

ORIGINAL ARTICLE

Prosecutor-driven reform and racial disparities

Francesca A. Amaral¹  | Aurélie Ouss² | Dalila I. Ozier²

¹Harvard Kennedy School, Harvard University, Cambridge, Massachusetts, USA

²University of Pennsylvania, Philadelphia, USA

Correspondence

Francesca A. Amaral, Harvard Kennedy School, Harvard University, 79 JFK St, Mailbox 74, Cambridge, MA 02138, USA.
Email: francesca_arrudadeamaral@g.harvard.edu

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Abstract

Research Summary: We use novel, fine-grained data that covers the entire penal process from arrest to final case disposition, spanning various agencies, including the police department, prosecutor's office, and courts. We exploit sharp changes in practices generated by the adoption of two sets of policies in Philadelphia: one instructing prosecutors to decline low-level offenses, and the other aimed at reducing supervision length at sentencing. We investigate racial disparities using both racial gaps and the scale of criminal justice involvement as outcomes. Our findings offer nuanced perspectives on how policy influences racial disparities. We find that both policies successfully reduced the scale of criminal justice involvement. However, they did not reduce racial gaps in charging or sentencing. Nevertheless, given the higher frequency of arrests and subsequent criminal justice involvement for Black individuals in Philadelphia, a larger number of Black people benefited from these policies.

Policy Implications: In recent years, several jurisdictions in the United States have elected prosecutors who advocate for reducing the scope of criminal justice involvement and addressing racial disparities within it. This paper examines whether specific policy reforms implemented by one such office—in Philadelphia—have effectively reduced widespread racial disparities in the penal system. This study contributes significantly to the growing literature on the impact that scaling back

criminal justice can have on racial disparities. Much of the existing research primarily centers on legislative changes. Our work studies the impact of changes in practices within a prosecutor's office—a domain that has generally received less attention. Our research provides valuable insights for both academics and policymakers, as we underscore the importance of considering both racial gaps and the differential number of individuals impacted by the system to fully understand the effects of policies designed to reduce criminal justice interactions.

KEYWORDS

charging, Philadelphia, progressive prosecution, racial disparities, sentencing

Over the past few decades, there has been growing public recognition in the United States of racial disparities in criminal justice involvement, leading to increased calls for reform (National Academies of Sciences, Engineering, and Medicine, 2023). One proposed solution to reduce these inequities has been prosecutorial reform, as prosecutors wield significant discretion at various stages of the criminal justice process (Pfaff, 2017). Prior research has shown how certain prosecutorial practices can exacerbate (Jordan, 2022; Okafor, 2021; Rehavi & Starr, 2012) or mitigate (Shaffer, 2023; Shaffer & Harrington, 2022) racial disparities in case outcomes. In recent years, several jurisdictions have elected reform-oriented prosecutors who advocate for policy changes aimed at reducing incarceration rates and the collateral consequences of involvement in the criminal justice system (Sklansky, 2017; Pickerell, 2020; Bazelon, 2020). However, the effectiveness of any particular policy may be limited, particularly if disparities arise before cases reach prosecutors' offices (Mears et al., 2016; Sampson, 2019), if policy implementation is imperfect, or if decisions made by other legal actors counterbalance the reforms. In this paper, we use novel, fine-grained administrative datasets, and in-depth institutional knowledge to investigate the effectiveness of prosecutor-driven policies in reducing racial disparities in criminal case outcomes, taking into account both the scale of penal involvement and racial gaps in exposure to the criminal justice system.

Studying the effect of prosecutor-driven criminal justice reform on racial disparities poses several challenges. First, obtaining and combining data from various criminal justice agencies is often demanding, making it hard to determine where exactly racial disparities emerge and how they evolve. Second, isolating the effects of specific policies from more general changes resulting from new leadership poses some methodological issues. Our research addresses these challenges by leveraging extensive data and exploiting specific features of the policies that we study.

First, we compiled comprehensive, individual-level administrative data across multiple criminal justice agencies in Philadelphia, including detailed information on all intermediate decisions. This allows us to track cases across multiple criminal justice agencies, from arrest to final case disposition. Our rich administrative data on criminal case characteristics and resolution allow us to assess whether the prosecutor-driven policies we study influenced overall case outcomes and

racial disparities in these outcomes at multiple points throughout the process, while controlling for relevant case characteristics.

Second, our data and institutional knowledge allow us to isolate the effect of specific policies initiated by District Attorney Lawrence Krasner, who was elected in 2017 on a reformist platform. We examine policy changes aimed at increasing leniency at two critical stages of the criminal justice process: charging and sentencing. Charging decisions are at prosecutors' discretion, while sentencing, although influenced by prosecutors, is ultimately decided by judges. We focus on cases targeted by these policies. We exploit the exact timing of policy adoption and compare similar cases that happen to have been processed just before or just after various policies were adopted. By examining their impact on charging and sentencing, we aim to identify which, if any, of these policies have contributed to reducing racial disparities within the Philadelphia criminal justice system.

1 | THEORIZING THE EFFECTS OF PROSECUTOR-LED REFORM ON RACIAL DISPARITIES

Our research examines whether two specific prosecutor-driven policy reforms may reduce racial disparities in penal outcomes. The effectiveness of such efforts depends on several factors and is *a priori* ambiguous. In this section, we explore why prosecutor-led reform could potentially influence racial disparities within the criminal justice system, and why it may not. We consider three factors: (1) the power that prosecutors have in influencing key outcomes; (2) the role and responses of other legal actors; and (3) other systemic factors—beyond the control of prosecutors—contributing to racially unequal penal outcomes.

Addressing racial disparities in criminal court processing is often upheld as a central goal of prosecutor-led reform initiatives, particularly in correcting disparities that emerge from prosecutorial practices (Bazelon, 2020; DAO, 2023). These efforts may work because prosecutors have discretionary power over charging, plea negotiations, and other key decision points in the criminal justice process; changes to policies and practices could thus mitigate unwarranted racial disparities (Davis, 2019). If these disparities are at least partially caused by the disparate impact of seemingly race-neutral policies or practices on specific communities, this issue could be mitigated by scaling back punitive practices. By intervening early in the criminal justice process, prosecutors can potentially correct systemic inequities before they compound at later stages. Reform-minded prosecutors have thus developed and instituted policies targeting offenses or prosecutorial decisions that disproportionately affect minority defendants (Doleac, 2022; Henning, 2021). In this way, local prosecutors could potentially sidestep institutional mechanisms that have disproportionately impacted people of color, thereby mitigating racial inequities within the criminal justice system.

With this in mind, several prosecutors' offices have adopted policies specifically aimed at reducing racial disparities. For instance, these offices engage in implicit bias training to minimize discriminatory decision-making (Snowden, 2022; Grodensky et al., 2023; Henry et al., 2023) and utilize data-driven assessments to monitor case outcomes, identifying and correcting racial disparities as they emerge (Bazelon, 2020; Stemen, 2021). Additionally, standardizing charging decisions or offering concrete plea guidelines can reduce the likelihood of disparate treatment based on race (Davis, 2007; Rehavi & Starr, 2014). By narrowing the scope of prosecutorial discretion, these reforms aim to minimize the influence of racial bias in decision-making processes, thereby promoting more equitable treatment across racial groups. These policies could impact

racial gaps in case outcomes, such as by reducing biased treatment of similarly situated cases. Finally, given differential arrest rates, reducing punitiveness may influence racial disparities in penal involvement.

On the other hand, these prosecutorial reforms may not sufficiently address some underlying systemic biases inherent in the criminal justice system. First, prosecutors may not be as influential in shaping case outcomes as has been hypothesized, thus limiting their ability to implement reforms aimed at reducing racial disparities. Butler (2021) and Romero (2020) argue that the discretionary power of prosecutors is limited, seeing as prosecutors cannot have a wide-scale impact without the consent and cooperation of other actors in the criminal justice system. Path dependencies may lead to resistance or adaptations elsewhere in the justice system as stakeholders attempt to mitigate the proposed policy changes (Rubin, 2023), resulting in the adoption of new practices that align with established ones (Verma, 2015). With judges, legislators, the police, and even some line prosecutors frequently acting in direct opposition to progressive aims (Davis, 2019; Bellin, 2019), reform-minded prosecutors are often stymied in their attempts to achieve meaningful change. These challenges are compounded by the fact that it is frontline workers (Kras et al., 2017) and street-level bureaucrats (Lipsky, 1980) who are pivotal in implementing policy changes, and they may resist this change. Given this, critics question the ability of prosecutors to unilaterally enact reforms that mitigate racial disparities within the criminal justice system.

In addition to echoing this skepticism about the true scale of prosecutorial power, Fryer (2020) also questions whether prosecutor-led reforms will be effective in reducing racial disparities. For example, although expanding the use of diversion programs is a key component of the progressive prosecutor's toolkit (Nguyen, 2019), diversion programs that are cost prohibitive (Wheeldon & Heidt, 2022; Sanchez et al., 2020) or that filter out potential participants based on criminal history (Eckhouse et al., 2019; Schlesinger, 2013; Harcourt, 2015) may exacerbate racial disparities rather than mitigate them. Moreover, disparities may persist due to implicit biases and institutional norms within prosecutorial offices.

Second, reforms targeting individual prosecutorial discretion may overlook broader structural factors, such as racialized patterns of policing and sentencing practices, which disproportionately impact communities of color. For instance, the practices of stop-and-frisk and other forms of aggressive policing have been shown to disproportionately target Black and Latino communities, leading to higher rates of arrest and subsequent prosecution for these groups (Gelman et al., 2007; Ba et al., 2021). If racial disparities are primarily driven by differences in offending or systemic biases embedded within law enforcement and judicial practices, then reforms focusing solely on prosecutorial discretion may have limited impact (Mears et al., 2016).

Prior work on criminal justice reform more broadly can provide some insights into how the policies we study may reduce racial disparities. A common goal of prosecutor-driven reform is to reduce the overall scale of the criminal justice system (Petersen et al., 2024). Previous studies have shown that broad reductions in the punitiveness of the justice system effectively decrease racial disparities (e.g., MacDonald & Raphael, 2020; Mitchell et al., 2022). Conversely, a substantial body of research indicates that increasing the system's overall punitiveness exacerbates racial disparities (e.g., Mitchell, 2018; National Research Council, 2014). However, other studies find mixed results of policies aimed at reducing racial disparities. For example, Zane (2021) finds no clear reduction in racial gaps despite reform efforts specifically targeting disproportionate minority contact among juveniles. Therefore, the overall effect of these reforms remains ambiguous. As highlighted by the National Academies of Sciences, Engineering, and Medicine (2023), additional empirical studies are needed to understand how criminal justice reforms impact racial disparities in case processing—an issue this paper seeks to address.

2 | PRIOR RESEARCH

A long-standing body of research shows that racial disparities permeate the US criminal justice system. This research shows that Black individuals are more likely than White individuals to be stopped (Roach et al., 2022; Baumgartner et al., 2017; Pierson et al., 2020, 2018; Langton & Durose, 2013; Ba et al., 2021; Chohlas-Wood et al., 2022; Cai et al., 2022), searched (Pierson et al., 2020; Feigenberg & Miller, 2020, 2022), and arrested (Piquero, 2015). In court, Black defendants are more likely to receive more serious charges for identical or similar offenses (Zane et al., 2022; Kovera, 2019; Chohlas-Wood et al., 2021; Rehavi & Starr, 2012); more likely to be denied bail (Arnold et al., 2018); less likely to receive rehabilitative interventions (Cochran & Mears, 2015); and more likely to receive harsher sentences (Ulmer et al., 2007; Rehavi & Starr, 2012; Starr & Rehavi, 2013, 2014; Kutateladze et al., 2014; Tuttle, 2019; Sloan, 2019). In addition, other marginalized racial groups—including Latinos (Sawyer, 2020; Urbina & Alvarez, 2018) and Native Americans (Franklin & Henry, 2020; Stewart et al., 2022)—experience similarly disproportionate interactions with the US criminal justice system. Although recent trends indicate that racial disparities in sentencing and incarceration have noticeably narrowed over the past two decades (King & Light, 2019), disparities in stops, arrests, pretrial detention, and community supervision remain stark (National Academies of Sciences, Engineering, and Medicine, 2023).

Existing research suggests that these disparities may be at least partially driven by racial disparities in community context (Mitchell, 2005; Sampson & Wilson, 2020), offending patterns (Mitchell & Caudy, 2017), and probability of arrest (Gaston, 2019; Butcher et al., 2022; Lantz et al., 2021). Mears et al. (2016) highlight the difficulty in distinguishing the influence of judicial institutions from social structures in shaping racial differences in criminal justice outcomes. Given that the policies we examine aim to reduce inequalities, we use the term “racial disparities,” while acknowledging that non-penal factors may also contribute to the observed differences.

A small but growing body of literature specifically examines the effects of prosecutorial criminal justice reforms on defendants, courts, and communities (MacDonald & Raphael, 2020; Agan et al., 2021a; Lynch et al., 2021; Goldrosen, 2022; Ouss & Stevenson, 2023; Mitchell et al., 2022; Owusu, 2022; Nguyen & Ouss, 2023; Amaral et al., 2024; Petersen et al., 2024). More broadly, there is a growing literature on how criminal justice reform influences racial disparities. Researchers have examined how certain policy interventions—such as changes in sentencing guidelines (Mitchell, 2020), increased use of diversion programs (Nguyen, 2022; Bala & Mooney, 2019), the implementation of body-worn cameras (Huff et al., 2021), or the location of police oversight agencies (Ba, 2017)—might affect disparities. Some papers consider the effects of state-level criminal justice reform on racial disparities. For example, Nicosia et al. (2017), MacDonald & Raphael (2020), Rose (2021) and Zane et al. (2022) ask whether these state-level policy changes, aimed at scaling back criminal justice interactions, reduce racial disparities.

Closest to our work, two recent papers ask whether prosecutor-driven reform reduces racial disparities. Drawing from a random sample of felony cases filed in 2017 in Florida's Circuit Courts, Mitchell et al. (2022) examine the outcomes of cases prosecuted by progressive chief prosecutors compared to traditional chief prosecutors.¹ The authors find that, relative to traditional prosecutors, cases handled by progressive prosecutors have lower rates of felony conviction and imprisonment but exhibit no meaningful racial disparities in imprisonment. Owusu (2022) looks at the effect of presumptive non-prosecution in Suffolk County, MA, on prosecution rates, recidivism, and racial disparities. As we do, the paper finds that these prosecutor-driven policies reduce charging rates; however, departing from our findings, the author finds that Black defendants were less likely to benefit from these policies.

3 | THE CURRENT RESEARCH

Our research extends the existing literature on criminal justice reform and racial disparities in several important ways. Due to the relatively recent development of prosecutor-driven reform, there are still few empirical evaluations of how changes in policies have influenced case outcomes, equity, and public safety. Because of this, there exists a strong need for researchers to analytically assess the efficacy of prosecutor-led criminal justice reforms. Our paper contributes to this literature by asking which prosecutor-led reforms, if any, successfully mitigate racial disparities in criminal justice processing, and what this means in practice.

First, our data allow us to consider different decision-making points, and in particular, to focus on two important decisions influenced by prosecutors: charging and sentencing. Charging is solely in the hands of prosecutors. Sentencing is influenced by prosecutors but affected by multiple actors (Eisenstein & Jacob, 1977; Haynes et al., 2010; Hester, 2017; Kim et al., 2015; Lynch, 2016; Ulmer & Johnson, 2004). As our data include information on outcomes at different stages, we are able to understand how prosecutor-driven reform influences racial disparities in multiple places. We also exploit the fact that we have detailed data from the Philadelphia Police Department—including information on stops and arrests—to give a broader picture of where racial disparities appear.

Second, although the past literature has largely focused on the coming to office of particular prosecutors (Arora, 2018; Mitchell et al., 2022; Agan et al., 2021a; Corbett-Davies et al., 2017), we expand on this work by isolating particular prosecutor-driven policies, and for these particular policies, focusing on racial disparities in criminal case outcomes. Importantly, it can help tease out general effects of having new leadership (i.e., changes in personnel, and in particular in attorney experience) from the effects of policies adopted by those offices. There are a few papers that also aim to analyze particular prosecutor-driven policies. For example, in Suffolk County, MA, Agan et al. (2021b) examine the impact of declining certain offenses, and in Philadelphia, Ouss & Stevenson (2023) analyze the effects of the No-Cash-Bail reform, which sought to reduce reliance on cash bail. Nguyen & Ouss (2023) explore the effect of the sentencing policies also studied as part of the present paper, but the main outcomes of interest in their paper are disposition types. These papers however do not consider differential effects of these policies by race and ethnicity. The interventions we focus on—declining to prosecute certain low-level offenses and requesting shorter sentences—are widely implemented proposals among reform-minded prosecutors (Petersen et al., 2024). Therefore, our findings hold significant relevance for broader policy discussions and offer valuable insights for jurisdictions beyond Philadelphia.

In our empirical analyses, we explore three interconnected research questions. First, we examine how prosecutor-driven reforms impact racial gaps in outcomes and the extent of justice system involvement at specific decision points, namely, charging and sentencing. Second, we investigate how these reforms affect the scale of justice system involvement by race and ethnicity at these critical stages. Finally, to provide context for our findings, we explore earlier stages where racial disparities may manifest, specifically at stops and arrests, to better understand the upstream factors influencing the potential of prosecutor-driven reform.

4 | POLICY BACKGROUND

Philadelphia is the fifth-largest city in the United States, with about 1.6 million residents. According to the 5-year estimates from the 2019 American Community Survey, its population is 34.5%

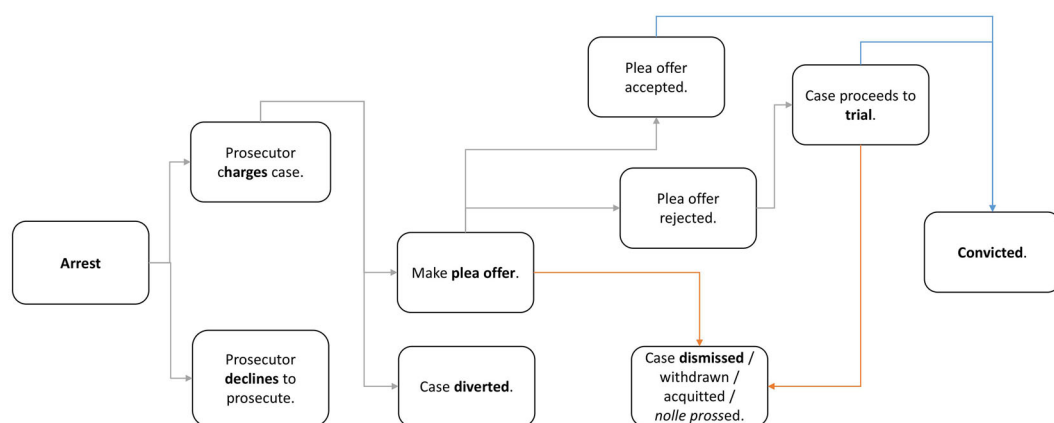


FIGURE 1 Overview of the Philadelphia criminal court process. This flow chart shows a simplified version of the typical process through which criminal cases proceed through the Philadelphia court system. The majority of pretrial deliberations are handled by the District Attorney's Pre-Trial Unit. Municipal Court handles misdemeanor trials and preliminary hearings for felony charges, whereas jury and waiver trials in felony cases take place in the Court of Common Pleas. At trial, possible case outcomes include acquittal, supervision, or incarceration. [Color figure can be viewed at wileyonlinelibrary.com]

White (non-Latino), 40.8% Black (non-Latino), and 14.7% Latino (of any race). Like other large mid-Atlantic cities, Philadelphia has a sizeable Black population. The Black population represents 12.3% of the US overall, but 45.4% in Washington, DC, 61.8% in Baltimore, and 21.8% in New York City. As in many cities across the United States (Pierson et al., 2020), in Philadelphia, Black individuals are disproportionately represented in police interactions. They accounted for 79% of police stops and 74% of arrests between February 2016 and February 2018 (authors' calculations). In 2018, people of color comprised 88% of the jail population (First Judicial District of Pennsylvania, 2020).

In the remainder of this section, we describe the judicial process in Philadelphia, with an emphasis on points in the process where prosecutors can exert influence and discuss the prosecutor-led policy changes that are the focus of this study. Figure 1 offers a high-level overview of the Philadelphia criminal court process.

4.1 | The judicial process in Philadelphia

After a person is arrested, the arresting officer recommends charges. Importantly for our research, they also record the individual's perceived race. Within 24 h, a prosecutor at the District Attorney's Office decides whether and how to charge the case. If charges are filed, the case proceeds. Misdemeanor cases are adjudicated in Municipal Court. For felony charges, the Municipal Court holds a preliminary hearing to determine if there is sufficient evidence for trial. If so, the case moves to the Court of Common Pleas and is assigned to a prosecutor, who has 2 weeks to make an initial plea offer. These decisions are influenced by the Offense Gravity Score (OGS) and Prior Record Score (PRS), which are indicators of the severity of the charge and of the individual's criminal record, respectively. During the pretrial phase, cases may be diverted, dismissed, or assigned to specialized units. If not resolved pretrial, the case goes to trial.² Pennsylvania has sentencing guidelines

that recommend carceral time based on the OGS and PRS. However, the guidelines do not specify durations for non-carceral punishments, such as probation, allowing for greater discretion.

There are various points where prosecutors can influence ultimate case disposition. Early on in the life of a case, prosecutors decide whether and how to file charges. During the pretrial and trial phases, the prosecutor can make plea offers, decide whether to withdraw cases, and make sentencing recommendations. However, the influence of prosecutors is tempered by other legal actors within the system, including for example police officers, who determine whether to make an initial arrest and recommend initial charges; bail magistrates, whose bail decisions can affect pretrial detention and, therefore, the likelihood plea offers are accepted (Leslie & Pope, 2017; Stevenson, 2018; Dobbie et al., 2018); and judges, who can dismiss cases, make sentencing decisions and, in the case of bench trials, decide ultimate case dispositions.

4.2 | Prosecutor-led reform in Philadelphia: charging and sentence recommendations

On November 7, 2017, Lawrence Krasner was elected as Philadelphia's District Attorney. His campaign focused on criminal justice reform and racial justice, including limiting pretrial detention, reducing reliance on monetary bail, not charging low-level offenses, and decreasing the use of supervision. Shortly after DA Krasner took office, he announced several policy changes. Although these policies were written to be race-neutral, they acknowledged the disproportionate incarceration burden on Black and Latino defendants in Philadelphia and aimed to substantially reduce racial disparities in penal involvement. Below, we describe the charging and sentencing reforms adopted in 2018 and 2019, which are the focus of this paper. The full policy texts are publicly available online; links to the full documents are included in the bibliography (DAO, 2018, 2019).

4.2.1 | Charging policy

The first point of contact between a person who is arrested and prosecutors is at charging. In Philadelphia, prosecutors rarely decline to prosecute cases, with an overall charging rate above 95% over the last decade. On February 15, 2018, the Philadelphia DAO released a policy memo that instructed line prosecutors to either decline to prosecute or charge lower gradations for three categories of offenses (Charging Policy). This policy recommended not charging prostitution (except promotion and patronizing); not charging marijuana possession, purchase, or paraphernalia; and charging retail theft under \$500 as a summary offense. Jointly, these offenses represented 11% of all arrests in 2017.

4.2.2 | Sentencing policy

Just as charging represents the prosecutor's first opportunity to influence case outcomes, a line prosecutor can influence sentencing decisions at the back end with negotiated plea offers or recommendations to the judge (Nguyen & Ouss, 2023).

Two policies regarding sentencing were implemented in 2018 and 2019. On February 15, 2018, the Philadelphia DAO issued a memo with guidelines to reduce sentence lengths and severity,

recommending that plea offers be below the Pennsylvania Sentencing Guidelines for most crimes (excluding serious and violent offenses) and that sentencing recommendations be shorter (General Sentencing Policy). However, this policy did not provide specific guidance about what offers to make, either for the initial offer, or for later offers if the initial one was rejected.

On March 21, 2019, the office introduced a second policy (Specific Sentencing Policy) that set specific targets for sentencing recommendations and advised prosecutors not to penalize at trial those defendants who rejected the initial offer. The Specific Policy provided clearer benchmarks for prosecutors compared to the earlier General Policy, aiming to decrease both incarceration and penal supervision in Philadelphia's criminal justice system.

We note that there were other changes to policies and practices around the same time periods, particularly in 2018. For example, there were instructions to increase diversion for certain offenses or to reduce reliance on cash bail, as studied by Ouss & Stevenson (2022). In addition, there were staffing changes, especially at the leadership level. When we introduce our empirical approach, we explain how sample choices help us isolate the effects of the charging and sentencing policies, and we discuss possible contemporaneous changes when we present our results.

5 | DATA AND EMPIRICAL APPROACH

5.1 | Data sources

Our analyses rely on administrative data, collected by several criminal justice agencies, which are The Preliminary Arraignment Reporting System (PARS), which includes data provided mostly by the Philadelphia Police Department;³ the District Attorney's Office Case Management System (DAOCMS), maintained by the Philadelphia District Attorney's Office; and the Administrative Office of Pennsylvania Courts (AOPC) dispositions, sentences, and listings statewide data system. All of our datasets contain unique incident and person identifiers, which we use to link cases across datasets.

PARS records all arrests in the city of Philadelphia and is updated daily. It includes information on offense type, detailed charge information (statute and grade, as recorded by the arresting officer), location and time of arrests, and demographic information. DAOCMS, in turn, provides a record of court cases opened in both the Philadelphia Municipal Court and the Court of Common Pleas and includes information on charges filed, disposition type, and disposition dates. Observations in DAOCMS represent docket numbers, and all docket numbers are associated with at least one arrest. If an arrest from PARS does not have a matching docket in DAOCMS, no case was opened against that person. AOPC also provides a record of court cases, but it includes information on cases statewide. It includes similar information to DAOCMS and sometimes provides a more reliable record of sentences.⁴

5.2 | Sample

5.2.1 | Charging policy

Our main sample for this analysis includes people who were arrested in Philadelphia between February 2016 and February 2020 for prostitution, marijuana possession or purchase, or retail theft of items valued under \$500.⁵ If a person is rearrested for the same incident, we keep

only the most recent arrest in our sample. Offense at arrest comes from the police recommendations. To provide a comparison, in supporting analyses, we also consider charging for all offenses.⁶

We note some data-driven limitations to our ability to isolate the targeted offenses. For prostitution, the policy initially only applied to people with fewer than three prior convictions for the same crime, but we can only measure prior convictions consistently in the past 10 years and only for the state of Pennsylvania, so we are likely overstating the number of eligible individuals.⁷ The marijuana policy applied to all quantities of marijuana, but for quantities greater than 30 g, the statutes do not distinguish across drug types. We have to rely on (imperfect) police descriptions, so we may be undercounting marijuana arrests. Finally, for retail theft cases, the policy applies to arrests in which the items stolen are collectively valued under 500 dollars, but the Pennsylvania statutes have different monetary dollar amount cutoffs, so we are likely overestimating the number of eligible cases. These limitations are unlikely to affect our findings. First, it is unlikely that these data issues vary systematically across racial groups. Regarding the overall effects, in the cases of prostitution and retail theft, where we might be overestimating our eligible sample, any potential bias would likely work against detecting an effect. For marijuana offenses, there is no evidence that police systematically misidentify recovered drugs. Given the observed effect sizes, the only way this issue could significantly bias our results would be if all excluded arrests led to charges, which appears unlikely.

5.2.2 | Sentencing policies

Our sample for this analysis consists of all sentence-person dates where the lead charge (or most serious offense) is a graded felony (F1, F2, F3), and the sentencing date is between February 15, 2017 and February 15, 2020. Note that multiple dockets can be sentenced together, and thus the number of person-sentence date pairs is considerably lower than the total number of dockets sentenced in this period.⁸ This choice helps us isolate the effect of the sentencing policy from other factors. Indeed, the sentencing policy applied to most cases, but other contemporaneous changes also influenced some cases. For example, dismissals and withdrawal rates increased after DA Krasner took office, likely because of a combination of changes in practices and turnover. In Supporting Information Appendix Figure B.1, we show dismissals over time; they increased office-wide, but less so for graded felonies. Although filtering to graded felonies is important to minimize the potential effects of increased dismissals on our outcome of interest, it does have the consequence of excluding a significant subset of cases (ungraded felonies are 35.6% of all felonies otherwise eligible to be included in our sample). Most notably, the majority of drug cases are ungraded felonies and therefore excluded from our sample. We note that our results are robust to including all felony cases. We hope that future research can analyze the effect of similar policies on these kinds of cases, which may be of interest to policymakers and researchers.

5.2.3 | Summary statistics

Table 1 presents summary statistics for our analysis samples. Column 1 is for cases in our primary Charging Policy sample (13,996 cases); and Column 2 is for cases in our primary Sentencing Policy sample (8,281 cases).⁹ The charging sample includes a lower proportion of Black individuals (62%) compared to the sentencing sample (73%), whereas the share of White Non-Latinos is higher in

TABLE 1 Summary statistics for the main analysis samples.

Descriptives	Mean	
	Charging sample	Sentencing sample
Sociodemographics		
Black	0.62	0.73
White Non-Latino	0.30	0.14
Latino	0.08	0.13
Male	0.60	0.91
Age	35.99	33.25
Offenses		
Prostitution	0.18	–
Retail theft	0.66	–
Marijuana offenses	0.16	–
Violent	–	0.39
Property	0.66	0.13
Drug	0.16	–
Other	0.18	0.48
Felonies	0.45	1.00
Misdemeanors	0.55	–
No priors (< 2 M)	0.47	0.52
Observations	13,996	8,281

Note: This table presents summary statistics for our main analysis samples. For the charging analysis, our main sample includes all arrests for the three targeted offenses (prostitution, retail theft, and marijuana offenses) that happened between February 15, 2016 and February 15, 2020. For the sentencing analysis, our main sample includes all graded felony cases that were sentenced between February 15, 2017 and February 15, 2020. Crimes in the “other” category include mainly gun offenses.

Source: Preliminary Arraignment Reporting System, District Attorney’s Office Case Management System, Administrative Office of Pennsylvania Courts.

the charging sample (30%) than in the sentencing sample (14%). The Latino representation is similar across both samples, with 8% in the charging sample and 13% in the sentencing sample. Gender composition differs notably among the samples, with males comprising 60% of the charging sample but a significantly higher 91% in the sentencing sample. The average age in the charging sample is also slightly older at 35.99 years compared to 33.25 years in the sentencing sample. Regarding offense types, two-thirds of the charging sample include retail theft (66%), with an equal mix of prostitution and marijuana offenses. In contrast, as expected, the sentencing sample has a higher proportion of violent crimes (39%).

5.3 | Variables of interest

5.3.1 | Outcomes for the charging policy

Our main outcome of interest for this analysis is whether a person was charged with one of the targeted offenses at the non-summary level. If we are unable to match a person-incident pair to at least one non-summary docket in DAOCMS, we consider that this case was not charged as a non-summary offense.¹⁰

5.3.2 | Outcomes for the sentencing policies

For our analyses of sentencing policies, our main outcome of interest is sentence length: both carceral time and supervision (probation/parole) time. We measure this using data from AOPC. Following Nguyen & Ouss (2023), we assume that, for people sentenced on multiple cases on the same day, all incarceration sentences are concurrent to each other, all probation sentences are concurrent to each other, and probation is consecutive to incarceration.¹¹ In terms of outcomes, we focus on an individual's maximum carceral sentences, as well as their maximum supervision time, defined as the sum of maximum probation with the difference between the maximum confinement and minimum confinement terms, which assumes that all individuals are released on parole as soon as they are eligible for it.¹²

5.3.3 | Defining race and ethnicity

One of the crucial variables in our analyses is a person's race and ethnicity, which we categorize into three groups: Black, non-Latino White, and White Latino.¹³ To define race and ethnicity, we rely on PARS data as the court data lack a specific indicator for Latino ethnicity. However, there are important considerations to keep in mind regarding this classification. First, the variable for race and ethnicity is based on the arresting officer's perception, which may not always match individuals' self-identifications. Although this discrepancy should be acknowledged, in this context, officer perception may be the most appropriate measure for analyzing racial differences in penal treatment. Second, we define ethnicity based on the police flagging a person as Latino, which might lead to an underrepresentation of the Latino population in our sample. This may reduce the measured racial disparities if the courts treat Latino individuals differently, as some may be coded as White. As a result, any disparities we measure are likely lower bounds. Finally, our focus is limited to three major ethnic and racial groups, namely, Black, Non-Latino White, and White Latino. Although our data include other classifications such as Asian, Native American, or Unknown race, these groups collectively constitute 1.7% of all arrests. Hence, we have not included them in our current analyses and leave the exploration of disparities among these groups for future research.

5.4 | Empirical approach

We are interested in understanding whether there are differential changes across racial groups in outcomes for people who happen to be charged or sentenced just before versus just after these policies were adopted. We use ordinary-least-squares (OLS) and regress case outcomes on indicators for being charged (sentenced) after a particular policy, interacting this indicator with race and ethnicity indicators, controlling for case observables. The controls include: gender, age, the offense code, and offense grade as recommended by the police, the total number of charges (dockets) associated with a given person-date, and the individual's calculated prior record score (PRS). We calculate the PRS using statewide case data starting in 2006 to identify all prior sentencing dates in the previous 10 years for all individuals with a charging or sentencing date in our sample. We then follow the guidelines set forth in Pennsylvania Title 204 Chapter 303 to assign points to each prior sentencing event and add them to obtain an estimate of the individual's PRS.

For the sentencing policies, our outcomes are continuous (incarceration maximum length and supervision maximum length). For the charging policy, the outcome is binary (whether or not an arrest led to a non-summary docket). In our main analyses, we estimate a linear probability model, where we include interaction terms to allow for differential effects of the policy given race. We choose OLS over logit or probit for binary outcomes because, as Angrist & Pischke (2009) highlight, it offers simplicity, interpretability, and robustness in estimating average marginal effects.

For the charging policy, we estimate the following equation:

$$Y_i = \alpha_0 + \alpha_1 \text{ChargingPolicy}_i + \alpha_2 \text{Black}_i + \alpha_3 \text{Latino}_i + \alpha_4 \text{Black}_i \times \text{ChargingPolicy}_i + \alpha_5 \text{Latino}_i \times \text{ChargingPolicy}_i + \alpha_6 X_i + \varepsilon_i \quad (1)$$

For the sentencing policies, we estimate the following equation:

$$Y_i = \beta_0 + \beta_1 \text{GeneralPolicy}_i + \beta_2 \text{SpecificPolicy}_i + \beta_3 \text{Black}_i + \beta_4 \text{Latino}_i + \beta_5 \text{Black}_i \times \text{GeneralPolicy}_i + \beta_6 \text{Black}_i \times \text{SpecificPolicy}_i + \beta_7 \text{Latino}_i \times \text{GeneralPolicy}_i + \beta_8 \text{Latino}_i \times \text{SpecificPolicy}_i + \beta_9 X_i + \varepsilon_i \quad (2)$$

where Y_i represents our outcomes of interest (charging, maximum confinement time, and supervision time in our main analyses). ChargingPolicy_i is set to 1 if the arrest date is after February 15, 2018. GeneralPolicy is set to 1 if the sentence date is between February 16, 2018 and March 21, 2019. SpecificPolicy is set to 1 if the person-sentence date is on or after March 22, 2019. The main coefficients of interest are α_4 and α_5 for the charging policy, and β_5 , β_6 , β_7 , and β_8 for the sentencing policies; they capture the differential effect of each policy for each of the racial and ethnic groups.

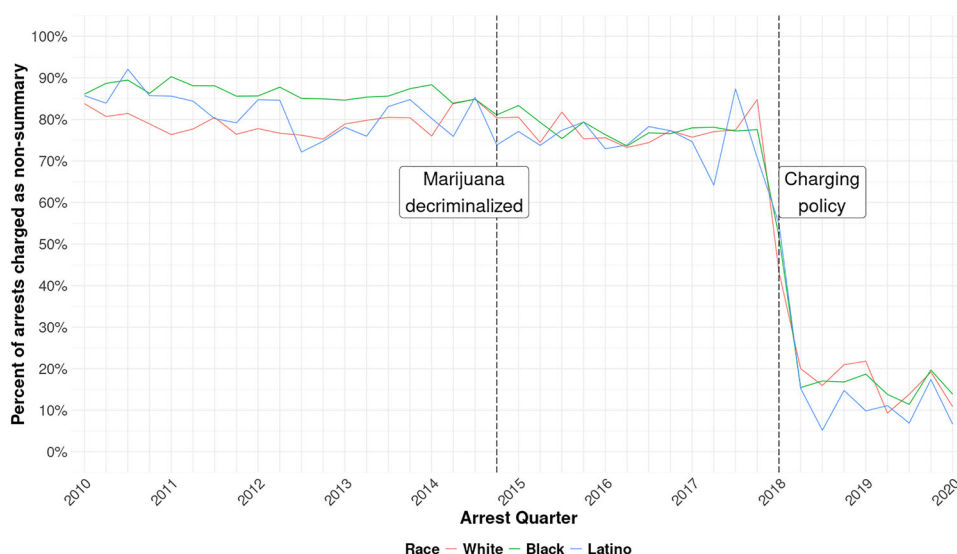
Our results are robust to specification choices, as shown in Supporting Information Appendix A. For charging decisions, using logit or probit models yields similar findings to OLS. For the sentencing analysis, results remain consistent when including all felonies (graded and ungraded), applying propensity score weights with weighted least squares, or using a log transformation of sentence lengths.

6 | PROSECUTOR-DRIVEN REFORM AND RACIAL DISPARITIES

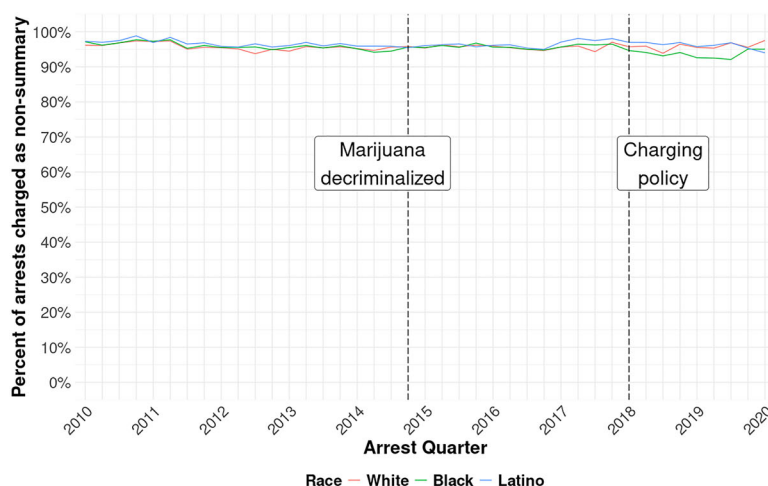
Although not the explicit goal of either policy that we study, reducing racial disparities was a general objective of District Attorney Krasner's criminal justice reform agenda.¹⁴ Our analysis of the Charging Policy aims to identify whether racial disparities are being reduced at the first touchpoint within prosecutor control. Our analysis of the Sentencing Policies aims to identify whether racial gaps close at the last touchpoint that prosecutors can influence.

6.1 | Charging policy reforms

Do changes to charging policies differentially affect racial groups in terms of their *likelihood* of being charged with targeted offenses? And in the *number* of cases being brought?



(a) Targeted offenses



(b) All other offenses

FIGURE 2 Charging rates, by race. This graph shows the percent of adult arrests that lead to a non-summary docket, aggregated at the quarter level. Panel (a) is for arrests for marijuana possession/purchase, prostitution, or retail theft with a value under \$500; panel (b) is for all other offenses. Data source: Preliminary Arraignment Reporting System. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

Panel (a) of Figure 2 plots the charging rate for all three targeted offenses aggregated by quarter, separately by race and ethnicity. Table 2 presents estimates of the model in Equation (1); the odd-numbered columns display the overall changes following the adoption of the policies, whereas the even-numbered columns highlight the differential effects by race and ethnicity, incorporating an interaction term. Panel (a) of Figure 2 and Column 1 of Table 2 show that, across all racial groups, the charging rate decreased: People arrested for one of these offenses are 60.6 percentage points less likely to be charged with these offenses. However, both also show that there do not appear

TABLE 2 Effects of the Charging policy on charging decisions, by offense type.

	Overall, targeted		Overall, non-targeted	
	(1)	(2)	(3)	(4)
Post	−0.606*** (0.006)	−0.594*** (0.012)	−0.015*** (0.001)	0.003 (0.002)
Black	0.004 (0.008)	0.009 (0.01)	−0.019*** (0.001)	−0.007*** (0.002)
Latino	−0.037** (0.013)	−0.01 (0.018)	−0.005** (0.002)	0.001 (0.002)
Post × Black		−0.01 (0.014)		−0.025*** (0.002)
Post × Latino		−0.064** (0.025)		−0.012*** (0.003)
DV mean—White	0.76	0.76	0.96	0.96
DV mean—Black	0.77	0.77	0.96	0.96
DV mean—Latino	0.75	0.75	0.97	0.97
Num. Obs.	13,996	13,996	131,127	131,127

Note: This table presents coefficients from a regression of an indicator equal to one if a case is charged on race, ethnicity, policy period, and interactions for the even columns (Equation 1). An arrest is considered to have been charged if at least one non-summary docket was created for it. The models include controls for gender, age at arrest, the offense code and offense grade as recommended by the police, the total number of charges associated with an arrest, and the individual’s Prior Record Score.

* $p < 0.05$.

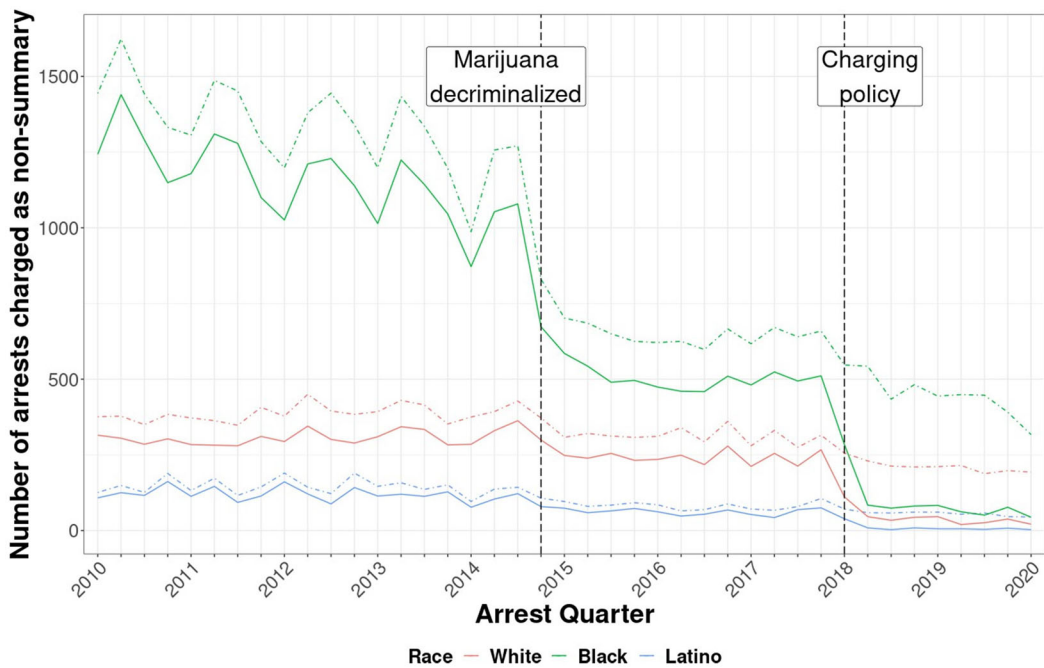
** $p < 0.01$.

*** $p < 0.001$.

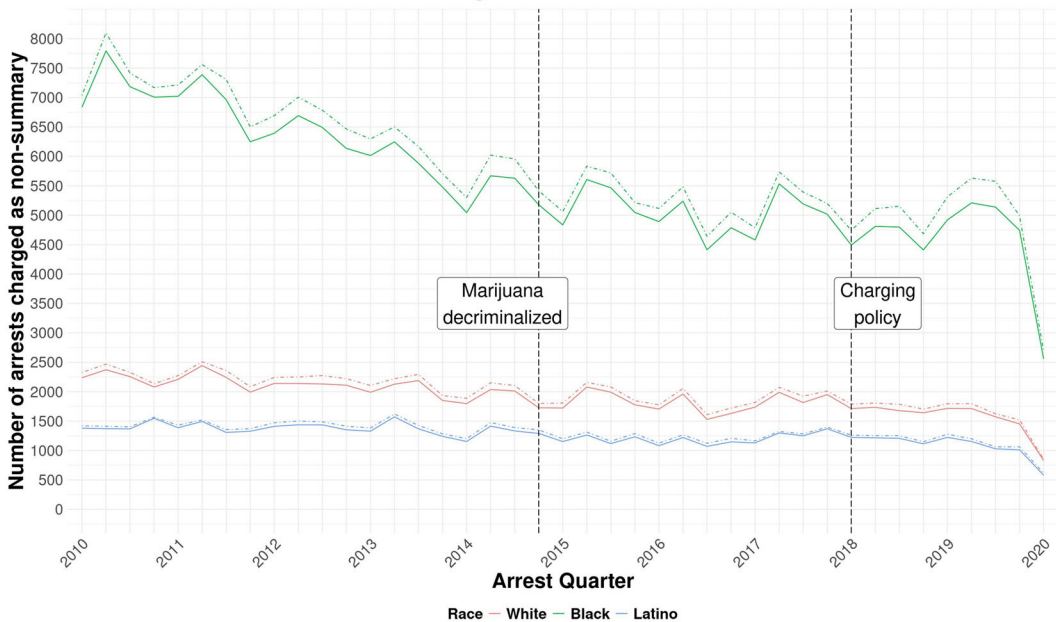
Source: Preliminary Arraignment Reporting System, District Attorney’s Office Case Management System, Administrative Office of Pennsylvania Courts.

to be clear differential benefits for any racial/ethnic group.¹⁵ Overall, the figure and table show that the policy was implemented as intended—charging rates decrease for all groups—but it also shows that it equally reduced the charging rates for all groups, not changing differential charging rates.

To further explore the potential differential impact of the policy, we then present changes in the *number* of people charged by quarter and race within our sample timeframe. Panel (a) of Figure 3 paints a very different picture from Panel (a) of Figure 2: In terms of numbers, Black individuals were the most affected by the policy. In fact, the racial gap in terms of the number of people charged (solid lines) has now mostly been eliminated, though the gap in a number of arrests (dashed line) is still present. Table 3 supports the graphical analyses shown in Figures 2 and 3. It presents the average quarterly total number of non-summary arrests (Columns 1, 4, and 7), a number of non-summary arrests that lead to a non-summary docket (Columns 2, 5, and 8), and the percentage of arrests leading to non-summary dockets (Columns 3, 6, and 9) during the 12 months before and after the implementation of the Charging Policy. The table shows that 422 fewer Black individuals were charged with these crimes, compared to 195 fewer White individuals and 53 fewer Latino individuals. This suggests that the policy’s impact varied across racial groups, likely influenced by the historically higher arrest rates among Black individuals. As a result, the Charging Policy was more beneficial to Black individuals than to other racial and ethnic groups, in absolute terms.



(a) Targeted offenses



(b) All other offenses

FIGURE 3 Number of people arrested and charged for targeted offenses, by race. This graph shows the total number of adult arrests (dashed lines) and arrests charged (solid lines). Panel (a) is for marijuana possession/purchase, prostitution, or retail theft with a value under \$500; and Panel (b) is for all other cases. Arrests charged are defined as those that lead to a non-summary docket. Numbers are aggregated at the quarter level. Data source: Preliminary Arraignment Reporting System. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

TABLE 3 Percent and number of arrests charged, by race, ethnicity and policy period.

Period	Race/Ethnicity								
	White			Black		Latino			
	Number arrested (1)	Number charged (2)	Percent charged (3)	Number arrested (4)	Number charged (5)	Percent charged (6)	Number arrested (7)	Number charged (8)	Percent charged (9)
Jan 2017–Dec 2017	300	237	79	647	502	78	81	60	74
Apr 2018–Mar 2019	216	42	20	476	80	17	60	7	11
Difference	–84	–195	–59	–171	–422	–61	–21	–53	–63

Note: This table shows the average number of individuals arrested, charged, and the average percent charged for the four quarters immediately before and immediately after the Charging Policy was adopted (dropping the quarter of adoption), disaggregated by race.

Source: Preliminary Arraignment Reporting System, District Attorney’s Office Case Management System.

How much of these changes reflect particular charging policies, versus more general changes in practices? Panels (b) of Figures 2 and 3, as well as Columns 3 and 4 of Table 2 consider changes in charging for all offenses not targeted by the charging policies. Visually, there is no meaningful change in charging rates or the number of people charged for these offenses, regardless of racial group. As can be observed in Panel (b) of Figure 2, the rate remains at around 95% throughout the 10 years we consider. This is also shown in Column 3 of Table 2: whereas statistically significant, the change in charging is small in magnitude. Column 4 further demonstrates that there is no meaningful difference across racial groups either, as the coefficients for the interaction terms again show an expected decrease of about 1–2 percentage points. This indicates that the changes in charging practices are driven by the policies themselves, not by general trends.

One other trend is important to note. As can be seen in Figure 3, there was a drop in both arrest and charging numbers between the third and fourth quarters of 2014. This happens due to the decriminalization of possession of small amounts of marijuana in October of that year. This policy was driven by a city ordinance and was presented in part as a mechanism to reduce racial disparities in the system.¹⁶ As the vast majority of those arrested prior to 2014 for that offense were Black people, this policy substantially decreased racial disparities in arrests, and thus in later exposures to criminal justice, showing the importance of these kinds of upstream policies.

6.2 | Sentence recommendation reforms

We now turn to studying differential effects of the sentencing policies. Table 4 shows estimates of the model in Equation (2). The odd columns present the overall changes after the policies were adopted; the even columns show differential effects by race and ethnicity, by including an interaction term. All columns include control variables. The outcome is confinement length in Columns 1 and 2, and supervision length in Columns 3 and 4. Columns 1 and 3 indicate that everyone benefits from the policy, with a mean reduction of 8.8 confinement months (13.3 supervision months) under the General Policy, and 10 confinement months (20.3 supervision months) under the Specific Policy. Both of these effects are highly statistically significant. However, there is no differential impact of the policy across racial groups (Columns 2 and 4): there is no greater change in either confinement or supervision length for Black or Latino people relative to White people. We note that Black individuals are more likely to receive longer carceral sentences (6.2 additional months) as well as serve longer supervision times (4.1 additional months). Latinos also tend to receive longer supervision sentences (4.5 additional months), though the difference for carceral sentences (4.4 additional months) for this group is only marginally statistically significant. Our results hold across different samples. Supporting Information Appendix Table A.2 displays the results of our analyses with ungraded felonies in comparison to those with only our main sample. Ungraded felonies are considered less serious than graded felonies and were more likely to be affected by other contemporaneous changes in the office, which led to more dismissals for these cases. The majority of ungraded felony charges in Philadelphia are for Possession With Intention to Deliver a Controlled Substance (PWID). The conclusions remain the same. Furthermore, our results are not sensitive to specification choice. Log-transforming the outcome variables does not affect our conclusions, as shown in Supporting Information Appendix Table A.3. Additionally, in Supporting Information Appendix Table A.4, we present results that include propensity score weights, where we reestimate the models using weighted least squares. The advantage of this approach is that the comparison group is weighted to be

TABLE 4 Effects of the general and specific sentencing policies on sentences.

Outcomes	Confinement		Supervision	
	(1)	(2)	(3)	(4)
Black	6.2*** (1.8)	7.5** (2.8)	4.1*** (1.2)	2.2 (1.8)
Latino	4.4+ (2.5)	2.3 (3.7)	4.5** (1.6)	4.1+ (2.3)
General policy	−8.8*** (1.6)	−7.8* (3.5)	−13.3*** (1.0)	−15.3*** (2.2)
Specific policy	−10.0*** (2.0)	−8.3* (4.1)	−20.3*** (1.3)	−23.8*** (2.5)
General policy × Black		−2.5 (4.0)		2.3 (2.5)
General policy × Latino		6.1 (5.6)		2.4 (3.4)
Specific policy × Black		−2.1 (4.7)		5.1+ (3.0)
Specific policy × Latino		−0.9 (6.5)		−1.7 (4.2)
DV mean—White	44.9	44.9	73.5	73.5
DV mean—Black	62.0	62.0	80.8	80.8
DV mean—Latino	56.3	56.3	83.3	83.3
Num. Obs.	8281	8281	8281	8281

Notes: This table presents coefficients from a regression of sentence length on race, ethnicity, policy period, and interactions for the even columns (Equation 2). Confinement is defined as the maximum carceral sentence a person can have. Supervision is defined as probation/parole time. The models include controls for gender, age at sentencing, the offense code and offense grade as recommended by the police, the total number of dockets associated with a given person-sentence date, and the individual's Prior Record Score.

+*p* < 0.1. **p* < 0.05. ***p* < 0.01. ****p* < 0.001.

Source: Administrative Office of Pennsylvania Courts, Preliminary Arraignment Reporting System.

more similar to the treatment group. In our context, this may be important if there are large differences in the kinds of crimes for which different groups are arrested for or charged with. Supporting Information Appendix Table A.4 shows the results of this analysis, which are similar to the main specification presented here.

However, similar to the Charging Policy, the lack of change in racial gaps in sentencing hides some variation in benefits from the reform. In the 12 months before the first sentencing policy was implemented, 531 White individuals and 450 Latino individuals were sentenced for graded felony cases in our sample, compared to 2472 Black individuals. Although we do not observe differences in the racial gaps in sentences, the number of people benefiting from these policies varies significantly across racial groups.

It is possible that the reduction in sentence length may be due to other changes in practices, not just the policies analyzed. To explore this and contextualize cases reaching sentencing, in Supporting Information Appendix A.5, we examine differential changes in dispositions before sentencing. As a short overview of this discussion, we show in Supporting Information Appendix Table A.5 that overall, Black defendants were 8.6 percentage points more likely to have their cases dismissed

TABLE 5 Racial and ethnic disparities at different stages of the system.

Touchpoint	Time period					
	Baseline		General policy		Specific policy	
	Percent	Ratio	Percent	Ratio	Percent	Ratio
Population	56	–	56	–	56	–
Stops	79	1.42	80	1.43	81	1.46
Arrests	74	1.32	75	1.36	76	1.37
Charges	76	1.03	77	1.02	78	1.02
Conviction	50	<i>0.66</i>	55	<i>0.72</i>	56	<i>0.72</i>
Incarceration	62	1.25	63	1.15	63	1.12
Prison	70	1.13	70	1.10	67	1.07

Note: This table shows how racial and ethnic disparities change at each stage of the system. The Percent column presents the percent of people at this stage that is Black or Latino. The Ratio column represents the ratio of the percentage of Black or Latino individuals at the current stage and the percentage of the same group in the previous step in the system. For both stops and arrests, the reference category is population, since not all arrests stem from stops, and not all stops lead to arrests. Bold cells indicate ratios above 1, while italics indicate ratios below 1.

Source: Preliminary Arraignment Reporting System, District Attorney’s Office Case Management System, Administrative Office of Pennsylvania Courts, American Community Survey 2019’s 5-year Estimates.

compared to White defendants. Dismissal rates increased less for Black than White defendants in the Specific Policy period, but more for Latino defendants in the General Policy period. During the Specific Policy period, both Blacks and Latinos are more likely to receive “probation only” sentences than their White counterparts. Additionally, there is a 1.4 percentage point increase in diversions in the General Policy period, consistent across racial groups, as well as 2.1 and 3.2 percentage point increases in the probability of diversions for Blacks and Latinos, respectively, in the Specific Policy period. Across the board, convictions became less common in both policy periods, which may lead us to potentially slightly understate sentence length reductions observed, if the marginal cases are less serious.

6.3 | Upstream changes in case processing: racial disparities from arrest to case disposition

In Section 2, we reasoned about why prosecutor-driven reform may or may not influence racial disparities in criminal case outcomes. The overall changes in both charging and sentencing suggest that the policies were successfully implemented. This provides evidence that prosecutors can meaningfully influence court outcomes, but, at least for the sample that we consider, the racial gaps in case outcomes did not change. Here, we explore whether there are shifts in the way racial disparities emerge from the moment of arrest to the final case disposition.

We start by examining how racial disparities that emerge at the arrest stage—whether due to differences in offending patterns, arrest decisions conditional on offending, or a combination of both—persist throughout the criminal justice system. Table 5 illustrates this by presenting data for different time periods: before the reform, after the General Policy, and after the Specific Policy. In the table, the “Percent” column represents the percentage of Black or Latino individuals at each stage of the process, whereas the “Ratio” column displays the ratio of the percentage of Black or Latino individuals at that stage to the percentage in the previous stage.¹⁷ For instance, in

Philadelphia, Black and Latino individuals account for 56% of the population,¹⁸ but they make up 74% of those who are arrested, leading to a 32% overrepresentation relative to the population.

We find similar patterns in all time periods. Most notably, the largest racial disparities occur at the earliest stages—in stops and arrests. These disparities remain relatively consistent at the charging stage and then decrease somewhat at the conviction stage, where Black and Latino individuals are less likely to be convicted compared to their White counterparts.¹⁹ However, disparities widen again at the sentencing stage for both incarceration and prison sentences, though they remain smaller than at the arrest stage. Importantly, these patterns persist across all time periods.

These racial disparities in arrests are also present across space: Supporting Information Appendix Figure B.2 shows a map of Philadelphia with the ratio of arrests for Black and Latino groups to their population share by census tract. Darker areas indicate greater disparities. The figure reveals significant overrepresentation of Black and Latino individuals in arrests across most tracts. Similarly, Supporting Information Appendix Figure B.3 shows the percentage of Black or Latino individuals arrested compared to their population share, with most observations indicating overrepresentation. Supporting Information Appendix Figure B.4 confirms that Black and Latino individuals are the majority of those arrested.

Taken together, these analyses demonstrate that racial disparities in arrests are prevalent and established before cases reach the District Attorney's Office, limiting what prosecutors can do to close these gaps. These results suggest that the most impactful policy changes are the ones that might reduce racial disparities as early in the criminal justice process as possible. This may involve implementing policies that influence police stops and arrests or, if not feasible, focusing on policies that affect the charging stage.

7 | DISCUSSION AND POLICY IMPLICATIONS

In this paper, we examine the effect specific prosecutor-driven policy reforms aimed at reducing the scale of the criminal justice system have on racial disparities. We find that although these policies led to increased leniency overall, they generally did not close racial gaps in charging or in sentencing. However, considering the disproportionate involvement of Black individuals within the criminal justice system, these policies benefited a greater number of Black people in absolute terms, for all targeted crime types.

Indeed, given the concentration of arrests and upstream criminal justice involvement in particular among Black people, the number of Black people avoiding both charging and longer sentences was much larger than the number of White people in this situation. As such, the absolute reduction in charging rates was more consequential for Black people, even without changes in relative risks across racial groups. In our sample, as shown on Table 3, there are over twice as many Black as White individuals arrested for the targeted offenses in 2017 (647 vs. 300). If that gap had been erased, but the charging rate remained unchanged, there would have been 170 Black individuals charged in the 4 quarters following policy adoption. In reality, there were half as many (80), even though the number of arrests was still over double that for White individuals. Our results are consistent with Tonry (2011)'s argument that a key to reducing the disproportionate impact of criminal justice on Black individuals lies in reducing the overall punitiveness of the system, not just reducing bias. These findings echo those of the National Academies of Sciences, Engineering, and Medicine (2023), which found that although recent reform measures have not reduced relative disparities in criminal case processing, they have been largely successful in reducing the scale of criminal justice involvement for Latino and especially Black defendants.

We were able to draw these conclusions due to our precise identification of the policies implemented, their targeted populations, and their timing, as well as our access to fine-grained data collected from multiple criminal justice agencies. In particular, our ability to study the effects of the declination policy precisely stems from integrating policing and prosecution data. If we had relied solely on court data, we would not have been able to say whether drops in cases charged reflected changes in prosecution practices or changes in policing patterns—a distinction with significant policy implications. This underscores the value of working with prosecutors' offices, which often integrate data from various agencies, providing a more comprehensive perspective on the precise impacts of criminal justice reform led by different criminal justice actors. Such integrated datasets are helpful to identify how and where racial disparities manifest within the system.

From a methodological and policy perspective, our study emphasizes the importance of considering both racial gaps in criminal justice exposure and differential scales when addressing racial disparities. It also raises critical questions about what racial parity means in the penal system (Hebert et al., 2008; Mears et al., 2016). Would it involve addressing the drivers of inequity, or improving the efficiency and equity of the system? We leave these important questions to future research.

Regarding policy implications, our analysis suggests that policies designed to reduce the scale of supervision and incarceration can effectively reduce exposure to the penal system, particularly for racial groups most affected by its scale, even if these policies were not explicitly designed with a differential impact on different racial groups in mind. Moreover, our analyses underscore the importance of considering the entire criminal justice system when implementing policy changes. Policymakers should adopt a holistic approach, monitoring the impact of policy changes across the entire system to ensure their desired effect.

Our findings align with Zimring (2014), who notes that reducing disproportionate minority contact in the juvenile context can be viewed in both absolute and relative terms. These two goals can sometimes conflict: reforms aimed at reducing overall contact with the justice system might inadvertently affect proportional representation. Achieving proportional representation is complex and influenced by many uncontrollable factors. Although we do not find this to be the case in our study, it raises important questions for policy design. In particular, policymakers need to consider what proportional representation means in practice.

We note that although the emphasis of our paper is on system disparities, it is possible that these policies also influenced offending. On the one hand, lesser accountability may have reduced deterrence. In recent work, Petersen et al. (2024) find that prosecutor-driven reform increased property crime, though it had no effect on violent crime. Conversely, Ouss & Stevenson (2022) find no effect of cash-bail reform on pretrial misconduct, and Agan et al. (2021b) find that avoiding misdemeanor charges reduces recidivism. Thinking carefully about the measurement of racial disparities and measuring the effects of policies on them is important, but the policy implications will depend on many factors, including changes to overall system utilization and to public safety, as well as the reactions of other system actors, such as police, who may change who they arrest and for what based on their perception of how prosecutors will deal with the cases. This is particularly important considering racial disparities are introduced into the system before prosecutors become involved, as shown by Table 5 and reinforced by Supporting Information Appendix Figure B.2, which shows the significant concentration of arrests among non-White individuals.

Our research also raises a key question about case-processing practices within various court systems: Why do prosecutors charge cases at higher rates in Philadelphia, but also in several other jurisdictions? Indeed, although there are no national numbers for charging rates, in many

places, the vast majority of arrests lead to charges.²⁰ The relatively low declination rate may in part account for high dismissal rates further down the line as prosecutors end up withdrawing cases that could have been declined earlier on. In this way, declining cases early in the criminal justice pipeline can help to reduce the likelihood of a defendant experiencing the collateral consequences associated with legal-judicial processes, though future work should assess whether this changes future offending. By focusing on reducing racial disparities in the early stages of the criminal justice process, where they have the most discretion, prosecutors can potentially have a positive impact on reducing disparities further down the line.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ORCID

Francesca A. Amaral  <https://orcid.org/0009-0003-9293-7115>

ENDNOTES

¹ Progressive prosecutors are identified based on their campaign materials, and whether these promised measures such as scaling down punitiveness, rectifying prior errors, or increasing equity.

² We note that Philadelphia has a relatively low plea rate, with around 70% of convictions secured through pleas (DAO, 2024). This is partly due to the use of bench trials, which may reduce acquittal chances but increase the likelihood of lenient sentencing (Schulhofer, 1983; Feeley, 1986). However, recent work by Ouziel (2023) shows significant variation in bench trial rates across jurisdictions, suggesting Philadelphia's rate may not be an outlier but one of many different models.

³ In our sample, about 1% of arrests are made by another arresting agency, most commonly the State Police. Our results are similar if we drop these cases.

⁴ Note that our sample of AOPC data does not include cases that were expunged prior to December 26, 2020. The most common cause for expungement is Pennsylvania's 2018 Clean Slate law, which automated sealing of all non-convictions (i.e., dismissals or withdrawals), and some older low-level convictions. We use Administrative Office of Pennsylvania Courts data to look at sentences for felony convictions, which would not be affected by this policy. See Agan et al. (2024) for more details on this policy.

⁵ The exact statutes are Title 18 Section 3929 for retail theft; Title 18 Section 5902 Subsection A for prostitution; and for marijuana offenses, Title 35 Section 780-113 Subsection A31, or Subsections A16 and A19 when we are able to identify the relevant drug as marijuana. We note that the memo also instructs ADAs to decline cases involving marijuana paraphernalia.

⁶ It is possible that police and/or line prosecutors may have responded endogenously to the reform. For example, police might deprioritize arrests for these offenses or alter the way offenses are reported to make them ineligible for the reform. Such behavior could pose a threat to our research design by altering the composition of cases. However, Ouss and Stevenson (2022) examine this issue and find no evidence of such changes occurring.

⁷ At the charging stage, prosecutors conduct comprehensive background checks for each individual using an FBI station computer.

⁸Specifically, in this period there are 56,662 total sentenced dockets, which captured 26,832 person sentence dates. Of these, 13,551 were felonies, and 8632 were graded felonies. After further filtering to exclude dockets for offenses targeted by the charging policy, resentencing events, and observations with missing gender data, our primary sample has 8281 observations.

⁹Note that the Sentencing Policy sample includes cases starting in February 2017, to have equal pre and post policy periods. The Charging Policy sample starts in February 2016.

¹⁰Cases charged as summary offenses face much weaker consequences. For example, a person cannot go to jail pretrial on a summary charge, they very rarely face any carceral or other supervision, and employers in Pennsylvania are not allowed to consider summary offenses when making hiring decisions. See <https://www.backgroundchecks.com/our-data/coverage-map/pennsylvania-state-background-check>

¹¹That paper shows that this is the way the majority of sentences are served. Indeed, before 2018, in 84% of cases, probation sentences ran concurrently to one another, and in 92% of cases, carceral sentences ran concurrently to one another.

¹²We note that time served may be different from initial sentences, due to parole decisions; however, the policy that we consider is at the sentencing and not at the parole stage.

¹³Roughly 1% of people who are arrested in Philadelphia are both Black and Latino. Our results are very similar if we reclassify people who are Black and Latino as Latino.

¹⁴For example, see the letter from District Attorney Larry Krasner at the start of DAO (2023): “Advancing racial justice is among the most important goals of the movement to reform the criminal legal system”.

¹⁵We observe some differential effects in charging for Latino individuals, though the sample size is small. We do not see similar trends for Black individuals.

¹⁶See reporting in https://www.inquirer.com/philly/news/politics/20141002_Philadelphia_pot-decriminalization-law-goes-into-effect-Oct-20.html

¹⁷For both stops and arrests, the full population serves as the reference category since not all arrests stem from stops, and not all stops result in arrests.

¹⁸This figure comes from the 2019 ACS 5-year estimates, and includes Latinos of any race.

¹⁹This aligns with the regression results in Supporting Information Table A.5

²⁰Johnson (2014) estimates that 80% of federal cases are charged; in Suffolk County, Agan et al. (2021b) also cite that 80% of misdemeanor cases are prosecuted. In Cook County, Jordan (2022) finds that 85% of felony cases pass felony review. Sloan (2019) by contrast finds that in New York, close to 100% of arrests lead to charges.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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AUTHOR BIOGRAPHIES

Francesca A. Amaral is a Public Policy Ph.D. student at the Harvard Kennedy School.

Aurélie Ouss is the Janice and Julian Bers Assistant Professor of Criminology at the University of Pennsylvania.

Dalila I. Ozier is Program Coordinator at the Singh Center for Nanotechnology at the University of Pennsylvania.