significantly different for jury trials than for guilty pleas and bench trials. For jury trials, being convicted of an offense carrying a mandatory minimum penalty strongly decreases sentence severity, whereas for guilty pleas and bench trials it increases sentence severity. Like time to disposition, age is a significant predictor of sentence severity only for cases convicted by guilty plea. This effect is significantly greater than that for jury trials, and is marginally significantly greater than that for bench trials. The effect of gender also varies

²² As an alternative to estimating separate models for each mode of conviction category, possible differences in the effect of time to disposition across modes of conviction were examined using cross-product interaction terms. Consistent with the main analysis, the *time to disposition* × *bench trial* and *time to disposition* × *jury trial* terms were not statistically significant, though the *time to disposition* × *trial* term was.

significantly across modes of conviction. For jury trials, gender exerts a large effect, for bench trials the effect declines in magnitude but remains significant, and for guilty pleas it reduces to non-significance. Similarly, Black and Hispanic race/ethnicity have larger influences on sentence severity for trials compared to guilty pleas, but differences in the size of their effects across modes of conviction are not statistically significant. Mode of conviction appears to condition the effect of court context as well. All of the other seven circuits are more punitive than the Eighth Circuit when it comes to guilty pleas and bench trials; however, for jury trials, many circuits are actually more lenient than the Eighth Circuit. Collectively, these results provide further support for Johnson's (2003) conclusion that there are important differences in the effects of both legal and extralegal variables across modes of conviction.

Table 5. Tobit Regression Models of Sentence Severity, Individual Modes of Conviction

	Guilty Pleas			Bench and Jury Trials			Bench Trials			Jury Trials		
	β	S.E.	SD(β)	β	S.E.	SD(B)	β	S.E.	SD(B)	β	S.E.	SD(B)
Constant	-50.23	12.49	--***	-67.28	10.69	--***	-68.17	15.03	--***	-46.06	11.37	--***
Independent Variables												
Time to disposition	0.35	0.14	0.03*	0.91	0.30	0.04**	0.64	0.42	0.03	0.26	0.40	0.01
Control Variables												
<i>Legal</i>												
Guidelines sentence recommendation	0.65	0.13	0.66***	0.98	0.04	0.81***	0.96	0.08	0.79***	0.96	0.04	0.82***
Offender Score	0.27	1.31	0.01	-0.39	0.85	-0.01	-1.35	0.82	-0.03†	-1.60	1.04	-0.03
Drug offense	-18.88	8.88	-0.14*	-22.43	4.65	-0.07***	-5.56	4.24	-0.03	-26.20	3.96	-0.07***
Property offense	-7.71	3.73	-0.06*	-13.18	3.33	-0.03***	-0.71	3.66	-0.002	-21.58	5.15	-0.05***
Felony offense	9.92	4.82	0.07*	18.39	5.10	0.06***	2.19	2.88	0.01	33.80	6.08	0.10***
Mandatory minimum penalty	18.15	3.33	0.02***	-27.81	8.61	-0.03**	12.55	8.21	0.02	-47.39	9.24	-0.06***
<i>Extralegal</i>												
Age	-0.38	0.13	-0.06**	0.09	0.18	0.01	-0.04	0.15	-0.004	0.09	0.20	0.01
Male	2.80	2.01	0.01	26.13	4.34	0.05***	18.97	5.10	0.06***	31.31	3.35	0.05***
Black	6.46	2.86	0.05*	14.85	4.33	0.05**	10.82	5.27	0.05*	10.20	5.69	0.03†
Hispanic	9.63	5.89	0.02†	22.54	7.83	0.03**	11.35	7.18	0.02	20.21	8.66	0.02*
Other race	28.20	12.91	0.04*	9.94	13.71	0.01	0.35	12.40	0.0004	12.96	22.95	0.01
PSI report ordered	22.55	7.74	0.11**	1.93	5.45	0.01	1.05	4.33	0.01	9.37	5.00	0.03†
Missing PSI report	1.40	4.41	0.01	2.28	2.69	0.004	10.69	5.14	0.03*	-5.42	7.25	-0.01
Public defender	3.44	1.37	0.03*	9.26	3.57	0.03*	5.60	4.51	0.03	5.83	5.02	0.02
Other representation	5.21	5.26	0.03	4.17	3.43	0.01	9.97	5.20	0.05†	3.35	2.68	0.01
First Circuit	46.27	3.90	0.18***	27.53	2.18	0.06***	29.30	0.94	0.09***	19.58	2.85	0.04***
Second Circuit	30.94	5.00	0.09***	-1.86	3.39	-0.004	17.06	3.89	0.06***	-18.80	2.22	-0.03***
Third Circuit	20.10	5.56	0.11***	-2.83	2.22	-0.001	10.31	1.35	0.05***	7.24	2.21	0.01**
Fourth Circuit	34.21	4.11	0.10***	10.84	2.65	0.02***	30.08	1.97	0.06***	-5.37	4.32	-0.01
Fifth Circuit	20.41	5.02	0.12***	-3.63	2.15	-0.01†	7.00	2.58	0.02**	-2.41	1.75	-0.003
Sixth Circuit	32.03	4.04	0.13***	-1.75	2.08	-0.003	14.00	3.52	0.03***	-19.53	2.66	-0.03***
Seventh Circuit	23.14	4.13	0.13***	-3.93	3.50	-0.01	7.66	4.57	0.03†	-17.40	3.67	-0.04***
Sigma	44.08	4.65		73.93	3.22		57.83	7.36		79.22	3.27	
N		1,525			2,898			1,256			1,642	

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 6. Comparisons of Model Coefficients across Modes of Conviction

	<u>Guilty Pleas vs. Trials</u>	<u>Guilty Pleas vs. Bench Trials</u>	<u>Guilty Pleas vs. Jury Trials</u>	<u>Bench Trials vs. Jury Trials</u>
<u>Independent Variables</u>	<u>Z-score</u>	<u>Z-score</u>	<u>Z-score</u>	<u>Z-score</u>
Time to disposition	-1.70†	-0.66	0.20	0.65
<u>Control Variables</u>				
<i>Legal</i>				
Guidelines sentence recommendation	-2.49*	-2.09*	-2.30*	0.03
Offender Score	0.42	1.05	1.12	0.19
Drug offense	0.35	-1.35	0.75	3.56***
Property offense	1.09	-1.34	2.18*	3.31***
Felony offense	-1.21	1.38	-3.08**	-4.70***
Mandatory minimum penalty	4.98***	0.63	6.67***	4.85***
<i>Extralegal</i>				
Age	-4.88***	-1.72†	-2.00*	-0.56
Male	-1.62	-2.95**	-7.30***	-2.02*
Black	-1.32	-0.73	-0.59	0.08
Hispanic	0.97	-0.19	-1.01	-0.79
Other race	2.18*	1.56	0.58	-0.48
PSI report ordered	-0.17	2.42*	1.43	-1.26
Missing PSI report	-1.52	-1.37	0.80	1.81†
Public defender	0.17	-0.46	-0.46	-0.03
Other representation	4.20***	-0.64	0.32	1.13
First Circuit	5.43***	4.23***	5.53***	3.24**
Second Circuit	3.83***	2.19*	9.10***	8.01***
Third Circuit	4.77***	1.71†	2.15*	1.19
Fourth Circuit	4.40***	0.91	6.63***	7.46***
Fifth Circuit	7.44***	2.38*	4.29***	3.01**
Sixth Circuit	5.00***	3.37***	10.67***	7.60***
Seventh Circuit	-4.88***	2.51*	7.34***	4.27***

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

CHAPTER 6: SUMMARY AND CONCLUSION

Discussion

Time, or processing speed, is implicit and instrumental in many interpretations of sentencing. The organizational efficiency theoretical perspective of court actor behavior emphasizes timely case disposition as a shared goal of prosecutors, judges, and defense counsel, such that cooperative case processing strategies develop with this end in mind. In this way, time is also central to explanations of the trial penalty, as scholars and practitioners alike have attributed the harsher sentencing of trial-convicted offenders to the greater organizational cost associated with trials. The present study set out to provide empirical verification of these propositions by examining the relationship between time to disposition, mode of conviction, and sentence severity among a broad sample of offenders.

The results of this study showed mixed support for its hypotheses. Consistent with most sentencing research, strong, significant effects were found for bench trial conviction and jury trial conviction on sentence severity. Also as expected, conviction by jury trial exerted a greater effect on sentence severity than conviction by bench trial. While overall, findings from research comparing bench trials with jury trials are inconsistent, this particular result lends additional support to studies that have examined sentencing in Maryland specifically, which have more reliably reported harsher sentences for jury trials than for bench trials. This finding, together with research by King et al. (2005) and Souryal and Wellford (1997), suggests that in Maryland, bench trials and jury trials represent substantively different processes. Consequently, as has been argued by Johnson

(2003) and LaFree (1985), separation of bench trials and jury trials in future examinations of sentencing is warranted.

It was also hypothesized that time to disposition would positively impact sentence severity independent of the mode of conviction. This expectation was supported by the analysis, with longer case processing times being associated with more severe sentences for offenders. The significant effect of time to disposition in the present study suggests that the punishment meted out in a case may be at least to some extent a function of the organizational cost incurred in processing and disposing of that case, which lends credence to the organizational efficiency perspective. It may be that court actors seek to penalize offenders whose cases take up more of the court's time and resources as a way of promoting the smooth progression of cases through the system. Importantly, this finding mirrors prior research by Bradley-Engen et al. (2012), which reported a significant, positive effect of time to disposition for offenders sentenced in the federal district courts for crimes identified in connection with terrorism investigations. The fact that similar results were found in research examining different groups of offenders in different court systems preliminarily indicates that like the trial penalty, this practice may be widespread, though additional studies conducted in new contexts with different types of offenders are needed to confirm this.

Unexpectedly, controlling for time to disposition resulted in little to no appreciable change in the effects of bench trial conviction and jury trial conviction on sentence severity. Time did not mediate the influence of mode of conviction, as offenders who went to trial and were convicted (either by a judge or a jury) received harsher sentences, regardless of the amount of time invested in securing the conviction. This

finding can be interpreted in one of two ways. The first possibility is that from the organizational efficiency perspective, time to disposition does not fully capture the organizational cost of a trial. As mentioned previously, the present study relied upon time to disposition as a proxy for the concept of organizational cost. Despite a strong theoretical justification for using time to disposition, it admittedly may be an imperfect measure of organizational cost. Indeed, additional factors such as the amount of effort invested by court actors, disruption to cooperative working relations, and introduction of uncertainty all likely contribute to the organizational cost of a trial, and appropriate measures of these will be needed for a more comprehensive assessment of the organizational efficiency explanation of trial penalties.

An alternative possibility is that this result supports the substantive rationality interpretation of trial penalties. From this perspective, the persistent, strong effect of mode of conviction may reflect court actors' attempts in producing individualized punishments that appropriately take into account the circumstances of the crime and the individual (Bradley-Engen et al., 2012). As Ulmer, Eisenstein, and Johnson (2010) explain, conviction at trial likely triggers certain assessments about culpability and dangerousness, which may therefore explain the harsher sentencing of trial-convicted offenders. That time to disposition was not responsible for the effect of mode of conviction on sentence severity may suggest that trial penalties are the result of "bad facts" revealed during the course of a trial or the greater perceived blameworthiness that comes from refusing to admit guilt and accept responsibility for the crime (Ulmer and Bradley, 2006; Ulmer, Eisenstein, and Johnson, 2010).

It is also important that the effects of bench trial conviction and jury trial conviction on sentence severity were both relatively unchanged by controlling for time to disposition, which may suggest that similar mechanisms underlie bench trial penalties and jury trial penalties. It is possible that compared to guilty pleas, bench trials and jury trials allow for more negative information to be revealed or communicate a lack of remorsefulness on the part of the offender. In this regard, the harsher sentences observed for jury trials compared to bench trials may be the result of a common process, just to a different degree. That is, bench trial conviction may result in less of a penalty for offenders than jury trial conviction because the opportunity for disparaging facts to come out is more limited, which is supported by Ulmer's (1997: 98) observation that judges and defense attorneys in Pennsylvania noted that jury trials especially risked disclosure of ugly facts about the case and the defendant. Similarly, even when bench trials serve as slow pleas, the offender technically pleads not guilty, which the judge may view unfavorably. Of course, without additional, more nuanced ways of tapping court actors' assessments of culpability and dangerousness, this remains purely conjecture. At the very least, however, the findings imply that efficiency concerns are not differentially responsible for bench and jury trial penalties.

Finally, in line with prediction, this study found that time to disposition had a significantly greater effect on sentence severity for trials than for guilty pleas. Although taking up more of the court's time leads to increases in sentence severity even if offenders plead guilty, the greatest impact is on those convicted at trial. This finding further supports the organizational efficiency perspective as well as previous arguments by Flemming, Nardulli, and Eisenstein (1987) and Zatz and Lizotte (1985) that time spent

in trial is costlier to court actors. It also parallels Bradley-Engen et al.'s (2012) reported positive interaction effect between time to disposition and trial conviction. While the desire to conserve resources may lead court actors to reward early pleading defendants with more lenient sentences, the greater costs associated with trials may produce a larger incentive for court actors to secure a return on their investments as time goes on (Bradley-Engen et al., 2012).

Another framework for interpreting this result is that proposed by Johnson (2003). He argued that different modes of conviction likely reflect the differential exercise of discretion by different court actors, which influences the extent to which certain factors affect sentencing outcomes. In contrast to guilty pleas, which involve considerable prosecutorial discretion, bench trials and jury trials involve greater discretion on the part of judges (Johnson, 2003). According to this line of reasoning, the greater effect of time to disposition for trials compared to guilty pleas possibly suggests that efficiency is a more salient concern for judges than it is for prosecutors.

Limitations and Future Directions for Research

This study has some consequential limitations. Although the Maryland Sentencing Guidelines Database offered several unique advantages for investigating the effects of time to disposition and mode of conviction on sentence severity, it is also subject to many of the problems common to official data. First, the Database lacks information on earlier case processing outcomes, most notably, the pretrial status of offenders.²³ As a consequence, there is a potential confound between time to disposition and sentence

²³ Although the Maryland Sentencing Guidelines Database contains information on the amount of credit given for time served in pretrial detention, this is not a reliable indicator of whether the offender was detained pretrial/prehearing, since credited time is not consistently recorded on the sentencing guidelines worksheets.

severity that cannot be accounted for in this instance. It is possible that, especially for those cases with a large amount of time between the indictment filing and sentencing, increases in time to disposition are due to the offender's failure to appear while on pretrial release. The Bureau of Justice Statistics (2007) estimated that a bench warrant for failure to appear in court was issued for 23% of released felony defendants in state courts in the 75 largest counties in the United States between 1990 and 2004, with about 6% of defendants released pretrial remaining a fugitive after one year. The more severe sentences observed for offenders with longer case processing times may therefore reflect to some degree punishment for fleeing justice rather than for taking up the court's time and resources. While the present study aimed to mitigate this issue by top-coding cases with the longest disposition times, being able to control for failures to appear would have led to greater confidence in the accuracy of the estimated effect of time to disposition.

A related issue in assessing the influence of time to disposition is that the Database only includes information on cases that were transferred from district court to circuit court upon request for a jury trial (also known as "jury trial prayers") if a PSI report was ordered. Although information is not available on the frequency with which PSI reports are ordered, jury trial prayers accounted for approximately 44% of criminal cases in the Maryland circuit courts in Fiscal Year 2013, and thus they likely represent a significant portion of the criminal caseload (Administrative Office of the Courts, 2014). Capturing all jury trial prayers is important, as these cases are directly relevant to the current topic of investigation. In particular, practitioners have indicated that jury trial prayers in Maryland often reflect instances of "judge shopping," where the defendant requests a jury trial in order to have the case transferred out of district court and to a

different judge. The strategy of judge shopping, with the accompanying court delay that it incurs, likely represents a drain on organizational resources that prosecutors and judges may recognize and seek to penalize accordingly. Thus, examining all jury trial prayers, and not merely the most serious or complex cases in which a PSI was ordered, has the potential to provide a better understanding of the way in which the organizational cost of a case serves to influence its outcome.

Another limitation of the present study concerns the omission of variables that are necessary for more completely evaluating the organizational efficiency and substantive rationality interpretations of the trial penalty. As discussed above, it is possible that time to disposition does not fully capture the organizational cost of a case, and that indicators of court resources other than time could be used to tap this important concept. In addition, particularly salient for the substantive rationality explanation of the trial penalty are direct measures of offender culpability and dangerousness, which scholars such as Hartley, Maddan, and Spohn (2007) have argued are lacking in sentencing research in general. While this study effectively tested the substantive rationality explanation of the trial penalty by default, explicitly incorporating operationalizations of this perspective would allow for a stronger examination of its merits. One relevant factor, for example, is a measure of judges' exposure to negative information about the offender. Again, at present doing so is prevented by using official data (Wellford, 2007), and addressing this issue must be a task for future research.

Finally, the analysis in the current study was restricted to convicted offenders. It did not control for the possibility of conviction or acquittal, and therefore estimates of the effects of certain variables may be subject to bias. Specifically, the influence of mode of

conviction on sentencing may be exaggerated for all prosecuted offenders, since LaFree (1985), Rhodes (1979), and Smith (1986) showed that accounting for the probability of acquittal substantially diminished the size of the trial penalty. On the other hand, Albonetti (1991) and Zatz and Hagan (1985) found that failing to control for the likelihood of conviction *underestimated* mode of conviction effects. Moreover, selection issues may be less of a concern for time to disposition, since Zatz and Hagan (1985) additionally determined that the effect of processing time on sentencing remained the same regardless of the case processing stage (prosecution, conviction, or incarceration) from which the sample was drawn. Even so, the results from this study provide valuable information about the roles played by mode of conviction and time to disposition once offenders are convicted and sentenced.

Despite the foregoing limitations, the present study makes unique contributions to the field of sentencing. It represents an attempt to advance the theoretical understanding of trial penalties and the sentencing process in general. It also focuses attention on time as an important aspect of case processing. The effect of time to disposition on sentence severity was similar in magnitude to that of many of the other extralegal variables included in the analysis, including gender, race/ethnicity, type of representation, and jurisdiction. This highlights the shortcomings of prior work that fails to take time to disposition into account and underscores the necessity of including more case processing measures such as time into future studies of sentencing disparity. Furthermore, as a common metric of court performance, the connection between time to disposition and sentencing outcomes demonstrated by this study gives additional weight to a factor that is already a significant focus of policy-makers.

Several directions exist for future research to refine and further knowledge on the impact of time on sentencing. The most apparent next step for research is to examine the effect of time to disposition within a multilevel framework that accounts for multiple, overlapping influences in sentencing. This is important not only because prior work by Ulmer and Johnson (2004) has demonstrated that many individual-level characteristics have varying effects on sentencing outcomes across different social contexts, but also because the influence of social contexts is an integral part of the organizational efficiency perspective that provides the theoretical basis for the present line of inquiry. Nardulli (1978) explains that the courtroom elite's efforts to pursue its common interest in efficient case processing are manifested differently in different settings, due to the effect of external constraints. These external constraints include the amount of control and supervision over court actors by sponsoring organizations, the local political climate, the media, as well as many others (Eisenstein and Jacob, 1977). As evidence of this, Dixon (1995) found that case processing variables only exerted significant effects on sentencing in counties with high judicial and prosecutorial bureaucratization. It would therefore make sense for research to study variation in the effect of time to disposition according to certain court contextual features. For example, high caseload pressure and limited financial resources of courts are likely to make efficiency a greater concern for court actors, which may result in time to disposition having a larger effect on sentencing outcomes in jurisdictions with these characteristics.

Relatedly, research could also investigate conditional relationships between time to disposition and other individual-level predictors. A prominent theme in the extant work on sentencing is that extralegal factors condition one another as well as are

conditioned by legal factors (Ulmer, 2012). With this in mind, a possibility for future studies is to examine differences in the effect of time to disposition on sentencing by offender race/ethnicity and gender. Given that some prior research has reported more severe trial penalties for minorities (e.g., Steen, Engen, and Gainey, 2005; Steffensmeier and Demuth, 2000; Zatz, 1984), for instance, it is reasonable that there might be similar racial/ethnic or gender disparities in the influence of time to disposition. Offense characteristics may also condition the effect of time to disposition. Ulmer, Eisenstein, and Johnson (2010) note how court actors distinguish between “legitimate” and “illegitimate” trials, accepting penalties for defendants who go to trial without a valid reason for doing so. In much the same way, court actors may differentiate between warranted and unwarranted uses of court time, perhaps recognizing that more complex cases or those involving important legal issues are worthy of increased court resources. Accordingly, increases in disposition time might be penalized more severely for simple, straightforward drug cases, for example, than for serious cases involving offenses against a person.

Lastly, future research should attempt to replicate this analysis with cases involving multiple criminal offenses. In the present study, the sample was limited to single-count cases in order to avoid additional complications arising from the analysis of multiple-count cases. While a comparison of single-count and multiple-count cases indicated that there were few substantial differences between them, not surprisingly multiple-count cases had higher guidelines sentence recommendations and longer lengths of incarceration than single-count cases, which suggest that the former represent more serious cases. It is also possible that multiple-count cases differ from single-count cases

on factors that were not examined, or that different substantive processes are at work in sentencing multiple-count cases. Ulmer and Bradley (2006) argue that for serious violent cases, organizational factors are less likely to be a dominant concern in sentencing, given that the stakes are higher for all parties and that these cases are often subject to greater media and public scrutiny. Although the researchers were referring specifically to trial penalties, their logic can just as well be applied to the influence of processing time. These possible distinctions therefore warrant separate investigation of multiple-count cases. The hope is that the present study encourages this kind of additional research in order to gain a more complete understanding of the effect of time to disposition and the larger role that processing plays in punishment.

Appendix A. Maryland Sentencing Guidelines Matrices

Sentencing Matrix for Offenses Against Persons
(Revised 7/2001)

<i>Offender Score</i>								
<i>Offense Score</i>	0	1	2	3	4	5	6	7 or more
1	P	P	P-3M	3M-1Y	3M-18M	3M-2Y	6M-2Y	1Y-3Y
2	P-6M	P-1Y	P-18M	3M-2Y	6M-3Y	1Y-5Y	18M-5Y	3Y-8Y
3	P-2Y	P-2Y	6M-3Y	1Y-5Y	2Y-5Y	3Y-7Y	4Y-8Y	5Y-10Y
4	P-3Y	6M-4Y	1Y-5Y	2Y-5Y	3Y-7Y	4Y-8Y	5Y-10Y	5Y-12Y
5	3M-4Y	6M-5Y	1Y-6Y	2Y-7Y	3Y-8Y	4Y-10Y	6Y-12Y	8Y-15Y
6	1Y-6Y	2Y-7Y	3Y-8Y	4Y-9Y	5Y-10Y	7Y-12Y	8Y-13Y	10Y-20Y
7	3Y-8Y	4Y-9Y	5Y-10Y	6Y-12Y	7Y-13Y	9Y-14Y	10Y-15Y	12Y-20Y
8	4Y-9Y	5Y-10Y	5Y-12Y	7Y-13Y	8Y-15Y	10Y-18Y	12Y-20Y	15Y-25Y
9	5Y-10Y	7Y-13Y	8Y-15Y	10Y-15Y	12Y-18Y	15-25Y	18Y-30Y	20Y-30Y
10	10Y-18Y	10Y-21Y	12Y-25Y	15Y-25Y	15Y-30Y	18Y-30Y	20Y-35Y	20Y-L
11	12Y-20Y	15Y-25Y	18Y-25Y	20Y-30Y	20Y-30Y	25Y-35Y	25Y-40Y	25Y-L
12	15Y-25Y	18Y-25Y	18Y-30Y	20Y-35Y	20Y-35Y	25Y-40Y	25Y-L	25Y-L
13	20Y-30Y	25Y-35Y	25Y-40Y	25Y-L	25Y-L	30Y-L	L	L
14	20Y-L	25Y-L	28Y-L	30Y-L	L	L	L	L
15	25Y-L	30Y-L	35Y-L	L	L	L	L	L

P=Probation, M=Months, Y=Years, L=Life

Appendix A. Maryland Sentencing Guidelines Matrices

Sentencing Matrix for Drug Offenses
(Revised 10/2001)

<i>Offender Score</i>								
<i>Offense Seriousness Category</i>	0	1	2	3	4	5	6	7 or more
VII	P	P	P	P-1M	P-3M	P-6M	3M-6M	6M-2Y
VI	Available for future use. There are currently no seriousness category VI drug offenses.							
V	P-6M	P-12M	3M-12M	6M-18M	1Y-2Y	1.5Y-2.5Y	2Y-3Y	3Y-4Y
IV	P-12M	P-18M	6M-18M	1Y-2Y	1.5Y-2.5Y	2Y-3Y	3Y-4Y	3.5Y-10Y
III-A Marijuana import 45 kilograms or more, and MDMA 750 grams or more	P-18M	P-2Y	6M-2Y	1Y-4Y	2Y-6Y	3Y-8Y	4Y-12Y	10Y-20Y
III-B Non-marijuana and non-MDMA, Except Import	6M-3Y	1Y-3Y	18M-4Y	3Y-7Y	4Y-8Y	5Y-10Y	7Y-14Y	12Y-20Y
III-C Non-marijuana and non-MDMA, Import	1Y-4Y	2Y-5Y	3Y-6Y	4Y-7Y	5Y-8Y	6Y-10Y	8Y-15Y	15Y-25Y
II	20Y-24Y	22Y-26Y	24Y-28Y	26Y-30Y	28Y-32Y	30Y-36Y	32Y-37Y	35Y-40Y

P=Probation, M=Months, Y=Years

Appendix A. Maryland Sentencing Guidelines Matrices

Sentencing Matrix for Property Offenses
(Revised 7/2001)

<i>Offense Seriousness Category</i>	<i>Offender Score</i>							
	0	1	2	3	4	5	6	7 or more
VII	P-1M	P-3M	3M-9M	6M-1Y	9M-18M	1Y-2Y	1Y-3Y	3Y-5Y
VI	P-3M	P-6M	3M-1Y	6M-2Y	1Y-3Y	2Y-5Y	3Y-6Y	5Y-10Y
V	P-6M	P-1Y	3M-2Y	1Y-3Y	18M-5Y	3Y-7Y	4Y-8Y	8Y-15Y
IV	P-1Y	3M-2Y	6M-3Y	1Y-4Y	18M-7Y	3Y-8Y	5Y-12Y	10Y-20Y
III	P-2Y	6M-3Y	9M-5Y	1Y-5Y	2Y-8Y	3Y-10Y	7Y-15Y	15Y-30Y
II	2Y-5Y	3Y-7Y	5Y-8Y	5Y-10Y	8Y-15Y	10Y-18Y	12Y-20Y	15Y-40Y

P=Probation, M=Months, Y=Years

Appendix B. Maryland Circuit Courts by Judicial Circuit

1st Judicial Circuit

Dorchester, Somerset, Wicomico, and Worcester counties

2nd Judicial Circuit

Caroline, Cecil, Kent, Queen Anne's, and Talbot counties

3rd Judicial Circuit

Baltimore and Harford counties

4th Judicial Circuit

Allegany, Garrett, and Washington counties

5th Judicial Circuit

Anne Arundel, Carroll, and Howard counties

6th Judicial Circuit

Frederick and Montgomery counties

7th Judicial Circuit

Calvert, Charles, Prince George's, and St. Mary's counties

8th Judicial Circuit

Baltimore City

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