ASSESSING THE IMPACT OF PLEA BARGAINING ON SUBSEQUENT VIOLENCE FOR FIREARM OFFENDERS

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ABSTRACT

Firearms violence is a major policy concern in America. How criminal courts address firearm crimes represents a critical opportunity for improving public safety. The overwhelming majority of criminal cases are settled by guilty plea, yet little is known about the ways that plea deals impact criminal punishment for firearms-involved offenders, or how they shape subsequent recidivism. This project investigates the association between plea bargaining, sentencing, and recidivism outcomes in state-wide sample of firearms-involved offenders. It provides a descriptive overview of case characteristics and outcomes in firearms cases, examines the scope and impact of plea bargaining for these offenses, and considers how plea discounts potentially impact future reoffending.

Findings indicate that plea negotiations are common in firearms-related offenses – a majority of cases involve multiple filed charges but a single conviction charge, and more than half of all cases include a reduction in the severity of the top charge between filing and conviction. The mean distance traveled, or average magnitude of plea discounts, results in a significant reduction in the likelihood of incarceration and expected sentence lengths. Results also reveal significant relationships between plea discounts and recidivism. Defendants who are convicted and sentenced to longer incarceration terms have lower odds of coming back into the system for a new offense, whereas those who receive charge reductions and are given larger plea discounts are more likely to recidivate during our study period. Because average sentences in firearms cases are substantial, and because our follow-up period is limited, these results likely reflect the short-term incapacitation effects of lengthier incarceration terms. Overall, the current study suggests there may be significant public safety implications of plea discounts in firearms cases, though future research is needed before strong policy recommendations can be offered.

EXECUTIVE SUMMARY

The purpose of this study is to assess how patterns of prosecution and plea bargaining in firearms cases shapes subsequent case and defendant outcomes. There are many reasons to expect plea bargaining to impact sentencing and recidivism. To the extent that plea negotiations lower expected punishments, they may diminish specific deterrence and incapacitation effects (Pfaff, 2017). By contrast, plea deals may reduce exposure to criminogenic incarceration experiences (Green and Winik, 2015). Drawing on recent work (Johnson and Larroulet, 2019), we develop measures of plea bargaining discounts and examine their effects on sentencing and recidivism for firearms-involved offenders. We analyze unique data collected by the Client Legal Utility Engine (CLUE), a web-scraped database of court records for all criminal cases in the State of Maryland for a cohort of defendants charged with firearms-involved crimes in District and Circuit Courts between 2015 and 2019.

Findings indicate that charge negotiations are commonly utilized in gun-related cases in Maryland. These negotiations can include the number, type, and severity of charges in the case. Amongst cases that explicitly include a firearms charge, the overwhelming majority (98%) have their overall number of charges reduced between filing and conviction, and two out of every three cases have their top charge reduced to a lower charge. Moreover, one out of three cases involve a reduction from felony to misdemeanor charges.

The study also finds that charge reductions are related to punishment decisions in gun-involved crimes. Receiving a reduction in charge severity between filing and conviction decreases a defendant's odds of incarceration by approximately 17%, and having felony charges reduced to misdemeanors lowers the odds of imprisonment by 40%. Additionally, among those sentenced to incarceration, when the top charge is reduced between filing and disposition, their

average sentence lengths decrease by more than 5 years compared to other convicted defendants. This is consistent with prior research that emphasizes the necessity of exploring how plea bargaining impacts sentencing (Shermer and Johnson, 2009), and it highlights the importance of studying these influences specifically in the context of firearms-related offenses.

This study also generates estimates of the average distance traveled in charge bargaining, or the magnitude of average sentencing discounts in gun cases in Maryland, by comparing expected sentences based on the original filed charges to the final charges at conviction. The mean distance traveled results in a 13% reduction in the probability of prison and produces an average sentence length discount in excess of 20 years. These findings suggest that charge reductions during plea negotiations results in substantial sentencing discounts and exert notable impacts on punishment outcomes for firearms-involved defendants.

Lastly, the study explores the association between plea discounts and recidivism, measured by the defendant coming back into the criminal court system on new criminal charges. Defendants who are convicted and sentenced to longer terms of incarceration have lower odds of a new criminal filing, whereas defendants who receive larger charging discounts have greater odds of new charges. This suggests that plea discounts lead to more lenient punishments and may result in reduced deterrent and/or incapacitation effects. Although longer sentences are negatively related to reoffending, net of sentence length, incarceration has a positive relationship with recidivism. This may suggest that prison itself is criminogenic for future offending, though these results should be interpreted with caution because we have a limited follow-up period and cannot account for actual time served. Overall, the study highlights the complex ways that plea bargaining can impact sentencing and recidivism, and it offers an important first step in understanding how charging decisions may shape public safety outcomes for firearms offenders.

I. PROJECT SUMMARY

A. Major Goals and Objectives

Although the rate of gun violence today is lower than its historic peak a few decades ago (Cohn et al., 2013), a large number of individuals fall victim to gun violence every year. In 2018, over 100,000 individuals suffered non-fatal injuries related to firearm violence and nearly 14,000 individuals were killed in firearms-related homicides, which made up 74% of all criminal homicides in that year (National Center for Injury Prevention and Control [NCIPC], 2020). Crime statistics suggest that nearly 300,000 robberies and assaults in which an offender used a gun are reported to the police each year (Federal Bureau of Investigation, 2019). Moreover, the rate of firearms-related violence in the U.S., both fatal and non-fatal, has been on an upward trend for the last several years (NCIPC, 2019). Gun violence disproportionately afflicts the most disadvantaged communities and most socially and economically vulnerable populations; it is not only a symptom of underlying poverty and community disadvantage (Baumer et al., 2003), but it also contributes to further declining quality of life, destruction of community vitality, and weakening of economic opportunities and investment (Cook and Ludwig, 2000).

In Maryland, 426 individuals were killed in firearms-related homicides in 2018 alone – a rate of 7.05 per 100,000 people, the 9th highest rate of gun homicide in the county (NCIPC, 2020). Figure 1 shows the geographic distribution of firearm violence in the state between 2015 and 2019 (The Baltimore Sun, 2020). Maryland's firearm violence largely concentrates in Baltimore City and along the border with Washington, DC. Baltimore had the highest homicide rate in the nation in 2019 (Federal Bureau of Investigation, 2019), with 348 homicides, 90% of which involved the use of a firearm (The Baltimore Sun, 2020).

Figure 1. Shootings and Firearm Homicides in Maryland

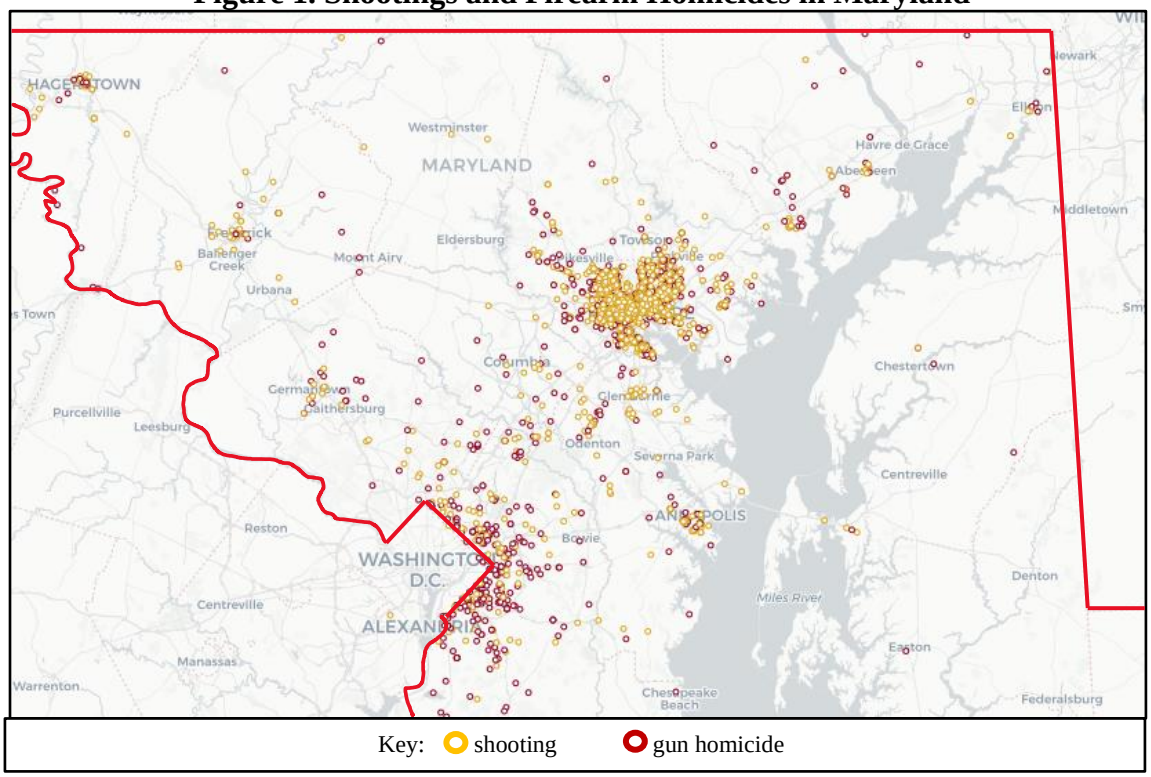

Figure 2 provides an alternate view of firearm violence in Maryland, based on data from the Maryland State Commission on Criminal Sentencing Policy (MSCCSP). The figure shows the total number of criminal cases involving firearms between 2014 and 2018. Over the five-year period, nearly 14,000 firearm offenses were convicted and sentenced in Maryland Circuit Courts, with a steep increase in 2018, when more than 3,500 convictions occurred.

Still, there are significant gaps in our knowledge of firearm violence (National Research Council [NRC], 2005, 2013; RAND, 2018), including whether and how criminal justice interventions impact it. One major area of research to be investigated is the role of plea-bargaining in shaping sentencing and recidivism patterns for convicted firearm offenders. The role of plea-bargaining in criminal punishment is difficult to overstate (Johnson et al., 2016); yet there is limited empirical research on the public safety impacts of plea-bargaining generally, let alone for firearms-involved offenses.

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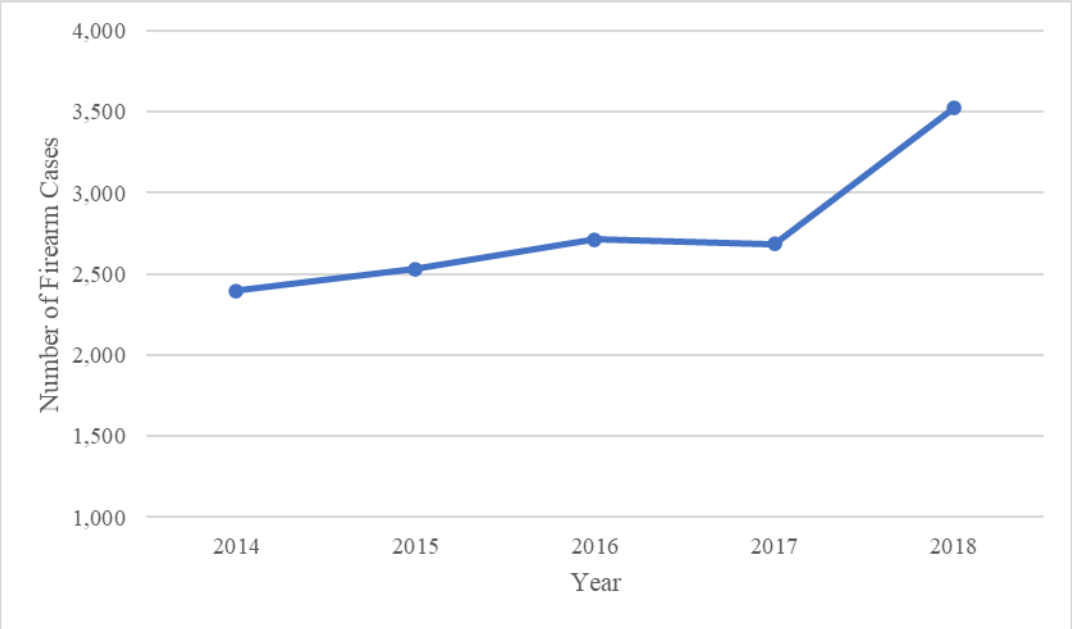
Figure 2. Maryland Circuit Court Firearm Cases between 2014 and 2018



There are multiple reasons why such an investigation is warranted. First, most criminal convictions in the U.S. are the result of guilty pleas (Johnson, 2019). As Justice Anthony Kennedy opined, plea-bargaining "is not some adjunct to the criminal justice system; it is the criminal justice system." (*Missouri v. Frye*, 132 S. Ct. 1399 [2012]). Second, prior research has demonstrated that plea-bargaining leads to substantial sentence reductions, which can have significant public safety implications. One of the most robust findings in this literature is that defendants who plead guilty receive substantially reduced punishments (Johnson, 2019). Third, plea discounts for firearms offenses are especially important because they involve serious crimes that are often subject to charging enhancements and mandatory minimums. This is consequential given that research on plea-bargaining suggests plea discounts are especially pronounced in more serious cases, in part because prosecutors are able to leverage higher punishment ceilings to secure guilty pleas (Johnson, 2019; Lynch, 2016). Fourth, research on the impact of gun laws remains mixed (Marvell and Moody, 1995; McDowell et al. 1992), but some studies suggest

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enhanced firearms punishments may lower homicide (Loftin et al., 1992). This is consistent with arguments that charge reductions may unintentionally mitigate specific deterrent and incapacitation effects. Other work, however, suggests longer prison terms can worsen post-release recidivism (e.g., Spohn and Holleran, 2002; Green and Winik, 2010), so this relationship remains unresolved. Finally, firearm-involved offenders represent a crucial population for whom to study the consequences of plea-bargaining on public safety. Offenders facing firearm charges are likely to have heightened risk of future violence because of their demonstrated access to underground gun markets (Hureau and Braga, 2018), association with various social network including street gangs (Huebner et al. 2016), and persistence in using firearms in subsequent crimes (Wallace, 2015). Despite ongoing debates over the constitutionality of gun laws (Ruben et al. 2024), empirical research on how the courts treat firearms defendants is limited. The current project contributes to this discourse, examining plea negotiations, sentencing discounts, and recidivism for firearm-involved defendants prosecuted in the halls of justice.

B. Research Questions

The current research compiles and analyzes a large database of criminal case records from administrative data to assess the impacts of plea-bargaining on sentencing and recidivism for firearm offenses in Maryland. It addresses the following three research questions:

1. What are the extent and patterns of plea-bargaining for firearms-related charges?

Drawing on a unique database of web-scraped records from the Maryland Judiciary Case Search system, as well as data from the Maryland State Commission on Criminal Sentencing, this study

provides a descriptive picture of firearm-involved cases in criminal court.[1] How often are firearm charges filed and how often are they dropped? How do charging and plea negotiation patterns vary by the type of court, type of defendant, and type of crime? We shed light on these and other related questions that have yet to be the focus of systematic description or detailed investigation.

2. What is the typical "distance traveled" in plea bargains for firearms offenses?

In addition to examining the types of cases that are most likely to involve charge reductions, we also draw on recent research to estimate the magnitude of plea discounts, or the "distance traveled" in charge bargaining (Johnson and Larroulet, 2019; Piehl and Bushway, 2007), and we examine its impact on sentencing discounts for firearms-related charges. By comparing actual sentences to the expected punishment that would have occurred in the absence of plea-bargaining, this approach provides estimates of the magnitude of plea discounts in firearms-related offenses. The analysis estimates the average "distance traveled" in firearms cases in Maryland from filing to conviction, and it examines how these discounts vary with case characteristics, such as type of defendant and type of primary offense.

3. To what extent does plea bargaining shape subsequent patterns of recidivism?

The study also examines the relationship between conviction, imprisonment, plea discounts, including the "distance traveled" in charge negotiations, and the subsequent likelihood of reoffending. To the extent that plea bargaining results in reduced sentences, either non-custodial sentences or shorter sentence lengths, it may increase recidivism as a result of diminished deterrence and incapacitation. By contrast, some work suggests the experience of imprisonment

[1] In Maryland, the District Court hears criminal cases involving misdemeanors and lesser felonies, whereas the Circuit Court handles more serious criminal cases, including most felonies. The two courts share jurisdiction for various firearms-related offenses, and it is common for cases to be initially filed in District Court and disposed of in Circuit Court, so we include both in our sampling frame.

can be criminogenic, so it is also possible that less incarceration exerts salutatory effects on reoffending (Spohn and Holleran, 2002). This study examines statewide patterns in the overall effects of plea bargaining on the likelihood that a defendant re-enters the criminal legal system in Maryland during our study period.

II. PRIOR RESEARCH LITERATURE

A. Plea Bargaining and Firearms

The effectiveness of the criminal justice system to curb firearm violence ultimately hinges on the treatment of gun offenders in the courts. While the right to a jury trial is guaranteed by the U.S. Constitution, few exercise that right today. Some prosecutors have never tried a single criminal case (Turner, 2017). In fact, over 95% of convicted felony offenders in large urban courts plead guilty (Reaves, 2013), and an even higher proportion of misdemeanor convictions eventuate from guilty pleas (Kohler-Hausmann, 2014). In part this reflects the fact that research consistently finds jury convictions are associated with harsher punishment (Johnson, 2019). In relative terms, at no point in American history has the criminal trial been rarer (Smith, 2005), for as Justice Anthony Kennedy opined, "plea bargaining is not some adjunct to the criminal justice system, it is the criminal justice system" (Missouri v. Frye, 132 S. Ct. 1399, [2012]).

Despite the ubiquity and significance of plea bargaining, surprisingly little empirical research examines its causes and consequences. This reflects the fact that plea deals tend to involve an informal negotiation process that remains largely hidden from public view and is difficult to capture empirically. Much of the available research on guilty pleas has been limited to small, localized samples of specific crime types, such as domestic violence cases (Spohn and Tellis, 2013) or drug misdemeanors (e.g., Kutateladze et al., 2014). In general, early research found that plea bargaining was impacted by offense severity, evidence strength, and victim factors, with some studies also reporting evidence of racial and gender disparities in plea outcomes (cf. Albonetti, 1992; Spohn et al., 1987; 2001; Wu, 2016).

Related scholarship has investigated who is most likely to plead guilty versus going to trial. In general, this work suggests that the probability of a guilty plea varies according to case and defendant characteristics. In particular, studies show that cases with weaker evidence, those involving more serious crimes, and defendants with more extensive criminal records, are less likely to be resolved via guilty plea (Albonetti, 1990; Kutateladze et al., 2015; Metcalfe and Chiricos, 2018). Research also finds Black defendants, and to a lesser extent, Latino defendants, are less likely than similarly-situated White defendants to plead guilty, which could be related to lower levels of trust, higher levels of legal cynicism, and/or less favorable plea offers, among other considerations (Testa and Johnson, 2020).

Although much of the evidence base on prosecution and plea bargaining is limited, recent scholarship has taken important steps to expand this work by employing larger and more detailed datasets in diverse jurisdictions (Kutateladze, 2018; Stemen and Escobar, 2018; Johnson, 2018; Owens et al. 2017; Omori and Petersen, 2020). Shermer and Johnson (2010), for example, merged several years of data from multiple federal agencies to study the impact of plea bargaining on federal punishment. They reported little evidence of racial disparity but found that charge reductions resulted in sizeable discounts in sentence lengths. Similarly, Sutton (2013) analyzed the State Court Processing Statistics to investigate cumulative disparities in case outcomes and found defendants who were detained before trial were significantly more likely to plead guilty. This aligns with parallel work showing pretrial detention can exert a range of negative impacts on downstream outcomes, including the likelihood of conviction and length of sentence (Stevenson and Mayson, 2017; Heaton et al., 2017; Dobbie et al. 2018).

In one of the most comprehensive efforts to study plea bargaining to date, researchers partnered with the District Attorney of New York County to collect and analyze a large sample

of felony and misdemeanor cases (Kutateladze et al. 2014). This project has supported several publications on various aspects of plea bargaining. For example, Kutateladze and colleagues (2014) found that Black and Latino defendants had higher probabilities of pretrial detention, custodial plea offers, and carceral sentences, lending support to theoretical arguments that suggest plea bargaining is an essential component of cumulative disadvantages in the legal system (Kurlychek and Johnson, 2019). Similarly, Kutateladze (2018) found that roughly one-third of all cases received a charge reduction, with Black and Latino defendants being less likely to have their charges reduced. Johnson and Larroulet (2018) used the same data to estimate the "distance traveled," or the expected reduction in likelihood of incarceration, due to plea bargaining, and found that female and White defendants received relatively larger discounts than male and minority defendants.

Although recent work has significant advanced knowledge on prosecution and plea bargaining, the overwhelming majority of work remains focused on examinations of individual disparities in charging decisions or sources of inequality in guilty pleas. These studies often find evidence that plea outcomes are related to defendant characteristics like race and gender (Kutateladze et al., 2014; Shermer and Johnson, 2010; Johnson and Larroulet, 2018; Metcalfe and Chiricos, 2018), though important exceptions exist (Albonetti, 1992; Holmes et al., 1987). While this is important work, it offers little in terms of broader policy recommendations for improving public safety. Plea bargaining is an essential component of criminal case processing, with research consistently finding it exerts broad influence over final punishment determinations (Johnson, 2019). This means plea decisions are instrumental in shaping the potential deterrent and incapacitation effects of punishment, as well as possible exposure to criminogenic jail and prison environments. Yet, there is limited scholarship examining the broader impacts of plea

bargaining on public safety outcomes (Pfaff, 2017), and almost no research that focuses specifically on the context of firearms offenses (Farrell, 2003).

This is unfortunate for several reasons. Plea bargaining is particularly salient for firearm crimes, in part because of widely adopted mandatory sentencing enhancement laws that apply to weapon offenses. Although most states have laws that mandate enhanced prison sentences for the use of firearms in crime (Abrams, 2012; Vernick and Hepburn, 2003), judges and prosecutors have been shown to devise ways to circumvent mandatory sentencing laws (Tonry, 2009). Other work suggests prosecutors use the enhanced punishment threats of mandatory minimums as bargaining chips to induce guilty pleas on lesser charges (e.g., Farrell, 2003; Hofer, 2000; Lynch, 2016). These types of discretionary maneuvers point to the trade-off between the certainty of conviction and the severity of punishment, wherein prosecutors often value certainty over severity in mandatory-eligible cases (Kramer and Ulmer, 2002; Ulmer et al., 2007). In line with this, Farrell (2003) found evidence that among violent offenders in Maryland who used a firearm, those who plea bargained were much less likely to receive the mandatory gun sentence.

While the existing evidence on the public safety implications of sentencing enhancements for gun crimes is mixed (Braga, 2017), the assessment is incomplete without a careful consideration of the impact of plea bargaining. Gun charges are routinely filed along with other criminal charges, and they often include the potential for long mandatory minimum sentences. Negotiating around these charges could result in unfairly lenient treatment of potentially dangerous offenders (Lynch, 2003), but virtually nothing is known about the extent of plea bargaining in these cases or its potential impact on subsequent reoffending in the community. The current project begins to address this key limitation in extant research.

B. Firearms Crimes and Gun Violence

Existing evidence indicates that those who have demonstrated their illegal access to guns (Hureau and Braga, 2018), and their inclination to use them to commit crimes, are prime targets for gun violence interventions (Cook and Pollack, 2017). Offenders with serious criminal histories are especially important contributors to gun violence (Cook et al., 2005; Braga, 2003). Importantly, existing research suggests that gun offenders tend to be persistent in their use of guns in future offending (Cook and Nagin,1979). Using data from the prosecutor and court case management system in the District of Columbia between 1973 and 1976, Cook and Nagin (1979) found that those charged with using a gun in committing a violent crime were about 40% more likely to be rearrested for violent gun crimes than offenders charged without a gun. They further found that illegally carrying a firearm, in addition to prior use of a gun in a violent offense, was predictive of future firearm violence. More recent research using data from the criminal history repository in Illinois also finds that firearms-related arrest charges, not all of which result in convictions, are predictive of future gun-related recidivism (Westley et al., 2018).

Firearms offenders often manifest a propensity for general offending before engaging in violent gun crimes, providing a window of opportunity for the system to assess risk and to intervene (Braga and Cook, 2016). Support for this perspective comes from evidence that policing tactics that focus on illegal gun carrying in gun crime hot spots have been found to reduce subsequent shootings and gun crime (Cohen and Ludwig, 2003; Koper and Mayo-Wilson, 2012; Rosenfeld et al., 2014; Sherman and Rogan, 1995; see also National Academies of Sciences, Engineering, and Medicine, 2018). Another indication that prior involvement in violent and firearms-related crimes is an important predictor of future involvement comes from research

showing that prohibitions based on prior violent criminal records lead to lower gun and violent offending rates (Raissian, 2016; Wintemute et al., 2001; Wright and Wintemute, 2010).

Why are criminal history and charges related to firearm offenses indicative of future firearm violence risk? One answer may lie in gun access. Existing studies suggest that most guns come to the hands of offenders who use them to commit violent crimes through social networks of family, friends, and street connections, including drug dealers and gang members (Cook, 2018; Cook et al., 2015; Hureau and Braga, 2018). Papachristos and Wildeman (2014) found that 41% of all gun homicides in Chicago occurred in a sub-network of co-offenders consisting of just 4% of the population of the study community. Research also points to the fact that the underground gun market is "thin," with small numbers of buyers and sellers (Cook et al., 2007). Thus, the accessibility of guns varies by the extent to which individuals are proximate to the social networks in which guns can circulate, indicating that a prior record of gun crime increases the probability that someone belongs to a social network with ready access to guns. Evidence also suggests that the length of time between the acquisition of guns and their criminal use tends to be short, often just a few months (Cook et al., 2015; Cook et al., 2019). This argues for the time-sensitive nature of criminal justice opportunities to intervene when individuals are detected by the system for illegal carrying or related firearms offenses.

C. Sentencing and Recidivism

There is a long line of research on the effects of particular criminal sanctions, especially imprisonment, on recidivism (Cochran et al., 2014; Franco et al., 2018; Harding et al., 2017; Loeffler, 2013; Nagin et al., 2009; Nagin and Snodgrass, 2013). Much of this literature emphasizes the specific deterrent and incapacitation effects of imprisonment (Bhati and Piquero,

2007; Miles and Ludwig, 2007), though other work suggests lengthy prison stays can be criminogenic (Spohn and Holleran, 2002; Green and Winik, 2010).

One key mechanism through which punishment might impact recidivism is deterrence. From this perspective, certain and severe punishments alter the threat perceptions of offenders, reshaping assessments of risks and rewards, and reducing the likelihood of future offending (Nagin, 2013). Offenders who are effectively punished are expected to view the threat of future sanctions as more salient, lowering their risk of future crime. To the extent that plea bargaining is at odds with certain and severe punishments, it could mitigate any impact of specific deterrence. Bushway and Owens (2013), for example, show that large discrepancies between the "bark and bite" of criminal sanctions undermines specific deterrence and increases reoffending. They exploit an exogenous change in recommended sentences in Maryland to estimate the impact of "framing effects" in punishment, concluding that the larger the gap is between the recommended and actual sentence, the less the deterrent impact of a punishment.

Another mechanism through which plea bargaining can impact recidivism is incapacitation. Incapacitation strategies seek to suppress criminal opportunity by removing serious and repeat offenders from society (Bhati, 2007; Harding et al., 2017; Owens, 2009). While existing estimates vary across studies, recent work suggests somewhere between 1.5 and 20 UCR Part I crimes are averted for every serious offender incapacitated annually (Reuter and Bushway, 2007). While deterrence can arise as a behavioral response to policy that involves potential offenders' calculus of costs and benefits of offending, incapacitation arises as a mechanical consequence of physically separating offenders from society (see Chalfin and McCrary, 2017; Nagin, 2013). To the extent that plea bargaining directly reduces the number or length of incarceration sentences, it will likely result in some offenders committing new offenses

during the discounted portion of the sentence when they would have been incapacitated. The scale of plea bargaining's effect on recidivism, though, has yet to be investigated for gun crimes.

Understanding the recidivism consequents of sentence reductions resulting from plea bargaining requires a measure of the "distance traveled" in charging, or the expected sentence discount that is due to plea bargaining (Johnson and Larroulet, 2019; Piehl and Bushway, 2007; Shermer and Johnson, 2010; Wright and Engen, 2005). Piehl and Bushway (2007) present a novel approach to estimating the downstream consequences of plea bargaining on sentencing, by comparing the sentence defendants receive following a guilty plea to the expected sentence that they would have received in the absence of any charge alterations. The estimate of the distance traveled is unbiased as long as relevant determinants of sentencing are included (Piehl and Bushway, 2007). Based on data from select counties in Washington and Maryland, these authors found that charge reductions resulted in about 20% shorter sentences (Piehl and Bushway, 2007). Johnson and Larroulet (2019), using data from New York County (Manhattan), similarly found that charge reductions during plea bargaining decreased the average probability of an incarceration sentence by about 21%. However, the extent to which these estimates hold for serious crimes, including firearms-related offenses, remains unknown.

The impacts of distinct types of plea discounts may also depend on how the distance traveled and sentence severity are both measured. For example, the plea bargaining process can often reduce felony charges at the initial stage to misdemeanor charges at conviction (Johnson and Larroulet, 2019). In one recent estimate for the District of Columbia (DC), 79% of adults arrested for felony gun possession were not convicted on any felony charge, with 50% of felony gun possession cases being pled down to misdemeanors (Friday, 2024). If accurate, the impact of these types of broad plea reductions could have significant public safety implications. On the

other hand, because felonies often carry more severe collateral consequences (Leasure, 2019; Pager, 2003), charge reductions that reduce felonies to misdemeanors may not only impact sentences but could also indirectly reduce recidivism by avoiding the negative collateral consequences of felony conviction. The distinction between custodial and non-custodial sentences can also be key to understanding recidivism. While the evidence on the effects of incarceration on recidivism are mixed (e.g., Nagin et al., 2009), some work emphasizes the possible criminogenic effects of imprisonment (Spohn and Holleran, 2002), and its negative impacts on a host of post-release outcomes, ranging from health (Massoglia and Pridemore, 2015) and employment (Western and Pettit, 2005) to housing stability (Harding et al., 2013) and legal debt (Harris, 2016), all of which could contribute to elevated recidivism rates (Kirk and Wakefield, 2018; NRC, 2014). Moreover, other studies suggest that post-prison supervision can adversely affect reentry through "secondary incapacitation" or returns to prison that result from parole violations (Franco et al., 2019; Harding et al., 2017; 2018).

Overall, there is an impressive legacy of research examining the deterrent and incapacitation effects of incarceration. Although scholars continue to emphasize the ubiquity of plea bargaining in the American criminal justice system, and the essentialness of examining the "downstream consequences" of charging decisions on punishment outcomes (Johnson et al., 2016), empirical research has yet to consider the potential impacts of plea bargaining on recidivism. This issue is especially important in the context of firearms offenses, where the consequences of violent and gun-related offending are paramount to public safety. The current research provides a preliminary analysis of the impact of plea bargaining in firearms cases on sentencing and reoffending, investigating the prevalence of guilty pleas, magnitude of sentencing discounts, and overall patterns of recidivism in a large sample of gun-related crimes in Maryland.

III. RESEARCH DESIGN AND METHODS

A. Data and Sample

The main sample consists of those who were charged with a firearms-related crime in the Maryland District and Circuit Courts whose cases were disposed between 2015 and 2019. The analytic sample is drawn by first selecting all firearms-related cases filed in District or Circuit Court. We begin by broadly defining firearms-related crime to include offenses that refer to the use of a "weapon" or other offenses in which a gun was likely used. For example, first-degree assault in Maryland is defined as "intentionally causing or attempting to cause serious physical injury," including the use of "a firearm, such as a handgun, regulated firearm, assault pistol, antique rifle, shotgun, or rifle" (§3-202). Because many criminal code definitions refer to the use of a firearm, but do not necessarily require it, we define the universe of gun-related crimes to include the probable use of a firearm. This includes certain weapons-related offenses that may or may not require use of a firearm. For example, robbery with a dangerous weapon (§ 3-403) involves robbery "while possessing a firearm or other deadly weapon." This means these offenses can be committed with a firearm or other dangerous weapon. To be inclusive in our sampling strategy, we include all crimes that likely involved a firearm. However, we also identify cases that include an explicit firearms charge (e.g., unlawful possession of a firearm, § 4-203), which allows us to compare "likely" firearms cases to "explicit" firearms crimes. Overall, our sample includes nearly forty thousand (N=39,625) firearms-related offenses over the five-year (2015-2019) study period in Maryland. Among these, over twenty-nine thousand (N=29,389) include an explicit firearms charge.

To assess the effects of plea bargaining on sentencing and recidivism, the project developed a unique dataset by obtaining judicial case processing information from criminal court records for each of Maryland's 24 judicial districts. The data come from the Maryland Judiciary Case Search, a publicly accessible online repository of case records for the Maryland Judiciary. The Case Search database provides updated, detailed information for all Maryland District and Circuit Court cases starting in the early 1990s, including defendant information (name, date of birth, sex, race), charge information (charge, charge code, charge date, disposition, disposition date), pre-trial incarceration and bail information (commitment date, bail amount if not denied), and sentencing information (months of incarceration), among other details. These data allow for in depth comparisons of the initial charges filed in the case with the final charges at conviction to identify the role that plea bargaining plays in shaping punishment outcomes. Figure 3 provides an illustration of the type of charge information provided in Case Search. In this example, four charges were initially filed, including a top charge of Armed Robbery, but the defendant pled guilty to only one charge of Firearm Possession with a Felony Conviction – in essence, the case was pled down from armed robbery to felony possession of a firearm.

Figure 3. Maryland Case Search Charging Example

To access the Case Search data for both District and Circuit Courts, we use the Client Legal Utility Engine (CLUE), a web-scraped database of Case Search records developed by the Maryland Volunteer Lawyers Services (MVLS). The CLUE system repeatedly scrapes court cases, parsing the data, and saving individual data points to a statewide database. These data have been made available for research purposes and have been shown to be "an important source of criminal justice system data that can be used to examine policy changes in Maryland's criminal justice system" (Jelveh et al., 2023). Overall, the CLUE data provide rare access to detailed charging and criminal case processing information on a scale that allows for large-scale analyses of charge bargaining in the Maryland courts. Within the CLUE database, firearms-related charges are identified by a combination of the Criminal Justice Information System (CJIS) Code used by state criminal justice agencies, the Annotated Code of Maryland (using criminal statutes), and the literal charge description summaries.

The final analytical stage requires recidivism data. Despite repeated data requests to the Department of Public Safety and Correctional Services (DPSCS) for RAP sheet information, DPSCS was nonresponsive and would not provide it. We therefore had to pivot by calculating proxies for criminal history and reoffending, which we do by employing matching algorithms to identify repeat defendants who appear more than once in the database. We do this by matching current defendants in the data to their past and future cases based on first name, last name, date of birth, gender, and race. Specifically, for past criminal involvement, we identify the number of prior criminal cases and criminal convictions for each defendant in our sample. We utilize a similar procedure for measuring recidivism. Each time a defendant appears in the data, we link them to all subsequent criminal cases in which they reappeared on new criminal charges following the disposition of their current case, which we use as a proxy for reoffending.

B. Measurement and Variables

Dependent and Independent Variables

We begin by calculating indicators of the presence and magnitude of charge reductions in firearms cases. First, we generate indicators for charge reductions in the case. This is accomplished by comparing the number and severity of charges at filing and conviction. If the seriousness of the top charge is reduced, it is coded 1 for a charge severity reduction. In addition, we also identify cases in which all felony charges are reduced to nonfelonies to capture felony charge reductions. Second, we follow recent plea bargaining work and calculate the "distance traveled" to capture the magnitude of sentence discounts associated with plea bargaining in firearms cases (Johnson and Larroulet, 2019). This method generates an expected sentence for the original charges based on other cases in the data. For example, if a robbery charge is pled to an assault, the "distance traveled" in charge bargaining is equal to the difference in the expected sentence for the average robbery offender in the data, compared to the average assault offender. This approach allows us to quantify the effect of changes in the severity, type, and number of charges between filing and disposition. Charge severity is measured with a detailed 14 level charge severity scale based on offense seriousness categories tied to statutory maximum punishments under Maryland law (see Table 1A in Appendix). Offense type categories rely on Maryland's Criminal Justice Information System (CJIS) codes, which we use to codify primary offense types based on the most serious charge in a case. Our measure of the distance traveled accounts for changes in the severity, type and number of charges from filing to disposition.

We estimate the distance traveled by examining the effects that changes in firearm charges have on both the probability and length of incarceration. Prior research indicates that both the distinction between custodial and non-custodial sentences and lengths of incarceration

are of primary importance to defendants and court actors (Wheeler et al., 1982; Ulmer and Johnson, 2004). Incarceration is coded as 1 if the defendant is sentenced to jail or prison and 0 if they receive noncustodial options such as probation. Sentence length is measured in years and is examined for both convicted and incarcerated cases. Because incarceration terms are often partially suspended in Maryland, we consider both total and unsuspended sentence lengths.

The final outcome is an indicator of whether or not an offender returned to the criminal legal system on new criminal charges after the conclusion of their current case. We planned to examine multiple recidivism measures, including new arrests, convictions, and incarcerations, but our inability to obtain RAP sheet data from DPSCS prevented this. We also intended to separate post-disposition and post-incarceration recidivism to distinguish the effects of incapacitation from deterrence, rehabilitation, and/or criminogenic incarceration experiences (Harding et al., 2017). However, because Maryland maintains discretionary parole release and has complex truth-in-sentencing requirements, we are unable to reliably identify actual time-served in jail and prison. It is also difficult to investigate post-incarceration recidivism because average sentence lengths for firearms-related offenses are often long, making our relatively short follow-up period insufficient to examine long-term post-release recidivism for many incarcerated offenders.[2] Without complete RAP sheet data, we are also limited in our ability to examine specific types of re-offending. What we do capture is whether or not a defendant reappeared on any new criminal charges following their current case disposition, which allows us to investigate the extent to which firearms-specific charge bargaining are related to subsequent reoffending.

[2] By starting the recidivism clock after final case disposition, we avoid potential sample attrition and capture full incapacitation effects for all offenders, which is consistent with other prior studies using sentencing or conviction cohorts to analyze recidivism (e.g. Harding et al., 2017).

Control Variables

A wide range of other legal, case-processing and defendant characteristics are included in multivariate models examining charging, sentencing and recidivism outcomes. Defendant characteristics include gender, race and age. Gender is coded as 1 for female and 0 for male. Race is a categorical variable consisting of White, Black, Hispanic, and Other race, with White the omitted reference category. Defendant age is measured in years and included as discrete categories to allow for potential nonlinearities. In addition, case processing factors are included that capture the type of court, type of bail, and type of plea. Type of court is a trichotomy that distinguishes cases disposed of in District Court (the reference group) from those transferred to Circuit Court or originating in Circuit Court. Type of bail distinguishes defendants released on their own recognizance (ROR) – the reference group – from those given financial release conditions, detained summarily, or having other/unknown bail statuses. In addition, a dummy variable is included to identify cases that include any "not guilty" plea. Because the data are generated from charge-level information, it is not uncommon for a defendant to enter different pleas for different charges, this measure captures any instance where they pled not guilty to at least one charge. Separate measures capture primary type of offense at filing and conviction. Offense categories include murder, rape, robbery, assault, firearms, drug, burglary and other, with firearms serving as the reference group.[3] A dummy variable is also included to identify cases that involve charges carrying mandatory minimum sentencing requirements.

[3] Murder includes murder, attempted murder and manslaughter charges; rape includes rape and sexual assault charges; robbery includes robbery and armed robbery charges; assault includes first and second degree assaults and related offenses, firearm includes all firearm-specific charges (e.g. Unlawful Possession, § 4-203); drug includes all controlled substance offenses; burglary includes all home invasion and burglary or theft charges; lastly, the other category is comprised of less common charges that do not fit into these categories (e.g. Possession of a Dangerous Weapon on School Property, § 4-102).

Lastly, all statistical models also include fixed effects to account for temporal and geographic variation in case processing outcomes. Specifically, fixed effects are included for the year in which the case was disposed and for the twenty-four judicial districts in Maryland. Recidivism models also include a measure for time-at-risk that identifies the number of months between the current case disposition and the end of the recidivism follow-up period, which extends through August of 2021. The monthly indicator helps to account for the fact that defendants whose cases are disposed of in earlier months will have longer follow-up periods for observing recidivism outcomes.

C. Analytical Plan

To calculate the "distance traveled," we compare the predicted sentence based on final charges in the case to the expected sentence that would have occurred if the defendant had been convicted of the original charges filed in the case (Piehl and Bushway, 2007). To do this, we use data on the sentences of other similar cases in the data to create an estimate of the counterfactual sentence that would have occurred in the absence of charge bargaining. To compute the incarceration distance traveled, we first estimate a model that predicts the probability of incarceration based on the conviction charge for all defendants in the data, controlling for other relevant sentencing factors:

$$\Pr(Incarceration) = \alpha + \beta\ conviction + \gamma\ X + \varepsilon \quad (1)$$

This equation is estimated with a probit regression model. The β coefficient represents the effects of conviction charges (severity, type, and number of charges) on the likelihood of incarceration. The γ coefficient represents the effects of all other relevant case and defendant characteristics. We then use the estimated coefficients from this model to calculate the predicted probability of

incarceration based on the initial filed charges in the case. The difference between the predicted probabilities represents the effects of charge bargaining on the probability of incarceration. Similarly, we also estimate a linear OLS regression model and repeat the same process to identify the average distance traveled in terms of expected sentence lengths for each case. This provides an estimate of the sentence length distance traveled, or the number of years of expected incarceration that are avoided as a result of charge bargaining in firearms-related cases.

Once the distance traveled measures are calculated, we use them to conduct analyses of the typical sentencing discounts for firearms-involved offenders in Maryland. This allows us to address our first two research questions related to the overall prevalence and impact of plea bargaining on punishment. To address our final question, regarding the impact of plea bargaining on recidivism, we analyze the association between charge reductions, plea discounts, and the probability of recidivism in firearms-related cases by regressing the impact of charging and distance traveled measures on the likelihood of recidivism, controlling for other covariates. For these analyses we calculate the marginal effects of charge changes for each defendant in the data, based on the difference between their predicted probability (or length) of incarceration generated from each person's filing and conviction charges. Summing across all cases provides the average marginal effect (AME) rather than the marginal effect for the average defendant in the data.

$$Distance\ Travelled_{Incar} = \frac{1}{n}\sum_{i=1}^{n} \frac{P(\widehat{Incar})_i^C - P(\widehat{Incar})_i^F}{P(\widehat{Incar})_i^F} \quad (2)$$

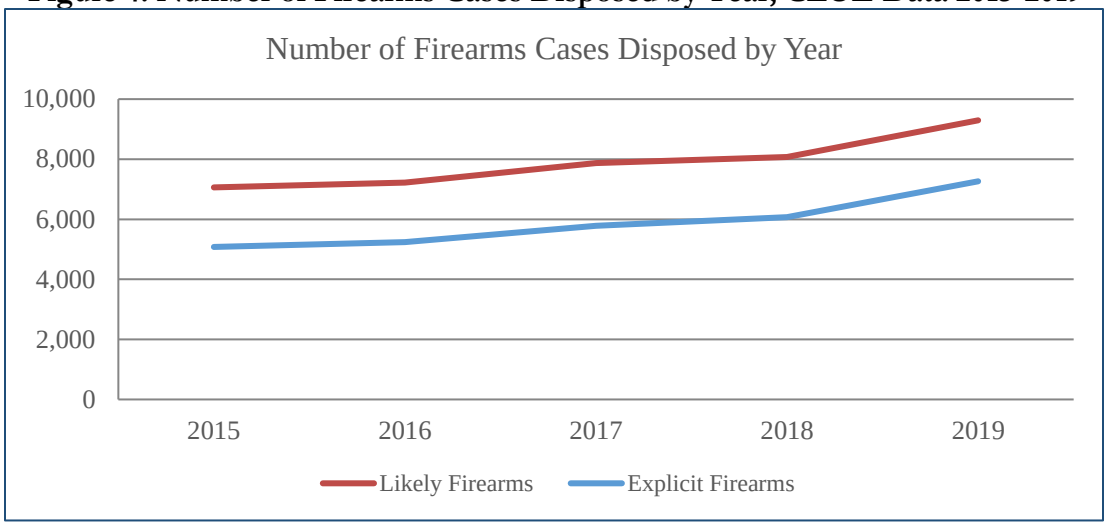
In the formula, the distance traveled is calculated by taking the difference in predicted probabilities of incarceration $P(\widehat{Incar})$ for each individual (*i)* based on conviction (*C)* and filing (F*)* charges. A parallel approach is then used for sentence lengths. Before turning to the results of our multivariate models, we begin by first discussing the results of our descriptive analysis.

IV. DESCRIPTIVE ANALYSIS

A. Sample Overview

We begin by providing a descriptive overview of sample characteristics. Because we cast a broad net to identify all possible firearms cases, we report descriptive statistics for two distinct samples: 1) "Likely Firearms Cases," which include crimes that are likely to have involved a firearm, and 2) "Explicit Firearms Cases," which restricts the sample to cases with explicit gun charges. To illustrate, the first sample includes offenses such as First Degree Assault (§ 3-202), Armed Robbery (§ 3-403), and Murder (§ 2-203). The statute for first-degree assault, for instance, states that "A person may not commit an assault with a firearm" but this crime also includes strangulation, so it may or may not be committed with a gun. Similarly, the statute for armed robbery involves the use of a "dangerous weapon" but does not explicitly require a firearm. A similar logic applies to other violent crimes, like murder, that can be committed with or without a firearm. Often when violent offenses are committed with a firearm, the criminal case will include additional firearms-specific charges, such as Unlawful Firearm Possession (see e.g., § 4-203). In these cases, we can say definitively that the crime involved the use of a firearm. To account for the uncertainty in whether or not a gun was used, we examine both the broader sample of cases where it is likely that a gun was used, and the smaller sample of cases involving a specific gun charge where we are certain. In total, there were 39,911 likely firearms cases in Maryland from 2015-2019, of which 29,583 involved an explicit, identifiable firearms charge. Unless otherwise specified, results reflect analysis of the more general likely firearms sample. Figure 4 reports the number of firearms cases over time in Maryland, showing that both samples closely track one another, and both indicate a recent uptick in overall number of firearms cases.

Figure 4. Number of Firearms Cases Disposed by Year, CLUE Data 2015-2019



Demographics

Table 1 and Figure 6 below summarize the demographic characteristics of offenders involved in firearms-related cases disposed of in Maryland between 2015 and 2019. Overall, Maryland's population is 57% White, 31% Black or African American, and 11% Hispanic. By contrast, more than 3 out of 4 firearms cases in Maryland involves a Black defendant, whereas roughly 1 out of 5 involves a White defendant. Few cases involve defendants of other races or ethnicities. Nine out of ten firearms cases in Maryland also involves a male defendant and the mean defendant age in these cases is just under 30 years old.

Table 1: Demographic Characteristics, Maryland Firearms Cases, 2015-2019

	Likely Firearms		Explicit Firearms	
Race	Mean	SD	Mean	SD
Black	76.1%	--	78.9%	--
White	19.7%	--	17.6%	--
Hispanic	3.5%	--	3.0%	--
Other Race	0.8%	--	0.6%	--
Gender				
Male	90.3%	--	93.4%	--
Female	9.7%	--	6.6%	--
Age	29.7	10.8	29.1	10.4

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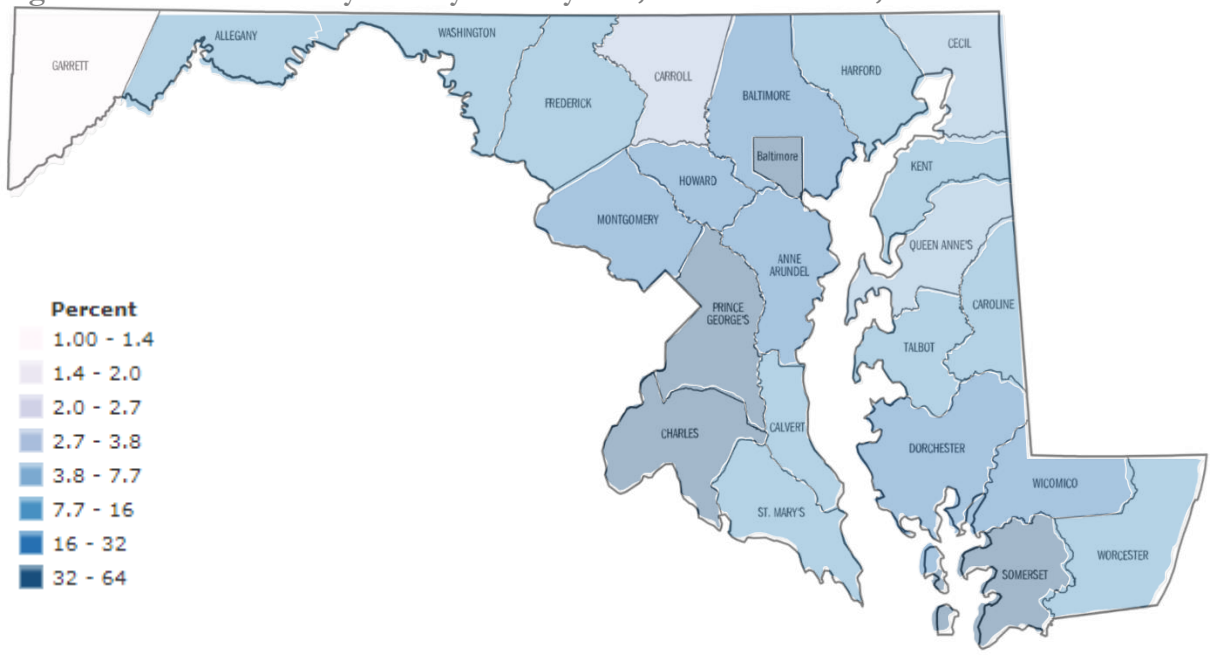
These summary statistics suggest substantial racial differences in the patterning of firearms offenses, but as Figure 5 shows, race is geographically concentrated in Maryland; Baltimore City has a large, majority Black population, as do Prince George's and Charles Counties, both of which border neighboring Washington D.C. Smaller, more rural counties like Garrett County, Carroll County, and Cecil County, are overwhelmingly White. Because crime in general, and gun crime in particular, is concentrated in more urban areas with larger Black populations, these relationships are likely confounded. Moreover, the summary statistics that are reported here are limited to bivariate relationships that do not yet account for other potentially relevant case and defendant characteristics.

Figure 5: Percent Black by County in Maryland, US Census Data, 2023



Overall, 70% of firearms cases involved a Black male defendant and 17% involved a White male defendant. The modal age category is a defendant in their twenties. For cases involving "explicit" firearms charges, the proportion Black and male increase slightly, and the mean age marginally declines.

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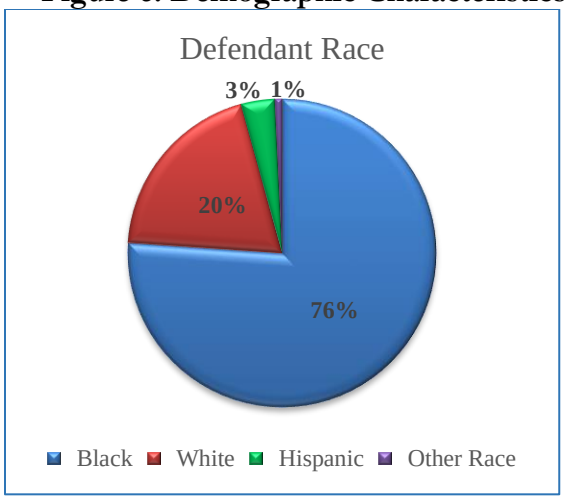
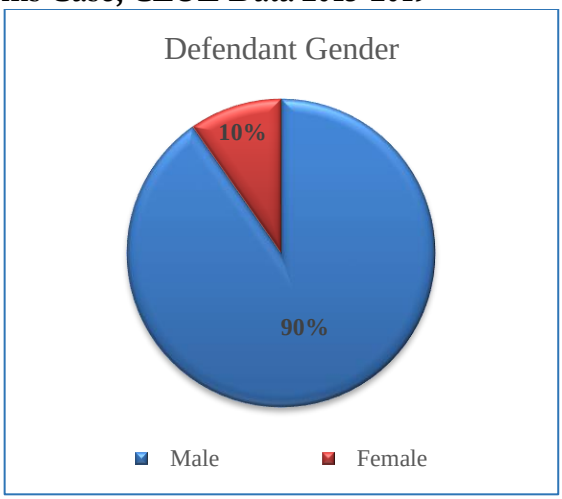
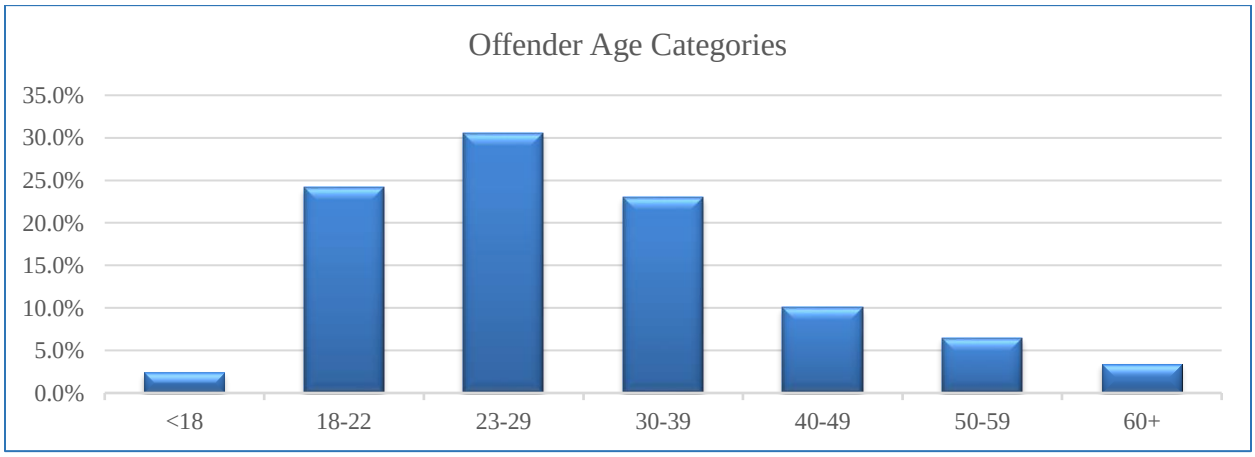
Figure 6. Demographic Characteristics in Firearms Case, CLUE Data 2015-2019







B. Case Characteristics

Offense Characteristics

Figure 7 summarizes the proportion of gun charges in Maryland firearms cases that involve misdemeanor versus felony charges. If any charge was a felony charge, the case is coded as a felony. Roughly 4 out of 5 firearms offenses includes at least one felony charge. For explicit firearms offenses, the proportion declines to 3 out of 4.[4]

[4] This is because some firearms charges include common law offenses, which are classified as misdemeanors. In Maryland, the traditional distinction between misdemeanor and felony offense does not always apply because common law offenses are often categorized as misdemeanors but can still carry lengthy prison sentences.

Figure 7. Misdemeanor and Felony Offenses, Firearms Case, CLUE Data 2015-2019

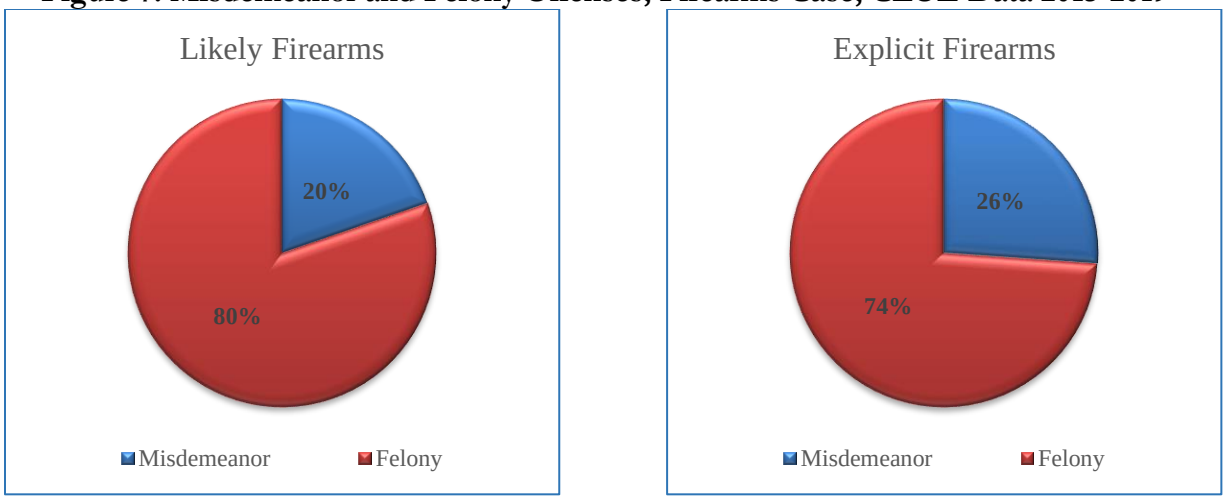


Figure 8 below reports the proportion of likely firearms cases that include a mandatory minimum charge, revealing that 1 out of every 2 cases is subject to a mandatory minimum. Across primary offense types, drug cases that also involve a firearm charge are most likely to carry a mandatory minimum, followed by murder-related and explicit firearms cases.

Figure 8. Mandatory Minimum Charges in Firearms Cases, CLUE Data 2015-2019

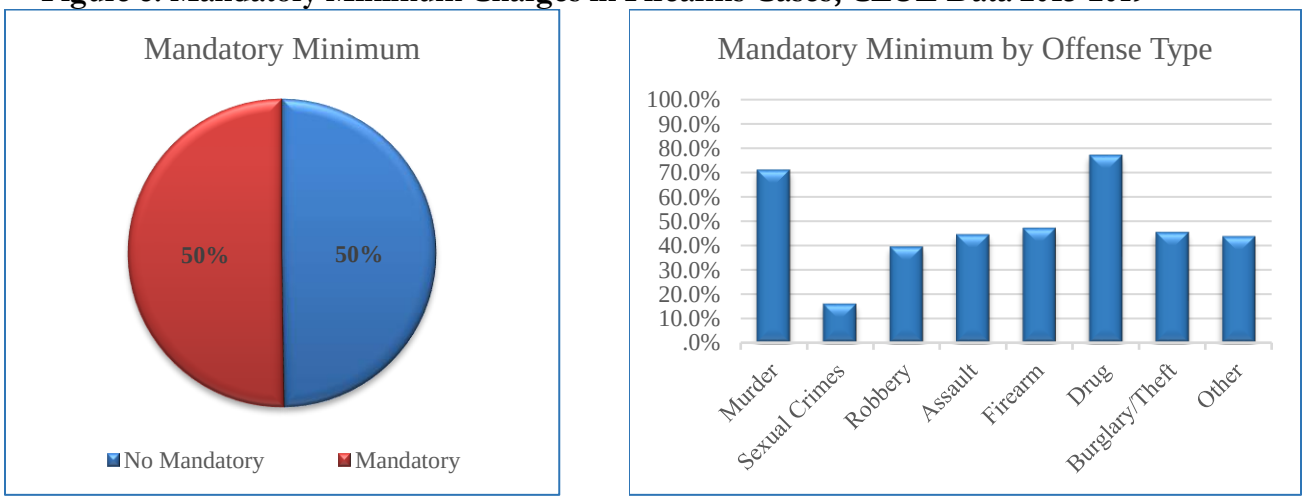


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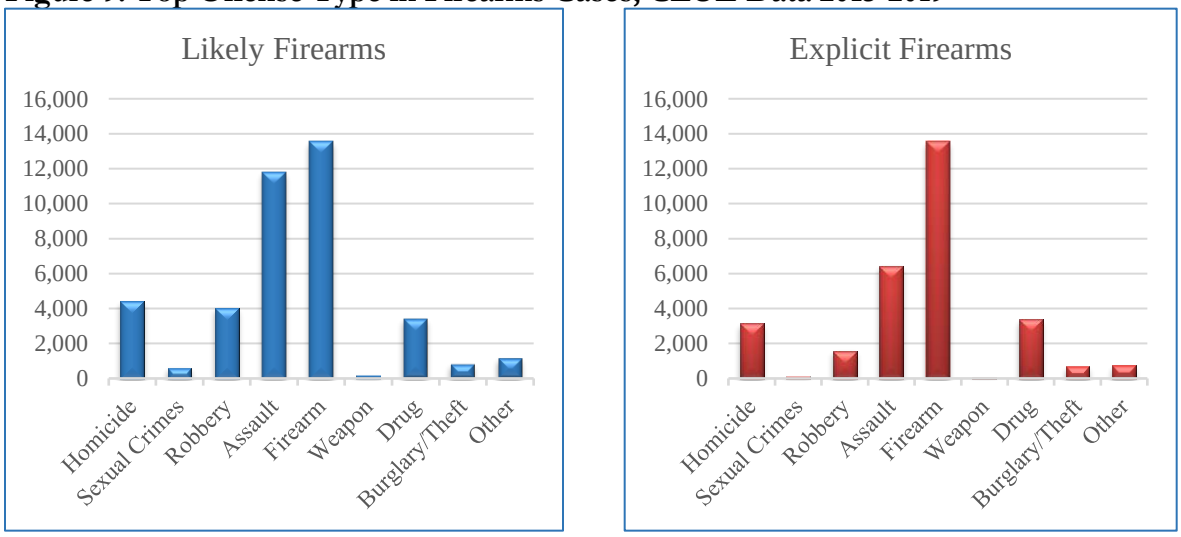
Figure 9 reports the distribution of primary offense types for cases that likely involve a firearm and for those with an explicit firearm charge. The homicide category includes cases with both murder and manslaughter charges. Sexual crimes are comprised primarily of rape and sexual abuse cases. Robbery includes armed robbery, armed carjacking and related offenses. Assaults are primarily first-degree assault, which includes assault with a firearm. Firearms offenses include cases where the top charge is specific to a firearm, such as Illegal Possession of a Firearm. The sample also includes a small number of weapons-related offenses, such as Possession of a Dangerous Weapon on School Property, which can include a firearm. Drug Offenses encapsulate various charges related to possession or possession with intent to distribute dangerous controlled substance, which often co-occur with secondary gun charges such as Use of a Weapon During a Drug Trafficking Crime. Burglary includes a small number of cases involving mostly Home Invasions or theft of a firearm. Lastly, the Other Offense category includes a range of other, less common crimes that can include the use of a firearm, such as False Imprisonment and Reckless Endangerment.

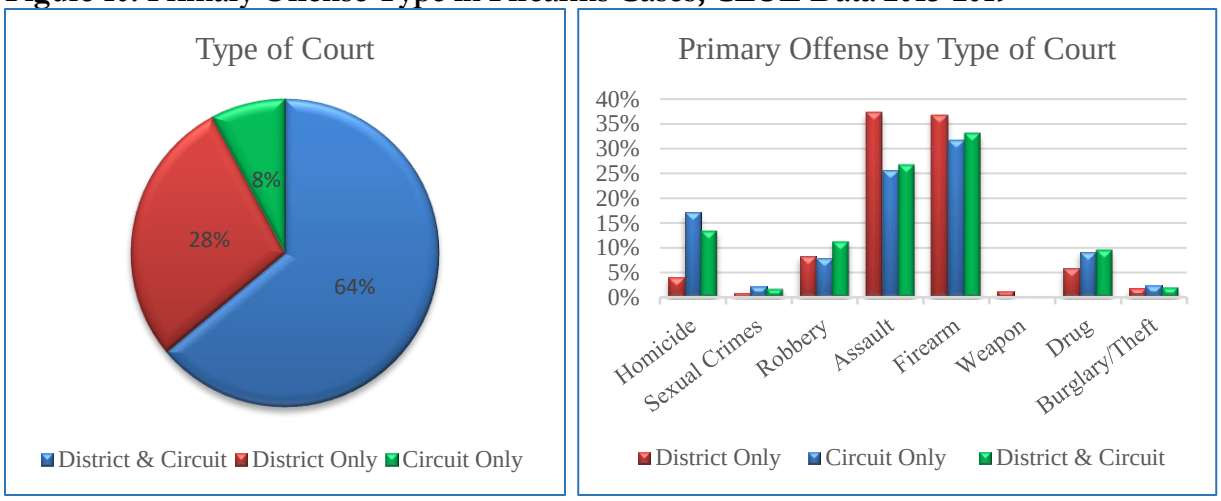
Figure 9. Top Offense Type in Firearms Cases, CLUE Data 2015-2019



The first graphic shows the distribution of cases that are likely to have involved a firearm; the second limits the sample to cases with an explicit firearms charge. In both samples, the modal top charge is a gun charge. Among these cases, the most common individual charges are for Firearm Possession with a Felony Conviction (22%), Illegal Possession of a Regulated Firearm (12%), and Wearing/Carrying/Transporting a Handgun in a Vehicle (10%). Assault cases are the second most prevalent offense type, though this declines significantly in the explicit firearms sample. This is unsurprising because assault charges do not require use of a gun. The distribution of other offenses is similar across the two samples. Overall, most firearms-related cases in Maryland are violent offenses, like homicide, robbery or assault, or involve some type of illegal firearms possession as the top charge.

Figure 10 on the next page shows the distribution of offense types by type of court. Firearms cases can be disposed of in three ways in Maryland. First, they can be initiated and resolved solely in District Court; second, they can be initiated and resolved solely in Circuit Court; and third, they can originate in District Court but be transferred to Circuit Court for case resolution. Roughly 1 in 4 cases is originated and concluded in District Court; only 8% are initiated and concluded in Circuit Court, and nearly two-thirds start in District Court but are transferred to Circuit Court. The second figure reports offense types by type of court. District court cases are relatively more likely to involve assault or firearms charges, and they are less likely to include homicide and sex offenses. By contrast, Circuit Court only cases are relatively more likely to involve homicide charges. As one might expect, less serious cases are more likely to be disposed of in District Court whereas very serious cases are more likely to originate in Circuit Court.

Figure 10. Primary Offense Type in Firearms Cases, CLUE Data 2015-2019



Bail Outcomes

Figure 11 summarizes bail outcomes across primary offense categories based on the top charge in the case. Red bars represent summary detainment, blue bars involve some type of financial release, and green bars indicate release on one's own recognizance (ROR). Bail information was missing or unknown in a nontrivial number of cases, so we coded these cases as a fourth category. In part, this reflects the complexities of Maryland's bail system as well as the state's bifurcated court system. District court bail commissioners oversee initial bail hearings. Defendants can appeal these bail decisions and, in some cases, may have multiple bail hearings that can occur both in district and circuit court. We capture and analyze the initial district court bail decision for each case, which provides a uniform standard for comparing bail outcomes; however, this also means that we do not typically observe bail outcomes for cases that originate in Circuit Court. Over 85% of cases with missing bail information involved cases that originated in Circuit rather than District Court.

We report information for the subset of cases with known bail information. The vast majority of homicide cases result in summary detainment. Sexual crimes also have very high

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rates of summary detention. Slightly more than half of robbery offenders are detained outright, with most others receiving some type of financial release conditions. For cases in which a firearms charge is the top charge, just over one-third of defendants are held without bail, half receive financial bail, and the remainder (about 1 in 7) are released on recognizance. A majority of defendants charged with only a weapon offense as the top charge received ROR, but it is important to note that this is a very small category in the data. As such, in subsequent multivariate analyses, we combine the small weapons category with other offenses.

Figure 11. Bail Outcomes by Top Charge, CLUE Data 2015-2019

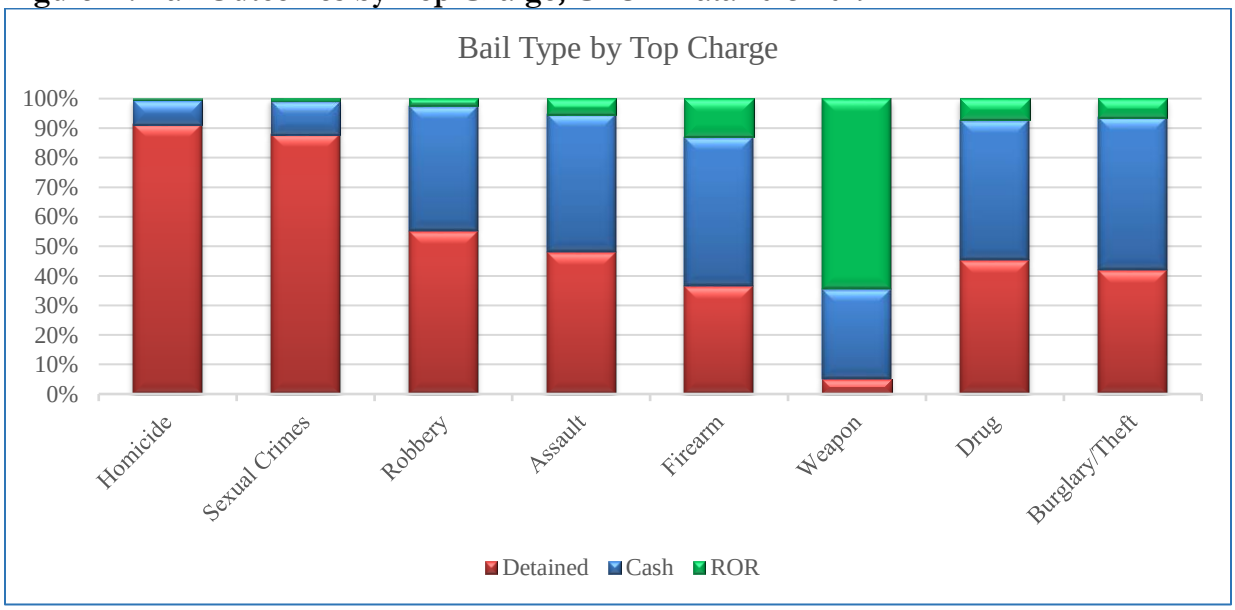
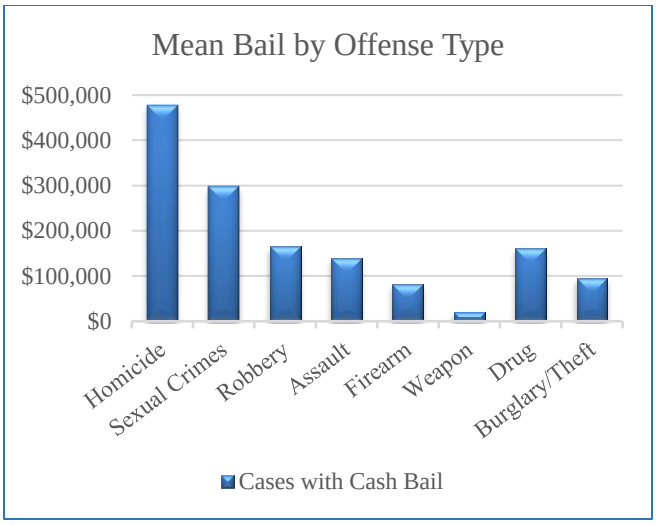


Figure 12 below reports mean bail amounts based on the subset of cases that included financial release conditions (N= 15,013). Overall, the mean bail amount for firearms-related offenses was over $120,000. This is driven in part by very high bail amounts for homicide cases, which exceeded $450,000, on average. The mean bail amount for sex-related crimes was also high at $300,000. In cases with only firearms charges as the top charge, the mean bail amount was roughly $82,000.

Figure 12. Mean Bail Amounts, CLUE Data 2015-2019



C. Case Outcomes

Case Dispositions

Figure 13 on the next page reports summary statistics for case dispositions in likely firearms cases. Overall, slightly more than half of all firearms cases in Maryland end in conviction. More than one-third are dismissed without a conviction, and a small proportion involve acquittals or other dispositions. Other dispositions include a wide range of uncommon case resolutions, such as remanded to juvenile court, transferred to another jurisdiction, abated by death, or incompetent to stand trial. Among the other dispositions, the most common is remanded to juvenile court. The summary conviction category includes cases resolved both as Probation before Judgement (PBJ) and Probation after Judgement (PAJ).[5] PBJ accounts for roughly 6% and PAJ comprises about 10% of all gun case dispositions in Maryland.

[5] When a defendant pleads guilty or is found guilty of a crime, the court may order PBJ, which stays the entering of judgment, deferring further proceedings and placing the defendant on probation. If the probation term is successfully completed, the case does not result in a formal conviction (§ 6-220). By contrast, a judgement of PAJ also results in the defendant being placed on probation, but the conviction is not stayed (§ 6-225).

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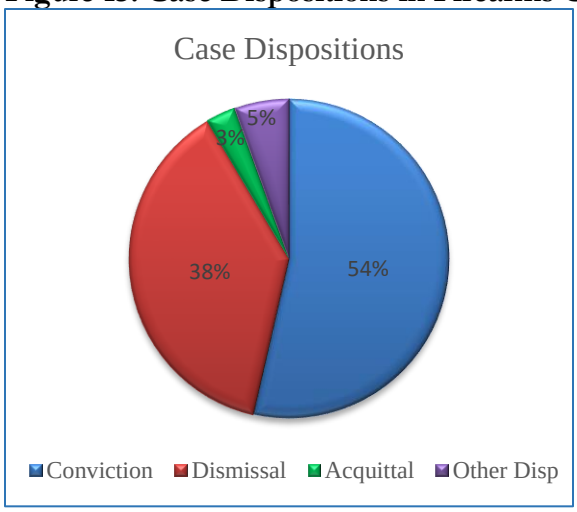
Figure 13. Case Dispositions in Firearms Cases, CLUE Data 2015-2019



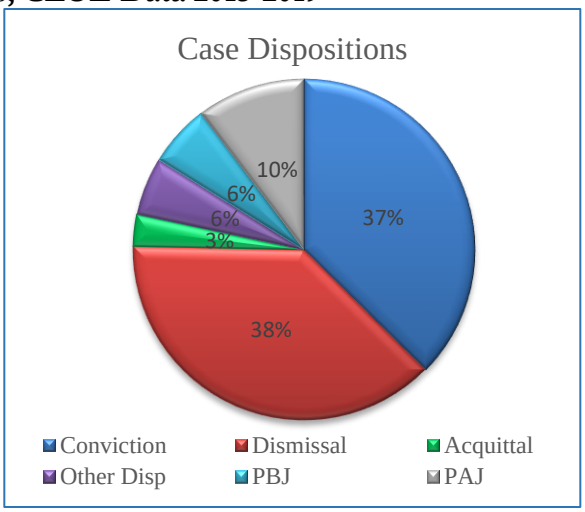


Figure 14 reports case dispositions for likely firearms offenses by primary offense type. Overall, conviction rates are highest for cases involving homicide-related and sex-related offenses, and somewhat surprisingly, burglary cases, many of which involve some type of Home Invasion. Conviction rates are lowest for cases involving assault as the top charge, followed by weapons and other cases.

Figure 14. Case Dispositions By Primary Offense Types, CLUE Data 2015-2019

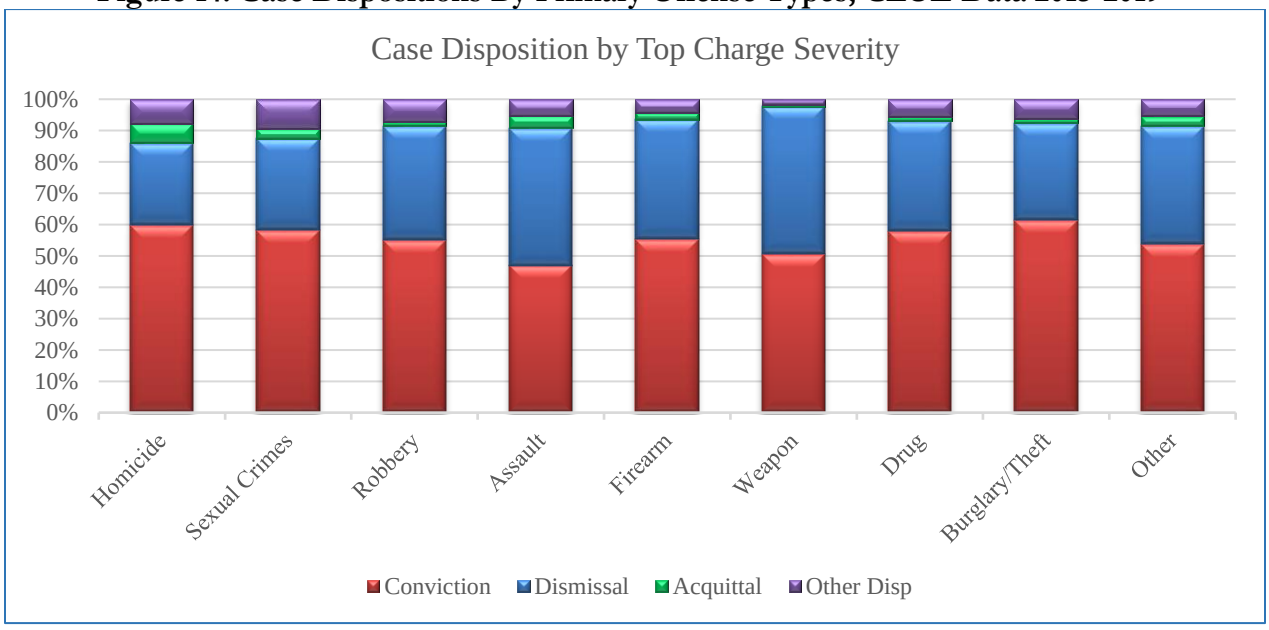


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Figure 15. Case Dispositions By Race and Gender, CLUE Data 2015-2019

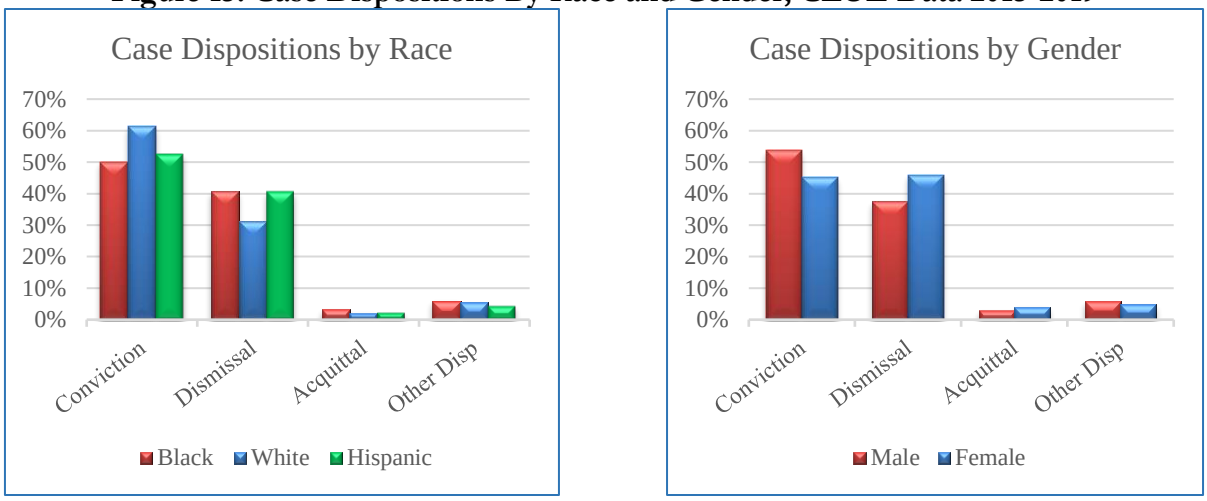

Figure 15 above summarizes case dispositions by defendant race and gender. Overall, White defendants have the highest conviction and lowest dismissal rates for gun crimes in Maryland. This is consistent with prior research on general racial differences in prosecution (Johnson et al. 2022). Female defendants are also less likely than male defendants to be convicted. Figure 16 shows case disposition by race and gender and reveals that White males have the highest conviction and lowest dismissal rates. White female and Black male defendants have similar rates, whereas the lowest conviction and highest dismissal rates are for Black females. Due to their small numbers, defendants identified as "other race" are not reported.

Figure 16. Case Dispositions By Race and Gender, CLUE Data 2015-2019

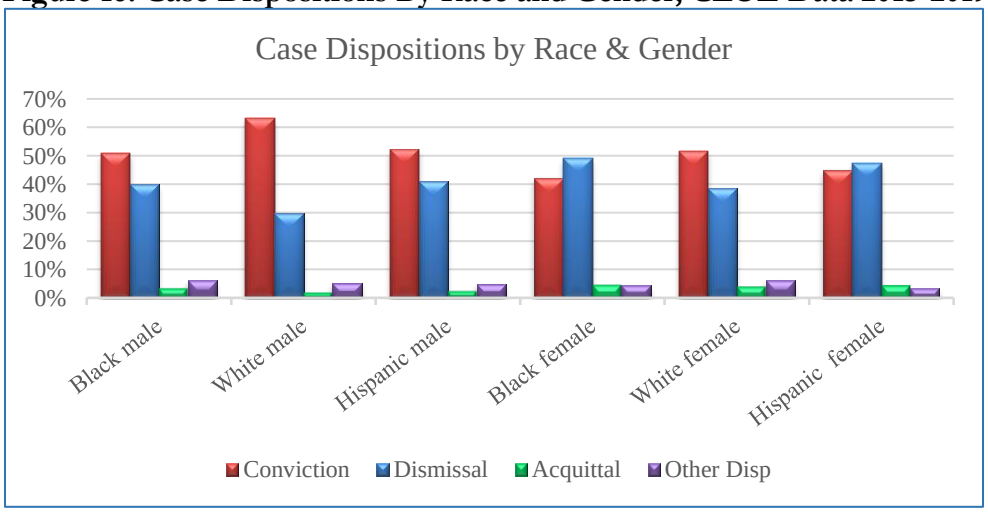

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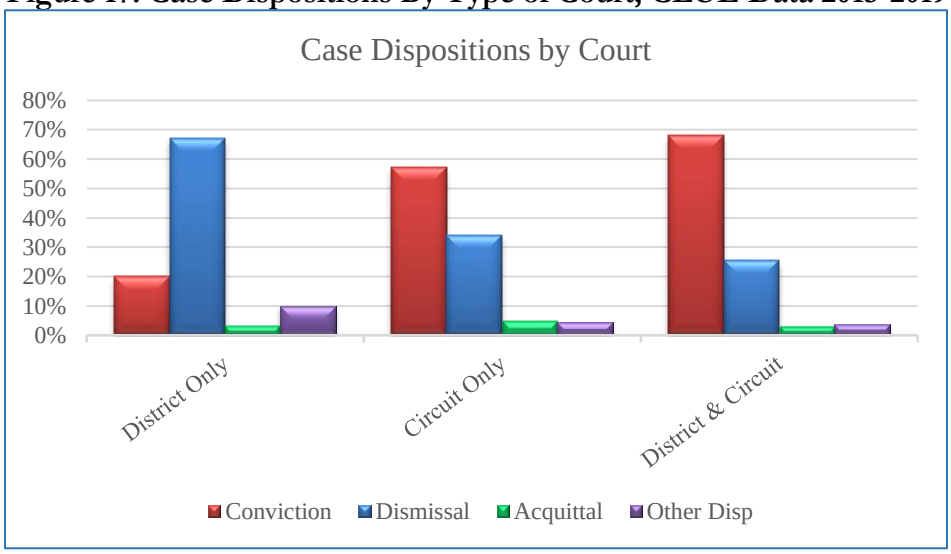
Figure 17 reports case dispositions by type of court. Firearms cases can be initiated and resolved in District Court, initiated and resolved in Circuit Court, or initiated in District Court and transferred to Circuit Court. District Court cases are far more likely to result in dismissal. Of the more than 11,000 firearms cases concluded in District Court, over two-thirds were dismissed. Most firearms offenses are serious enough to warrant transfer to Circuit Court, so when cases are disposed in District Court it is often because all charges are dismissed. Among the small number of cases originating in Circuit Court, more than half end in conviction, whereas for those cases initiated in District and transferred to Circuit Court, 68% result in conviction. The higher conviction rate makes sense in these cases, in part, because more problematic cases are likely to get screened out in District Court before being transferred for prosecution in Circuit Court.

Figure 17. Case Dispositions By Type of Court, CLUE Data 2015-2019

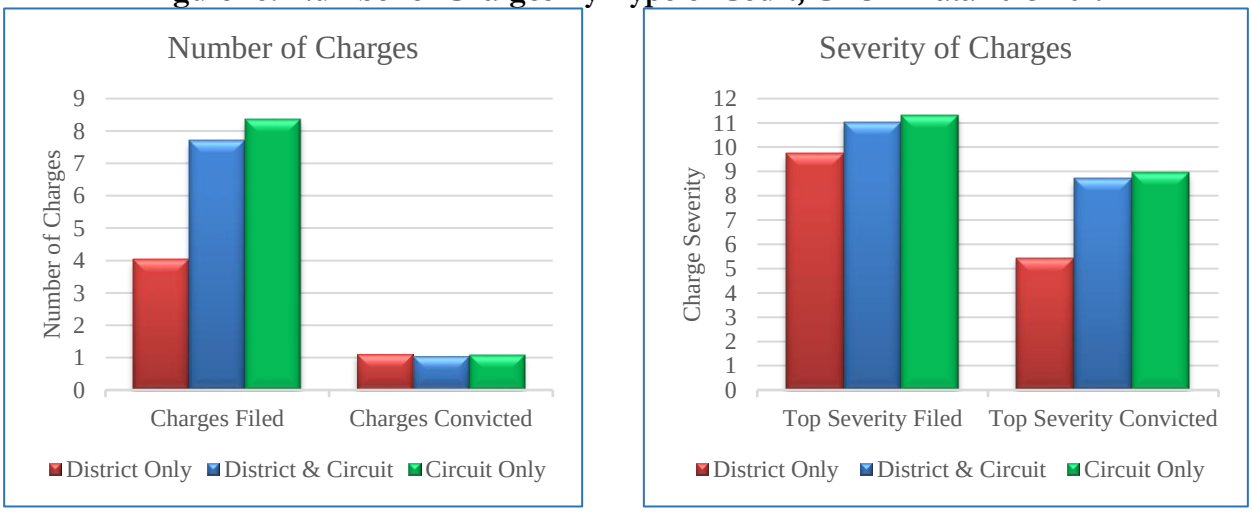


Charge Reductions

In addition to summarizing overall dispositional patterns, it is instructive to examine the types of cases and types of defendants that are most likely to receive plea discounts for firearms-involved offenses. Charge discounts can be captured by comparing the initial charges filed in the

case to the final charges for which the defendant was convicted. Figure 18 shows that, on average, 4 charges were filed in District Court only cases. For cases filed in District Court but moved to Circuit Court, the mean number of charges was between 7 and 8. For Circuit Court only cases, the mean charges exceeded 8. By contrast, across all types of gun cases in Maryland, the mean number of charges resulting in conviction was very close to 1. This suggests that it is common for police and prosecutors to file numerous charges in firearms-related cases, whereas among cases ending in a conviction, defendants are typically convicted on a single charge.[6]

Figure 18. Number of Charges By Type of Court, CLUE Data 2015-2019

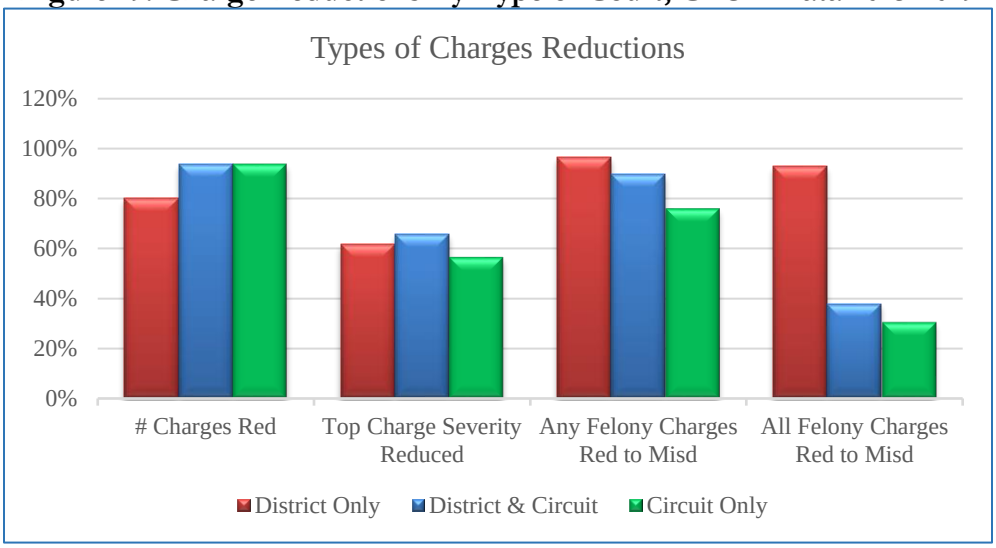


The figure above also shows that the average severity of firearms-related offenses hovers near a 10 or 11 on the 14-point severity scale. Not surprisingly, average offense severity tends to be lower for cases handled in the District Courts and greater for those originated in Circuit Court. For all cases, notable declines occur in the severity of the top charge from filing to conviction. This pattern is consistent with charge bargaining practices and suggests that charge severity is often reduced as part of the plea negotiation process. In other words, both the number of charges

[6] Maryland is a direct-file state, meaning that in most cases arresting police officers determine initial charges. These charges are then reviewed by a court commissioner for probable cause before being filed in District or Circuit Court.

and their average severity decline starkly from filing to disposition. Figure 19 reports information on the proportion of all cases that received different types of charge reductions from filing to disposition. Overall, a majority of cases have the number of charges reduced, more than half of all cases experience a reduction in the severity of the top charge, most cases have some felony charges dropped, and a nontrivial proportion of cases have all felonies reduced to misdemeanors, particularly for District Court gun cases.

Figure 19. Charge Reductions By Type of Court, CLUE Data 2015-2019



Tracing charge trajectories across stages of prosecutorial decision-making reveals different points at which the severity of charges can be altered. Figure 20 shows that among cases filed and disposed of in District Court, 62% experience a reduction in the severity of the top charge. For cases that are filed in District Court but transferred to Circuit Court, 17% have the top charge reduced from District to Circuit Court filing; 10% have the top charge increased. Finally, among cases disposed of in Circuit Court, 59% have the top charge reduced from Circuit Court filing and disposition. Overall, this means that more than half of all firearms cases that are prosecuted in Maryland have the severity of their top charge reduced.

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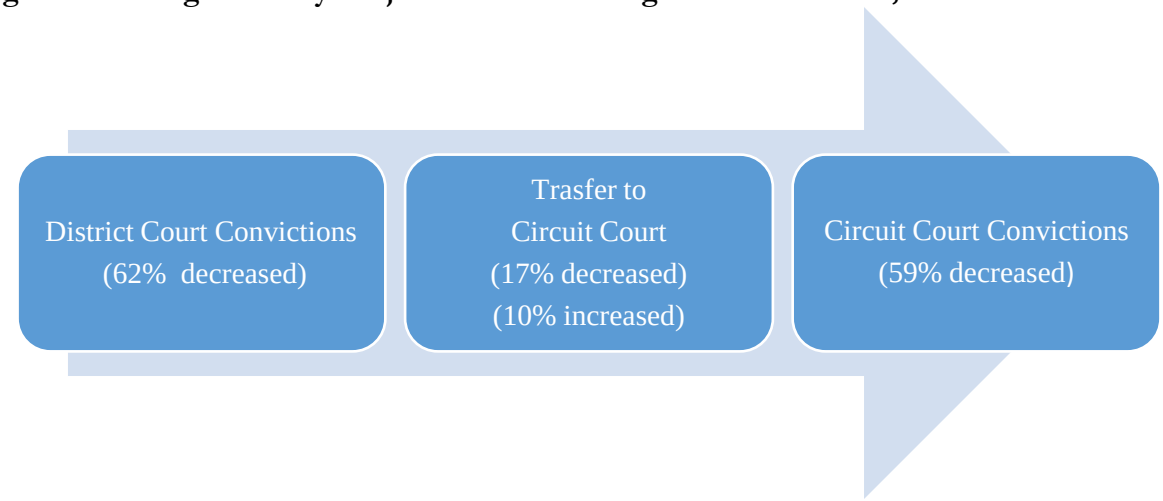
Figure 20. Charge Severity Trajectories across Stages of Prosecution, CLUE Data 2015-2019



Sentences

Figure 21 reports descriptive information on sentencing outcomes for firearms cases in Maryland. Among all cases, roughly one-third of all defendants receives a prison sentence. When limited to convicted cases, two-thirds of convicted defendants receive incarceration time. Figure 22 shows that mean sentence lengths are roughly 7 years across all convicted cases (including non-incarceration sentences) and mean unsuspended prison time averages just over 4 years. Limiting the sample to the subset of incarcerated offenders yields total sentence length estimates of nearly 11 years, with unsuspended terms of just over 6 years, on average.

Figure 21. Incarceration Outcomes, CLUE Data 2015-2019

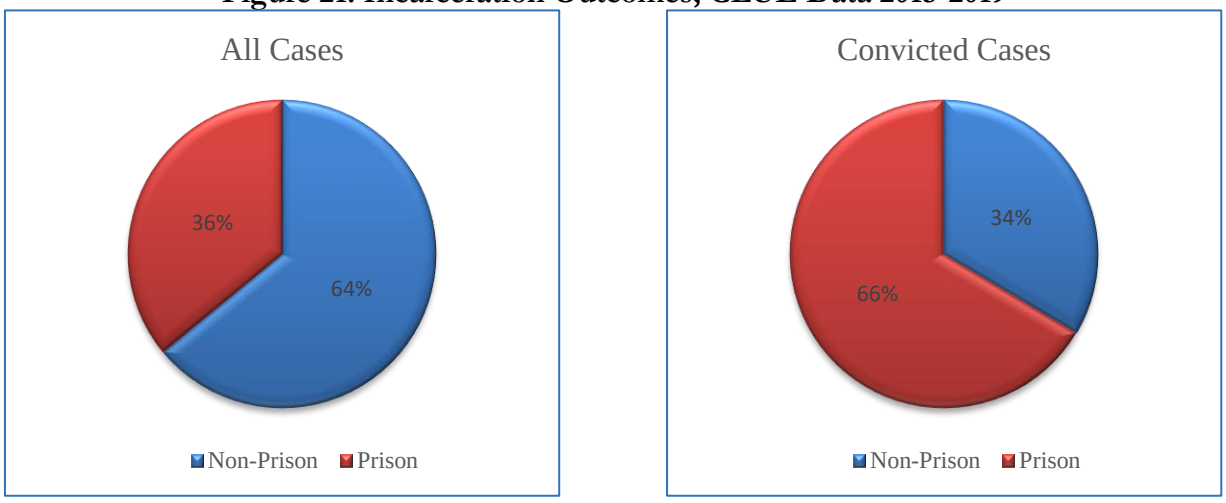
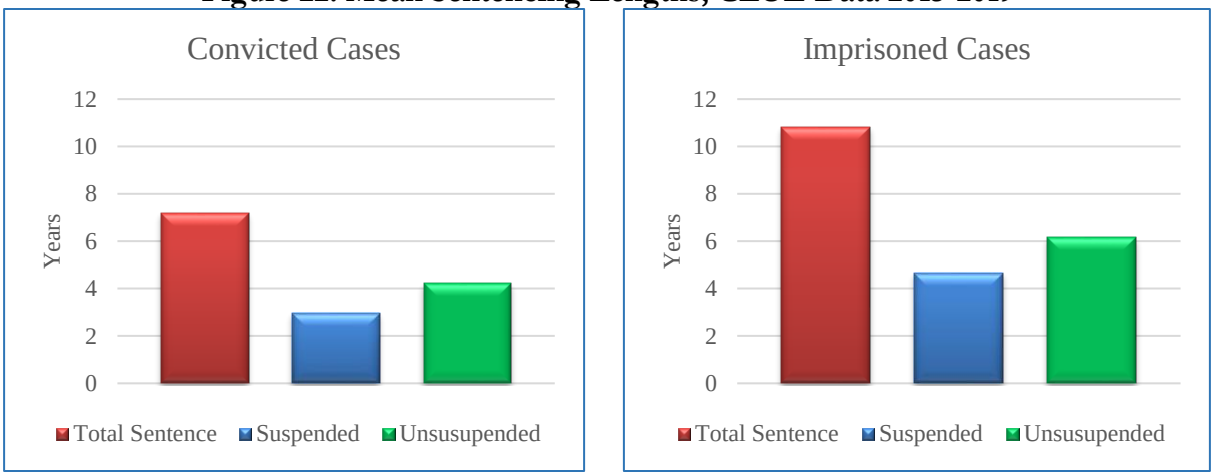
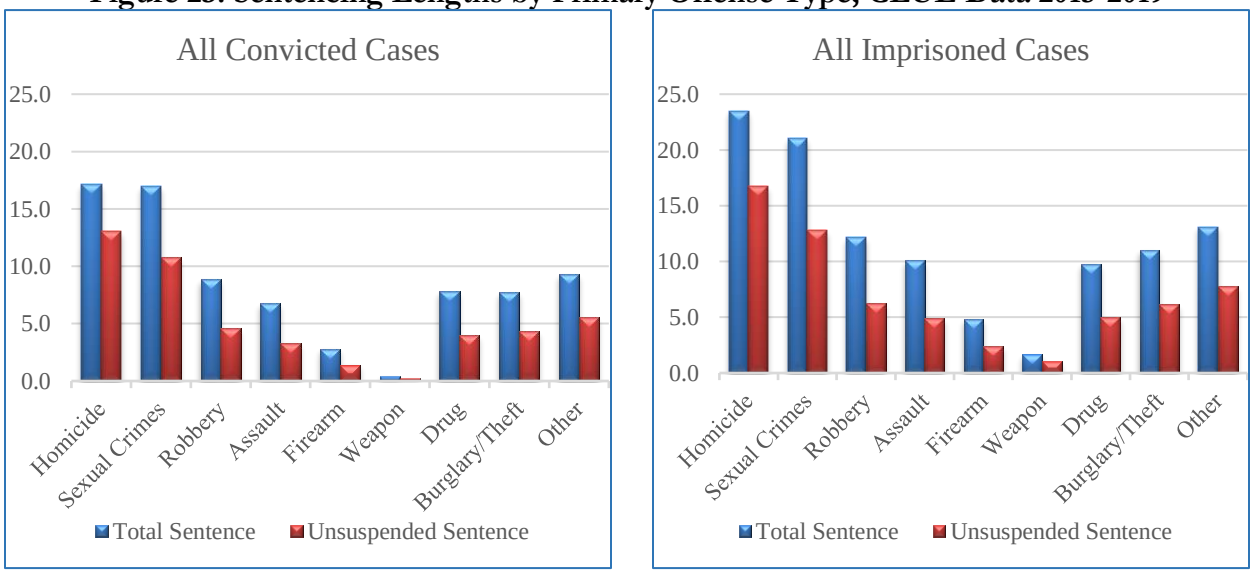


Figure 22. Mean Sentencing Lengths, CLUE Data 2015-2019



As shown in Figure 23, these estimates mask notable variation by the top offense type. The longest prison terms are for homicide, followed closely by sex offenses. For cases with an explicit firearm charge as the top charge, mean sentences are less than 3 years, with unsuspended terms of less than 1.5 years. Among incarcerated defendants, mean sentences are longer (after excluding 0's for non-incarceration). For prison-bound gun offenders, average total sentences approach 25 years for homicide crimes and exceed 10 years for offenses like robbery and assault, though again, significant portions of the total sentence are suspended across all crime types.

Figure 23. Sentencing Lengths by Primary Offense Type, CLUE Data 2015-2019



V. MULTIVARIATE ANALYSIS

A. Summary Statistics

In addition to the descriptive results in the previous section, Table 2 below summarizes full descriptive statistics for variables included in the multivariate models. The values presented in Table 2 may differ slightly from those above because these estimates are restricted to closed criminal cases – the sample of cases on which regression models are estimated.

Comparison of initial charges and charging outcomes indicates the average severity and number of charges both decrease as a result of charge bargaining. Average severity levels decrease by about 2 levels (on a 14-point scale) and the mean number of charges declines from nearly 7 to 1.5. An overwhelming proportion of cases (98%) have 1 or more charges dropped between filing and conviction. About 2 out of 3 convicted cases involve a reduction in the severity of the top charge, and 1 out of 3 cases has all felony charges reduced to misdemeanors. Roughly half of all firearms-related offenses include at least 1 mandatory minimum.

Among all firearms-related cases filed in District or Circuit courts in Maryland, slightly more than 1 out of 3 results in an incarceration sentence. This is largely because about one-half of all cases end in no conviction on any charge. Although not shown here, in a majority of these cases, all charges against the defendant are dismissed or nolle prosequi. Overall, 39% of filed cases are dismissed, 3% are acquitted at trial, and 5.5% involve a wide array of other, less common dispositions, such as the death of the defendant, not criminally responsible or unfit to stand trial rulings, or transfers to other jurisdiction such as juvenile or federal court.

Table 2. Descriptive Statistics for Firearms-Related Crimes in Maryland

Variable	N	Mean	SD	Min	Max
Charging					
Charge Severity Filing	37,014	10.67	2.73	1	14
Charge Severity Conviction	20,180	8.62	3.12	0	14
Number of Charges Filed	37,032	6.77	5.80	1	188
Number of Charges Convicted	19,228	1.51	1.35	1	57
Conviction	37,030	0.52	0.50	0	1
Mandatory Minimum	37,032	0.49	0.50	0	1
Number of Charges Reduced	37,032	0.98	0.13	0	1
Severity of Charges Reduced	19,228	0.67	0.47	0	1
Felony Charges Reduced	19,228	0.33	0.47	0	1
"Distance Traveled" Prison	18,974	0.18	0.29	-14	1
"Distance Traveled" Sentence Length	18,974	-0.72	10.76	-761	1,223
Sentencing					
Carceral Sentence	37,032	0.36	0.48	0	1
Sentence Length	37,032	3.64	8.30	0	60
Suspended Length	36,959	2.03	6.07	0	60
Carceral Sentence (Convictions)	19,228	0.69	0.46	0	1
Sentence Length (Convictions)	19,228	6.92	10.40	0	60
Suspended Length (Convictions)	19,219	3.86	7.95	0	60
Sentence Length (Prison)	13,308	10.00	11.20	0	60
Suspended Length (Prison)	13,308	5.42	8.77	0	60
Recidivism	37,032	0.35	0.48	0	1
Recidivism (Convictions)	19,228	0.31	0.46	0	1
Recidivism (Prison)	13,308	0.32	0.47	0	1
Time at Risk (Months)	35,238	50.83	17.75	12	81
Type of Bail					
Release on Recognizance	37,032	0.06	0.25	0	1
Financial Release Conditions	37,032	0.38	0.49	0	1
Summary Detainment	37,032	0.43	0.50	0	1
Other/Unknown	37,032	0.12	0.33	0	1
Criminal History	37,032	1.99	3.04	0	54

Table 2. Descriptive Statistics for Firearms-Related Crimes in Maryland (continued)

Variable	N	Mean	SD	Min	Max
Offense Type at Filing					
Murder	37,032	0.10	0.31	0	1
Rape	37,032	0.01	0.12	0	1
Robbery	37,032	0.08	0.27	0	1
Assault	37,032	0.33	0.47	0	1
Firearm	37,032	0.33	0.47	0	1
Drug	37,032	0.09	0.29	0	1
Burglary	37,032	0.03	0.18	0	1
Other	37,032	0.02	0.14	0	1
Offense Type at Conviction					
Murder	20,258	0.04	0.20	0	1
Rape	20,258	0.01	0.11	0	1
Robbery	20,258	0.17	0.38	0	1
Assault	20,258	0.21	0.41	0	1
Firearm	20,258	0.36	0.48	0	1
Drug	20,258	0.11	0.31	0	1
Burglary	20,258	0.04	0.20	0	1
Other	20,258	0.05	0.22	0	1
Demographic Characteristics				0	1
White Defendant	37,032	0.18	0.39	0	1
Black Defendant	37,032	0.72	0.45	0	1
Hispanic Defendant	37,032	0.03	0.18	0	1
Other Race Defendant	37,032	0.06	0.24	0	1
Female Defendant	37,032	0.09	0.29	0	1
Defendant Age Categories					
Under 18	37,032	0.03	0.18	0	1
18-22	37,032	0.26	0.44	0	1
23-29	37,032	0.31	0.46	0	1
30-39	37,032	0.22	0.42	0	1
40-49	37,032	0.09	0.29	0	1
50-59	37,032	0.06	0.23	0	1
60 and over	37,032	0.02	0.15	0	1
Any NG Plea	37,032	0.08		0	1
Type of Case					
District Court Only	37,032	0.25	0.43	0	1
Transferred from District to Circuit	37,032	0.68	0.47	0	1
Circuit Court Only	37,032	0.08	0.27	0	1
Year Fixed Effects	37,032	--	--	--	--
County Fixed Effects	37,032	--	--	--	--

Among convicted cases, 69% are sentenced to some period of incarceration. Mean sentences across all cases average 3.6 years when values of 0 for non-convicted defendants are included. Restricting the data to convictions, mean sentence lengths average nearly 7 years, and for individuals sentenced to jail or prison, mean sentence lengths are 10 years. It is common for a portion of the total sentence to be suspended. Across all defendants, the mean suspended time is 2 years, for convicted defendants it is 3.9 years, and for incarcerated defendants, it is 5.4 years. On average, more than half of the total incarceration time is suspended by the judge in firearms-related criminal cases in Maryland. Among all defendants in the data, 35% recidivate, as measured by being charged with a new criminal offense during the study period. This proportion is slightly lower for defendants who are convicted and for those sentenced to incarceration.

It is important to note that our measure of recidivism is limited. For defendants who are convicted and sentenced to jail or prison, we lack data on actual time served. This means we cannot reliably separate potential deterrent or criminogenic imprisonment effects from the broader effects of incapacitation. For example, if a convicted defendant serves 10 years in prison, their eventual release will fall outside our window for capturing reoffending. The study includes criminal cases disposed of between 2015 and 2019, and the follow-up recidivism window extends through the middle of 2021. We are unable to accurately identify recidivism events after mid-2021 because during this time, several large counties in Maryland underwent a large-scale case management system switch to the Maryland Electronic Courts (MDEC) system. This switch impacted the nature of the web-scraped data for cases filed past mid-2021 and prohibits reliable recidivism matching. Therefore, for each defendant, we have at least a 12-month recidivism window, but given that many defendants receive long incarceration sentences, we cannot separately examine the post-release behavior of incarcerated defendants. In our recidivism

models, we include an indicator for the number of months that have passed since the current case disposition to account for the fact that some defendants have more time at risk, but this does not adjust for time in jail or prison. As such, our models examining recidivism will be driven in large part by the incapacitation effects experienced by incarcerated defendants. Our recidivism measure is also limited to defendants who receive new criminal charges, so we do not observe cases with new arrests that do not result in new criminal charges. For these reasons, the results of recidivism analyses should be interpreted as suggestive but preliminary findings.

Descriptive statistics for other covariates included in our multivariate models align with our previous discussion of descriptive findings. The modal bail category is summary detainment, though many defendants receive financial release conditions. Only 6% of firearm-involved defendants were released on their own recognizance during the study period.[7] Criminal history captures the number of prior criminal cases for each defendant in the data. On average, defendants have a mean of 2 prior criminal cases, though some defendants have cycled through the system dozens of times prior to their current case. Comparing top charges at filing to conviction, it is clear that charge movement is common in firearms-related cases. For example, 10% of filings include murder-related charges, but only 4% of convictions are for murder. Assault and firearms charges are the bi-modal filing offenses, and firearms are the model conviction offenses. Demographic factors indicate that the modal defendant is Black, male, and in their mid-to-late 20s. Approximately 8% of cases involved a not guilty plea on at least one charge, and most cases originated in District Court but were then transferred to Circuit Court.[8]

[7] In July 2017, the Maryland Court of Appeals enacted a new rule instructing pretrial decision-makers to limit their use of cash bail as a form of pretrial release. Descriptive reports have identified that this new rule may be related to an increase in summary detainments, as well as a decrease in the use of financial release conditions (Glazener et al., 2022).

[8] Year and county fixed effects are not reported, but cases are distributed fairly evenly across years and more than 1 out of 3 firearms-related offenses comes from Baltimore City; an additional 15% come from surrounding Baltimore County and another 15% originate in Prince George's County, which is on the border with Washington D.C.

B. Charge Reductions

We begin by examining who is most likely to receive charge reductions in firearms-related cases in Maryland. Table 3 reports results from multivariate logistic regression models estimating the log odds of receiving a charge reduction. The first model examines reductions in the severity of the top charge and the second investigates cases where all felony charges were reduced to misdemeanors. The models are estimated on the sample of likely firearms cases and limited to closed cases and cases resulting in a conviction on at least one charge. It is necessary to limit the analysis to convicted cases in order to compare filed charges to convicted charges. Across both models, more serious charges are more likely to result in a charge reduction. This likely reflects the fact that more serious offenses provide more room for negotiation, which Wright and Engen (2005) refer to as the "depth and distance" of available charge negotiations. Cases including mandatory minimum charges are less likely to result in charge reductions, and cases with more charges are less likely to have all felony charges reduced to misdemeanors.

Defendant race and ethnicity are unrelated to charge severity reductions, but Black defendants are slightly less likely, and Hispanic defendants are slightly more likely, than White defendants to have all felony charges reduced. Female defendants are more likely to receive both types of charge reductions. Very young defendants (under 18) are especially unlikely to benefit from charge reductions, though this group is small in the data. Other age-related influences are small and inconsistent. Significant differences emerge by offense type, with explicit firearms cases (the reference group) being especially likely to result in a charge reduction. Relative to this group, most other offenses were significantly less likely to receive a charge reduction. The lone exception was for assault cases, which also had high odds of having the top charge reduced.

Table 3: Logistic Regression for Charge Reductions

	Top Charge Reduced			Felony Charges Reduced		
	OR	SE		OR	SE	
Constant	0.16	0.02	***	0.04	0.01	***
Charge Severity Scale	1.38	0.02	***	1.45	0.02	***
Number of Charges	1.00	0.00		0.98	0.00	***
Mandatory Minimum	0.89	0.04	**	0.91	0.04	*
Criminal History	1.00	0.01		1.00	0.01	
Defendant Race						
Black	1.01	0.05		0.89	0.04	*
Hispanic	1.11	0.13		1.28	0.13	*
Other Race	1.14	0.10		1.43	0.13	***
Defendant Gender						
Female	1.20	0.08	**	1.67	0.10	***
Defendant Age						
Under18	0.63	0.08	***	0.62	0.08	***
18-22	1.10	0.05	*	0.87	0.04	**
30-39	0.96	0.05		1.03	0.05	
40-49	0.95	0.06		1.13	0.07	*
50-59	0.98	0.08		1.21	0.09	**
60 and over	0.87	0.11		1.14	0.14	
Filing Offense Type						
Murder	0.66	0.06	***	0.20	0.02	***
Rape	0.47	0.07	***	0.19	0.03	***
Robbery	0.56	0.04	***	0.52	0.04	***
Assault	2.00	0.13	***	0.94	0.06	
Drug	0.41	0.03	***	0.49	0.03	***
Burglary	0.52	0.05	***	0.73	0.07	***
Other	0.94	0.12		0.37	0.05	***
Type of Bail						
Financial Release	1.37	0.11	*	1.03	0.09	
Summary Detainment	1.13	0.09		0.69	0.06	***
Other/Unknown	1.22	0.13	†	0.86	0.09	
Any NG Plea	0.61	0.04	***	0.90	0.06	
Type of Case						
District to Circuit	0.29	0.03	***	0.32	0.04	***
Circuit Court Only	0.54	0.04	***	0.39	0.03	***
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=19,153;
†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Finally, small but inconsistent influences emerged for type of bail, with defendants receiving financial release conditions being more likely to receive a charge severity reduction, and summarily detained defendants being less likely to receive a felony charge reduction. In addition, a not guilty plea on any charge was negatively related to charge severity reductions. Relative to cases disposed of in District Court, cases settled in Circuit Court were substantially less likely to receive charge reductions, regardless of whether they originated in District or Circuit Court. In the interest of space and presentation, we do not report individual results for year and county fixed effects, but it is notable that substantial between-county variation exists in the use of charge reductions; for example, the predicted probability of having one's top charge reduced is 56% in Montgomery County compared to 85% in Queen Anne's County.

C. Sentencing

In addition to charge reductions, we estimate multivariate regressions for sentencing outcomes in Maryland firearms-related cases. Table 4 reports estimates for the probability of receiving an incarceration sentence. These models include our two charge reduction measures as sentencing predictors. The models are again estimated on the sample limited to likely firearms, closed criminal cases, and cases resulting in a conviction on at least one charge. Across both models, receipt of a charge reduction substantially decreases the odds of a carceral sentence. This is consistent with prior work on the impacts of charge bargaining on sentencing (e.g., Shermer and Johnson, 2010). Specifically, the odds of a jail or prison sentence are decreased by 17% when the top charge is reduced and by 40% when all felony charges are reduced to misdemeanors. Other legal predictors align with prior research – carceral sentences are more likely for cases involving more serious charges, a higher number of charges, mandatory minimum charges, and for defendants with more extensive criminal histories.

Black defendants are substantially more likely than White defendants to receive incarceration sentences, and female defendants are less likely than male defendants, even after accounting for other relevant case characteristics. Defendants aged 23-29 (the reference group) are most likely to be sentenced to jail or prison, whereas defendants over the age of 50 are least likely. Counterintuitively, the results show that murder-related offenses are less likely than firearms crimes (the reference) to result in incarceration.[9] Strong effects emerge for type of bail on sentencing. Defendants who receive financial conditions have odds of incarceration that are more than twice those released on their own recognizance, and defendants who are detained summarily have odds that are more than 3 times greater. Finally, cases that originate in Circuit Court are more likely to result in incarceration, which is consistent with the notion that more serious offenses are likely to be directly initiated by State's Attorneys Offices.

The next table on the following page, Table 5, reports parallel results for total sentence lengths. The first model shows estimates for all convictions, and the second limits the sample to incarcerated defendants. Overall, charge reductions have large impacts on final sentence lengths. A charge reduction reduces total sentence lengths by 3.7 years, on average. Effects are larger among the subsample of incarcerated defendants, reducing mean prison sentence lengths by 5.4 years. Although not reported in tabular form, felony charge reductions decrease mean terms of incarceration by 5.4 years and 6.5 years respectively in the full and incarcerated samples.[10]

[9] This likely reflects the fact that the murder category includes all murder-related charges including relatively less serious offenses such as involuntary manslaughter. It is also a product of the fact that the offense type measures overlap in large part with the included offense severity scale.

[10] In the interest of space and presentation, detailed analyses of unsuspended sentence lengths are not separately reported and discussed, but the overall pattern of results is very similar. Receipt of a charge severity reduction decreases unsuspended sentence lengths by nearly 2.5 years (b=-2.46; SE=.16) in the full sample; among prison-bound defendants, it reduces unsuspended sentences by more than 3 years (b=-3.15; SE=.21). Similarly, felony charge reductions decrease unsuspended sentence lengths by 3.3 years (b=3.29; SE=.16) and 3.8 years (-3.83; SE=.21) respectively in the convicted and incarcerated samples.

Table 4: Logistic Regression for Incarceration Sentences

	Incarceration Sentence			Incarceration Sentence		
	OR	SE		OR	SE	
Constant	0.59	0.08	***	0.54	0.08	***
Top Charge Reduced	0.83	0.04	***	--	--	
Felony Charges Reduced	--	--		0.60	0.03	***
Charge Severity Scale	1.14	0.01	***	1.17	0.01	***
Number of Charges	1.01	0.00	**	1.01	0.00	**
Mandatory Minimum	1.17	0.06	**	1.19	0.06	***
Criminal History	1.11	0.01	***	1.12	0.01	***
Defendant Race						
Black	1.41	0.07	***	1.40	0.07	***
Hispanic	0.86	0.10		0.87	0.10	
Other Race	0.30	0.03	***	0.30	0.03	***
Defendant Gender						
Female	0.49	0.03	***	0.51	0.04	***
Defendant Age						
Under18	1.25	0.20		1.24	0.20	
18-22	0.87	0.05	**	0.86	0.05	**
30-39	0.98	0.06		0.98	0.06	
40-49	0.96	0.07		0.98	0.08	
50-59	0.79	0.07	**	0.80	0.07	*
60 and over	0.48	0.06	***	0.48	0.06	***
Conviction Offense Type						
Murder	0.37	0.05	***	0.30	0.04	***
Rape	0.66	0.15	†	0.53	0.12	**
Robbery	1.80	0.14	***	1.49	0.12	***
Assault	0.97	0.07		1.04	0.08	
Drug	1.04	0.08		0.93	0.07	
Burglary	1.19	0.13		1.13	0.13	
Other	0.65	0.06	***	0.68	0.07	***
Type of Bail						
Financial Release	2.07	0.17	***	2.08	0.17	***
Summary Detainment	3.43	0.30	***	3.29	0.29	***
Other/Unknown	1.54	0.16	***	1.51	0.16	***
Any NG Plea	0.82	0.07	*	0.82	0.07	*
Type of Case						
District to Circuit	1.17	0.14		1.16	0.14	
Circuit Court Only	1.25	0.09	***	1.22	0.09	**
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=18,974

†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Table 5: OLS Regression for Total Sentence Lengths

	All Cases			Incarcerated Cases		
	OR	SE		OR	SE	
Constant	-3.99	0.57	***	-6.95	0.88	***
Top Charge Reduced	-3.65	0.18	***	-5.38	0.18	***
Charge Severity Scale	0.51	0.05	***	0.54	0.05	***
Number of Charges	0.25	0.01	***	0.24	0.01	***
Mandatory Minimum	2.12	0.19	***	2.23	0.19	***
Criminal History	0.11	0.03	***	0.13	0.03	
Defendant Race						
Black	1.09	0.22	***	0.84	0.29	**
Hispanic	-0.05	0.48		-0.56	0.68	
Other Race	-0.21	0.41		-1.30	0.74	†
Defendant Gender						
Female	-1.86	0.29	***	-1.65	0.39	***
Defendant Age Categories						
Under18	-0.76	0.58		-0.90	0.73	
18-22	-0.35	0.20	†	-0.12	0.26	
30-39	0.65	0.22	**	1.04	0.28	***
40-49	0.35	0.29		0.52	0.37	
50-59	0.17	0.35		0.48	0.47	
60 and over	-1.60	0.55	**	-1.45	0.87	†
Offense Type						
Murder	13.35	0.46	***	21.31	0.61	***
Rape	10.29	0.75	***	14.12	0.92	***
Robbery	5.46	0.27	***	6.54	0.34	***
Assault	2.94	0.28	***	4.19	0.37	***
Drug	0.35	0.28		0.07	0.37	
Burglary	2.33	0.43	***	2.98	0.56	***
Other	-0.20	0.43		-0.07	0.60	
Type of Bail						
Financial Release	0.04	0.36		0.35	0.60	
Summary Detainment	1.62	0.38	***	1.99	0.60	***
Other/Unknown	1.20	0.48	*	2.30	0.75	**
Any NG Plea	6.72	0.32	***	8.06	0.40	***
Type of Case						
District to Circuit	3.09	0.49	***	4.75	0.69	***
Circuit Court Only	3.32	0.31	***	4.76	0.46	**
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=18,974 for All Cases; N=13,185 for Incarcerated Cases.
†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Other legal predictors of sentence lengths have expected influences, with more serious charges, more charges, and mandatory minimum charges all increasing sentence lengths. Criminal history significantly increases mean sentence lengths in the total sample, but not the subsample of incarcerated defendants. Defendants convicted of murder-related offenses receive the longest sentences, followed closely by rape/sexual assault offenses. Defendants who are summarily detained receive additional incarceration time, and consistent with prior work on the trial penalty (e.g., Johnson, 2019), cases that include a not guilty plea on any charge result in substantially longer prison terms. Cases sentenced in Circuit Court receive longer sentence lengths than cases disposed of in District Court. In terms of demographic disparities, Black defendants receive longer average sentences than White defendants, and female defendants receive shorter incarceration terms than male defendants. Age differences are modest, but longer sentences occur for those aged 30-39 and shorter sentences are tied to those over age 60.

D. Recidivism

The next set of analyses, reported in Table 6, investigate recidivism in firearms-related cases in Maryland. Three models are reported sequentially to examine how conviction, incarceration, and sentence length relate to reoffending. The first model shows that conviction is associated with a 38% decrease in the odds of recidivism. Similarly, incarceration is also negatively associated with reoffending in the second model, reducing the odds of recidivism by 17%. The third model, however, indicates that once sentence length is accounted for, the relationship between prison and recidivism reverses. Longer sentences, on average, reduce the likelihood of reoffending, but net of sentence length, prison is positively related to reoffending. This suggests that longer prison sentences are likely to reduce recidivism largely because they incapacitate defendants, whereas prison itself may have potential criminogenic effects on

reoffending. These results must be viewed with caution, however, because we have a limited follow-up period in which to observe recidivism and because we cannot fully account for time served, which is necessary for separating the short-term effects of incapacitation from longer-term criminogenic imprisonment influences. We do include time at risk to account for the time that has passed since the current case was disposed, but this does not adjust for time incarcerated. Future work is therefore needed with longer follow-up periods and accurate time-served data to better distinguish the distinct theoretical processes that shape reoffending in firearms-related cases. Among the charge-related predictors, the presence of a mandatory minimum is negatively associated with reoffending, which is also likely due to increased incapacitation effects. Not surprisingly, criminal history is a strong predictor of future offending, with each additional past criminal case increasing the likelihood of a future criminal case by 16%.

Demographic predictors indicate that, relative to White defendants, Black defendants have a slightly elevated risk of reoffending, and Hispanics have a slightly reduced risk of recidivism. Female defendants are significantly less likely to recidivate, and younger defendants are much more likely than older defendants to cycle back into the criminal legal system. These results are consistent with prior research on recidivism generally (Gendreau et al., 1996). Across primary offense categories, defendants convicted of explicit firearms offenses have higher risks of recidivism relative to defendants who are convicted for other, person offenses. One reason for this may be because many gun-related charges specifically apply to individuals who have a prior criminal record (e.g., Firearm Possession with a Felony Conviction) or to individuals with prior convictions for specific prior violent crimes, so explicit firearms charges may be more likely to involve serious, repeat offenders.

Table 6: Logistic Regression for Offender Recidivism – All Cases

	Any Recidivism			Any Recidivism			Any Recidivism		
	OR	SE		OR	SE		OR	SE	
Constant	0.02	0.00	***	0.02	0.00	***	0.02	0.00	***
Convicted	0.62	0.02	***	0.71	0.03	***	0.71	0.03	***
Incarceration Sentence	--	--		0.83	0.03	***	1.23	0.06	***
Incarceration Length	--	--		--	--		0.96	0.00	***
Charge Severity Scale	1.00	0.01		1.00	0.01		1.00	0.01	
Number of Charges	1.00	0.00		1.00	0.00		1.00	0.00	
Mandatory Minimum	0.80	0.02	***	0.80	0.02	***	0.83	0.03	***
Criminal History	1.16	0.01	***	1.16	0.01	***	1.16	0.01	***
Defendant Race									
Black	1.15	0.04	***	1.16	0.04	***	1.17	0.04	***
Hispanic	0.77	0.06	***	0.76	0.06	***	0.76	0.06	***
Other Race	0.95	0.06		0.92	0.06		0.91	0.06	
Defendant Gender									
Female	0.63	0.03	***	0.62	0.03	***	0.62	0.03	***
Defendant Age									
Under18	1.86	0.13	***	1.86	0.13	***	1.89	0.13	***
18-22	1.57	0.05	***	1.57	0.05	***	1.57	0.05	***
30-39	0.73	0.02	***	0.73	0.02	***	0.73	0.02	***
40-49	0.52	0.03	***	0.52	0.03	***	0.53	0.03	***
50-59	0.38	0.02	***	0.38	0.02	***	0.38	0.02	***
60 and over	0.34	0.04	***	0.34	0.04	***	0.33	0.04	***
Conviction Offense Type									
Murder	0.61	0.04	***	0.60	0.04	***	0.74	0.05	***
Rape	0.52	0.06	***	0.52	0.06	***	0.62	0.08	***
Robbery	0.79	0.04	***	0.79	0.04	***	0.87	0.05	**
Assault	0.85	0.04	***	0.84	0.04	***	0.90	0.04	**
Drug	0.90	0.04	*	0.90	0.04	*	0.93	0.05	
Burglary	1.01	0.08		1.01	0.08		1.08	0.08	
Other	0.93	0.09		0.93	0.09		0.99	0.09	
Type of Bail									
Financial Release	1.37	0.08	***	1.38	0.08	***	1.34	0.07	***
Summary Detainment	1.30	0.08	***	1.32	0.08	***	1.31	0.08	***
Other/Unknown	0.77	0.06	***	0.77	0.06	***	0.77	0.06	***
Any NG Plea	1.08	0.05	†	1.07	0.05		1.15	0.05	**
Type of Case									
District to Circuit	0.59	0.04	***	0.59	0.04	***	0.60	0.04	***
Circuit Court Only	0.89	0.03	***	0.89	0.03	***	0.89	0.03	***
Time at Risk	1.05	0.00	***	1.05	0.00	***	1.05	0.00	***
Year Fixed Effects	--	--		--	--		--	--	
County Fixed Effects	--	--		--	--		--	--	

N=35,102

†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Table 7: Logistic Regression for Offender Recidivism – All Convicted Cases

	Any Recidivism			Any Recidivism		
	OR	SE		OR	SE	
Constant	0.01	0.00	***	0.01	0.00	***
Top Charge Reduced	1.44	0.06	***	1.27	0.05	***
Prison Sentence	--	--		1.33	0.07	***
Sentence Length	--	--		0.96	0.00	***
Charge Severity Scale	0.98	0.01	†	0.99	0.01	
Number of Charges	1.00	0.00		1.00	0.00	
Mandatory Minimum	0.77	0.03	***	0.83	0.04	***
Criminal History	1.13	0.01	***	1.14	0.01	***
Defendant Race						
Black	1.09	0.05	†	1.10	0.05	†
Hispanic	0.93	0.10		0.92	0.10	
Other Race	1.02	0.10		1.04	0.10	
Defendant Gender						
Female	0.69	0.05	***	0.66	0.05	***
Defendant Age Categories						
Under18	2.05	0.26	***	2.08	0.26	***
18-22	1.72	0.07	***	1.73	0.08	***
30-39	0.73	0.04	***	0.74	0.04	***
40-49	0.57	0.04	***	0.57	0.04	***
50-59	0.37	0.04	***	0.37	0.04	***
60 and over	0.39	0.06	***	0.38	0.06	***
Offense Type						
Murder	0.43	0.04	***	0.59	0.06	***
Rape	0.37	0.07	***	0.50	0.09	***
Robbery	0.73	0.06	***	0.85	0.07	†
Assault	0.72	0.04	***	0.82	0.05	***
Drug	0.94	0.06		0.97	0.06	
Burglary	1.00	0.10		1.10	0.11	
Other	0.90	0.11		1.02	0.12	
Type of Bail						
Financial Release	1.40	0.12	***	1.36	0.12	***
Summary Detainment	1.28	0.11	**	1.28	0.11	**
Other/Unknown	0.84	0.10		0.85	0.10	
Any NG Plea	0.92	0.07		1.05	0.08	
Type of Case						
District to Circuit	0.55	0.06	***	0.60	0.07	***
Circuit Court Only	0.80	0.05	***	0.88	0.06	†
Time at Risk	1.06	0.00	***	1.06	0.00	***
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=18,456

†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Whereas the prior models investigated the relationship between conviction, incarceration and recidivism, the results in Table 7 examine the association between receipt of a charge reduction and subsequent recidivism for convicted firearms defendants. Overall, receipt of a charge severity reduction is associated with a 44% increase in the odds of recidivism. This is diminished after including measures for the type and length of sentence but remains statistically significant, suggesting that net of one's sentence, receipt of a charge reduction is associated with a 27% increase in the odds of reoffending. This is consistent with the concept that charge bargaining reduces punishment in ways that may contribute to future offending. At the same time, consistent with the prior analysis, the results suggest that longer sentences reduce recidivism whereas prison itself has a positive impact on future offending. Other results regarding control variables are consistent with those previously reported and discussed. Although not shown in tabular format, receipt of a felony charge reduction also increases the overall odds of recidivism by 78%, and after accounting for type and length of sentence, it increases the odds of recidivism by 53%.

E. Distance Traveled

In addition to examining the relationship between receipt of a charge reduction and sentencing and recidivism, it is also instructive to consider the magnitude of charging discounts. Recent work suggests that the "distance traveled" in plea negotiations is important for shaping punishment disparities (Johnson and Larroulet, 2019) and the same may be true for patterns of reoffending. To the extent that larger plea discounts translate into less deterrence and/or less incapacitation, they may unintentionally increase recidivism. Alternatively, larger plea discounts could reduce one's exposure to criminogenic incarceration experiences in ways that ameliorate reoffending. To investigate this issue, we estimate the overall "distance traveled" in plea

negotiations by utilizing a counterfactual approach that predicts expected sentences based on the original charges filed in the case and compares them to sentences based on the charges of conviction in the case. Comparing these two values provides an estimate of how much punishment patterns are altered by the plea negotiation process. Table 8 summarizes the distance traveled in plea negotiations for both the probability and length of incarceration for the sample of all firearms-related cases in Maryland during our study period.[11]

Table 8: Distance Traveled in Charge Bargaining, CLUE Data 2015-2019

	Incarceration	Sentence Length	Unsuspended Length
Predicted sentence based on convicted charges	0.70	7.7	4.5
Predicted sentence based on filing charges	0.82	28.8	20.3
Difference in predicted values	-12.42%	21.18	15.8
% Change in values	-15.13%	-73.45%	-77.94%
Average Marginal Effects	-18.05%	-70.24%	-72.61%
N	18,974	18,974	18,974

NOTE: *Sentence length estimates based on values bounded by 0 and 60 years to remove outliers.

The table reports several values. First, it estimates the probability of incarceration based on the final charges in the case. Then it substitutes the original charges filed in the case to estimate the likelihood of incarceration in the absence of plea bargaining. The difference indicates that the expected probability of incarceration decreases by roughly 12% due to charge bargaining. This estimate accounts for both charge increases and decreases from filing to conviction. In terms of a percentage change, this translates into a 15% decrease in the probability of a jail or prison sentence. These values represent the marginal effect for the average case in the

[11] The estimates in Table 8 are based on all convicted cases. Similar but slightly larger estimates obtain for the sentence length estimates when the sample is limited only to incarcerated cases.

data, or the predicted probability of incarceration for the average defendant in the sample. An alternative approach is to calculate a marginal effect for each individual in the sample separately and then average these values across all cases in the data. This provides the average marginal effect rather than the marginal effect for the average defendant. Doing so generates a slightly larger average marginal reduction equal to an 18% decrease in the likelihood of incarceration due to plea bargaining in firearms cases in Maryland.

The second and third columns in Table 8 report similar estimates for the average distance traveled in expected sentence lengths due to charge negotiations in firearms cases. Comparison of sentence estimates based on initial charges filed and final conviction charges reveal stark differences. Expected sentences are decreased from almost 29 years of incarceration based on initial charges, to less than 8 years of incarceration based on final charges. This represents an average sentence discount of more than 21 years of total incarceration time, or about a 73% decrease in expected sentence lengths. Calculating individual marginal effects and averaging across all cases in the sample produces a similar estimate equal to a 70% decrease in expected sentence lengths. This implies that reductions in the type and severity of charges during plea bargaining have immense impacts on expected sentence lengths.

The reported values for total sentences may be overstated because incarceration terms are often partially suspended by judges at sentencing. The final column therefore reports estimates for only the unsuspended portion of incarceration sentences. Although the sentencing discount decreases, estimates for unsuspended sentences remain large. Based on original filed charges, one would expect the typical firearm defendant to be sentenced to nearly 20 years of unsuspended prison time; based on actual charges at conviction, though, expected sentences are less than 5 years, on average. The difference is approximately 16 years, representing a large and

substantial plea discount in unsuspended prison time for firearms defendants in Maryland. Proportionally, the distance traveled estimate is similar for both total and suspended sentences, as are estimates for the average marginal effects across defendants in the sample. These results suggest that unsuspended sentence lengths are reduced by more than two-thirds as a result of charge negotiations in firearms cases.[12]

The final research question asks how the distance traveled in plea negotiations impacts ensuing patterns of reoffending in firearms cases. To evaluate this, Table 9 reports logistic regression estimates for the association between the prison distance traveled, or the change in expected probability of incarceration, and the log odds of future offending. The prison distance traveled variable is measured as the inverse probability so that positive numbers represent greater plea discounts. The first model indicates that larger decreases in the predicted probability of imprisonment, or greater plea discounts, are associated with greater log odds of recidivism. The second model includes the type and length of sentence as additional predictors and shows that a one-unit change in the distance traveled translates into a 55% increase in the log odds of recidivism. The fact that the distance traveled estimate is decreased with the inclusion of sentencing variables suggests that part of the plea discount effect on recidivism operates indirectly through its influence on sentencing outcomes.

[12] Given that the results for the distance traveled estimates are much larger than the regression-based estimates based on binary charge reduction indicators, it is instructive to briefly consider what the two different measures capture. The binary charge reduction measures in the overall regression models are comparing mean sentences in the data for defendants who did and did not receive some form of charge reduction, such as a decrease in the severity of their top charge. However, the binary indicators do not simultaneously consider charge alterations that occur without altering charge severity (e.g. changes in type of offense), and they do not jointly consider the impact of changes in severity, type and numbers of charges. By contrast, the distance traveled measures jointly capture the impact of changes in severity, type and number of charges from filing to conviction, and they provide a more nuanced counterfactual estimate for the magnitude of plea discounts rather than just identifying whether or not they occurred. Alternatively, though, the distance traveled measures assume that the sentencing process would unfold in the same way if no charge bargaining had taken place, and it is likely that to some degree, police and prosecutors file initial charges with a priori knowledge of the likely charging and sentencing discounts that will occur. This suggests that, in the absence of charge negotiation, criminal legal actors may behave differently in the original filing of criminal charges.

Table 9: Logistic Regression for Recidivism -- Prison Distance Traveled

	Any Recidivism			Any Recidivism		
	OR	SE		OR	SE	
Constant	0.01	0.00	***	0.01	0.00	***
Prison Distance Traveled	2.05	0.25	***	1.55	0.18	***
Prison Sentence	--	--		1.36	0.07	***
Sentence Length	--	--		0.96	0.00	***
Charge Severity Scale	0.99	0.01		0.99	0.01	
Number of Charges	0.99	0.00	*	1.00	0.00	
Mandatory Minimum	0.78	0.03	***	0.84	0.04	***
Criminal History	1.14	0.01	***	1.14	0.01	***
Defendant Race						
Black	1.12	0.06	*	1.12	0.06	*
Hispanic	0.93	0.10		0.92	0.10	
Other Race	0.99	0.09		1.03	0.10	
Defendant Gender						
Female	0.66	0.05	***	0.65	0.05	***
Defendant Age Categories						
Under18	2.01	0.25	***	2.07	0.26	***
18-22	1.72	0.08	***	1.73	0.08	***
30-39	0.72	0.04	***	0.73	0.04	***
40-49	0.56	0.04	***	0.57	0.04	***
50-59	0.35	0.03	***	0.36	0.03	***
60 and over	0.37	0.06	***	0.37	0.06	***
Offense Type						
Murder	0.48	0.05	***	0.64	0.06	***
Rape	0.38	0.07	***	0.50	0.09	***
Robbery	0.74	0.06	***	0.85	0.07	†
Assault	0.77	0.05	***	0.85	0.05	*
Drug	0.90	0.06		0.94	0.06	
Burglary	0.97	0.10		1.07	0.11	
Other	0.94	0.11		1.04	0.13	
Type of Bail						
Financial Release	1.49	0.13	***	1.41	0.12	***
Summary Detainment	1.42	0.13	***	1.37	0.12	***
Other/Unknown	0.89	0.10		0.89	0.10	
Any NG Plea	0.83	0.06	*	0.99	0.08	
Type of Case						
District to Circuit	0.52	0.06	***	0.57	0.07	***
Circuit Court Only	0.79	0.05	***	0.86	0.06	***
Time at Risk	1.06	0.00	***	1.06	0.00	***
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=18,237

†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Table 10: Logistic Regression for Recidivism – Sentence Length Distance Traveled

	Any Recidivism			Any Recidivism		
	OR	SE		OR	SE	
Constant	0.01	0.00	***	0.01	0.00	***
Length Distance Traveled	1.02	0.00	***	1.01	0.00	**
Prison Sentence	--	--		1.34	0.07	***
Sentence Length	--	--		0.96	0.00	***
Charge Severity Scale	0.98	0.01	*	0.99	0.01	
Number of Charges	0.96	0.01	***	0.99	0.01	
Mandatory Minimum	0.75	0.03	***	0.82	0.04	***
Criminal History	1.13	0.01	***	1.14	0.01	***
Defendant Race						
Black	1.08	0.05		1.10	0.05	†
Hispanic	0.94	0.11		0.93	0.10	
Other Race	1.08	0.10		1.07	0.10	
Defendant Gender						
Female	0.69	0.05	***	0.66	0.05	***
Defendant Age Categories						
Under18	1.99	0.25	***	2.05	0.26	***
18-22	1.73	0.08	***	1.73	0.08	***
30-39	0.73	0.04	***	0.74	0.04	***
40-49	0.56	0.04	***	0.57	0.04	***
50-59	0.36	0.03	***	0.36	0.04	***
60 and over	0.38	0.06	***	0.37	0.06	***
Offense Type						
Murder	0.43	0.04	***	0.58	0.05	***
Rape	0.35	0.06	***	0.48	0.09	***
Robbery	0.71	0.06	***	0.83	0.07	*
Assault	0.77	0.05	***	0.84	0.05	**
Drug	0.87	0.06	*	0.92	0.06	
Burglary	0.93	0.09		1.04	0.10	
Other	0.90	0.11		1.01	0.12	
Type of Bail						
Financial Release	1.43	0.12	***	1.38	0.12	***
Summary Detainment	1.29	0.12	**	1.29	0.12	**
Other/Unknown	0.87	0.10		0.88	0.10	
Any NG Plea	0.97	0.07		1.05	0.08	
Type of Case						
District to Circuit	0.52	0.06	***	0.57	0.07	***
Circuit Court Only	0.80	0.05	***	0.86	0.06	*
Time at Risk	1.06	0.00	***	1.06	0.00	***
Year Fixed Effects	--	--		--	--	
County Fixed Effects	--	--		--	--	

N=18,237

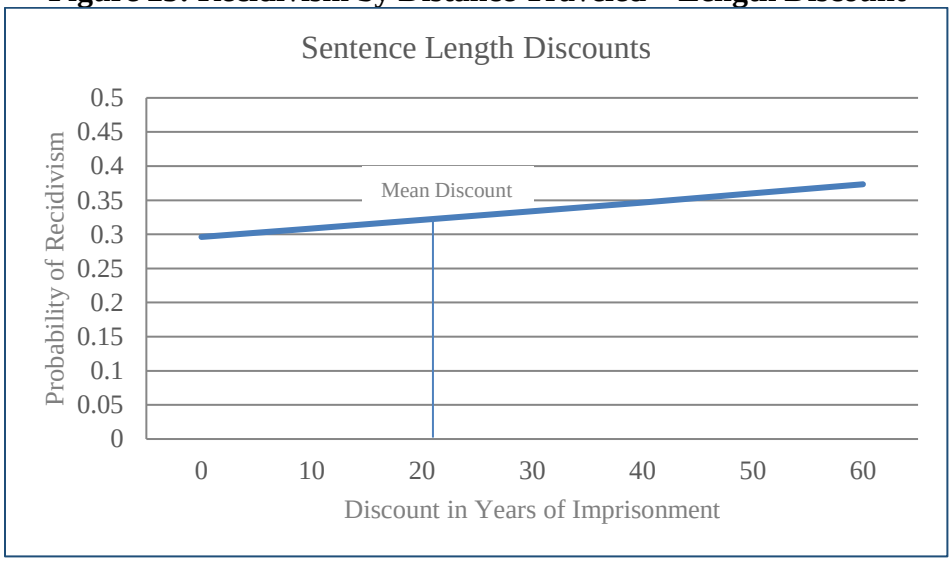
†$p \leq .10$; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Table 10 reports similar estimates but for the distance traveled in terms of average sentence length discounts based on charge alterations in firearms cases. The results reveal small but statistically significant influences of distance-traveled sentence length discounts on reoffending. For these models, the distance traveled measure consists of the difference in predicted values based on the original filed charges and final conviction charges. For example, in the first model, the coefficient for the Length Distance Traveled variable indicates that for every additional year of difference between the predicted sentence based on originally filed and final convicted charges, the log odds of recidivism increase by 2%. After accounting for the sentence type and length in the second model, the impact of sentence reduction lengths is reduced to roughly a 1% increase in the odds of recidivism for each year discounted. On the surface, these appear to be relatively small effects, but their cumulative impact is potentially consequential.

To summarize net effects for the distance traveled in plea negotiations on recidivism, Figures 24 and 25 report predicted probabilities based on marginal effects for representative distance traveled values. These estimates are based on the full models with all controls. Across the range of possible plea discounts, larger distances traveled in plea bargaining are associated with higher probabilities of recidivism. At the extremes, plea discounts in reduced likelihood of incarceration can potentially increase recidivism probabilities from .31 to .39. Similarly, at the extremes for sentence length discounts, estimated recidivism probabilities range from .26 to .46. Examining marginal effects at mean values, however, suggests that average plea discounts tend to have modest effects on recidivism. The average marginal effect for a prison sentence is an 18% prison discount, which translates into only a 1.5% increase in predicted recidivism (from 30.7% to 32.2%). Similarly, the mean distance traveled for sentence lengths was 21 years, which equates to a 6% increase in expected recidivism rate (from .26 to .32).

Figure 24: Recidivism by Distance Traveled – Prison Discount

Figure 25: Recidivism by Distance Traveled – Length Discount



Overall, these results suggest that net of individual sentences, larger plea discounts are associated with slightly higher probabilities of reoffending. We are unable to test whether this reflects reduced deterrence, decreased incapacitation, or other uncounted-for factors, such as differences in cases with larger charge reductions. Moreover, given our relatively short follow-up period and long mean sentences for gun crimes, we cannot speak directly to the potentially negative impacts that lengthy prison sentences might exert on longer-term reoffending patterns.

VII. DISCUSSION AND CONCLUSION

A. Summary of Findings

Gun violence is a perennial policy concern in America. Hundreds of thousands of people suffer fatal and non-fatal firearms-related injuries and tens of thousands are killed in gun-related violence each year. According to U.S. crime statistics, every year hundreds of thousands of criminal incidents involve the use of a firearm in the commission of a violent crime (NCIPC, 2020). At the same time, the overwhelming majority of criminal cases, firearms and non-firearms alike, involve a negotiated plea process that is understudied. Little is known about these processes outside the community of court actors who make these decisions. Because plea negotiations often result in significant sentence discounts, they may compromise the specific deterrent or incapacitation effects of punishment. However, limited prior work considers the relationship between plea negotiations, sentencing, and criminal recidivism, and no research examines this nexus in the context of the ongoing problem of gun violence in America.

The current research addresses this issue by analyzing a unique database of web-scraped court records for all firearms-related offenses in Maryland over a five year period (2015-2019). It attends to three primary research questions. First, it investigates the overall extent of plea bargaining in firearms-related cases, conducting descriptive analyses of typical firearms offenses and examining the types of cases that are most likely to involve charge reductions. Second, it generates estimates of the typical "distance traveled" in plea negotiations for firearms-involved offenses, allowing us to quantify the magnitude of the typical plea discount and examine its impact on sentences. Finally, the study examines the degree to which charge bargaining and plea discounts might be related to patterns of recidivism among firearms-involved offenders.

The descriptive analysis revealed that the typical defendant in Maryland firearms cases is a Black male in their mid-to-late 20s who is from Baltimore City and has an average of 2 prior criminal cases. Most firearms offenses are felony crimes and half of all cases carry mandatory minimum sentences. The most common offense types that are charged in these cases involve explicit firearms charges, followed by assault and homicide. The modal defendant is detained pretrial, and their case is filed in District Court before being transferred to Circuit Court.

This descriptive analysis also identified that charge negotiations are commonly utilized in gun-related crimes in Maryland. This includes negotiations regarding the number, type and severity of charges. An overwhelming majority of cases include the filing of multiple charges, yet most convictions are for a single offense. This suggests it is common practice to file multiple charges, including lesser included offenses, rather than isolating the most serious crime for which prosecutors are seeking a conviction. On one hand, this could indicate a pattern of overcharging, especially if charges are filed for more serious crimes than prosecutors intend to convict; on the other hand, one might argue it is smart practice to include a backup of lower-level charges to secure convictions, especially if there are evidentiary or other concerns that make conviction on the top charge difficult. Whether or not this is unique to firearm crimes is not able to be directly addressed with our data, but other research on prosecution in Maryland suggests it is a common charging strategy that is applied across many crime types (Johnson, 2022). It is important to acknowledge that charge changes can occur for many reasons, only some of which involve charge bargaining as a plea negotiation strategy. For example, it is not uncommon, for the quality of evidence to decay over the lifecourse of a criminal case, such as when a witness proves unreliable or negative or inconclusive ballistics evidence is returned. Prosecutors may

also file additional charges when new evidence comes to light. In sum, it is important to note that not all charge alterations are necessarily tied to plea bargaining.

In any case, decreases in the number of charges are nearly ubiquitous in the data and reductions in the severity and type of top offense also frequently occur. More than half of all cases include a reduction in the severity of the top charge from filing to conviction, and among the subset of cases in the regression analysis, two out of every three cases had the top charge reduced to a lower charge. Moreover, one out of three cases included a reduction from felony to misdemeanor charges. This lends further credence to the possibility of prosecutorial overcharging because it is more common for prosecutors to obtain a conviction on a lesser included offense than on the top charge filed in the typical firearms case.

The prevalence of charge reductions also highlights their importance for shaping punishment decisions in gun-involved crimes. In fact, we find that receiving a reduction in charge severity decreases a defendant's odds of incarceration by approximately 17%, whereas having felony charges reduced to misdemeanors lowers their odds of imprisonment by 40%. Moreover, among those sentenced to incarceration, a reduction in the top charge from filing to conviction decreases average sentence lengths for defendants by more than 5 years, compared to other convicted defendants who did not have their top charge reduced. These findings are consistent with prior research that emphasizes the importance of examining the effects of plea bargaining on sentencing (Shermer and Johnson, 2010), and it highlights the specific relevance of plea bargaining in the context of firearms-related offenses. In addition to investigating the overall receipt of charge reductions, the study also generates new estimates of the mean distance traveled, or average magnitude of plea discounts, in firearms-related offenses. Findings indicate that the mean distance traveled in charge bargaining results in about a 13% reduction in the

probability of prison and produces a potential sentence length discount in excess of 20 years. This implies that in the absence of charge bargaining, mean sentences for firearms defendants in Maryland would be substantially longer.

The current results also reveal significant associations between plea discounts and subsequent patterns of recidivism. Defendants who are convicted and sentenced to longer incarceration terms have lower odds of coming back into the criminal legal system on new charges, whereas those who receive charge reductions and are given larger plea discounts are significantly more likely to recidivate. Because average sentences in firearms cases are relatively large, and because our follow-up period is limited, these results likely reflect the short-term incapacitation effects of lengthy incarceration terms. Additional research is needed with longer follow up periods to fully understand the longer-term impacts of plea discounts on reoffending for firearm-involved offenders. Overall, the current study suggests there may be significant public safety implications of how plea discount patterns impact future outcomes for firearms offenses, though future work is needed before concrete policy recommendations can be made.

B. Limitations and Future Research

The current research advances scholarship on the public safety implication of plea bargaining by examining how charge reductions and plea discounts are related to sentencing and recidivism outcomes within a large sample of Maryland firearms cases. It represents an important first step in exploring how plea bargaining practices impact patterns of punishment and reoffending. That said, there are important limitations to the current study that provide valuable direction for improving future research.

First, this research demonstrates the utility of using public court record repositories with web-scraping data tools to compile a large-scale and detailed statewide database on criminal cases. There is no statewide data repository that collates relevant criminal justice system information across all jurisdictions in Maryland. The Maryland State Commission on Criminal Sentencing Policy compiles and reports detailed, statewide sentencing data, but these data do not include information on initial and final charges, and they are limited to guidelines-eligible sentencing events settled in Circuit Court, so they alone cannot be used to study plea bargaining in firearms-related cases. By collecting data from the Maryland Judiciary Case Search website through the Client Legal Utility Engine (CLUE), we are able to capture charge changes from filing to conviction, allowing us to directly study the plea negotiation process. However, the data come with important caveats. Because the CLUE data rely on local court documents uploaded to the Maryland Judiciary, the data quality is dependent on the reporting efforts of local jurisdictions. For example, the quality and completeness of bail hearing data varies across counties. It is also possible that some cases are systematically underreported or that certain data points are not fully captured by the parsing algorithm. Still, recent assessments of the overall feasibility and quality of the CLUE data are promising and concludes it is "an important source of criminal justice system data that can be used to examine policy changes in Maryland's criminal justice system" (Jelveh et al., 2023: 1). Additional resources need to be put into validating and refining web-scraping tools like CLUE. This represents an innovative and promising approach for augmenting and building out available data resources for studying guilty pleas and other criminal justice outcomes, both for firearms-related offenses and more generally. The current research also focuses narrowly on the subset of firearms-involved offenses, which means that future work is needed to compare outcomes in firearms and non-firearms cases.

Second, our inability to obtain RAP sheet data from the Maryland Department of Public Safety and Correctional Services (DPSCS) significantly impacted our capability to reliably capture defendants' prior criminal histories and reoffending. We were able to utilize statistical matching methods to link data from the current case to a person's prior and future cases, but there could be errors in our matching algorithm. Moreover, our proxy for prior record only captures prior criminal cases filed in Maryland courts within the CLUE data. These data only record cases back to the 1990s, so they do not capture out-of-state offending, older crimes, or arrests that were not filed in the Maryland Judiciary's system. Similarly, our recidivism measure is limited to whether or not a defendant has new criminal charges filed in the subsequent months after the disposition of their current case. Again, this precludes detailed analysis of other recidivism measures like new arrests, convictions and incarcerations, and it makes it difficult to identify individual types of reoffending. Ideally, we would examine not just whether or not a person returns to the system but on what new charges, focusing specifically on new violent and/or firearms-involved crimes. As such, an important future research direction is the coding of more nuanced recidivism measures to better capture the timing of when a new crime is committed, along with the nature of the new offense. Existing research suggests that gun offenders tend to be persistent in their use of guns in future crime (Cook and Nagin, 1979), but additional work is needed to investigate this empirically in the context of the current research project. As previously noted, our recidivism measure is also limited by our lack of information on actual time served for incarcerated defendants. Although we observe the pronounced sentence in each case, we lack information on prison admissions and releases. Our relatively short follow-up period also complicates our recidivism analysis. Many convicted gun offenders receive relatively long sentences, so longer follow-up periods will be required in future work to better

examine the post-release reoffending patterns of those who were incarcerated. This is necessary to separate short-term incapacitation effects from longer-term specific deterrent or criminogenic imprisonment influences. Overall, our recidivism analysis provides a preliminary investigation of the overall association between plea discounts and reoffending; notably, our results are consistent with more general work on the incapacitation effects of imprisonment (Reuter and Bushway, 2007), but future research is clearly needed to incorporate more detailed and refined recidivism measures in the study of plea bargaining and subsequent firearms offending.

Finally, our key independent variable measures whether and how charges change between case filing and final conviction, but this approach requires some nontrivial assumptions. The "distance traveled" method assumes that the same sentencing processes would have played out in the same way for the original charges as they do for reduced charges. It is possible that other unobserved case details could impact both the size of the plea reduction and the way judges view defendants. For example, some work suggests cases with stronger evidence tend to receive harsher sentences (Nir and Griffiths, 2018). Because stronger evidence is also likely to shape plea offers (Bushway et al. 2014), this could confound the two processes. The current study, like most prior research on plea bargaining, does not have quality indicators of strength of the evidence in the cases. To the extent that this also varies across demographic groups in ways that shape plea and sentence outcomes, it could be an important omitted variable in the analysis.

Focusing on the distance traveled in plea negotiations also fails to account for other prior decision points in the system. Most importantly, we find that a substantial portion of firearms cases do not result in a conviction on any charge. Nearly half of all prosecuted firearms offenses in the state are dismissed or nolle prosequi. Moreover, we find a negative association between conviction and recidivism among firearms defendants, which is consistent with the idea that at

least some convicted defendants are incapacitated with long prison sentences. Unfortunately, the data are silent on underlying reasons for case dismissals. Future work is needed that collects additional information on dismissal reasons to better understand why so many defendants are arrested and charged with serious gun crimes but not convicted on any charges. This may require qualitative or mixed methods approaches to fully understand. Some work, for instance, finds lack of victim or witness cooperation is a key reason cases are dismissed, which may suggest offices need to work to build trust and buy-in from community members (Johnson et al., 2022).

C. Conclusion

A substantial research literature has developed around violence reduction strategies in the United States, much of which suggests that the ability of the legal system to curb violent crime depends fundamentally on how gun offenders are handled in the courts. Numerous studies have evaluated specific firearms enhancements (Marvell and Moody, 1995; McDowall et al. 1992; Loftin et al. 1992), often with mixed evidence (Braga, 2017), but a key shortcoming is this type of work seldom accounts for the essential role of plea bargaining in punishment (Johnson et al., 2016). Not only has there been limited research on the public safety implications of plea-bargaining generally, but virtually no work examines the issue in the context of firearm crime (Farrel, 2003). This is significant because firearm crime represents a crucial element of public safety. Research suggests offenders facing firearms charges are likely to have heightened risks of future gun use and violent crime (Huebner et al., 2007). Because plea negotiations can substantially reduce sentences, they may jeopardize the specific deterrent and incapacitation effects of imprisonment (Bhati and Piquero, 2008; Miles and Ludwig, 2007). Alternatively, some research suggest lengthy prison stays can be criminogenic (Spohn and Holleran, 2002; Green and

Winik, 2010), and not much is known about how plea discounts affect these processes specifically for gun-involved offenders.

To investigate these issues, the current study created a unique database of all firearms-involved criminal offenses occurring in Maryland between 2015 and 2019. It began with a descriptive overview of the typical defendant and typical case characteristics. Then it created unique measures of the likelihood and magnitude of plea discounts for firearms offenses to study their impacts on sentencing and recidivism by investigating the prevalence of charge reductions, magnitude of sentence discounts, and patterns of recidivism in the data.

Overall, the study finds robust evidence for the widespread use of charge negotiations in gun-related crimes. Not only are charge reductions prevalent, but they are accompanied by substantial sentencing discounts as well, particularly with regard to sentence lengths. Moreover, shorter sentence lengths are negatively related to recidivism. Consistent with this, larger charging discounts, or greater "distance traveled" in plea bargaining, is associated with greater odds of a defendant cycling back into the criminal legal system during the study period. The most plausible explanation for this is that longer incarceration terms produce greater incapacitation effects, at least in the short term. Additional data and research would be needed to effectively study the longer-term impacts of plea bargaining and punishment on post-release recidivism patterns for gun offenders who are incarcerated.

In terms of policy implications, these findings are consistent with the notion that plea bargaining may compromise the specific deterrent or incapacitation effects of sentencing by reducing the likelihood and length of incarceration. However, it is also possible that defendants who are sentenced to jail or prison do worse overall. Without a longer follow-up period, we cannot rule out this possibility. Moreover, while findings for the effects of plea discounts on

recidivism are robust, for the marginal defendant who receives the average plea discount, the magnitude of effects is quite modest, on the order of a 1.5% increase in recidivism for expected incarceration discounts, and a 6% increase in recidivism for expected sentence length discounts. This suggests that although plea negotiations in firearms cases deserve more attention and greater scrutiny, by themselves they are unlikely to offer a remedy to the gun violence problem in the U.S. Research suggests that widespread gun availability (Hureau and Braga, 2018) and entrenched structural disadvantage (Baumer et al., 2003) are at the heart of the social problem. Therefore, both issues need to take center stage in future policy efforts to address gun violence in America.

REFERENCES

Abrams, David. 2012. Estimating the Deterrent Effect of Incarceration Using Sentencing Enhancements. *American Economic Journal: Applied Economics*. 4(4): 32-56.

Albonetti, Celesta A. 1990. Race and the probability of pleading guilty. *Journal of Quantitative Criminology* 6: 315-334.

Albonetti, Celesta A. 1992. Charge reduction: An analysis of prosecutorial discretion in burglary and robbery cases. *Journal of Quantitative Criminology* 8: 317-333.

Baumer, Eric, Julie Horney, Richard Felson, and Janet L. Lauritsen. 2003. Neighborhood disadvantage and the nature of violence. *Criminology* 41:39-72.

Bhati, Avinash S. 2007. Estimating the number of crimes averted by incapacitation: An information theoretic approach. *Journal of Quantitative Criminology* 23(4): 355-375.

Bhati, Avinash S., and Alex R. Piquero. 2008. Estimating the impact of incarceration on subsequent offending trajectories: Deterrent, criminogenic, or null effect. *Journal of Criminal Law & Criminology* 98(1): 207-254.

Braga, Anthony A. 2003. Serious youth gun offenders and the epidemic of youth violence in Boston. *Journal of Quantitative Criminology* 19:33-54.

Braga, Anthony A. 2017. Guns and Crime, In the *Oxford Handbook of Law and Economics, Volume 3: Public Law and Legal Institutions* (edited by Francesco Parisi). Oxford, UK: Oxford University Press.

Braga, Anthony A., and Philip J. Cook. 2016. The criminal records of gun offenders. *The Georgetown Journal of Law & Public Policy* 14:1-16.

Bushway, Shawn D. and Emily G. Owens. 2013. Framing punishment: Incarceration, recommended sentences, and recidivism. *The Journal of Law & Economics* 56: 301-331.

Bushway, Shawn D., Allison D. Redlich, and Robert J. Norris. 2014. An explicit test of plea bargaining in the "shadow of the trial". *Criminology* 52(4): 723-754.

Chalfin, Aaron and Justin McCrary. 2017. Criminal deterrence: A review of the literature. *Journal of Economic Literature* 55(1): 5-48.

Cochran, Joshua C., Daniel P. Mears, and William D. Bales. 2014. Assessing the effectiveness of correctional sanctions. *Journal of Quantitative Criminology* 30:317-347.

Cohn, D'Vera, Paul Taylor, Mark Hugo Lopez, Catherine A. Gallagher, Kim Parker, and Kevin T. Maass. 2013. *Gun homicide rate down 49% since 1994 peak; Public unaware: Pace of decline shows in past decade*. Washington, DC: Pew Research Center.

Cohen, Jacqueline, and Jens Ludwig. 2003. Policing crime guns. Chapter 6 in: *Evaluating gun policy: Effects on crime and violence*. Jens Ludwig and Phillip Cook, eds.

Cook, Philip J. 2018. Gun markets. *Annual Review of Criminology* 1: 359-377

Cook, Philip J., and Jens Ludwig. 2000. *Gun violence: The real costs*. New York: Oxford University Press.

Cook, Philip J., Jens Ludwig, and Anthony A. Braga. 2005. Criminal records of homicide offenders. *The Journal of the American Medical Association* 294:598-601.

Cook, Philip J., Jens Ludwig, Sudhir Venkatesh, and Anthony A. Braga. 2007. Underground gun markets. *The Economic Journal* 117(524): F588-F618.

Cook, Philip J., and Daniel Nagin. 1979. *Does the weapon matter? An evaluation of a weapons-emphasis policy in the prosecution of violent offenders*. Washington, DC: Institute for Law and Social Research.

Cook, Philip J., Susan T. Parker, and Harold A. Pollack. 2015. Sources of guns to dangerous people: What we learn by asking them. *Preventive Medicine* 79:28-36.

Cook, Philip J., Harold A. Pollack, and Kailey White. 2019. The last link: From gun acquisition to criminal use. *Journal of Urban Health* 96:784-791.

Cook, Philip J. and Harold A. Pollack. 2017. Reducing access to guns by violent offenders. *RSF: The Russell Sage Foundation Journal of the Social Sciences* 3(5):1-36.

Cooper, Alexia and Erica L. Smith. 2011. *Homicide trends in the United States, 1980-2008*. Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.

Dobbie, Will, Jacob Goldin, and Crystal S. Yang. 2018. The effects of pre-trial detention on conviction, future crime, and employment: Evidence from randomly assigned judges. *American Economic Review* 108(2): 201-240.

Farrell, Jill. 2003. Mandatory minimum firearm penalties: A source of sentencing disparity? *Justice Research and Policy* 5:95-115

Federal Bureau of Investigation. 2019. *Crime in the United States 2018*. https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/home

Federal Bureau of Investigation. *Crime Data Explorer*. https://crime-data-explorer.fr.cloud.gov/

Franco et al., 2018. Estimating the effect of imprisonment on recidivism and employment: Evidence from discontinuities in sentencing guidelines. Working paper.

Friday, Joe. 2024. "The U.S. Attorney's hidden role in undermining DC's gun laws." *DC Crime Facts* (blog). May 6, 2024. https://dccrimefacts.substack.com/p/the-us-attorneys-hidden-role-in-undermining.

Green, Donald P., and Daniel Winik. 2010. Using random judge assignments to estimate the effects of incarceration and probation on recidivism among drug offenders. *Criminology* 48(2): 357-387.

Gendreau, P., Little, T., and Goggin, C. 1996. A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34, 575-607.

Harding, David J., Jeffrey D. Morenoff, Anh P. Nguyen, and Shawn D. Bushway. 2017. Short- and long-term effects of imprisonment on future felony convictions and prison admissions. *PNAS* 114(42): 11103-11108.

Harding, David J., Jeffrey D. Morenoff, and Claire W. Herbert. 2013. Home is hard to find: Neighborhoods, institutions, and the residential trajectories of returning prisoners. *The Annals of the American Academy of Political and Social Science* 647(1): 214-236.

Harding, David J., Jeffrey D. Morenoff, Anh P. Nguyen, and Shawn D. Bushway. 2018. Imprisonment and labor market outcomes: Evidence from a natural experiment. *American Journal of Sociology* 124(1): 49-110.

Harris, Alexes. 2016. *A pound of flesh: Monetary sanctions as punishment for the poor*. Russell Sage Foundation.

Hofer, Paul J. 2000.Federal sentencing for violent and drug trafficking crimes involving firearms: Recent changes and prospects for improvement. *American Criminal Law Review* 37:41-73.

Holmes, Malcolm D., Howard C. Daudistel, and Ronald A. Farrell. 1987. Determinants of charge reductions and final dispositions in cases of burglary and robbery. *Journal of Research in Crime and Delinquency* 24(3): 233-254.

Huebner, Beth, Sean P. Varano, and Timothy S. Bynum. 2007. Gangs, Guns, and Drugs: Recidivism among Serious, Young Offenders. *Criminology & Public Policy* 6(2): 187-221.

Huebner, Beth, Kimberly Martin, Richard K. Moule Jr., David Pyrooz, and Scott H. Decker. 2016. Dangerous places: Gang members and neighborhood levels of gun assault. *Justice Quarterly* 33(4): 836-862.

Hureau, David M. and Anthony A. Braga. 2018. The trade in tools: The market for illicit guns in high-risk networks. *Criminology* 56:510-545.

Jelveh, Zubin, Emily Glazener, and Bianca Bersani. 2023. An Assessment of Pretrial Risk across Maryland Jurisdictions using Client Legal Utility Engine (CLUE) Data. Maryland Crime Research and Innovation Center (MCRIC). Final Report. July 2023. Available at: Assessment of Pretrial Risk.

Johnson, Brian D. 2006. The multilevel context of criminal sentencing: Integrating judge and county level influences in the study of courtroom decision making. *Criminology* 44(2): 259-298.

Johnosn, Brian D. 2018. In Search of the Missing Link: Examining Contextual Variation in Federal Charge Bargains across U.S. District Courts. *Justice Quarterly* 35(7): 1133-1165.

Johnson, Brian D. 2019. Trials and tribulations: The trial tax and the process of punishment. *Crime and Justice Volume 48*. (313-363) Chicago, IL: The University of Chicago Press.

Johnson, Brian D. and Pilar Larroulet. 2019. The "distance traveled": Investigating the downstream consequences of charge reductions for disparities in incarceration. *Justice Quarterly* 36(7): 1229-1257.

Johnson, Brian D., Ryan D. King, and Cassia Spohn. 2016. Sociolegal approaches to the study of guilty pleas and prosecution. *Annual Review of Law and Social Science* 12(1): 479-495.

Johnson, Brian D., Raquel Hernandez, Emma Rackstraw, and Sean Houlihan. 2022. Final Report on Racial Justice in Prosecution. Available at: Racial_Justice_in_Baltimore_Final_Report.

Kirk, David S., and Sara Wakefield. 2018. Collateral consequences of punishment: A critical review and path forward. *Annual Review of Criminology* 1(1): 171-194.

Kohler-Hausmann, Issa. 2014. Managerial justice and mass misdemeanors. *Stanford Law Review* 66:611-694.

Koper, Christopher S. and Evan Mayo-Wilson. 2012. Police strategies to reduce illegal possession and carrying of firearms: Effects on gun crime. *Campbell Systematic Reviews* 11:1-53.

Kramer, John H. and Jeffrey T. Ulmer. 2002. Downward departures for serious violent offenders: Local court "corrections" to Pennsylvania's sentencing guidelines. *Criminology* 40:897-932.

Kurlychek, Megan C., and Brian D. Johnson. 2019. Cumulative disadvantage in the American criminal justice system. *Annual Review of Criminology* 2(1): 291-319.

Kutateladze, Besiki, Nancy R. Andiloro and Brian D. Johnson. 2014. Opening Pandora's Box: How Does Defendant Race Influence Plea Bargaining? *Justice Quarterly* 33(3): 398-426.

Kutateladze, B. L. 2018. Tracing charge trajectories: A study of the influence of race in charge changes at case screening, arraignment, and disposition. *Criminology*, 56(1), 123-153.

Leasure, Peter. 2019. Misdemeanor records and employment outcomes: An experimental study. *Crime & Delinquency* 65(13): 1850-1872.

Loeffler, Charles E. 2013. Does imprisonment alter the life course? Evidence on crime and employment from a natural experiment. *Criminology* 51(1): 137-166.

Loftin, Colin, David McDowall, Brian Wiersema, and Talbert J. Cottey. 1991. Effects of restrictive licensing of handguns on homicide and suicide in the District of Columbia. *New England Journal of Medicine* 325(23): 1615-1620.

Lynch, Gerard E. 2003. Screening versus plea bargaining: Exactly what are we trading off? *Stanford Law Review* 55 (4): 1399-1408.

Lynch, Mona. 2016. *Hard Bargains: The Coercive Power of Drug Laws in Federal Court.* Russel Sage Foundation. New York, NY.

Marvell, Thomas and Carlisle Moody. 1995. The Impact of Enhanced Prison Terms for Felonies Committed with Guns. *Criminology* 33(2): 247-281.

Metcalfe, Christi, and Ted Chiricos. 2018. Race, plea, and charge reduction: An assessment of racial disparities in the plea process. *Justice Quarterly* 35(2): 223-253.

McDowall, David, Colin Loftin, and Brian Wiersema, 1992. Comparative Study of the Preventive Effects of Mandatory Sentencing Laws for Gun Crimes. *Journal of Criminal Law & Criminology* 83: 378-394.

Miles, Thomas J. and Jens Ludwig. 2007. The silence of the lambdas: Deterring incapacitation research. *Journal of Quantitative Criminology* 23: 287-301.

Nagin, Daniel S. 2013. Deterrence: A review of the evidence by a criminologist for economists. *Annual Review of Economics* 5: 83-105.

Nagin, Daniel S. and G. Matthew Snodgrass. 2013. The effect of incarceration on re-offending: Evidence from a natural experiment in Pennsylvania. *Journal of Quantitative Criminology* 29: 601-642.

Nagin, Daniel S., Francis T. Cullen, and Cheryl Lero Jonson. 2009. Imprisonment and reoffending. In *Crime and Justice: A Review of Research,* 38: 115-200, Michael Tonry, ed. Chicago, IL: The University of Chicago Press.

National Academies of Sciences, Engineering, and Medicine. 2018. *Proactive Policing: Effects on Crime and Communities*. Washington, DC: The National Academies Press.

National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, *Web-based Injury Statistics Query and Reporting System* (last updated February 20, 2020). https://www.cdc.gov/injury/wisqars/index.html

National Research Council. 2005. *Firearms and Violence: A Critical Review*. Washington, DC: The National Academies Press.

National Research Council. 2013. *Priorities for Research to Reduce the Threat of Firearm-Related Violence*. Washington, DC: The National Academies Press.

National Research Council. 2014. *The Growth of Incarceration in the United States: Exploring Causes and Consequences*. Washington, DC: The National Academies Press.

Nir, Esther, and Elizabeth Griffiths. 2018. Sentencing on the evidence. *Criminal Justice Policy Review* 29(4): 365-390.

Omori, Marisa, and Nick Petersen. 2020. Institutionalizing inequality in the courts: Decomposing racial and ethnic disparities in detention, conviction, and sentencing. *Criminology* 58(4): 678-713.

Owens, Emily G. 2009. More time, less crime? Estimating the incapacitative effect of sentence enhancements. *The Journal of Law and Economics* 52(3): 551-579.

Owens, Emily, Erin M. Kerrison, and Bernardo Santos Da Silveira. 2017. Examining racial disparities in criminal case outcomes among indigent defendants in San Francisco. *Quattrone Center for the Fair Administration of Justice, University of Pennsylvania Law School*

Pager, Devah. 2003. The mark of a criminal record. *American Journal of Sociology* 108:937-975.

Papachristos, Andrew V. and Christopher Wildeman. 2014. Network exposure and homicide victimization in an African American community. *American Journal of Public Health* 104:143-150.

Pfaff, John. 2017. *Locked In: The True Causes of Mass Incarceration-and How to Achieve Real Reform*. Basic Books. New York, NY.

Piehl, Anne Morrison and Shawn D. Bushway. 2007. Measuring and explaining charge bargaining. *Journal of Quantitative Criminology* 23 (2): 105-125.

Raissian, Kerri M. 2016. Hold your fire: Did the 1996 Federal Gun Control Act expansion reduce domestic homicides? *Journal of Policy Analysis and Management* 35(1): 67-93.

RAND. 2018. *The science of gun policy: A critical synthesis of research evidence on the effects of gun policies in the United States*. Santa Monica, CA: The RAND Corporation.

Reaves, Brian A. 2013. *Felony defendants in large urban counties, 2009 – Statistical tables*. Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.

Reuter, P. and S. Bushway, 2007. Revisiting Incapacitation: Can We Generate New Estimates? *Journal of Quantitative Criminology* 23(4): 259-265.

Rosenfeld, Richard, Michael J. Deckard, and Emily Blackburn. 2014. The effects of directed patrol and self-initiated enforcement on firearm violence: A randomized controlled study of hot spot policing. *Criminology* 52:428-449.

Ruben, E., Smart, R., Rowhani-Rahbar, A. 2023. One Year Post-Bruen: An Empirical Assessment. *Virginia Law Review Online* (2023 Forthcoming), SMU Dedman School of Law Legal Studies Research Paper, (626).

Sherman, Lawrence W. and Dennis P. Rogan. 1995. Effects of gun seizures on gun violence: "Hot spots" patrol in Kansas City. *Justice Quarterly*12:673-693.

Shermer, Lauren O., and Brian D. Johnson. 2010. Criminal Prosecutions: Examining Prosecutorial Discretion and Charging Decisions in U.S. Federal District Courts. *Justice Quarterly* 27(3): 394-430.

Smith, Bruce P. 2005. Plea bargaining and the eclipse of the jury. *Annual Review Law and Social Science* 1(1): 131-149.

Spohn, Cassia, John Gruhl, and Susan Welch. 1987. The impact of the ethnicity and gender of defendants on the decision to reject or dismiss felony charges. *Criminology* 25(1): 175-192.

Spohn, Cassia, Dawn Beichner, and Erika Davis-Frenzel. 2001. Prosecutorial justifications for sexual assault case rejection: Guarding the "gateway to justice". *Social problems* 48(2): 206-235.

Spohn, Cassia and David Holleran. 2002. The Effect of Imprisonment on Recidivism Rates of Felony Offenders: A Focus on Drug Offenders. *Criminology*, 40(2): 329-358.

Spohn, Cassia, and Katharine Tellis. 2013. *Policing and prosecuting sexual assault: Inside the criminal justice system*. Lynne Rienner Publishers.

Stemen, Don, and Gipsy Escobar. 2018. Whither the prosecutor? Prosecutor and county effects on guilty plea outcomes in Wisconsin. *Justice Quarterly* 35(7): 1166-1194.

Stevenson, Megan T., and Sandra G. Mayson. 2017. Pretrial detention and bail. *Academy for Justice, A Report on Scholarship and Criminal Justice Reform (Erik Luna ed., 2017, Forthcoming)., University of Penn Law School, Public Law Research Paper* 17-18.

Sutton, John R. 2013. Structural bias in the sentencing of felony defendants. *Social Science Research* 42(5): 1207-1221.

Testa, Alexander, and Brian D. Johnson. 2020. Paying the trial tax: Race, guilty pleas, and disparity in prosecution. *Criminal Justice Policy Review* 31(4): 500-531.

The Baltimore Sun. 2020. Baltimore Homicides. https://homicides.news.baltimoresun.com/

Tonry, 2009. The mostly unintended effects of mandatory penalties: Two centuries of consistent findings. In *Crime and Justice: A Review of Research*, 38: 65-114, Michael Tonry, ed. Chicago, IL: The University of Chicago Press.

Turner, Jenia. 2017. Plea Bargaining, *in* 3 Reforming Criminal Justice: Trial and Pre-Trial Processes (Erik Luna ed., 2017)

Ulmer, Jeffrey T., Megan C. Kurlychek, and John H. Kramer. 2007. Prosecutorial discretion and the imposition of mandatory minimum sentences. *Journal of Research in Crime and Delinquency* 44:427-458.

Ulmer, Jeffery and Brian D. Johnson. 2004. Sentencing in context: A multilevel analysis. *Criminology* 42(1): 137-175.

Vernick, Jon and Lisa M. Hepburn. 2003. State and Federal Gun Laws: Trends for 1970-1999. In *Evaluating Gun Policy: Effects on Crime and Violence*, P 345-411, 2003, Philip J. Cook and Jens Ludwig, eds. Washington, DC: Brookings Institution.

Wallace, Lacey. 2015. Responding to violence with guns: Mass shootings and gun acquisition. *The Social Science Journal* 52(2): 156-167.

Westley, Christine D., Bobae Kang, Erin Sheridan, and John Specker. 2018. *Examining the recidivism of firearm offenders using state criminal history and mortality data*. Chicago, IL: Illinois Criminal Justice Information Authority.

Wheeler, Stanton, David Weisburd, and Nancy Bode. 1982. Sentencing the white-collar offender: Rhetoric and reality. *American Sociological Review* 641-659.

Wintemute, Garen J., Mona A. Wright, Christiana M. Drake, and James J. Beaumont. 2001. Subsequent criminal activity among violent misdemeanants who seek to purchase handguns: risk factors and effectiveness of denying handgun purchase. *JAMA* 285(8): 1019-1026.

Wright, Ronald F., and Rodney L. Engen. 2005. The charging and sentencing effects of depth and distance in a criminal code. *North Carolina Law Review* 84:1935–82.

Wright, Mona A. and Garen J. Wintemute, 2010. Felonious or violent criminal activity that prohibits gun ownership among prior purchases of handguns: incidence and risk factors. *Journal of Trauma and Acute Care Surgery* 69(4): 948-955.

Wu, Jawjeong. 2016. Racial/ethnic discrimination and prosecution: A meta-analysis. *Criminal justice and behavior* 43(4): 437-458.

APPENDIX

Table 1A. Charging Severity Levels Based on Statutory Maximum Sentences

Charge Severity Level	Maximum Sentence	Maximum Fine Range	% Charges Filed
1	0 to 6 months	$0 to $100,000	6.3%
2	1 year	$0 to $25,000	5.9%
3	1.5 years to 3 years	$0 to $100,000	3.8%
4	3 years	$1,000	7.5%
5	3 years	$2,500 to $10,000	9.0%
6	4 to 5 years	$0 to $25,000	6.4%
7	5 years	$10,000 to $250,000	8.6%
8	8 to 10 years	$0 to $15,000	3.0%
9	10 years	$2,500 to $100,000	12.9%
10	12 to 15 years	$0 to $1,000,000	7.9%
11	20 years	$0	13.2%
12	20 to 25 years	$0 to $1,000,000	10.6%
13	25 to 40 years	$0 to $5,000,000	2.2%
14	Life Sentence	--	2.7%

NOTE: *Severity levels do not overlap and are organized mainly by maximum time imprisoned. For example, in severity level 6, the least severe charge is 4 years ($0 fine) and the most severe charge is 5 years ($5,000 fine). Therefore, a charge with a maximum sentence of 4 years ($25,000 fine) falls into severity level 6. However, a charge with a maximum sentence of 5 years with a fine greater than $5,000 falls into severity level 7.