Stacking the Charges: Prosecutorial Discretion in Criminal Charging Decisions*

Tom S. Clark†

February 20, 2026

Abstract

Prosecutorial discretion is an inherent part of the legal system and a primary form of unilateral administrative power. That discretion has been highlighted a potential source of racial disparities in criminal justice but typically remains shrouded in secrecy and difficult to study. This paper evaluates racial disparities in prosecutors' criminal charging decisions in felony cases by assessing whether prosecutors *stack* weaker charges against Black defendants than they do against White defendants using an outcome test framework. Using data from the Cook County State Attorney's Office, I find that prosecutors add more secondary charges to cases with Black defendants than cases with White defendants. Moreover, Black defendants are less likely than their White counterparts to be convicted on a given secondary charge. I interpret this finding as evidence that prosecutors bring weaker cases against Black defendants than they do against White defendants.

*I thank Ruth Bloch Rubin, Brandice Canes-Wrone, Andy Eggers, Sam England, Anthony Fowler, Barry Friedman, Adam Glynn, Sandy Gordon, Justin Grimmer, Jens Hainmueller, Greg Huber, Kosuke Imai, Shanto Iyengar, John Kastellec, Dean Knox, Emmy Lindstam, Jonathan Mummolo, Lisa Larrimore Ouellette, John Patty, Jon Rogowski, Matthew Saniie, Anton Strezhnev, Scott Tyson, Tom Zur, and seminar participants at the University of Chicago, Stanford University, UC-Berkeley, NYU School of Law, the IE-Rochester Workshop in Political Economy, and the 2025 Justice and Injustice Conference for helpful discussions and comments.

†Professor of Political Science and Senior Fellow, by courtesy, at the Hoover Institution, Stanford University, tsclark@stanford.edu

1 Introduction

One of the most consequential things a court can do is deprive an individual of life or liberty. In the United States, that process typically begins with criminal charges, usually filed by an elected local prosecutor. Owing to their unique position at the nexus between the administrative and judicial branches and their role in the judicial process, prosecutors exercise immense control and influence over the application of law and the fate of the millions of Americans prosecuted for crime every year. As a result, political scientists have become increasingly focused on the politics of prosecution and the ways in which institutional incentives shape the use of prosecutorial power (e.g., Gordon and Huber 2002, 2009, Gordon 2009).

One of the driving concerns behind research on judicial politics has been identifying the sources of inequity in the law. The rule of law entails a commitment to individual equality before the law, but decades of research demonstrates that judicial outcomes are shaped by the idiosyncrasies of individual actors with power over how the law is applied, and to whom (e.g., Segal and Spaeth 2002, Beim and Kastellec 2014, Beim, Clark and Lauderdale 2021, Bonica and Sen 2020). Despite the recognition among legal practitioners that prosecutors exert a great degree of control over the criminal justice system—perhaps more than judges themselves—most of that work has overlooked them (e.g., Davis 2007, Bellin 2019). The result is that as a field, we do not well understand the extent to which our theories about political-legal decision-making capture one of the most consequential legal actors in American politics.

I investigate one of the most important choices prosecutors make that affects the entire criminal procedure for an individual—*how* to charge an individual accused of a felony. When an individual is arrested, a prosecutor must decide both whether to pursue charges and which charges to file. Typically, a prosecutor has a menu of options available, with multiple possible charges for any given crime. Advocates refer to the practice of pursuing multiple charges for a single infraction as "charge stacking", which can raise the stakes for an individual defendant, as well as the possibility of more severe punishment. As the we will see in the following pages, Americans of different racial identities systematically face different criminal charges when they are felony defendants. In Cook County, the empirical setting for this paper, there are more than 750 unique criminal provisions that are charged against Black defendants that are never charged against White defendants. At

the same time, there are nearly 400 unique criminal provisions charged against White defendants that are never charged against Black defendants.

Building from research and advocacy that expresses concern that prosecutors use their power to tilt the criminal justice system in a racially disparate way, I ask a simple question. Is there evidence that prosecutors stack charges more aggressively against Black defendants than against White defendants? To evaluate this question, I rely on the logic of outcome tests. which have been used to evaluate the presence of disparities in a number of settings, examine the subsequent history after a potentially biased choice (e.g., Becker 1957, Knowles, Persico and Todd 2001, Dobbie, Hull and Arnold 2022, Clark et al. 2023, Jordan 2024, Gordon 2009). Here, I examine the outcomes of felony prosecutions. I show that when prosecuted for felonies, Black (and Hispanic) defendants face more charges, on average, than do White defendants. Moreover, in comparable cases—those involving similar defendants, before the same judge, with the same primary charge—Black defendants are *less likely* to be convicted on the additional charges sought by prosecutors. At the same time, there is little to no evidence that Black defendants and White defendants are more or less likely to be convicted on the primary charge. These disparities in conviction rates hold both among cases settled via a plea bargain and among cases that proceed to trial. I interpret the heterogeneous conviction patterns across charge types as evidence that whereby prosecutors stack marginally weaker additional charges against Black defendants than White defendants.

2 The Politics of Felony Charges

The prosecutor plays an important role in the criminal legal system and have grown in prominence as powerful political actors over the course of the past century. Most are elected, though some are chosen via other mechanisms, and they have tremendous discretion that can directly affect the fate of individuals accused of criminality. And, their position at the nexus between the executive and judicial functions of American government gives rise to high levels of influence over both administrative and judicial choices. As then-Attorney General (later Supreme Court Justice) Robert Jackson remarked, "[t]he prosecutor has more control over life, liberty, and reputation than any other person in America... his discretion is tremendous" (Jackson 1940, 18).

According to the National Center for State Courts, state prosecutors initiate roughly 16 million

criminal cases each year, about a quarter of which are felony cases. Felonies are the most serious criminal charges and typically involve the potential for more than a year in state prison. Moreover, the long-term consequences of a felony conviction are significant, including in many instances disenfranchisement and recidivism (e.g., Gerber et al. 2015, Harding et al. 2017), which means that prosecutorial power has significant political import. Extant research and policy debates raise the possibility that prosecutors, who benefit from a wide degree of discretion might use that discretion in ways create or reinforce disparities in how Americans experience criminal justice.

2.1 Prosecutorial Discretion

Prosecutors exercise immense discretion as part of their job. Professional guidelines do exist that offer normative benchmarks for how to exercise that discretion, such as those proposed by the Criminal Justice Section of the American Bar Association. However, those guidelines are not binding or enforceable on state or federal prosecutors (e.g., Davis 2007, ch 2). In practice, prosecutorial discretion covers *whether* to prosecute an individual arrested by the police for a crime, *how* to prosecute a defendant, *whether and how* to plea bargain, *whether* to support pre-trial release or detention, *the use of* diversion programs as alternatives for formal prosecution, and *pursuit and recommendations* for sentencing.

Prosecutors' choices along these dimensions can have extreme influence on the ultimate outcome of a case against a criminal defendant for a number of reasons. First, prosecutors typically have far more resources at their disposal than judges or defense attorneys (e.g., Wright 2004). Judges handle many, varied cases with little support staff. Prosecutors often have broader support staff, more time to prepare for individual cases, and meaningful informational advantages over the court. Moreover, prosecutors appear regularly before judges, establishing a quintessential "repeat player" role that earns them deference from trial judges (e.g., Bellin 2019).

Analyses of prosecutorial discretion and influence over the judicial system often emphasize concerns for efficient resolution of criminal cases (Landes 1971, Easterbrook 1983, Baker and Mezzetti 2001, Bar-Gill and Gazal Ayal 2006). From that perspective, prosecutorial discretion offers the flexibility prosecutors need to resolve cases effectively while securing justice (Graef and Ouss 2025). If approached benevolently, this discretion can advance equity and justice in prosecution. However, to the extent those analyses assume goals beyond efficient administration of justice, past research

has pointed out that prosecutors are motivated by electoral and political pressure to pursue convictions and cultivate public perceptions of competence (Bresler 1993, Medwed 2004, Gordon and Huber 2009, Nadel, Scaggs and Bales 2017, Horz and Simpson 2023). Thus, they must balance their incentive to leverage discretion against defendants with the risk that overreach invites dismissal or skepticism from judges and juries. The incentives to secure convictions of criminal defendants raise the concern that prosecutors might use their discretion in ways that distort, rather than advance, equitable administration of justice. At the same time, a recent line of research has examined the consequences of prosecutorial discretion for the long-run well-being of individuals brought into contact with the criminal justice system. Much of that work suggests that more lenient prosecutorial policies can improve criminal defendants' well-being without undermining the justice system's deterrent or punitive goals (e.g., Dobbie, Goldin and Yang 2018, Agan, Doleac and Harvey 2023, Jordan 2024).

2.2 Racial Disparities in Criminal Justice

In that vein, one of the most studied aspects of inequities in criminal justice is racial inequity. Indeed, racial disparities in the legal system have been widely documented, including in the use of force in policing, prosecution, and incarceration. The primary concern driving this line of inquiry is that decision-makers' discretion leads to different treatment for people under the law. Such disparity could be the product of myriad factors including animus, structural incentives that induce disparate decision-making, statistical discrimination, and so forth. I assess whether there is evidence that prosecutors use their discretion in ways that induce disparities in how Americans are treated in the criminal justice system, while the evidence is consistent with a variety of these possibilities.

In recent years political scientists, economists, legal academics, sociologists, and criminologists alike have all set out to assess whether or to what degree prosecutorial discretion leads to racial disparities and, in turn, the operation of the American criminal justice system (e.g., Smith and Levinson 2011, McIntyre and Baradaran 2013, Dobbie, Hull and Arnold 2022, Gunderson 2022, Jordan 2024). These studies have examined bail recommendations and detention (Dobbie, Goldin and Yang 2018), pretrial diversion programs, charging decisions (Sloan 2020, 2019), and plea bargaining (e.g., Rehavi and Starr 2014, Berdejó 2024). A consistent, if not universal, finding is that prosecutorial discretion often works to the disadvantage of minority, especially Black, defendants.

For example, Black defendants are more likely to be convicted in court and sentenced more harshly than are White defendants (e.g. Shaffer 2023, Sloan 2019, Demuth and Steffensmeier 2004, Rehavi and Starr 2014, Tuttle 2019).

Perhaps the most notable challenges facing this line of research is that while there is widespread recognition that prosecutors can use their charging discretion in disparate ways, we do not know whether that discretion contributes to racial disparities. The answer is important, because charging decisions are among the most unilateral and consequential choices a prosecutor makes about how a defendant will experience the justice process.

2.3 Charge Stacking

Criminal law is often very complex, and many legal provisions might criminalize the exact same behavior. As a result, there can be more or fewer possible statutes that a defendant can be charged with violating in any given situation. The choice of how many charges to file in a given case is among the most important forms of discretion at a prosecutor's disposal. *Charge stacking* is the practice of charging a defendant with multiple violations of law at the same time, particularly when prosecutors make multiple charges in the context of a single criminal incident. While the particular institutions vary tremendously across American jurisdictions, the concept is one familiar to any prosecutor. Indeed, American prosecutors have engaged in charge-stacking throughout our history. In the 19th century, if a street sweeper skipped work for the day, prosecutors would decide how many streets to charge him with having not swept, at the prosecutor's discretion. Each street could bring a separate charge, allowing for variation in leniency. Today, prosecutors can decide how many separate charges to file against a defendant in nearly any criminal case.

Charge stacking serves two purposes for a prosecutor: it provides (1) leverage for plea bargaining and (2) back-up mechanisms to convict a defendant in the event he is acquitted on the primary charge (Davis 2007, 31). Plea bargaining typically involves a negotiation between a prosecutor and a defense attorney about precisely *which* charges will be brought against a defendant—a practice known as charge bargaining. That might mean that a prosecutor starts negotiations with more charges than she believes she can prove or that a defendant ultimately faces charges far less serious than the offenses he actually committed (e.g., Hessick 2021, Heumann 1981). But charge stacking also carries costs: it risks appearing to overreach, which can undermine bargaining leverage or invite

skepticism from judges and juries, and it increases prosecutors' workload at the expense of other cases (e.g., Graef and Ouss 2025). Over-charging can risk exposing weaknesses in a case, especially if the defense has high quality legal representation, because it invites more approaches to defense and counter-arguments. Putting these incentives together, prosecutors can be understood as seeking to maximize the likelihood of conviction as efficiently as possible, while avoiding steps that might cause their case to unravel. They therefore have strong incentives to select for prosecution cases where they can secure a conviction and then deploy their discretion as leverage against defendants they wish to treat more punitively, conditional on having decided to prosecute in the first place. And, some research suggests that prosecutors' exact charging decisions might be correlated with the race of the defendant, or the victim (e.g., Paternoster and Brame 2008, Lee 2007). Importantly, though, prosecutors are typically the individuals with sole discretion about which charges to file (and to pursue) against a defendant.

If prosecutors use their discretion in ways that makes the criminal justice process more onerous for Black defendants than White defendants, we should expect that prosecutors pursue different charges against Black defendants than they do against White defendants. The most natural mechanism runs through plea bargaining. The more charges a prosecutor presents, the more daunting a case seems to a defendant, and so the more likely a defendant might be to agree to plead guilty. Prosecutors can use criminal procedure to coerce a defendant, because simply being subjected to the criminal justice system is punishment itself (Feeley 1979, Hessick 2021, Davis 2007). (This could be consistent with either animus or a racially-correlated perception about how a defendant will respond to pressure.) Indeed, the literature on prosecutorial discretion and plea bargaining points directly to this form of behavior as one way in which prosecutors disproportionately pressure some defendants into accepting guilty pleas. Another mechanism is that a prosecutor regards each charge as a distinct opportunity to convict a defendant. For a given defendant a prosecutor wants to convict, the prosecutor will want to have as many chances as possible (more "bites at the apple", so to speak) and therefore will bring more charges for the same conduct. Thus, a first empirical implication is that Black defendants should face more charges than do White defendants, conditional on the original offense for which they are arrested.

A second empirical implication concerns the *strength* of charges. If charge stacking is racially disparate, then the marginal additional charge brought against a Black defendant should, on aver-

age, be weaker—that is, less well supported by the underlying evidence. Charge strength can be inferred empirically from whether a charge results in conviction, either through a guilty plea or at trial following a not-guilty plea (cf., Gordon 2009). Because each charge requires proof of distinct legal elements beyond a reasonable doubt, weaker evidentiary support reduces the probability that any particular charge results in conviction. At the same time, prosecutors have strong incentives to avoid charging a defendant and not securing any conviction at all. Thus, they want to secure convictions on the primary charges they bring (e.g., Boylan and Long 2005), which implies selection into prosecution of cases where conviction on the lead charge is highly likely. Because losing the primary charge risks losing the case entirely, even a prosecutor inclined toward harsher treatment of Black defendants cannot afford to bring a primary charge that the evidence does not support; the career costs of case failure discipline primary charging decisions in ways that leave limited room for racial disparity. By contrast, an acquittal or dismissal on a secondary charge leaves the primary conviction intact — the case does not fail, and the prosecutor does not bear the same reputational cost. This asymmetry means that secondary charging decisions are considerably lower-stakes, and it is precisely in that lower-accountability space that discretionary, potentially biased behavior has room to operate. Accordingly, we should not expect substantial racial differences in conviction rates for primary charges. By contrast, if secondary charges are deployed strategically as bargaining leverage, disparate charge stacking should manifest as lower conviction rates for these additional charges among Black defendants relative to White defendants.

3 Data

Until January 2025, the Cook County State Attorney's (CCSAO) office published information on every arrest involving a felony charge referred to their office, covering January 2011 through November 2024. Cook County is unusual in that it is among the largest prosecutorial jurisdictions in the country and was until recently a leader in publicly posting information about all felony prosecutions. However, it is very typical in that prosecutors handle cases according to common procedures, especially in that career civil servants make the vast majority of charging decisions, have wide latitude to add or drop charges, and are led by an elected prosecutor who sets priorities. These data exist at two levels—the individual arrested (the case) and the charge. Roughly half

(238,877/463,520) of all cases involve multiple charges against the defendant. These data include the date of the incident, the suspect's demographic characteristics, the offense, and the results of a preliminary felony review by the prosecutor's office (more details below). Once the state's attorney decides to proceed with a case, a decision is made about which charges to pursue, and further data appear at the level of the charge, including the specific charges files and, for each charge its resolution (e.g., conviction, guilty plea, acquittal, dismissal, etc.).[1] Figure 1 shows key metrics from the CCSAO data at each of these levels.

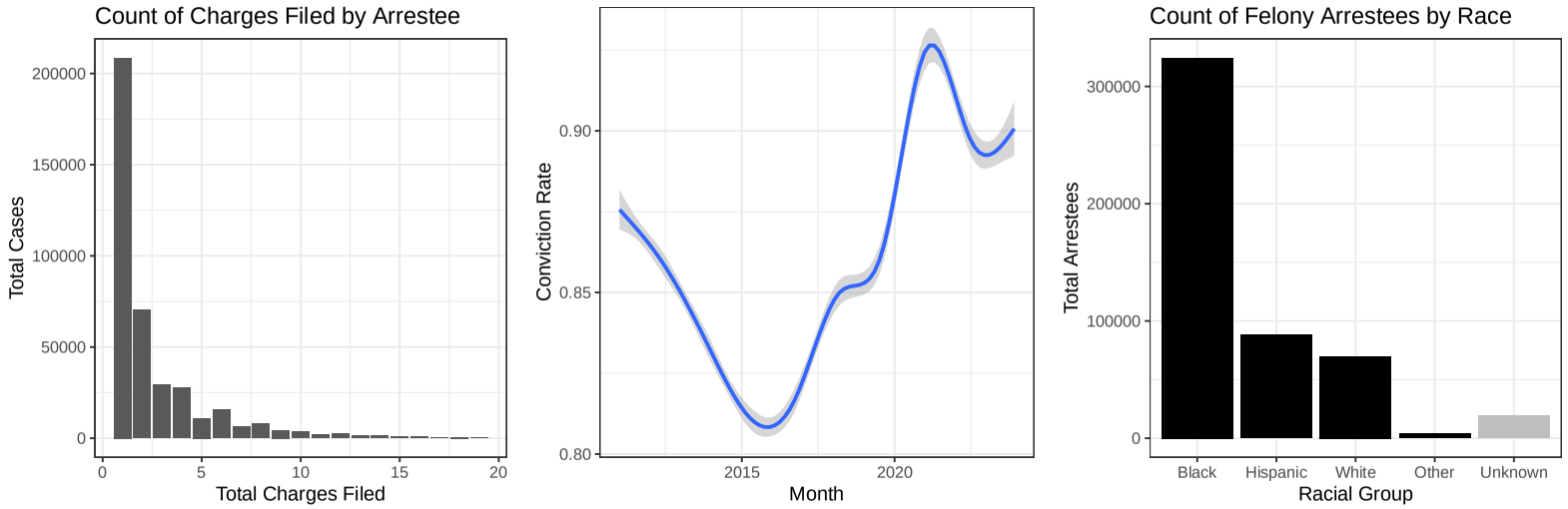
Charges and conviction. For each case, I measure the number of charges initiated against the defendant. This variable is measured at the case level and simply counts the total number of charges initiated by the State's Attorney against an individual defendant. For each charge, I then record whether the defendant was convicted or not. I code a defendant as being convicted if s/he is found guilty or pleads guilty to a charge and as being acquitted if s/he is found not guilty, a charge is dismissed or rejected by the judge, or the entire case is dismissed.

Figure 1a shows the first of these visually—the total number of charges filed against an individual defendant. (This figure excludes the less than 1% of observations where more than 20 charges were filed and instances of clear coding errors in the data.) Overall, the average defendant faces just under three felony charges. However, there is a long tail, with some defendants facing more than a dozen charges. Figure 1b shows the charge-level conviction rate. Two patterns emerge. First, the overall conviction rate is very high—prosecutors secure convictions consistently on more than 80% of the charges filed. At the same time, there is a clear trend where the conviction rate was declining until the COVID-19 pandemic. Over the years since, the conviction rate has climbed.

There are likely multiple causes behind this pattern. Prosecution priorities shifted in the years before the pandemic, as Kimberly Foxx, the Cook County State's Attorney made conscious efforts to shift prosecutorial practices once she took office in 2016. Moreover, following the pandemic, judges and prosecutors revisited which charges should be filed and under what circumstances.

Defendant race. The data report 11 distinct values for the racial identity of arrested defendants, including a missing category, which I show in Figure 1c. The most common category is "Black"

[1]The CCSAO data do not allow the linking of individuals across multiple cases.



(a) Total Charges Filed (b) Conviction Rate (c) Racial Identity of Arrestees

Figure 1: *Descriptive statistics for key variables.* (Note: panel (a) excludes the less than 1% of cases that have more than 20 charges filed.)

(324,424 individuals). Hispanic and White (Hispanic or Latino) individuals comprise the second largest group (12,304 and 73,116, respectively), followed by White individuals (69,805). Other groups are small by comparison.[2] For purposes of clarity, I reduce the racial categories to four: White, Black, Hispanic, and Other.

Primary v. secondary charges. A critical variable indicates whether a charge was the primary charge or not. The logic of charge stacking implies that secondary charges should vary in their strength by racial group. The CCSAO data indicate for each case which charge was the primary charge. I distinguish primary charges from secondary charges using that indicator. For each charge, I also record the specific statute cited and the judge disposing of the case and/or sentencing the defendant. Overall, 63% of all charges filed are secondary charges. That is, in most cases, prosecutors file nearly two additional charges against a felony defendant, beyond the primary charge. I assume that secondary charges represent a measure of the discretionary charges a prosecutor stacks against a defendant, though obviously not all secondary measures serve that function. Importantly, secondary charges can be added throughout the course of a prosecution, whereas the primary charge is typically the initial, leading charge brought by a prosecutor.

Felony review. After an arrest for a felony, an assistant state's attorney (ASA) is assigned to perform felony review, typically within a matter of hours but always within a day or so. ASAs performing this review are always on call and rotate call schedules, and one is randomly selected from those on call at the time of the arrest for each case. These attorney only perform felony review, and once their decisions are made, have no further involvement with the case. There are several possible felony review outcomes, the most common of which are approval, rejection, or returning to the police for further investigation. I code a case as passing felony review only if it passes on the initial review and code it as failing otherwise. When ambiguous, I leave this variable missing. Even if a felony charge is rejected or returned for further review, though, the charge might return and ultimately be prosecuted. I dichotomize the outcome from this decision, indicating simply whether the arrest passed its initial felony review.[3] Felony review data is not available for some

[2]Those other groups include Albino (1), American Indian (201), Asian (3524), Biracial (108), Middle Eastern/North African (32), Native Hawaiian or Other Pacific Islander (7), and White/Black [Hispanic or Latino] (2628).

[3]In the appendix, I conduct additional analyses on the subset for which I know individual ASA who handled the felony review decision.

specific narcotics cases, where the police can directly file charges. These are cases in which only a narcotics charge is presented and no other felony charges are involved. Notably, because there is no felony review outcome in cases filed by police, all such cases are excluded from analyses here that include this factor. (Of course, the prosecutor still maintains responsibility for the case and retains discretion over how to handle charges. See the appendix for more discussion.)

Other variables. The records also include other variables that capture important sources of variation on which I will rely in the empirical analyses below. In particular, the records include the identity of the judge hearing the case, the courthouse in which the case is heard, and the judicial subcircuit in which the arrest was made. Judicial subcircuits are geographic units drawn for judicial elections. The data also identify the specific law enforcement agency that made the arrest. While I do not know the identity of the prosecutor leading each case, prosecutors are fixed within courtroom for long periods of time, and so accounting for temporal and judge-level variation largely controls for variation due to individual attorneys' decision-making. The data do not include potentially important information about the defendant, such as socio-economic status or past criminal history. However, because of the nature of racial and social segregation in Chicago, accounting for geographic variation and the specific offense for which one is initially charged hopefully accounts for a meaningful degree of heterogeneity that might be attributed to those factors. Moreover, as I discuss below, additional analyses of subsets of cases helps ensure those confounding considerations do not affect our inferences.

4 Predicting the Number of Charges

I first evaluate the expectation that Black defendants will face more charges, per prosecution, than White defendants. Figure 2 counts the number of charges filed in each case, according to the racial identity of the defendant. The figure shows that Black and Hispanic defendants typically face more charges than do White defendants. On average, Black and Hispanic defendants face just over 3 felony charges. By comparison, White defendants on average face just under 2.5 charges.

Of course, these disparities might be due to factors other than prosecutorial discretion. Some crimes inherently involve multiple legal infractions, and if racial disparities in arrests correlate

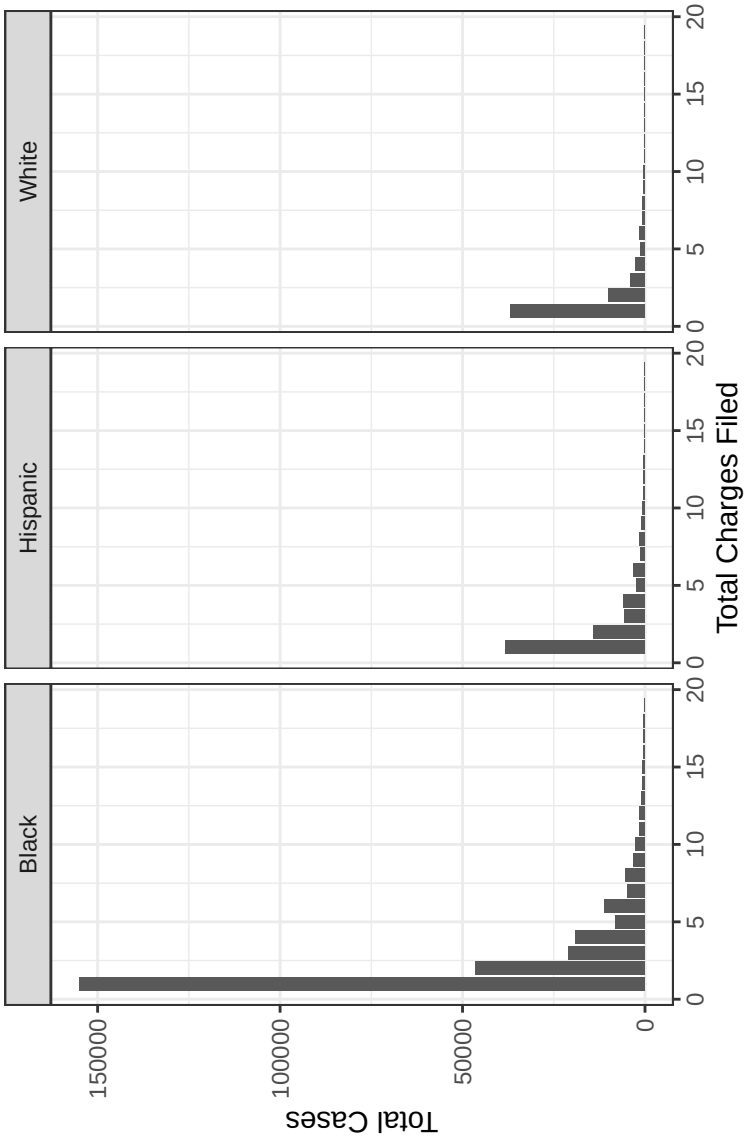


Figure 2: *Distribution of total charges filed in each case, according to defendant racial group, for three largest groups.*

with that characteristic, then we might expect such a pattern mechanically due to bias beyond the prosecutor's office. To assess whether this is the case descriptively, I estimate a linear fixed-effects regression model where the outcome is the total number of charges a defendant faces. Each observation is a single case. The key explanatory variables are indicator's for the defendants' racial identities. I also include fixed effects for the law enforcement agency that made the arrest, the city in which the offense took place, and the year-month of the felony review.

I also include indicators for the specific offense charged, the judge and courthouse where the case was assigned, the law enforcement agency that made the arrest, and the felony review outcome. If the mix of crimes for which individuals are arrested varies systematically across racial groups and certain crimes are more likely to pass felony review (i.e., are easier to establish probably cause for), then it is important to condition on these variables. There is naturally potential that an arrestee's race affects the outcome of felony review as well as precisely what charge is selected as the primary charge. If so, then the inclusion of those indicators in the empirical model may induce bias in our estimates of the relationship between race and charging behavior. Thus, I estimate four versions of the model, including and excluding each of those variables.

To describe racial disparities in the number of felony charges filed, I estimate the following equation

$$\text{N Charges}_i = \alpha + \boldsymbol{\beta X} + \gamma \text{Felony Review Outcome}_i + \boldsymbol{\delta D} + \boldsymbol{\omega O} + \boldsymbol{\zeta P} + \boldsymbol{\nu C} + \epsilon_i \qquad (1)$$

where $\boldsymbol{X}$ is a matrix of indicator variables for the arrestee's race, $\boldsymbol{C}$ is a matrix of defendant characteristics, $\boldsymbol{P}$ is a matrix of felony-review prosecutors, $\boldsymbol{D}$ is a vector of dates, and $\mathbf{O}$ is a matrix of charge characteristics. As noted above, while i do not know the identity of the prosecutor handing each case, they are assigned to courtrooms for long periods of time, and so are very highly collinear with the identity of the judge, which is included in the model.

Table 1 shows the results from estimating this model. The first thing to notice is that no matter what specification we consider, Black defendants face more charges, on average, than do White defendants. So, too, do Hispanic defendants. Roughly speaking, Black defendants face about a half an additional felony charge on average per case. While that might not seem like a big number on its face, felonies are by definition the most serious criminal offenses in the law. And, in

	Outcome Variable: Total # of Charges			
Black	0.41*	0.59*	0.36*	0.68*
	(0.051)	(0.055)	(0.035)	(0.034)
Hispanic	0.06	0.42*	0.06	0.69*
	(0.057)	(0.061)	(0.041)	(0.044)
Other	−0.12	0.28	−0.05	0.36*
	(0.172)	(0.187)	(0.126)	(0.137)
Felony Review Approval	0.62*	−0.27*		
	(0.085)	(0.092)		
N	245,074	245,074	436,775	436,775
Month-year FEs	✓	✓	✓	✓
Charge FEs	✓		✓	
Demographic FEs	✓	✓	✓	✓
Jurisdiction FEs	✓	✓	✓	✓

Table 1: *Predictors of the number of charges an arrestee faces.* Outcome is the total number of charges brought by the state's attorney against each criminal defendant. Models all include fixed effects for the law enforcement agency that made the arrest, the city in which the offense took place, and the year-month of the felony review. Models with primary offense fixed effects control for the specific offense charged in the initial arrest. Note: White is the excluded category for defendant race. $^*p \leq 0.01$

the data covered here, more than 264,000 Black defendants were charged with at least one felony, which implies that more than 100,000 additional felony charges are associated with the race of the defendant. What is more, it is important to underscore that in the data conviction rates are very high, as we will examine in greater detail below. As a result, this effects while quantitatively small is qualitatively very meaningful.

It bears noting the inconsistent sign association with felony review. Drawing inferences can be challenging, because, as noted, it has a theoretically complicated relationship with the other covariates (race as well as charges and time). One plausible interpretation is that once we condition on the exact charges brought, cases that pass felony review are those that are better developed by the police and present more opportunities for the prosecutor to stack additional charges. But, I defer stronger inference for future investigation.

5 Analyzing Outcome Tests, Data Imbalance, and Matching

Turning to case outcomes, I estimate an outcome test to evaluate racial disparities in charging decisions. Originally proposed by Becker (1957), outcome tests have been used in a variety of settings to evaluate racial disparities (e.g. Knowles, Persico and Todd 2001, Dobbie, Hull and Arnold 2022, Clark et al. 2023, Jordan 2024). Gordon's (2009) analysis of corruption prosecutions illustrates the logic simply. He argues that if prosecutors file charges based only on the strength of the evidence, then once the evidence for the charges is exposed, there should be no partisan variation in the rate of conviction. If, instead, prosecutors are willing to pursue charges with a weaker evidentiary basis against out-partisan politicians as compared to same-party politicians, then we should expect an average conviction rate that is lower for out-partisans than it is for same-party defendants.

There are two important matters to address about outcome tests. The first is about the logical validity of outcome tests and concerns what kinds of mechanisms are consistent with racially-disparate conviction rates. Canay, Mogstad and Mountjoy (2024) offer a helpful framework for interpreting the results of outcome tests. The critical point, as I illustrate in the appendix, is that the model I estimate cannot isolate racial animus as the mechanism behind charge-stacking, as opposed to other sources of discrimination (see also Hull 2021). There are two to consider—the career pressure to pursue aggressive prosecution (i.e., more charges) and systematic misperceptions about the likelihood of conviction.[4] To the extent that we think unmeasured non-racial characteristics affect any of those, then they cannot be ruled out as a mechanism driving the bias. If a prosecutor has career incentives to "throw the book" at certain types of defendants, then we cannot rule out race-related career concerns as a mechanism driving the disparities. It may also be plausible that non-race characteristics affect how well a prosecutor can predict the outcome of a case, though this seems less likely, because prosecutors have such high rates of success in plea bargaining and spend so much time working with many defendants, in the same courtroom. Thus, the strongest interpretation consistent with a finding of lower conviction rates for secondary charges among Black defendants is that prosecutors are evidencing bias consistent with both racial animus and career concerns.[5]

[4]These concepts relate to traditional distinctions between taste-based and statistical discrimination.

[5]A related concern might be that a defendant's race affects his behavior, which in turn affects his likelihood of

A related concern involves the role of judges downstream of charging decisions. The outcome test identifies prosecutorial bias from differential conviction rates across racial groups, but conviction depends on the behavior of judges (or juries) as well as the strength of the charges prosecutors bring. If judges evaluate charges against Black and White defendants with equal rigor, then differential conviction rates on secondary charges straightforwardly reflect prosecutorial charging decisions. If, however, judges are systematically more lenient toward Black defendants on marginal charges, this would work against finding the pattern I document, making the estimates conservative. Conversely, if judges are harsher toward Black defendants, judicial behavior could contribute to the observed gap independently of prosecutorial conduct. The matching strategy helps address this concern: by comparing outcomes for Black and White defendants before the same judge, the estimates hold constant any judge-specific tendency toward leniency or severity, including any racial component of a judge's decision-making that is stable across cases. A residual concern is that judicial racial bias might be activated specifically by marginal secondary charges rather than primary ones—a charge-type-specific pattern the matching cannot absorb. However, that scenario would require judges to apply a racially uniform standard to primary charges while simultaneously applying a racially disparate one to secondary charges, a conjunction that seems unlikely and that would itself constitute evidence of disparate treatment in the secondary charging process, even if its source were partly judicial rather than purely prosecutorial.

The second is an identification concern related to infra-marginality, which describes the situation in which the risk rates for defendants vary by race (e.g., Corbett-Davies, Simoiu and Goel 2017, Knox, Lowe and Mummolo 2020). Imagine a model in which each defendant is associated with a likelihood of being convicted—due to the evidence in his case, his conduct, or other factors. If the distribution of the likelihood of being convicted is different for Black defendants than it is for White defendants, then we may find differences in conviction rates that are simply due to the underlying distribution of the likelihood of being convicted, rather than the prosecutor's choices to impose more secondary charges against one group of defendants than the other. This concern amounts to a risk that Black defendants, compared to White defendants, are more likely to be charged with additional, discretionary weak charges than are White defendants, for reasons unrelated to

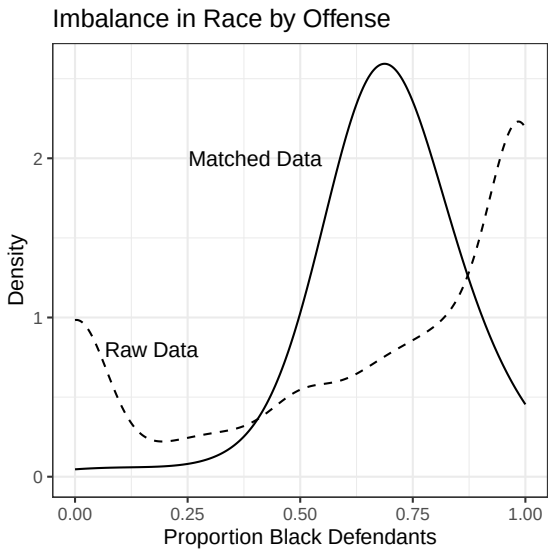
being convicted on secondary charges. That path would potentially induce an association between race and conviction that does not run through charging decisions and render the prediction here an indirect causal hypothesis of the effect of race on charging decisions.

their race. Interpreting empirical evidence of such a pattern implies that independent of the legal framework I can measure, charge-stacking is being used in a way that induces racial disparities, even if it is not driven by a racial motivation.[6]

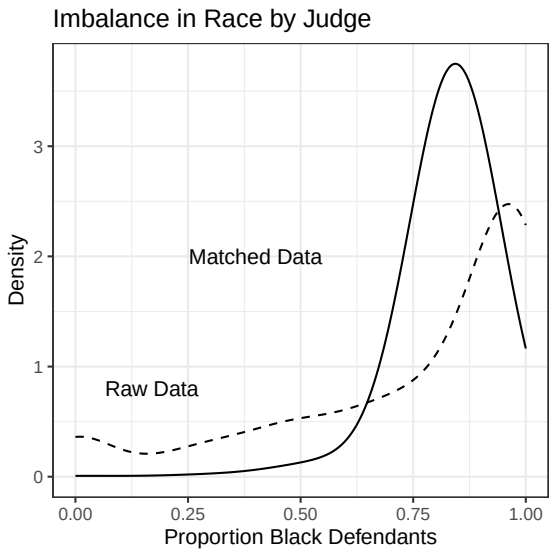
It bears emphasis that not only do Black defendants face more charges than their White counterparts on average, they also tend to face charges for different *laws* and appear before different *judges*. The former is a function of prosecutorial discretion, whereas the latter is a function of geographic segregation in Chicago. Figure 3 illustrates this imbalance visually among all cases that were decided. The left-hand panel aggregate charges by the specific law that an individual is charged with violating. I limit the analysis to White and Black defendants and calculate the proportion of defendants ever charged with each law who are Black. The dashed line shows the raw data. A distinct bimodal pattern emerges—there are a number of laws that only White defendants are ever charged with violating and an even larger group of laws that only Black defendants are ever charged with violating. Among the charges that are most common and only ever filed against Black defendants are various forms of dog fighting, aggravated kidnapping with a firearm, and a handful of drug crimes in a school zone. In all, there are 761 unique crimes that are only ever charged against Black defendants. By contrast, there are 396 specific statutes that only White defendants are charged with violating. Most common among these are several types of DUI charges, various child pornography charges, and possession of methamphetamine manufacturing material. This does not mean that White or Black defendants are never arrested for these various crimes or commit them; rather it simply means that the specific statutes Black and White defendants are charged with violating are never charged against White or Black defendants, respectively.

The right-hand panel shows a comparable comparison, by individual judge. Here, I plot the proportion of defendants that appear before each judge who are Black (again focusing only on Black and White defendants). Again, the raw data are plotted with a dashed line. Just under 75% of the defendants seem by the average judge are Black. However, as the figure makes clear, there are groups of judges who have even more skewed sets of defendants appearing in their courtrooms. For example,

[6]Other approaches to addressing infra-marginality are empirical, which I discuss in the appendix (Corbett-Davies, Simoiu and Goel 2017, Knox, Lowe and Mummolo 2020, Knox, Mummolo et al. 2020, Clark et al. 2023). In particular, I consider an alternative strategy, estimating a threshold test that simultaneously identifies prosecutors' thresholds for bringing secondary charges against Black defendants relative to White defendants along with the associated conviction rates. That analysis requires additional assumptions about how to aggregate the data, but the resulting estimates corroborate the findings presented here, suggesting meaningful differences in charging thresholds by defendant race.



(a) Imbalance in defendant race among laws charged, in disposition data



(b) Imbalance in defendant race before presiding judges, in disposition data

Figure 3: Imbalance in laws Black and White defendants are charged with violating and judges deciding cases for Black and White defendants.

some judges in the northern subcircuits of Cook County—areas with very few Black residents—had no Black defendants among their felony caseloads, while judges in subcircuits covering Woodlawn and Bronzeville had no White defendants, reflecting the deep geographic segregation of the county. Imbalance in the racial identity of defendants appearing before judges is exceptionally important to address, because charging decisions take place in the shadow of the judge overseeing a case. Moreover, as described above, judges have tremendous latitude when sentencing, and one of the standard findings in the analysis of judicial decision-making is that judges' decisions are largely influenced by their own personal preferences in areas where they have discretion.

These sources of imbalance are consequential. Judges' personal preferences shape their decisions—including in criminal sentencing (e.g., Segal and Spaeth 2002, Harris and Sen Forthcoming)—and the specific statutes a defendant is charged with violating carry distinct evidentiary requirements that directly affect the outcome of interest here.

To overcome these and other potential forms of imbalance in the data, I stratify the data by performing exact matching. I first limit the data to Black and White defendants.[7] I then match observations on the original offense, the presiding judge, the city in which the defendant

[7]The appendix reports analyses with unmatched data including all defendants.

was arrested, the court in which the case is heard, the chapter from the state code that is formally charged, the defendant's gender, and the year-month of the arrest. (As noted above, I do not know the prosecutor leading each case, but matching on judge and month ensures balance on that variable.) For each charge against each Black defendant, I match potentially multiple charges against White defendants with exact matches on each of those covariates. (Thus, there is a risk of unconditional imbalance in the data, which I evaluate in the appendix. To account for remaining marginal imbalance, I include fixed effects for all of the variables on which the data are matched in the analyses below.) This process yields 41,105 observations. The solid lines in Figures 3a and 3b show the results of matching, for these two covariates—the law charged and the judge deciding the case. The distribution of Black defendants clearly shifts towards the center. For a much greater proportion of the laws charged and judges deciding the cases, we have a more even mix of Black and White defendants in the matched data. It is important to keep in mind that the set of judges and charges we can analyze with matched data is not representative of the universe of judges and charges in the data. The lack of representativeness has implications for drawing inferences about overall conviction rates. Instead, these data provide analytic leverage to evaluate the relative strength of otherwise legally comparable cases across racial groups.

6 Evaluating Racial Disparities in Convictions

To assess whether Black and White defendants have different conviction rates across primary and secondary charges, Table 2 summarizes the raw relationship in the data, dividing all dispositions by race. In the top, we see all charges aggregated together. Here, we see Black (and Hispanic) defendants have a slightly lower conviction rate, at the charge level, than do White defendants. However, once we break charges down into primary and additional charges, the pattern becomes stark. Among primary charges, we find a very high conviction rate for all racial groups—typically around 95%. Among additional charges, though, conviction rates are lower—uniformly below 80%. Whereas White defendants are convicted on just over 78% of the additional charges they face, Black and Hispanic defendants are convicted in 68% and 70% of those charges, respectively. The racial gap in conviction rates on secondary charges, but not primary charges, is consistent with prosecutors stacking marginally weaker charges against non-White defendants than they do against

	Not Convicted	Convicted	Conviction Rate
All Charges			
White	4000	39212	90.7%
Black	37860	193051	83.6%
Hispanic	8396	53439	86.4%
Other	280	2024	87.8%
Primary Charges			
White	1403	29765	95.5%
Black	9743	132735	93.2%
Hispanic	2162	38731	94.7%
Other	90	1437	94.1%
Additional Charges			
White	2597	9447	78.4%
Black	28117	60316	68.2%
Hispanic	6234	14708	70.2%
Other	190	587	75.5%

Table 2: Conviction rates by race and charge type

White defendants. Recall, I assume secondary charges are the ones prosecutors discretionarily use to apply pressure on defendants.

Again, though, these raw disparities might be due to a variety of factors. And, as we have seen, there is fairly radical imbalance in the charges defendants face and the judges who hear their cases. Thus, I turn to the matched data and estimate a fixed-effects linear probability model. The outcome is whether a defendant is convicted on a given charge. The primary predictors are indicators for the defendant race. I also include fixed effects for the defendant's gender, age, the city in which the incident took place, the law enforcement unit that make the arrest, the judge hearing the case, and the year-month of the case disposition. I also estimate the model including the specific offense charged. However, because there is some risk that the defendant's race influences the choice of charges, there is some risk that the inclusion of the specific charge introduces post-treatment bias.

Finally, I estimate the model on three sets of charge dispositions—all dispositions pooled together, dispositions on primary charges, and dispositions on additional charges. I estimate the following equation

$$\text{Convicted}_{ic} = \alpha + \beta \text{Black Defendant}_i + \boldsymbol{\gamma C} + \boldsymbol{\delta D} + \boldsymbol{\omega O} + \epsilon_{ic} \tag{2}$$

where Convicted_{ic} is an indicator for whether defendant i is convicted on charge c. Black Defendant_i is an indicator for whether the defendant is Black, $\boldsymbol{C}$ is a matrix of defendant characteristics that includes gender and exact age, $\boldsymbol{D}$ is a vector of dates, and $\mathbf{O}$ is a matrix of charge characteristics that includes the exact legal provision charged, the city in which the arrest was made, the courthouse in which the case is heard, and the judge who presided over the case. It is important to note that because I estimate this model on matched data with the included fixed effects, interpretation of the estimand requires care. The parameter β captures the difference between the average likelihood of conviction among Black and White defendants among those charges that both Black and White defendants face in the same court, before the same judge at the same points in time, after having differenced out charge-, demographic-, and temporal-specific patterns in conviction rates.

	All Defendants			Defendants Released without Bail		
	All Charges	Primary Charges	Additional Charges	All Charges	Primary Charges	Additional Charges
Black Defendant	−0.01*	0.00	−0.03*	−0.02*	0.00	−0.06*
	(0.004)	(0.004)	(0.011)	(0.005)	(0.006)	(0.013)
N	41,105	29,499	11,606	144,754	10,896	5,903
Month-year FEs	✓	✓	✓	✓	✓	✓
Charge FEs	✓	✓	✓	✓	✓	✓
Demographic FEs	✓	✓	✓	✓	✓	✓
Jurisdiction FEs	✓	✓	✓	✓	✓	✓

Table 3: *Racial correlates of conviction on individual charges.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, and the presiding judge. All models include fixed effects for the month-year of the case disposition. $^*p \leq 0.01$

The first three columns in Table 3 reports the estimates from this equation. First, we see that, when we aggregate all charges together, Black defendants are less likely to be convicted than are White on a given charge, conditional on the various covariates. However, when we separate charges into primary and secondary charges, we find that the disparity is most pronounced in secondary charges. Whereas Black defendants are less likely to be convicted than are White defendants overall, there is no difference in their conviction rates on primary charges. Rather, the difference emerges only in secondary charges.

An important potential confound, of course, is that we do not have data on the defendants'

prior criminal histories or their socioeconomic backgrounds. Because of the racial imbalance in policing and prosecution in American cities, we might expect these factors to affect both charging decisions and conviction patterns. Prior criminal histories and socioeconomic resources can affect the kinds of defense a defendant can mount as well as the costs (financial and otherwise) of enduring a prosecution. To the extent charge stacking is a tactic in plea bargaining, racial disparities in those unobserved characteristics might also be associated with charge outcomes.

The CCSAO does not record these pieces of information. However, as a proxy, in the last three columns of Table 3, I replicate the analysis but using only charges filed against defendants who were released pre-trial without any bond.[8] These are individuals who were, colloquially, released on their own recognizance. This subset of the data focuses, therefore, on people less likely to be repeat offenders and who were assessed to share a comparable risk of committing an offense or fleeing the jurisdiction. In short, they should share socioeconomic and criminal backgrounds. Here, we find nearly identical results; Black defendants are less likely to be convicted on secondary charges but not on primary charges.[9]

I also analyze only charges that are resolved in a trial. This analysis helps ensure we focus on cases where either charges about which there is serious disagreement between the defense and the prosecution or at least where the defendant has sufficient resources to resist plea bargaining and ensure the criminal prosecution process. If prosecutors' motivations are primarily about plea bargaining, then we might expect racial differentials in the willingness to agree to a plea bargain might result in dismissal or not-conviction on additional charges, independent of the strength of the case.[10] It is nonetheless normatively problematic if prosecutors are using weaker charges to bargain with Black defendants, but the implications are perhaps deeper if we find the conviction pattern holds even among those cases that go to trial.

These charges comprise, obviously, a very small subset of the charges filed. Thus, I estimate

[8] I limit the analysis to arrests made before September 18, 2023, when cash bail was ended in Cook County.

[9] Another potential measure of prior criminal history is captured by the charges on which an individual was arrested, as well as *how many* charges an individual was arrested. This information also captures some degree of upstream bias in policing. Unfortunately, this information is available for only a small, non-random subset of cases, as I discuss in the appendix. There, though, I show the inferences and results are robust to limiting analysis to just those cases. However, the interplay between police arresting decisions and prosecutor charging decisions is one of import that merits further attention (Clark 2024).

[10] It is noteworthy that there is virtually no difference in the rate of plea bargaining between Black and White defendants. Black defendants and White defendants plea guilty to 25% and 28% of the primary charges filed against them, respectively. At the same time, the State's Attorney dropped 66% and 65% of the primary charges filed against Black and White defendants, respectively.

the model with both the matched data and the entire, unmatched data, cognizant of the potential biases that the imbalance might pose. Table 4 reports the results.

	Matched Data			All Data		
	All Charges	Primary Charges	Additional Charges	All Charges	Primary Charges	Additional Charges
Black Defendant	−0.03	0.02	−0.06*	−0.01	0.04*	−0.03*
	(0.024)	(0.055)	(0.029)	(0.007)	(0.012)	(0.009)
Hispanic Defendant				−0.01	0.01	−0.02
				(0.008)	(0.013)	(0.009)
Other Defendant				−0.04	−0.01	−0.06
				(0.025)	(0.043)	(0.031)
N	3,064	729	2,335	79,658	22,641	57,017
Month-year FEs	✓	✓	✓	✓	✓	✓
Charge FEs	✓	✓	✓	✓	✓	✓
Demographic FEs	✓	✓	✓	✓	✓	✓
Jurisdiction FEs	✓	✓	✓	✓	✓	✓

Table 4: *Racial correlates of conviction on individual charges among charges that go to trial.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, and the presiding judge. All models include fixed effects for the month-year of the case disposition. The first three columns show matched data; the second three columns show all data. $^*p \leq 0.01$

The results parallel the previous analyses. Among all charges, there is little difference in the conviction rate between Black and White defendants. However, as before that pattern masks heterogeneity across primary and secondary charges. The conviction rate differs between Black and White defendants among secondary charges but not among primary charges, as expected. Among secondary, charges, Black defendants are less likely to be convicted than are White defendants. It is important to underscore, though, that there are many primary charges Black defendants face that no White defendant ever faces, just as there are many primary charges that White defendants face that no Black defendant ever faces. Thus, even with charge-level fixed effects, these disparities can be difficult to interpret.

Finally, we also see here some evidence of a similar pattern among Hispanic defendants. The estimates are not as statistically precise ($p \leq 0.02$ among secondary charges), and the analysis does not deal with the imbalance that the matching addressed. But the same type of heterogeneity implied by charge stacking is present in this one analysis of conviction patterns for Hispanic

defendants.

Across the specifications in all three tables, the estimate is that Black defendants are about 2-6% less likely to be convicted *on any given charge*. As before, this might seem like a small difference, substantively, but given the large numbers of Black individuals charged with felonies and the prison sentences associated with conviction, the aggregate consequences of these disparities can be substantial. And, for any one individual, the difference between conviction and acquittal on any particular felony charge is of potentially monumental importance.

Of course, it is important to again emphasize that the analysis primarily relies on *matched* data. Thus, these are estimates of the disparity in conviction rates, given the stratification of the data by the covariates on which I matched. It is entirely possible that Black defendants might be more likely to be convicted of any given crime overall, but when we compare otherwise comparable charges against White and Black defendants, we find that Black defendants are less likely to be convicted on secondary charges than are White defendants. That kind of heterogeneity would be precisely what is implied by the logic of charge stacking. It is the secondary, additional charges where we find the strongest evidence of prosecutors pursuing weaker cases against Black defendants than against White defendants. To the extent that researchers and advocates have warned that charge stacking and related prosecutorial choices can be racially driven (Rehavi and Starr 2014, Bryson and Peck 2020), this evidence is consistent with additional charges being filed against Black defendants that might not have been filed against White defendants.

7 Discussion and Conclusion

The evidence establishes two patterns. First, descriptively Black (and Hispanic) defendants face more charges on average than do White defendants. While I do not isolate the mechanism behind that disparity, conditional on being charged with a *given* felony, Black and Brown defendants contend more charges than do White defendants. Second, the evidence is consistent with the claim that secondary charges filed against Black defendants are weaker than comparable secondary charges filed against White defendants.

The implications of charge-stacking by local prosecutors are wide-ranging. Prosecutors are typically subject to very little oversight, and the nature of criminal prosecutions is such that

prosecutors have tremendous agenda-setting power. Moreover, the consequences of even minor contact with the criminal justice system for many Americans can be severe and long-lasting. To the extent that prosecutors stack charges in racially disparate ways—especially to the extent that those choices brought about by bias—we should be concerned about the weight and consequences of the American penal and legal systems being channeled through prosecutors to entrench racial inequities into society.

Descriptive imbalance and causal inference. The first implication that bears emphasizing follows from the raw descriptive imbalance in the kinds and number of felony charges that Black and White defendants face in Cook County. Systematically, Black and White defendants are charged with different crimes, and they face those charges before different judges. In other words, criminal justice in Cook County is a very racially segregated experience. That finding is in and of itself consequential, because it highlights a characteristic of the felony prosecution system that mirrors other aspects of the social-legal world that have been remarked elsewhere and that has been shown to be related to myriad aspects of democratic life (for an overview, see White 2022).

It is also consequential because it has implications for the kinds of inferences we can draw about the nature of bias in felony prosecution. The analysis here shows two things. First, Black defendants face more charges than do White defendants, on average, after conditioning on the original offense for which they have been arrested and differencing out relevant factors such as temporal patterns, differences across jurisdictions and courts, and so forth. Second, conditional on the charges being filed, Black defendants are less likely to be convicted on secondary charges filed by prosecutors than are White defendants, whereas there is no difference in the likelihood of conviction on primary charges.

The interpretation I offer is that this evidence is consistent with prosecutors bringing marginally weaker secondary charges against Black defendants than against White defendants. However, this inference requires making assumptions about the comparability of cases that Black and White defendants face (e.g., Corbett-Davies, Simoiu and Goel 2017, Knox, Lowe and Mummolo 2020, Clark et al. 2023, Canay, Mogstad and Mountjoy 2024). Accordingly, extrapolating beyond the relatively narrow set of cases in which Black and White defendants are observably comparable requires caution.

At the same time, there are reasons to suspect that the cases analyzed here are not those in which racially disparate treatment, if present, would necessarily be most pronounced. The matched sample necessarily consists of felony cases in which Black and White defendants face similar charges, appear before the same judges, and are prosecuted in similar institutional settings. By contrast, much of the descriptive imbalance documented above arises precisely because defendants of different races are funneled into different offense types, charging regimes, and prosecutorial tracks. If prosecutorial discretion contributes to racial disparities through differential charging across crime categories or through discretionary practices that vary systematically across locations with different racial compositions, it is therefore plausible that its effects are at least as large—and potentially larger—in the set of cases that fall outside the region of common support analyzed here.

Further, it bears noting what this analysis can and cannot tell us. Prosecutorial reform is a matter of intense debate in American politics (e.g., Hessick 2021), with deep implications for mass incarceration and criminality. While I have shown evidence of racial disparities in charge stacking in felony cases, the vast majority of criminal cases are not felony but instead misdemeanors. There is suspicion that similar dynamics are at work—perhaps to an even greater degree—in misdemeanor cases, but data on how misdemeanor cases are charged and resolved are woefully inadequate in the US. Further, as I have noted, the analysis here does not easily generalize to the broader question of why some individuals are incarcerated for longer periods of time than others and the sources of documented racial disparities in incarceration.

It is important to reiterate that the analysis does not isolate the precise mechanism by which these disparities arise. It may be due to racial animus but also due to career concerns that prosecutors face when making charging decisions. These findings are especially consequential in light of Feeley's (1979) observation that the process of being charged and defending oneself is itself a form of punishment—one that prosecutors control through their charging decisions, with potentially long-lasting implications for defendants' well-being (e.g., Aizer and Doyle Jr 2015, Dobbie, Goldin and Yang 2018, Stevenson 2018). Because charging decisions shape the nature of that experience, including pretrial detention, the costs of defense, and the emotional toll on defendants, the racial disparities documented here implicate not only the fairness of outcomes but the fairness of the process itself (for comparison, see Demuth and Steffensmeier 2004, Epp, Maynard-Moody and Haider-Markel 2014, Gelman, Fagan and Kiss 2007, Tuttle 2019, Ba et al. 2021, Dobbie, Hull

and Arnold 2022, Clark et al. 2023, Clark, Glynn and Owens 2025).

Institutional design and reform. The analysis in this paper illuminates one empirical finding that can inform debates about criminal justice reform—an area where legal practitioners have increasingly identified prosecutors' wide and unchecked power as a central concern (e.g., Davis 2007, Barkow 2019, Hessick 2021). Debates about prosecutorial reform have noted the significance of prosecutors' control over plea bargaining, because charging decisions directly affect sentencing itself. Charges typically define sentencing ranges for judges and so give a prosecutor potentially tremendous control over a power typically conceived of as judicial rather than prosecutorial—punishment. And, advocates for reform have lamented judges' willingness to defer to prosecutors in the realm of charging decisions because of the implications for criminal defendants' rights. The racial disparities highlighted here point to one reason why institutional reformers are right to worry and indicate a metric that might motivate concern for auditing.

More broadly, prosecutors face career and professional incentives—including electoral pressures tied to conviction rates and sentencing statistics—that may be in tension with justice (e.g., Barkow 2019). The evidence here is consistent with concerns that those incentives contribute to racial inequities in charging. Of course, Cook County is but one jurisdiction, and prosecutors throughout the country face varying political and professional pressures. Given the extent to which institutional theories of law and politics have failed to integrate prosecutorial discretion, this observation underscores the importance of future work to elaborate more comprehensive theories of how these critical decision-makers' incentives shape their choices at one of the most consequential touch points between government and citizens.

References

Agan, Amanda, Jennifer L Doleac and Anna Harvey. 2023. "Misdemeanor prosecution." *The Quarterly Journal of Economics* 138(3):1453–1505.

Aizer, Anna and Joseph J Doyle Jr. 2015. "Juvenile incarceration, human capital, and future crime: Evidence from randomly assigned judges." *The Quarterly Journal of Economics* 130(2):759–803.

Ba, Bocar A, Dean Knox, Jonathan Mummolo and Roman Rivera. 2021. "The role of officer race and gender in police-civilian interactions in Chicago." *Science* 371(6530):696–702.

Baker, Scott and Claudio Mezzetti. 2001. "Prosecutorial resources, plea bargaining, and the decision to go to trial." *Journal of Law, Economics, and Organization* 17(1):149–167.

Bar-Gill, Oren and Oren Gazal Ayal. 2006. "Plea bargains only for the guilty." *The Journal of Law and Economics* 49(1):353–364.

Barkow, Rachel Elise. 2019. *Prisoners of politics: Breaking the cycle of mass incarceration*. Harvard University Press.

Becker, Gary S. 1957. *The economics of discrimination*. University of Chicago press.

Beim, Deborah and Jonathan P. Kastellec. 2014. "The interplay of ideological diversity, dissents, and discretionary review in the judicial hierarchy: Evidence from death penalty cases." *The Journal of Politics* 76(4):1074–1088.

Beim, Deborah, Tom S. Clark and Benjamin E. Lauderdale. 2021. "Republican-majority appellate panels increase execution rates for capital defendants." *The Journal of Politics* 83(3):1163–1167.

Bellin, Jeffrey. 2019. "The power of prosecutors." *New York University Law Review* 94:171.

Berdejó, Carlos. 2024. Racial and gender disparities in plea bargaining. In *Research Handbook on Plea Bargaining and Criminal Justice*. Edward Elgar Publishing pp. 298–312.

Bonica, Adam and Maya Sen. 2020. *The Judicial Tug of War: How Lawyers, Politicians, and Ideological Incentives Shape the American Judiciary*. Cambridge University Press.

Boylan, Richard T and Cheryl X Long. 2005. "Salaries, plea rates, and the career objectives of federal prosecutors." *The Journal of Law and Economics* 48(2):627–651.

Bresler, Kenneth. 1993. "Seeking justice, seeking election, and seeking the death penalty: The ethics of prosecutorial candidates' campaigning on capital convictions." *Georgetown Journal of Legal Ethics* 7:941.

Bryson, Sara L and Jennifer H Peck. 2020. "Understanding the subgroup complexities of transfer: The impact of juvenile race and gender on waiver decisions." *Youth Violence and Juvenile Justice* 18(2):135–155.

Canay, Ivan A, Magne Mogstad and Jack Mountjoy. 2024. "On the use of outcome tests for detecting bias in decision making." *Review of Economic Studies* 91(4):2135–2167.

Clark, Tom S. 2024. "A Political-Economic Model of Police Administration." *Journal of Politics* 86(4):1462–1478.

Clark, Tom S., Adam N. Glynn and Michael Leo Owens. 2025. *Deadly force: Police shootings in urban America*. Princeton University Press.

Clark, Tom S., Elisha Cohen, Adam N. Glynn, Michael Leo Owens, Anna Gunderson and Kaylyn Jackson Schiff. 2023. "Are police racially biased in the decision to shoot?" *The Journal of Politics* 85(3):826–842.

Corbett-Davies, Sam, Camelia Simoiu and Sharad Goel. 2017. "The Problem of Infra-marginality in Outcome Tests for Discrimination." *The annals of applied statistics* 11:1193–1216.

Davis, Angela J. 2007. *Arbitrary justice: The power of the American prosecutor*. Oxford University Press.

Demuth, Stephen and Darrell Steffensmeier. 2004. "Ethnicity effects on sentence outcomes in large urban courts: Comparisons among White, Black, and Hispanic defendants." *Social Science Quarterly* 85(4):994–1011.

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.

Dobbie, Will, Peter Hull and David Arnold. 2022. "Measuring Racial Discrimination in Bail Decisions." *American Economic Review* 112(9).

Easterbrook, Frank H. 1983. "Criminal procedure as a market system." *The Journal of Legal Studies* 12(2):289–332.

Epp, Charles R, Steven Maynard-Moody and Donald Haider-Markel. 2014. *Pulled over: How police stops define race and citizenship*. University of Chicago Press.

Feeley, Malcolm M. 1979. *The process is the punishment: Handling cases in a lower criminal court*. Russell Sage Foundation.

Gelman, Andrew, Jeffrey Fagan and Alex Kiss. 2007. "An analysis of the New York City police department's "stop-and-frisk" policy in the context of claims of racial bias." *Journal of the American statistical association* 102(479):813–823.

Gerber, Alan S, Gregory A Huber, Marc Meredith, Daniel R Biggers and David J Hendry. 2015. "Can incarcerated felons be (Re) integrated into the political system? Results from a field experiment." *American Journal of Political Science* 59(4):912–926.

Gordon, Sanford C. 2009. "Assessing partisan bias in federal public corruption prosecutions." *American Political Science Review* 103(4):534–554.

Gordon, Sanford C. and Gregory A. Huber. 2002. "Citizen oversight and the electoral incentives of criminal prosecutors." *American Journal of Political Science* pp. 334–351.

Gordon, Sanford C. and Gregory A. Huber. 2009. "The political economy of prosecution." *Annual Review of Law and Social Science* 5(1):135–156.

Graef, Lindsay and Aurelie Ouss. 2025. "The role of case management in misdemeanor prosecution." *Criminology* .

Gunderson, Anna. 2022. "Descriptive representation and prosecutorial discretion: Race, sex, and carceral disparities." *American Politics Research* 50(6):823–836.

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." *Proceedings of the National Academy of Sciences* 114(42):11103–11108.

Harris, Allison P. and Maya Sen. Forthcoming. "How Judges' Professional Experience Impacts Case Outcomes: An Examination of Public Defenders and Criminal Sentencing." *Journal of Politics* .

Hessick, Carissa Byrne. 2021. *Punishment without trial: Why plea bargaining is a bad deal*. Abrams.

Heumann, Milton. 1981. *Plea Bargaining: The Experiences of Prosecutors, Judges, and Defense Attorneys*. University of Chicago Press.

Horz, Carlo M. and Hannah K. Simpson. 2023. "Political interventions in the administration of justice." *Quarterly Journal of Political Science* 18(1):5–38.

Hull, Peter. 2021. What marginal outcome tests can tell us about racially biased decision-making. Technical report National Bureau of Economic Research.

Jackson, Robert H. 1940. "The federal prosecutor." *Journal of Criminal Law and Criminology (1931-1951)* 31(1):3–6.

Jordan, Andrew. 2024. "Racial Patterns in Approval of Felony Charges." Available at SSRN: http://dx.doi.org/10.2139/ssrn.4093128.

Knowles, John, Nicola Persico and Petra Todd. 2001. "Racial bias in motor vehicle searches: Theory and evidence." *Journal of political economy* 109(1):203–229.

Knox, Dean, Jonathan Mummolo et al. 2020. "Toward a general causal framework for the study of racial bias in policing." *Journal of Political Institutions and Political Economy* 1(3):341–378.

Knox, Dean, Will Lowe and Jonathan Mummolo. 2020. "Administrative records mask racially biased policing." *American Political Science Review* 114(3):619–637.

Landes, William M. 1971. "An economic analysis of the courts." *The Journal of Law and Economics* 14(1):61–107.

Lee, Catherine. 2007. "Hispanics and the death penalty: Discriminatory charging practices in San Joaquin County, California." *Journal of Criminal Justice* 35(1):17–27.

McIntyre, Frank and Shima Baradaran. 2013. "Race, prediction, and pretrial detention." *Journal of Empirical Legal Studies* 10(4):741–770.

Medwed, Daniel S. 2004. "The zeal deal: Prosecutorial resistance to post-conviction claims of innocence." *Boston University Law Review* 84:125.

Nadel, Melissa R., Samuel J. A. Scaggs and William D. Bales. 2017. "Politics in punishment: The effect of the state attorney election cycle on conviction and sentencing outcomes in florida." *American journal of criminal justice* 42:845–862.

Paternoster, Raymond and Robert Brame. 2008. "Reassessing race disparities in Maryland capital cases." *Criminology* 46(4):971–1008.

Rehavi, M. Marit and Sonja B. Starr. 2014. "Racial disparity in federal criminal sentences." *Journal of Political Economy* 122(6):1320–1354.

Segal, Jeffrey A. and J. Spaeth, Harold. 2002. *The Supreme Court and the Attitudinal Model Revisited*. Cambridge University Press.

Shaffer, Hannah. 2023. "Prosecutors, Race, and the Criminal Pipeline." *University of Chicago Law Review* 90:1889.

Sloan, CarlyWill. 2019. Racial bias by prosecutors: Evidence from random assignment. In *ICCJ 2019: International Conference on Criminal Justice June*. pp. 25–26.

Sloan, CarlyWill. 2020. "How much does your prosecutor matter? an estimate of prosecutorial discretion." *United States Military Academy at West Point Working Paper* .

Smith, Robert J. and Justin D. Levinson. 2011. "The impact of implicit racial bias on the exercise of prosecutorial discretion." *Seattle University Law Review* 35:795.

Stevenson, Megan T. 2018. "Distortion of justice: How the inability to pay bail affects case outcomes." *The Journal of Law, Economics, and Organization* 34(4):511–542.

Tuttle, Cody. 2019. "Racial disparities in federal sentencing: Evidence from drug mandatory minimums." *Available at SSRN* 3080463.

White, Ariel R. 2022. "Political participation amid mass incarceration." *Annual Review of Political Science* 25(1):111–130.

Wright, Ronald F. 2004. "Parity of Resources for Defense Counsel and the Reach of Public Choice Theory." *Iowa Law Review* 90:219.

Online Appendix

Contents

A-1 Formalized Decision Model

Recent literature has examined the validity of outcome tests as a method for inferring bias. Canay, Mogstad and Mountjoy (2024) offer a particularly useful formalization of a decision-maker's choice that clarifies what assumptions are consistent with which definitions of bias. Here, I adopt their formalization and derive the plausible inferences we can make about prosecutorial bias from disparities in conviction rates.

Consider a case against a single defendant. Let $z \in Z$ denote a prosecutor and $d_z \in D = \{0, 1\}$ denote the decision by z whether to add an additional charge. (The measure of set Z is irrelevant for this exercise.) Let $R = \{b, w\}$ denote the set of defendant races, with r denoting the race in the case, and let V denote the set of non-race characteristics, with v denoting the realized set of characteristics in the case. Finally, denote Y_1 as the realized potential outcome when $d_z = 1$ and Y_0 denote the realized outcome when $d_z = 0$.

Now, define three components to the prosecutor's utility. The first is the cost of not stacking charges against the defendant, $c(z, r, v)$. This cost can include any career incentives for pursuing a harsh prosecutorial strategy, but ti does not include costs that run through the expectations about potential outcomes (i.e., whether the defendant is convicted). The second is an explicit taste for discrimination, $\beta(z, r, v)$. This component captures the prosecutor's taste-based preference for adding charges against a defendant of race r with characteristics v. Finally, let $\lambda(z, r, v)$ denote systematic miscalculations by the prosecutor about potential outcomes for defendants. Specifically, denote Y_d^* as the prosecutor's *beliefs* about expected outcomes, given d. Let

$$\lambda(z, r, v) \equiv \mathbb{E}\left[\Delta | r, v\right] - \mathscr{E}_z\left[Y_1^* - Y_0^* | r, v\right],$$

where $\Delta = Y_1 - Y_0$ and $\mathscr{E}_z\left[Y_1^* - Y_0^* | r, v\right]$ measures the prosecutor's *subjective* expectations about the difference in expected outcomes between stacking and not stacking charges.

Assuming the prosecutor engages in a simple cost-benefit analysis, her optimal decision is given by

$$D_z = I\left\{\mathbb{E}\left[\Delta | r, v\right] \leq \tau(z, r, v)\right\}.$$

where $\tau(z, r, v) = c(z, r, v) + \lambda(z, r, v) + \beta(z, r, v)$. That is, the prosecutor uses a threshold rule, where

τ (suppressing notation) denotes the threshold in the difference in expected outcomes (conviction) that justifies adding an additional charge against the defendant. Crucially, both sides of this inequality depend on non-race characteristics. What Canay, Mogstad and Mountjoy (2024) show is that our assumptions about which of the three components of τ depend on non-race characteristics determine what kind of bias disproportionate outcomes evince. Specifically, if τ does not depend on v at all, then this model is the extended Roy model (ERM); if all components of τ depend on v, then the model is a generalized Roy model (GRM).

The implication is that if we find that observed outcomes vary race, then we can attribute that to a race-related threshold, and the source of the racial variation in that threshold is whichever components of τ we can assume do not involve v—non-race characteristics. If, for example, we assume that non-race characteristics affect each of the cost of not being harsh on a defendant (c), the prosecutor's miscalculations about the likelihood of conviction (λ), and the taste for discrimination (β), then we must be completely agnostic about the mechanism that drives bias. Canay, et al. define this as τ-bias, because we only know that bias comes from some component of τ. If by contrast, we are willing to assume that $c(z, r, v) = c(z, r)$ and $\lambda(z, r, v) = \lambda(z, r)$ for all $v \in V$, then disparities in outcomes is consistent with only taste-based bias, which Carnay, et. al. label β-bias. (Alternatively, we can assume that c and λ are not present in the decision calculus.)

As I discuss in the paper, one's beliefs about these sources of non-race characteristics' influence on misperceptions or the costs of non-charge stacking affect our conclusions about the nature of the bias documented here.

A-2 Charge Descriptive Statistics

Here I first report a series of descriptive statistics about the felony charges files by the Cook County State's Attorney. As the paper describes, there is significant variation in the characteristics of individuals who are charged with felonies that is related to racial identity. Figure A-1 shows one key variable, which is the age of the defendants in the data. (The figure omits the defendants in the "Other" category.) The most important thing to note from this figure is that Black and Hispanic defendants are, on average, younger than White defendants. The distributions are much more skewed towards having mass at the younger end of the age distribution for those groups. At the same time, as one might expect, across all groups, there are very few elderly felony defendants. As noted in the paper, the empirical models all include fixed effects for the exact age of the defendant, which differences out any age-related patterns in conviction rates. Moreover, to the extent that the analyses rely on matched data, these distributions highlight that the possibly comparisons are constrained by the extent of overlap in comparable cases.

The second major source of variation that bears further description is temporal. There were two meaningful events that changes felony charging practices during the period covered by these data. First, Kim Foxx was elected the State's Attorney in 2016 and came to office with a plan to change the office's approach to felony prosecution. Second, the Covid-19 pandemic has a seismic effect on crime and prosecution. (This was noted in the paper when describing the pattern in conviction rates). Figure A-2 shows the number of felony charges with a final disposition in the data each month from January 2013 through December 2023. The figure reveals interesting evidence regarding those two events.

First, regarding the arrival of Kim Foxx as the State's Attorney, we do not see much evidence of a striking change in the *number* of charges disposed of each month. Of course, Foxx's plan was to address what crimes were charged and against whom, so that piece of evidence does not necessarily imply she did not change the office's business. Second, we see a dramatic drop in charges disposed when the pandemic arrived. Importantly, initially, the courts had to close, making it virtually impossible to dispose of felony cases. As government offices began to come back to work, and as life began to resume and crime began to return to pre-pandemic rates, we see that prosecution returned, as well. However, even now, we still do not see the rate of felony charges that were

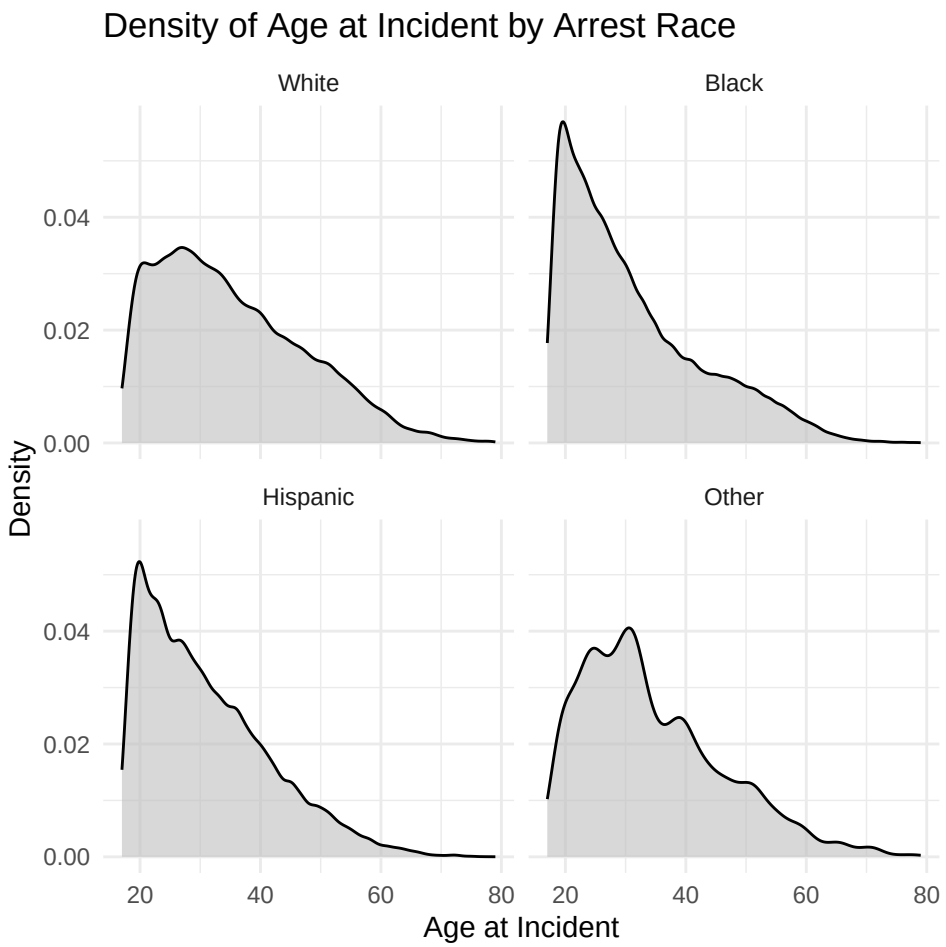


Figure A-1: *Distribution of age of defendants in data.* Defendants from other racial categories are omitted.

typical before the pandemic. To the extent that these temporal patterns are connected to factors that influence conviction rates and *who* is being charged, the fixed effects in the empirical models for the month-year of the case difference out such patterns.

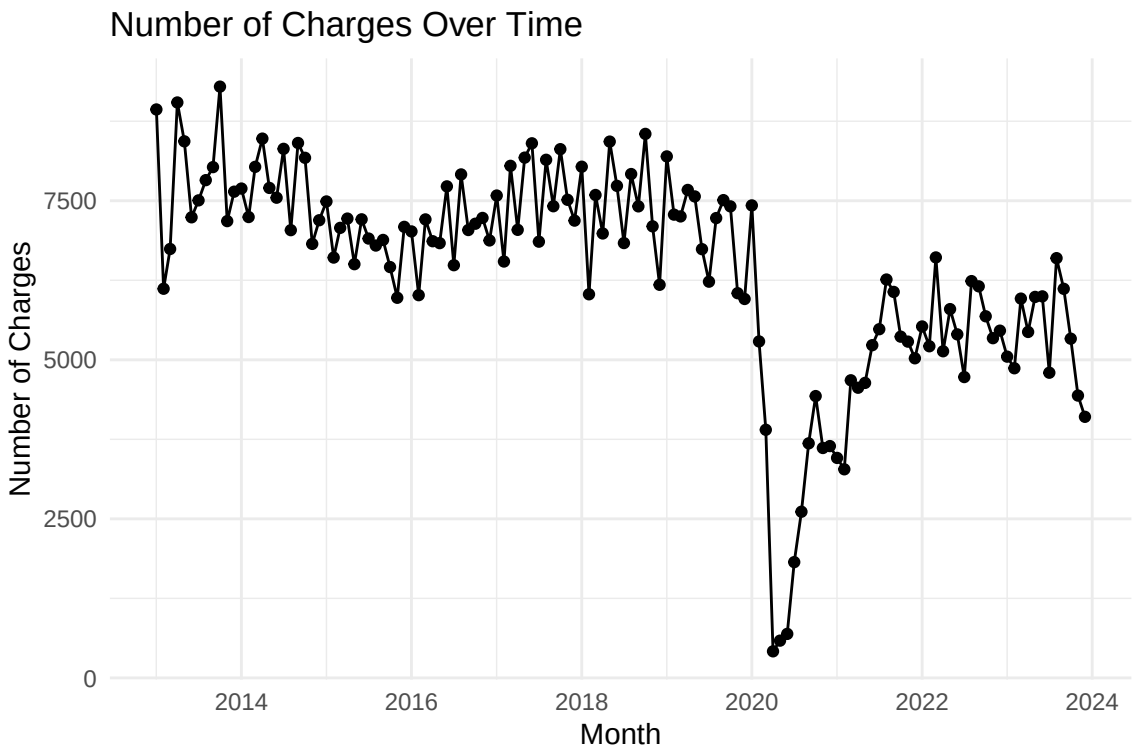


Figure A-2: *Total charges disposed of each month, January 2013 through December 2024.*

A-3 Narcotics Charges

In Cook County, police officers can directly file charges, bypassing the CCSAO felony review process in a narrow set of cases—those involving felony narcotics charges and no other felony charges. This practice has been in place for more than 20 years. Crucially, this practice means that police skip the felony review process and file charges directly. However, that does not mean that prosecutors do not play any role in overseeing the case. Indeed, the state's attorney's office still handles the prosecution and always has the discretion to drop a case or a given charge. The consequence for the analyses in this paper is that in any specification including felony review as a covariate, these cases are omitted. After the end of the period covered by the data used here, Cook County began a pilot program to allow a similar practice in two parts of Chicago for gun crimes involving only gun charges.

A-4 Balance Tests

In this section, I report on the data balance after matching. Most of the variables in the analysis are discrete and take on many possible values, such as the judge, charge, date, courthouse, and so forth. First, I conduct an equivalence test to assess whether, after exact matching, there remains imbalance in the marginal distributions. (Exact matching ensures perfectly marched pairs but, especially when matching with replacement, can still result in unconditional imbalance.) Table A-1 summarizes the results. (Note, there are three levels for Gender, with one level corresponding to "missing.") Here, we see evidence of unconditional imbalance in the courthouse, the city, and the judge—all geographically-related variables.

Variable	Type	N levels	Max p-value	Equivalent?
Legal charge (chapter)	Categorical	49	0.000	Yes
Court	Categorical	8	1.000	No
Gender	Categorical	3	0.000	Yes
City of arrest	Categorical	103	1.000	No
Judge	Categorical	187	1.000	No
Offense category	Categorical	50	1.000	No
Date	Numeric		0.002	Yes

Table A-1: Equivalence test for exact matched data

Figures A-3 and A-4 dig into these sources of imbalance to assess their magnitude. Figure A-3 shows the proportion of Black defendants against the proportion of White defendants for each level of each variable on which the data are matched. Perfect unconditional balance would imply that each observation is located along the 45-degree line (the exact same proportion of Black and White defendants). We see that there are substantively small deviations for a small number of levels. Figure A-4 plots the same data, differently, organized as a heatmap. Here , each level appears, shaded according to the difference in the proportion of Black and White defendants. As the figure makes clear, the sources of imbalance are isolated to a small number of levels where the difference is typically no higher than 0.15.

I also note that while the analysis did not match on age, the result of the matching is to achieve strong balance on that variable. Before matching, the mean age among Black defendants is 31.2, while the mean age among White defendants is 35.3. After matching, the mean age among Black

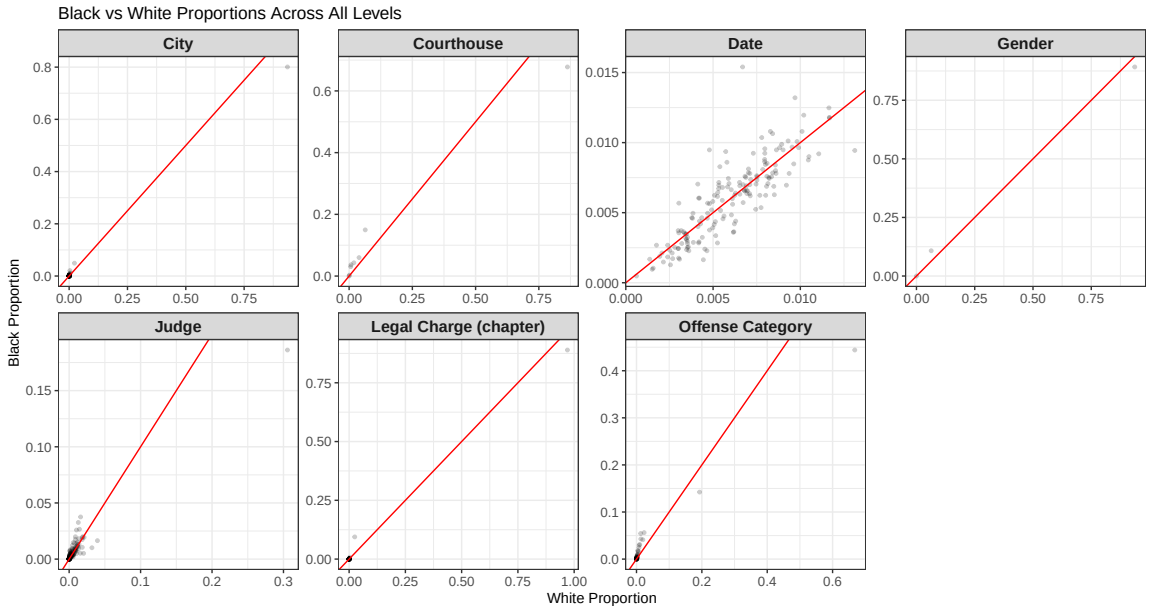


Figure A-3: Coplot comparing proportion of Black and White defendants for each level of each matched variable

defendants is 33.9, and the mean age among White defendants is 34.1. Finally, Figure A-5 shows balance descriptions similar to those in Figure 3 in the paper, but examining the jurisdiction in which the defendant was arrested and the courthouse to which the defendant was assigned. In the left-hand panel, we see that before matching, there was greta variation. Some jurisdictions only arrest White people, and some only arrest Black people. After matching, though, the mix of defendants from jurisdictions is far more balanced. Similarly, Figure A-5b shows the courthouse to which a defendant is assigned. Again, before matching, there is tremendous imbalance, with some courthouses seeing mostly Black defendants and some seeing mostly White defendants. After matching, we have a more balanced mix of defendant races by courthouse.

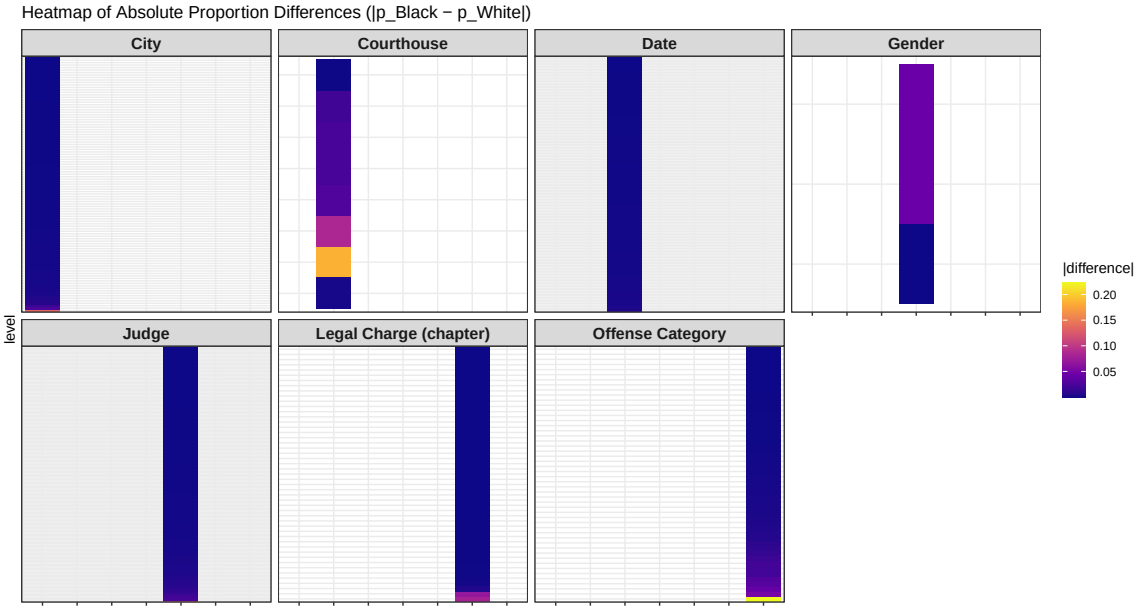
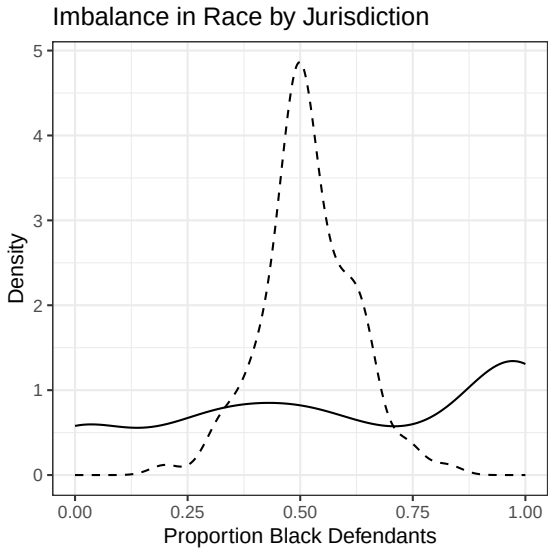
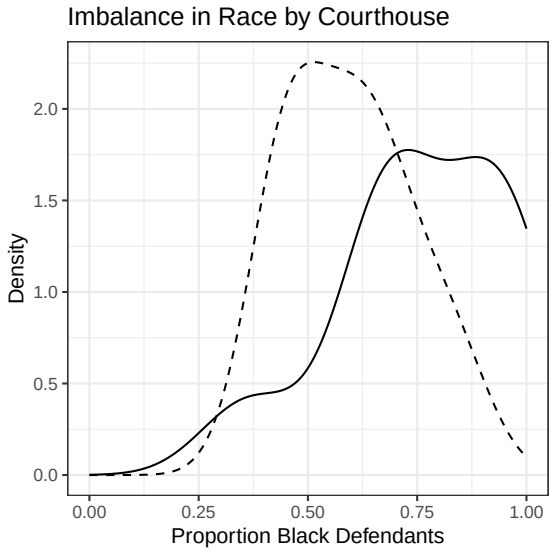


Figure A-4: Heatmap showing absolute imbalance for each level of each matched variable



(a) Imbalance in defendant race by the jurisdiction of arrest, in disposition data



(b) Imbalance in defendant race by courthouse, in disposition data

Figure A-5: Imbalance in cities of arrest and courthouses for Black and White defendants.

A-5 Robustness Tests

A-5.1 Analysis with All Racial Groups

Table A-2 reports a set of estimates to evaluate the robustness of the primary finding in the paper. First, I estimate a specification similar to the primary specification but including all racial categories, not just Black and White defendants. This requires me to return to the full set of charges, rather than the matched data, because the matched data, by construction only contain charges against Black and White defendants. The first three columns report the results from estimating the main specification from equation (2) using the full set of charging data, and all defendants of all racial groups. The first column reports all charges, the second reports only primary charges, and the third only additional charges. As before, White defendants are the omitted (comparison) category.

	All Charges	Primary Charges	Additional Charges	All Charges	Primary Charges	Additional Charges
Black	0.00	0.00	-0.02^*	-0.01^*	0.00	-0.03^*
Defendant	(0.002)	(0.002)	(0.005)	(0.002)	(0.001)	(0.004)
Hispanic	0.01^*	0.01^*	0.00	0.01^*	0.01^*	-0.01
Defendant	(0.002)	(0.002)	(0.005)	(0.002)	(0.002)	(0.005)
Other	-0.02^*	-0.01	-0.03	-0.03^*	-0.01	-0.05^*
Defendant	(0.007)	(0.006)	(0.015)	(0.007)	(0.006)	(0.015)
N	345,274	219,994	125,280	350,670	223,121	127,549
Month-year FEs	✓	✓	✓	✓	✓	✓
Charge FEs	✓	✓	✓	✓	✓	✓
Demographic FEs	✓	✓	✓			
Jurisdiction FEs	✓	✓	✓			

Table A-2: *Racial correlates of conviction on individual charges.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, and the judge sentencing. All models include fixed effects for the month-year of the case disposition. $^*p \leq 0.01$

The same pattern of heterogeneity in conviction rates for Black defendants emerges in this analysis. Among all charges, there is no difference in conviction rates on average between Black and White defendants. Nor is there a difference in the average conviction rate among primary charges. However, among additional charges, Black defendants are about 2% less likely to be

convicted on any given charge than are White defendants, consistent with the disparities that were estimated in the analyses in the main paper. Turning to the next three columns, I report a similar analysis, but stripping down the specification to only include fixed effects for the primary charge and moth-year. Here, the same pattern emerges with substantively similar estimates.

Curiously, Hispanic defendants have a different pattern in conviction rates relative to White defendants.Hispanic defendants are about 1% more likely to be convicted on average than are White defendants, and that disparity is concentrated in *primary* charges. In the specification with the fewest fixed effects, Hispanic defendants are less likely to be convicted of secondary charges than are White defendants, but that difference vanishes once we account for jurisdictional and demographic characteristics. As notes in the paper, it is unclear precisely how to interpret disparities in the unmatched data, and so it is important to interpret this analysis with caution. But, that the same heterogeneity in conviction rates exists in this sample as in the matched data provides some evidence of the robustness of the findings reported in the main paper. Future analysis can benefit from theoretical analysis of both the plea- and charge-bargaining processes. Those areas remain under-developed in the political science literature, both theoretically and empirically but have potentially significant implications for what we can learn from observed outcomes from criminal justice data.

A-5.2 Analysis of Cases with no Dropped Charges

Table A-3 shows the results of a related robustness check. Here, I analyze on those cases in which there is no charge dropped during the course of the case. One might be concerned that in some cases the primary charges against a defendant are dropped as part of the plea- or charge-bargaining process. Unfortunately, the data that the CCSAO makes available do not record exactly that piece of information. Thus, as a conservative approach, I limit the analysis to only cases in which at no point some was any charge dismissed. (This information is not contained n the CCSAO's public data releases. Thus, I filed a FOIA request asking for the "events" data captured by the CCCSAO. These data record a wide range of "events" associated with each case. The coding is not always consistent, as there are many types of events, and so I rely on the broad "category" of issues characterized as "Dismissed" events. This coding rule is necessarily broad and will capture many cases beyond those in which a prosecutor substitutes charges by way of dropping a charge and

replacing it with another. But, it is the closest coding possible.) I estimate the outcome test using all charges, not just matched data, as in the preceding analysis, because filtering the matched data on this variable breach the match, and including it in matching algorithm greatly reduces the sample size.

	All Charges	Primary Charges	Additional Charges
Black	0.00	0.003^*	-0.02^*
Defendant	(0.002)	(0.002)	(0.015)
Hispanic	0.01^*	0.01^*	0.00
Defendant	(0.002)	(0.002)	(0.005)
Other	-0.02^*	-0.01	-0.03
Defendant	(0.007)	(0.006)	(0.015)
N	345,272	219,992	125,280
Month-year FEs	✓	✓	✓
Charge FEs	✓	✓	✓
Demographic FEs	✓	✓	✓
Jurisdiction FEs	✓	✓	✓

Table A-3: *Racial correlates of conviction on individual charges in cases in which no chargewas dropped.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, and the judge sentencing. All models include fixed effects for the month-year of the case disposition. $^*p \leq 0.01$

The patterns among these cases parallel those we saw above. Among secondary charges, Black defendants are less likely to be convicted than are White defendants. The specifications here contain the full set of fixed effects that I included in the other specifications, but again are not based on matched data.

A-5.3 Analysis with Felony Review Prosecutor

Finally, I re-estimate the main specification using the matched data but also including fixed effects for the ASA who performed felony review. Table A-4 reports the results. Again, we find a consistent pattern in which Black defendants are less likely than are White defendants to be convicted on secondary charges, but no different on primary charges. This analysis relies on a smaller subset of data, though, due to missingness in the data on felony review prosecutors.

	All Charges	Primary Charges	Additional Charges
Black Defendant	−0.01 (0.006)	0.00 (0.006)	−0.05* (0.018)
N	13,323	8,914	4,409
Month-year FEs	✓	✓	✓
Charge FEs	✓	✓	✓
Demographic FEs	✓	✓	✓
Jurisdiction FEs	✓	✓	✓
Felony Review ASA FEs	✓	✓	✓

Table A-4: *Racial correlates of conviction on individual charges, including felony review prosecutor fixed effects.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, the judge sentencing, and the assistant state's attorney performing felony review. All models include fixed effects for the month-year of the case disposition. $^{*}p \leq 0.01$

A-5.4 Analysis with Fixed Effects for Arrest Charges

One concern that warrants particular attention is whether prosecutors are affected by upstream bias in the criminal justice system. Thus, as a robustness test, I present an analysis that includes fixed effects for the exact charges on which a defendant was initially arrested. There are a couple of important caveats to note. First, arrest information is only available for felony prosecutions in which the defendant was arrested by the Chicago Police Department. These arrests constitute just 350,449 of the 528,111 felony prosecutions initiated by the Cook County State's Attorneys' Office covered by these data. (As noted in the paper, there are many law enforcement agencies handling arrests in Cook County.) Second, the information I have been able to access only covers individuals whose arrests initiated the prosecution. Cases that began with an indictment reviewed by a grand jury or any other prosecutor-initiated process are not included in this analysis, even if the defendant ultimately was arrested by the CPD. This is because I had to file a FOIA request with the CCSAO to access the booking numbers for each felony arrest. After multiple rounds, and two appeals to the Illinois Attorney General's Office, I was only able to receive booking numbers for this subset of cases. Thus, the subset of cases analyzed here is very much a non-random subset. Further, because of the data limitations, the subset is much smaller than the main analyses in the paper. Thus, I present an analysis of both the matched and the unmatched data.

	All Charges	Primary Charges	Additional Charges	All Charges	Primary Charges	Additional Charges
Black	−0.01	0.00	−0.04†	−0.01†	0.00	−0.02*
Defendant	(0.006)	(0.006)	(0.020)	(0.004)	(0.003)	(0.010)
Hispanic				0.00	0.01†	−0.02†
Defendant				(0.004)	(0.004)	(0.011)
Other				−0.12	0.01	−0.05
Defendant				(0.014)	(0.013)	(0.032)
N	16,551	11,349	5,202	122,956	76,427	46,529
Month-year FEs	✓	✓	✓	✓	✓	✓
Charge FEs	✓	✓	✓	✓	✓	✓
Demographic FEs	✓	✓	✓			
Jurisdiction FEs	✓	✓	✓			
Arrest Charge FEs	✓	✓	✓	✓	✓	✓

Table A-5: *Racial correlates of conviction on individual charges.* Coefficients are linear probability estimates. Outcome variable is an indicator for whether the defendant was convicted on the charge. Standard errors clustered at the defendant level in parentheses. Models with covariates include fixed effects indicators for legal provision charged, offense category, defendant gender, law enforcement unit making arrest, and the judge sentencing. All models include fixed effects for the month-year of the case disposition and for each of the (up to) four charges on which an individual was arrested. $^{*}p \leq 0.01$; $^{\dagger}p \leq 0.10$

The data provided by the CPD indicate a specific charge for up to four charges, reported as "Charge 1", "Charge 2", "Charge 3", and "Charge 4". I include fixed effects for the exact charge reported for each of these charge variables. When fewer than 4 charges are reported, the variable takes on a null value, rather than a missing value. Thus, defendants arrested for only 2 charges, for example, have the same value for the third and fourth charges.

Table A-5 summarizes the results of the analysis. As we see here, the core results and inferences hold in this analysis. The statistical power is limited in the analysis of matched data, but nevertheless we find substantively comparable results and the same pattern of lower conviction rates on secondary charges among Black defendants than among White defendants.

A-6 A Threshold Test

Corbett-Davies, Simoiu and Goel (2017) propose casting the outcome test model as one in which prosecutors have latent thresholds for stacking charges against defendants, and defendants have different latent levels of guilt. Using data on the decision to add any secondary charges and conviction on those secondary charges (if any), we can estimate a latent variable model in a Bayesian framework. The logic is that conviction on the secondary charges is informative about the underlying distribution of guilt and the decision about whether to stack charges, given that distribution of guilt, is informative about thew threshold for stacking charges. In this framework, prosecutorial bias manifests as a prosecutor applying a lower threshold for deciding to stack charges against Black defendants than against White defendants.

A challenge for estimating this model is how best to code charge-stacking. In the canonical example, a police officer makes a single decision about whether to search an individual driver, and then there is a single result about whether the search reveals contraband. Here, for each defendant, we have multiple potential decisions by the prosecutor, for each possible secondary charge that might be adopted. We do not know how many secondary charges were considered but not adopted (which decisions to search were turned down) but instead only know whether any secondary charges were adopted. Further, we have multiple outcomes—for each secondary charge, there is a finding of guilt or not.

With those caveats in mind, I estimate the Corbett-Davies, Simoiu and Goel (2017) threshold test model in which the outcomes are (a) whether any secondary charge was filed, and (b) whether the defendant was convicted on all secondary charges. I estimate the model in `Stan` using R and run the simulation for 500 iterations. Diagnostics with multiple chains at shorter lengths reveal convergence and mixing. The core question is whether the threshold used to add a secondary charges is systematically for Black defendants than it is for White defendants. Table A-6 summarizes the results. Table **??** reports the results.

Defendant race	Threshold	95% Credible Interval
White	97.4%	(97%, 98%)
Black	96%	(95%, 97%)

Table A-6: Posterior means and credible intervals from threshold test

Here, I report the posterior average estimate of the threshold for likelihood of conviction for Black and White defendants. The differences are substantively small but statistical meaningful. It is important to underscore, though, that these data aggregate charges by the defendant, and so the high thresholds are influenced by the fact that in most cases, a defendant is convicted of *something*. Thus, the true threshold for any given charge is likely much lower. However, even at these inflated thresholds, the threshold model suggests 15,390 (posterior mean) additional charges were filed against Black defendants that would not have been filed if using the White defendant threshold.

References

Canay, Ivan A, Magne Mogstad and Jack Mountjoy. 2024. "On the use of outcome tests for detecting bias in decision making." *Review of Economic Studies* 91(4):2135–2167.

Corbett-Davies, Sam, Camelia Simoiu and Sharad Goel. 2017. "The Problem of Infra-marginality in Outcome Tests for Discrimination." *The annals of applied statistics* 11:1193–1216.