

# Bail, Jail, and Pretrial Misconduct: The Influence of Prosecutors

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## Abstract

Cash bail is controversial because it can result in incarceration if unaffordable. Its continued use is justified by the theory that financial incentives are necessary for *released* defendants to appear in court. Using differences-in-differences, we test whether monetary bail succeeds at its intended purpose. We find no evidence that cash bail or pretrial supervision has a deterrent effect on failure-to-appear or pretrial crime. This paper also contributes to the literature on judicial decision-making. We explore potential reasons for why judges set unnecessarily restrictive pretrial conditions. We find that discretion in reform dilutes impacts and leads to racial disparities in implementation.

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Monetary bail has increasingly been a target of criminal justice reform. Defendants who cannot afford their bail amount – disproportionately minorities – remain in jail until the disposition of their case, even if they pose a low risk of crime or flight. Pretrial detention constitutes over 20 percent of the entire incarcerated population (Wagner and Rabuy, 2019) and can have significant downstream consequences, including an increased likelihood of conviction, longer sentences, and destabilized labor market attachment.<sup>1</sup> But monetary bail also affects people who are not detained pretrial. In fact, the modal defendant pays the bond, agrees to supervisory conditions, and is released (Reaves, 2013). Cash bail and pretrial supervision may impose burdens on defendants, particularly the indigent, but they are designed to deter crime and flight. Reform efforts face the concern that eliminating monetary incentives will increase pretrial misconduct. There is little evidence either way, and our paper fills this gap.

In recent years, hundreds of jurisdictions across the United States have implemented some type of bail reform. Most of these initiatives are discretionary (PJI, 2009), meaning that some criminal justice body declares a presumptive default of nonmonetary release for most defendants, but leaves the final decision in the hands of the judiciary. Its success hinges on several important questions. Will a nonbinding bail reform policy, where the judiciary has the final say, even have an impact? If so, will it lead to adverse consequences in terms of increased crime and failures-to-appear? Are adverse consequences mitigated by allowing magistrates discretion in selecting conditions of release? Or does discretion foster the same race and class-based disparities that reformers were trying to eliminate in the first place?

In this paper we provide new evidence on these questions. We develop a conceptual framework of bail setting behavior to help understand how discretionary reform may affect outcomes. Using this conceptual framework as guidance, we evaluate the impacts of a prosecutor-led bail reform in Philadelphia. On February 21st, 2018, Philadelphia’s newly-elected ‘progressive-prosecutor’ declared that his office would no longer seek monetary bail for defendants charged with a long list of eligible offenses. Nicknamed the ‘No-Cash-Bail’ policy, this reform applied to nearly 2/3 of all cases filed in the city of Philadelphia, including both misdemeanors and nonviolent felonies. To evaluate the impacts of this policy, we use web-scraped court data and a difference-in-differences design with defendants who were ineligible for the No-Cash-Bail policy as a control group.

Philadelphia’s No-Cash-Bail policy is a classic example of discretionary bail reform. The prosecutor’s office has no direct say over bail amounts; their input is merely advisory. Previous models of bail setting behavior, which omit reputational concerns,

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<sup>1</sup>Gupta et al. (2016); Heaton et al. (2017); Leslie and Pope (2017); Dobbie et al. (2018); Stevenson (2018)

would predict that prosecutorial policy would have no effect (Dobbie et al., 2018; Kleinberg et al., 2018). In contrast, we find that the No-Cash-Bail policy led to a sharp 22% (11 percentage point) increase in the likelihood of being released on recognizance (ROR, or release without monetary or supervisory conditions). We argue that this is due to the role that prosecutors play in setting social norms within criminal justice.

Yet, despite the large increase in ROR, the No-Cash-Bail policy had no impact on pretrial detention rates. This may seem surprising, but evaluating substitution patterns, we find that most of those who received ROR as a result of the reform would have otherwise been released after paying low monetary bail (a deposit of \$500 or less), or agreeing to the conditions of pretrial supervision or unsecured bail (in which the defendant does not need to pay for release but owes money to the court should she fail to appear). There was no effect on larger bail amounts, which are more likely to lead to pretrial detention.

Since the No-Cash-Bail policy changed conditions of release without affecting the overall release rate, it provides an ideal opportunity to test the deterrent effects of monetary and supervisory conditions. Monetary bail is designed as a financial incentive that should act as a deterrent by raising the cost of failing to appear in court (Becker, 1968). Its role in detaining people has received much attention in the literature but intentionally setting unaffordable monetary bail is controversial and potentially unconstitutional (Starger and Bullock, 2018; Mayson, 2020). Thus, our setting allows us to evaluate the central claim that justifies the use of monetary bail and pretrial supervision: that such conditions incentivize better behavior among those who are released.

We find no evidence that this is the case. Our point estimates are small and allow us to reject even small increases in failure to appear and pretrial crime at the 5% level. We leverage an instrumental variables difference-in-differences approach to directly test the impact of ROR on pretrial misconduct. Our results suggest that monetary bail and pretrial supervision are not necessary to prevent misconduct for the large majority of those evaluated.

This poses a puzzle: monetary bail and pretrial supervision are widely used under the theory that such conditions incentivize court appearance and deter crime. Yet we find that Philadelphia was able to substantially liberalize the conditions of pretrial release with no detectable adverse consequences. One possible explanation is that, at least before the reform and for eligible offenses, magistrates were setting unnecessarily restrictive conditions of release due to asymmetric penalties in errors: the visibility and salience of ‘type II errors’ (being too lenient towards someone who reoffends) is much greater than that of ‘type I errors’ (being too harsh who would not have reoffended). In the absence of interventions that raise the cost of being harsh, magistrates will tend to

set bail higher than is necessary to ensure good conduct. This creates low-hanging fruit in bail reform: a pool of defendants for whom monetary and supervisory conditions can be eliminated without adverse consequences.

How big is this pool? Would a more comprehensive bail reform lead to greater adverse consequences? To provide suggestive evidence on this, we exploit a second natural experiment in Philadelphia: the fact that bail magistrates are quasi-randomly assigned to magistrates with varying initial levels of leniency and varying responsiveness to reform. Even originally-lenient magistrates were able to increase ROR rates by 10 percentage points without adverse consequences. This suggests that Philadelphia may not have exhausted the pool of defendants receiving unnecessarily restrictive conditions of release, and that other jurisdictions with strict bail practices may be able to substantially liberalize release also.

We then evaluate whether there is differential leniency by race in the implementation of the reform. To do so, we adapt a method from the instrumental variables literature that allows us to compare characteristics of ‘compliers’ and ‘never-takers’. In this setting, compliers and never-takers comprise the pool of potential beneficiaries (eligible defendants who wouldn’t have received ROR in the absence of the reform) and compliers are the actual beneficiaries (those who received ROR because of the No-Cash-Bail reform). We find that magistrates disproportionately select white defendants as beneficiaries of the reform. In fact, race is a stronger predictor of whether a defendant will be selected for enhanced leniency than is the defendant’s predicted likelihood of crime or FTA. Magistrates did not select beneficiaries based on FTA risk at all. This suggests that magistrate discretion in implementation cannot be credited for the fact that the No-Cash-Bail reform did not increase failures to appear.

This paper contributes to several literatures. To begin, we provide some of the first evidence on the impacts of the current bail reform movement.<sup>2</sup> More specifically, we provide one of the first evaluations of the empirical claim used to justify the use of monetary bail: that it deters failure-to-appear in court for *released* defendants.<sup>3</sup> We find no evidence that monetary or supervisory conditions has a deterrent effect on FTA, and discuss several potential explanations. First, it is possible that some people comply with orders even without direct incentives. Such types of people may appear

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<sup>2</sup>Stevenson (forthcoming) finds that a risk assessment based bail reform in Kentucky led to a slight increase in misconduct.

<sup>3</sup>Closest to our work are Myers (1981) and Helland and Tabarrok (2004). The first paper uses regression analysis to look at the correlation between bond amount and FTA in New York in 1971, and finds that increasing bail bond reduces FTA. The second paper uses propensity score matching, and the authors find that felony defendants released with surety bonds are less likely to miss court appearances than similar defendants released on recognizance. The different results across these studies could be explained by variations in the sample, the different roles played by bail bondsman in different jurisdictions, or by methodological approach. Other studies that evaluate the combined incapacitative (due to pretrial detention) and deterrent effect of monetary bail include Abrams and Rohlfs (2011) and Gupta et al. (2016).

in court simply because they were told to. Other types of people may need incentives, but these are already provided by the criminal justice penalties (e.g. a bench warrant) associated with an FTA. Monetary and supervisory conditions could provide little marginal deterrence on top of the threats that already exist. It is also possible that some defendants are simply not paying attention to their forthcoming court date. Our results, put in context with a recent finding that sending reminders leads to a large reduction in FTA (Fishbane et al., 2019), support the idea that this is the case for many defendants. And if monetary and supervisory conditions have little effect on misconduct, their continued widespread use is called into question. Setting bail that is unnecessarily restrictive is a potential violation of constitutional prohibitions against excessive bail as well as due process (Wiseman, 2014; Funk, 2019).<sup>4</sup>

Our research also contributes to a broader literature on discretion in criminal justice. This topic has received much attention as a contrast to rule-based decision-making, such as the use of sentencing guidelines or algorithmic risk assessments. Scholars have pointed out some of the weaknesses of discretion, such as the fact that human beings may be poor at evaluating risk (Kleinberg et al., 2018) or make racially biased prediction errors (Arnold et al., 2018). Others have countered that human decision-makers can provide a bulwark against inadvertent consequences of a rule-based decision system (Stevenson and Doleac, 2019). Our results mostly highlight the downside of discretion in reform. We find that discretion can dilute reform’s impacts, and lead to racial disparity in the allocation of its benefits.

Lastly, we provide new evidence about the influence of prosecutors. The nascent literature has thus far supported claims about outsized prosecutorial power, showing they are influential in both the high rates of incarceration and in racial disparities in sentencing (Rehavi and Starr, 2014; Pfaff, 2017; Arora, 2018; Krumholz, 2019; Sloan, 2019; Tuttle, 2019). This literature focuses on parts of the criminal justice system that prosecutors have direct control over, such as charging decisions. Our work shows that prosecutors can also be influential in areas where they have no direct control, such as bail. Such influence may stem from the norm-setting role of prosecutors in the courtroom.

The remainder of the paper is organized as follows. In Section I, we provide background related to bail and bail reform, and present our conceptual framework for the setting of bail. In Section II we discuss the natural experiment in Philadelphia, our data, and our empirical strategy. Section III presents the main results of our empirical analysis and Section IV concludes.

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<sup>4</sup>The Supreme Court held that “bail set at a figure higher than an amount reasonably calculated to fulfill this purpose [assuring the presence of the accused in court] is ‘excessive’ under the Eighth Amendment.” *Stack v. Boyle*, 342 U.S. 1

# I. Background and conceptual framework

## A. Cash bail overview

The criminal justice system in the United States is highly local, with practices varying from county to county. Nonetheless, there are commonalities in the pretrial process (Liu et al., 2018). After arrest, a defendant is brought to a police station or jail where they are booked, and where they must remain until a judge or magistrate has had an opportunity to review their case.<sup>5</sup> At this initial appearance, the judge will determine whether or not the defendant is eligible for pretrial release and, if so, what conditions of release are necessary to ensure appearance in court, prevent crime, and ensure no tampering with evidence. The judge may take input on this decision from the prosecutor’s office or defense counsel, but the final decision is up to her. Conditions of release may include secured monetary bail, unsecured monetary bail, an agreement to abide by certain conditions (e.g. curfew, drug testing, check-ins with a pretrial officer, etc.), and the promise of a third party to supervise and ensure appearance. If the defendant pays the monetary bail amount and/or agrees to the conditions they will be released. If not, they will remain detained until the disposition of the case.

Monetary bail has long been one of the most common conditions of release. The best available national statistics show that, among felony defendants in large urban counties, 33.7% were held on bail, 38.2% were released on financial conditions, and only 14% were released on recognizance (Reaves, 2013). While there are no nationally representative statistics on bail for misdemeanors, Mayson and Stevenson (2020) find that 40% to 100% of misdemeanor defendants across eight diverse jurisdictions were required to post monetary bond.

The traditional goal of monetary bail is to ensure that those who are released from jail show up in court for their appointed dates (Funk, 2019). Monetary bail acts as collateral; if the defendant fails to appear in court, the bail amount will be forfeited.<sup>6</sup> Both the excessive bail clause and due process place constitutional constraints on the use of monetary bail. The Supreme Court has stated that bail set at an amount higher than that reasonably calculated to ensure appearance in court is ‘excessive’ under the Eighth Amendment.<sup>7</sup> And due process requires some relationship between restrictions on liberty and a state interest such as ensuring court appearance or preventing crime.<sup>8</sup>

Although recent economics literature has modeled bail-setting as synonymous with

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<sup>5</sup>A magistrate is a judicial officer who hears cases in lower courts and may not have a law degree.

<sup>6</sup>Failing to appear also has more standard criminal justice penalties: a bench warrant will be issued, and the defendant can be jailed or fined.

<sup>7</sup>Stack v. Boyle, 342 U.S. 1 (1951)

<sup>8</sup>Lopez-Valenzuela v. Arpaio, 770 F.3d 772, 780-81 (9th Cir. 2014) (en banc) and Walker v. City of Calhoun, 901 F.3d 1245, 1262-63 (11th Cir. 2018)

the decision to detain or release<sup>9</sup>, the use of monetary bail as a de facto detention order is highly controversial (Starger and Bullock, 2018; Mayson, 2020). In fact, the legal phrase ‘right to bail’ is historically understood as a right to release (Schnacke et al., 2010). Nonetheless, monetary bail can often result in pretrial detention. Among felony defendants, about half of those with monetary bail remain detained (Reaves, 2013). In some cases, judges may intentionally set bail at unaffordable levels to detain those they consider too risky to release. However, most bail is set in amounts that range from a few hundred to five or ten thousand dollars. Within that range, somewhere between 30-80% of defendants successfully secure release by paying bail.<sup>10</sup> Judges do not regularly inquire into a defendant’s ability to pay bail, suggesting that some of those detained pretrial are done so inadvertently.<sup>11</sup> In all, detention on monetary bond constitutes the large majority (9/10) of those detained pretrial (Reaves, 2013). And pretrial detention makes up roughly 2/3 of jail populations in the United States (Walmsley, 2014).

In many jurisdictions, a defendant who cannot afford their bail bond may borrow it from a professional bail bondsmen. Bail bondsmen assume the financial risk that the defendant will fail to appear in court and are granted certain powers of supervision and arrest to ensure that their client is in court at the appointed times. They require a nonrefundable deposit payment, and, sometimes, refundable collateral. If a defendant fails to appear then she is at risk of losing this collateral and is liable for the remainder of the bond. But bail bondsmen are more than just lenders. They also act as a sort of informal pretrial services agency – maintaining contact with defendants, providing them information, and tracking them down should they fail to appear.

In addition to monetary bail, many jurisdictions have the option of placing defendants on pretrial supervision. Pretrial supervision can encompass a variety of different conditions, including required meetings with a pretrial supervision officer, drug testing, limitations on travel, and so forth. These conditions are supposed to help prevent crime and ensure appearance in court, yet there is little evidence on their efficacy. Pretrial supervision allows defendants to remain within the community yet still imposes time burdens, limits on freedom, and sometimes direct costs.

## B. Different approaches to bail reform

Across the United States, hundreds of jurisdictions are engaging in bail reform (PJI, 2020). Reform is motivated by concerns that the use of monetary bail may result in an

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<sup>9</sup>E.g. Arnold et al. (2018); Kleinberg et al. (2018); Hull (2017)

<sup>10</sup>Distribution of bail and detention rates by bail amounts can be found in Leslie and Pope (2017); Mayson and Stevenson (2020); Stevenson (2018) and others.

<sup>11</sup>Some jurisdictions are starting to require ability to pay inquiries as part of their bail reform, but even then, compliance is far from perfect.

inefficient and discriminatory use of jail beds. Since monetary bail conditions release on ability-to-pay, poor individuals are disproportionately likely to await trial in jail even if they pose a low risk of nonappearance or crime. Given correlations between race and wealth in the United States and evidence for racial disparities in many parts of the criminal justice this concern is especially relevant for minority defendants.

One of the main tenets of reform is the reduction or elimination of the use of cash bail. Instead of conditioning release on monetary payments, judges will directly determine which defendants pose a high enough risk of flight or crime to warrant preventive detention.<sup>12</sup> Some jurisdictions have adopted algorithmic risk assessments to aid in this determination. Others have expanded pretrial hearings to give judges individualized risk information. Many have expanded pretrial supervision to reduce crime and flight.

Bail reform policies vary in the extent to which they leave discretion in the hands of judges. Mandatory bail reform policies create bright line rules about what type of bail is allowable for different defendants. For instance, California’s proposed bail reform would eliminate monetary bail for all cases, and New York State has banned monetary bail for most misdemeanors and nonviolent felonies. While mandatory policies are expected to bring about more widespread change, they can be difficult to implement. California’s bail reform has been put on hold due to aggressive campaigning by bail bondsmen and others concerned about the policy’s reach. New York’s bill was the result of several years of intensive negotiations, and was rolled back mere months after implementation.

One of the reasons that mandatory bail reform can be so difficult to implement is the concern that it will bring adverse consequences. First, the elimination of monetary bail may lower the pretrial detention rate. This is often one of the goals of such policies, but with fewer people incarcerated, crime and nonappearance may increase mechanically. Secondly, the elimination of monetary bail reduces incentives for *released* defendants to return to court. Despite a focus on pretrial detention, release on monetary bail is actually the modal pretrial experience (Reaves, 2013). With no financial ‘skin in the game’, defendants may be more likely to skip out on court appearances, creating costs and inefficiencies for the courts.

Discretionary bail reform policies provide an alternative to mandatory ones. These entail a recommendation or presumption of nonmonetary bail for many cases, but leave the final decision in the hands of judges. The parties who have traditionally held the most power in setting bail – judges – retain that power, and they can continue to use cash bail in cases where they believe it to be necessary. Critics argue that this type of

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<sup>12</sup>Some states, like New Mexico, have rewritten their constitution to expand judges’ power to order pretrial detention.



bail reform is toothless, and won't result in meaningful change. Proponents argue that discretion enables a more tailored, individualized approach that will minimize adverse consequences. It remains unclear whether, and to what extent, these different kinds of approaches will actually change bail practices.

Discretionary bail reform is very common (PJI, 2020). It includes nonbinding policy memos and legislation/rulemaking that is so vaguely worded as to delegate substantial powers of interpretation to judges. It can come from a variety of sources, including state Supreme Courts, Chief Justices, state legislators, governors, city council members and more. One increasingly prevalent channel is prosecutor-led bail reform. Over the last few years a 'progressive prosecutor' movement has arisen that tries to implement criminal justice reform by electing progressive individuals into the office of district or state's attorney (Bazelon, 2019). 'Progressive prosecutors' have recently been elected in dozens of cities, both large and small: Philadelphia, Houston, Chicago, San Francisco, Fairfax, San Antonio, Boston, Baltimore, and many more. And each has promised reform of the bail system.

Prosecutor-led reform is popular because it sidesteps legislative gridlock, and because prosecutors are believed to be very powerful agents within the criminal justice system (Pfaff, 2017). Prosecutors choose who to file charges against, and which charges to file. This choice determines the scope of criminal prosecutions as well as the penalties a defendant would face if convicted. Prosecutors are also key players in plea negotiation, and can offer substantial discounts on the sentence in exchange for an agreement to plead guilty. Such a deal can be hard to turn down; the vast majority of felony convictions come from guilty pleas (Silveira, 2017). Thus, even though sentences are formally the domain of judges, prosecutors can be quite influential.

However, prosecutors do not have direct influence on all parts of the criminal justice (Bellin, 2018). In particular, prosecutors have no formal say in bail. They can recommend bail amounts, but the final decision is made by members of the judiciary. And if prosecutorial policies steer too far from the preferences of the judiciary or the other agencies, the cooperation that has facilitated prosecutorial influence may disappear. As a recent New York Times headline states, "These prosecutors promised change. Their power is being stripped away."<sup>13</sup> The reform agendas of newly-elected progressive prosecutors may alienate agencies that have traditionally been allies. The deference offered to the prosecutor may erode. Virtually all of the recently elected 'progressive prosecutors' have implemented some sort of bail reform policy, but it is an empirical question whether these new policies have led to meaningful change. Our paper is the first to fill this gap.

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<sup>13</sup><https://www.nytimes.com/2019/11/25/us/prosecutors-criminal-justice.html>

## C. Bail decisions: a conceptual framework

In this section, we develop a conceptual framework to describe how magistrates make bail decisions. This can inform our expectations of the impacts of discretionary bail reform in two central ways. First, it helps clarify thinking around how magistrates might respond to a non-enforceable change in policy. Second, understanding the decision-making process of bail magistrates helps inform our predictions about how bail reform will affect pretrial misconduct.

In our framework, bail magistrates choose among various bail options (ROR, supervision, unsecured monetary bail, secured monetary bail, or no bail) by weighing the expected costs of these options. Setting more restrictive conditions of release can create both taxpayer costs (e.g. the cost of incarceration or supervision) and personal liberty costs. But more restrictive conditions of release may also reduce costs in terms of crime and failures-to-appear in court. The task of the magistrate is to determine which bail option is expected to minimize costs. Of course, there is substantial uncertainty as to how defendants would respond to each type and amount of bail. This uncertainty can lead to two kinds of error: (1) overestimating a defendant’s propensity for misconduct and being too restrictive with bail (type I error); or (2) underestimating misconduct propensity and being too lenient (type II error).

Our framework is similar to those developed in Dobbie et al. (2018), Kleinberg et al. (2018), and Arnold et al. (2018), which hold that magistrates set bail in order to detain individuals believed too risky to release. The threshold that warrants detention is determined by a cost minimization process, with the costs of incarceration balanced against the costs of crime or failure to appear in court. However, our framework differs in two important regards. The first difference pertains to the functions of bail. The above-mentioned studies have modeled bail solely as an instrument for detaining individuals – they do not consider the other function of bail, which is to incentivize court appearance among those who are released. In our framework, bail can reduce crime/non-appearance both by incapacitation (detaining those who can’t afford to pay) and incentivizing compliance for those who are released.

The second difference has to do with the type of costs included in the analysis. As in prior studies, our framework assumes that magistrates are sensitive to the costs of crime, non-appearance, incarceration and loss of liberty. However, if these are the only costs that influence magistrates’ decisions, one would not expect a discretionary reform to result in any change in behavior. As opposed to policies that directly change the *scope* of discretion, like mandatory sentencing guidelines (Kuziemko, 2013; Yang, 2015), the choice set is neither expanded or restricted in the context of prosecutor-driven reform. Nor does the reform provide additional information on a particular defendant’s riskiness. If there is no change in the choice sets or the cost of different

choices, there should be no change in bail.

However, magistrates' incentives could also include factors beyond taxpayer costs, liberty costs, and misconduct costs. Magistrates plausibly want to make decisions that seem just to their peers, as well as the people whom they represent. Even if a bail reform policy is non-enforceable, it may still influence norms, thus changing what it means to 'do justice' well. An elected district attorney is a representative of the people, whose job is to administer justice in the name of the community. If a district attorney says that requiring cash bail for most misdemeanors and nonviolent felonies is unjust, this could be seen as both signal that a change in norms has already occurred, and a validation of that change. For the magistrate, deviating from community norms can result in challenges during reappointment/re-election, disapproval from peers and community members, and other types of soft costs. Such costs make restrictive bail less desirable. If magistrates respond to social norms, then they *are* expected to lower bail in response to a discretionary bail reform policy.

Social penalties also have other, more subtle implications for our analysis. As described above, magistrates can make two types of errors. A type II error is when a magistrate is too lenient, and as a result the defendant commits crime or fails to appear in court. This type of error is visible and salient to the community – particularly when the defendant goes on to commit a serious crime. A type I error occurs when a magistrate sets monetary bail or pretrial supervision when none is necessary to ensure compliance. This type of error is costly but it is also invisible – it's impossible to ever say for certain that a defendant would have appeared to all court dates and refrained from reoffending if they had been released on recognizance. Thus, there is an asymmetry in the costs of errors, at least as experienced by magistrates. This asymmetry is sometimes referred to as the 'Willie-Horton effect' (Stevenson and Doleac, 2019). Willie Horton was a prisoner who was allowed to go home on a weekend leave program in the 1980s. He absconded from this program and brutally raped a woman. His story was used extensively in political attack ads against presidential candidate Michael Dukakis, who had supported furlough programs as helping with rehabilitation. In more recent years, his name has been synonymous with the belief that even a single type II error can have high political consequences.

High profile instances of crime may command the most media attention, but social dynamics within criminal justice extend the issue of asymmetric penalties to more mundane types of misconduct as well. When people fail to appear in court, a burden is placed on the police officer who needs to go and make the bench warrant arrest, as well as on the judge, prosecutor, and public defender whose time was wasted. If this person received ROR or very low bail, it can be easy to blame the magistrate for the fact that misconduct occurred. In contrast, the bail magistrate's colleagues within criminal

justice do not bear a burden when the opposite type of error is made – setting bail higher than necessary to ensure appearance. That burden is borne by the defendant.

In this paper we use the phrase ‘Willie Horton effect’ to describe the broad phenomena of asymmetric penalties faced by a magistrate. This includes both the cost of releasing someone who goes on to commit a heinous crime, as well as the more pedestrian costs of being lenient on someone who fails to appear in court or is rearrested for a minor offense. The implications of this phenomena are that magistrates will err on the side of setting bail too high. This could lead to ‘low-hanging fruit’ in bail reform. In other words, there may be a group of individuals who, before the reform, were receiving bail that was more restrictive than necessary to ensure compliance. One could eliminate restrictive bail conditions for this group with little adverse consequences.

If the district attorney declares a new preference for leniency in bail, this could counterbalance the aforementioned asymmetry. However, it may not completely cancel out the asymmetry in penalties – bail magistrates may still be disproportionately concerned about releasing someone who goes on to reoffend, or granting ROR to someone who fails to appear in court. If so, even after bail reform, there will still be a group of defendants who are receiving bail conditions that are more restrictive than necessary to ensure appearance and prevent crime.

Finally, discretionary bail reform means that magistrates get to choose who benefits from increased leniency and who does not. On the one hand, magistrates can take advantage of individualized information to identify those who pose a lower risk of misconduct (Kuziemko, 2013). This has the potential to minimize the adverse consequences of bail reform. On the other hand, magistrates might be influenced by race and class biases (Yang, 2015; Arnold et al., 2018) – disproportionately allocating the benefits of reform to white and wealthier defendants. This could be either because magistrates themselves are biased, or because they expect to incur less community disapproval for setting restrictive bail for black or poor defendants.

In sum, our model predicts that discretionary bail reform *will* result in a change to bail setting practices, although perhaps a smaller change than would be expected in a mandatory bail reform. Discretionary implementation allows magistrates to take advantage of private information, but could also facilitate bias in administration. And asymmetric penalties in errors means that there is scope to reduce bail without adverse consequences.

## II. Philadelphia’s natural experiment

### A. The pretrial process in Philadelphia

Anyone who is arrested in Philadelphia gets brought to a nearby police station, where they are booked and placed in a holding cell. The police officer will then send the report associated with the arrest to the district attorney’s office, where a prosecutor reviews the case and determines what charges to file. Once charges have been filed, the defendant is interviewed by a pretrial services officer. The pretrial services officer makes a recommendation for the bail amount, taking into account the defendant’s charges, criminal history and life circumstances. Their recommendation is not binding and bail decisions often differ from what was recommended (Shubik-Richards and Stemen, 2010). After the pretrial interview, the defendant is ready for the bail hearing. This takes place over videoconference: the defendant remains in the holding cell and communicates via video with the presiding magistrate. Representatives of both the District Attorney’s office (referred to in this paper as the DA rep) and the public defender’s office are in the courthouse with the magistrate. While the representatives can make suggestions for the appropriate bail amount, the final decision is made by the magistrate, who is an employee of the judiciary. The DA rep is advised on how much bail to request by line prosecutors who work in the charging unit at the district attorney’s office. Neither the magistrate nor the DA rep are, in general, attorneys. Both specialize in bail hearings, and they are not involved in later phases of the case’s processing.

The bail hearing typically lasts only a minute or two, during which the magistrate reads the charges, schedules the next court date, determines eligibility for public defense, and decides the conditions of release. These conditions include:

- ROR (Release on own recognizance): The defendant is released solely on their promise to return to court.
- Supervised release: The defendant is released with supervisory conditions, such as drug testing, weekly meetings with the pretrial supervision officer, restrictions on travel, restrictions on who they can interact with, and so forth. Monetary bail is not required.
- Unsecured monetary bail: The defendant does not need to post any money for release, but if they do not show up to their court date, they owe the court their bail amount.
- Secured monetary bail: The defendant must pay a deposit (10% of the bail amount) to be released. If they don’t show up in court they forfeit the deposit and owe the court the remaining bail amount.

- Bail denied: The defendant is ordered to be detained pretrial. (Used rarely in Philadelphia.)

For defendants with secured monetary bail, if the person fails to pay the deposit within 4-8 hours of the bail hearing, they will be transported to the local jail. They will remain there until the disposition of the case unless they can procure the bail deposit or obtain a bail reduction.

Professional bail bondsmen are allowed in Philadelphia, but they are less common than in other jurisdictions. This is partly because Philadelphia has a deposit system: the defendant is released if they can pay 10% of the total bail amount. If they comply with all release conditions 70% of the deposit will be returned when the case is disposed.<sup>14</sup>

## B. The Philadelphia No-Cash-Bail reform

On November 7th, 2017, Larry Krasner was elected to the position of Philadelphia’s district attorney (DA). He was the first criminal defense lawyer to be elected to that position, and he ran on a platform that included goals like lowering punishments for less serious crimes and reducing the use of pretrial detention.<sup>15</sup> However, and importantly for our research design, the exact timing of different reforms was not announced ahead of time.

On February 21st, 2018, DA Krasner announced that his office would stop seeking monetary bail if the lead charge was among a set of 25 low-level offenses. These offenses include both felonies and misdemeanors, and span from very low-level offenses to more severe offenses, such as burglaries with no person present. They also include several drug charges, such as possession with an intent to deliver.<sup>16</sup> The goal of this reform was to reduce pretrial detention and to avoid incarcerating defendants because they could not afford low bail amounts. Concretely, this meant that the DA’s office would instruct their representatives at the bail hearing to ask that defendants with these lead charges be released on their own recognizance, or to not object if ROR was requested by the defendant’s legal representative.

This reform is not the only measure that DA Krasner took to reduce the reach of criminal justice that winter. On Feb. 15th, the DA’s office announced a change in charging practices for marijuana possession, retail theft and prostitution. Appendix Figure A1 shows that after that date, the number of charges filed for these offenses dropped. We remove them from our analyses. DA Krasner also hired a number of new prosecutors, and fired some old ones. However, there were no changes to the

<sup>14</sup>This has recently been revised, and a compliant defendant will now receive their full bail deposit back.

<sup>15</sup>His agenda can be found here: <https://krasnerforda.com/platform/>

<sup>16</sup>A list of the most common eligible and ineligible offense categories can be found in Appendix Table A1.

group in charge of pretrial processes (charging and bail) until after the end of our sample window – summer 2018. No other concurrent changes affected the prosecution of low-level offenses, or pretrial detention.<sup>17</sup>

## C. Data and descriptive statistics

Our primary data source consists of court dockets web-scraped from the Pennsylvania Unified Judicial System. It is structured to include one observation per criminal case, and includes all criminal cases filed in Philadelphia from 2007 through April 2019. While we use the entirety of the court data to build criminal history and recidivism variables, our analysis focuses on cases whose initial bail hearing occurred in the six months before or the five months after the No-Cash-Bail reform. After dropping marijuana possession, prostitution, and retail theft cases,<sup>18</sup> duplicate cases (i.e. a defendant is brought for multiple cases on the same day),<sup>19</sup> and cases where covariates are missing,<sup>20</sup> our sample contains 22,589 observations.

The dockets include information on the defendant (first and last name, date of birth, gender, race, ZIP Code, and a unique court identifier), the charges (date of arrest, offense type), the bail hearing (date and time of the bail hearing, bail magistrate name, bail type and amount), whether and at what date and time bail was posted, and notes pertaining to each court appearance (including whether the defendant failed to appear). Using this data, we define several other main variables. First, we define ‘eligible cases’ as cases that are eligible for the No-Cash-Bail policy; in other words, cases for which the lead charge at the time of the bail hearing appears on the list of 25 offenses for which the DA’s office would no longer request cash bail.<sup>21</sup> ‘Ineligible cases’ are cases whose lead charge does not appear in that list of 25 offenses. Following previous literature, in our main specifications, we consider a person to be detained pretrial if they spend at least three nights in jail (Dobbie et al., 2018; Stevenson, 2018).<sup>22</sup> We generate a dummy for ‘recidivism’ which is equal to one if a person with

<sup>17</sup>Over the last several years, Philadelphia has introduced several other changes to their pretrial system, such as early bail review, in which a judge reviews bail for cases in which a defendant is unable to pay, and a pilot project of providing pre-bail-hearing public defense to some defendants. However, these changes were implemented more than a year before the policy evaluated in this paper and should not affect our analysis, which focuses on a time window of 6 months before and 5 months after the No-Cash-Bail policy.

<sup>18</sup>Marijuana possession, retail theft and prostitution cases constitute ~10% of pre-reform caseload.

<sup>19</sup>8.5% of cases are multiples; we omit these due to difficulties in defining the bail type for a defendant with multiple types of bail. Our results are very similar if we include duplicate cases.

<sup>20</sup>About 7% of cases are missing some covariates; most often information about past offenses

<sup>21</sup>The one offense category where our definition of eligibility might be somewhat overinclusive is possession with intent to deliver (PWID). For drug types other than marijuana, there are a variety of circumstantial factors that may make a case ineligible. We are able to account for one of these factors – recent prior PWID arrests – but not others. 8% of ineligible cases are in this category. We conduct a variety of tests to ensure that our results are robust to dropping PWID cases. These are described in Section III.D.

<sup>22</sup>Most defendants who fail to pay bail within the first three days remain detained until the disposition of

the same unique court identifier is charged with a new offense within six months of the bail hearing.<sup>23</sup> Our FTA variable is equal to one if the defendant fails to appear for at least one court date associated with this case. We define variables for prior FTA and prior charges by searching the data for prior instances with the same defendant identifier. For consistency across cases, and since our data begins in 2007, we limit our time window for priors to nine years before the bail hearing.

Table 1 presents descriptive statistics for cases filed in the six months before the No-Cash-Bail reform was announced on February 21st, shown separately for eligible and ineligible cases. First, note that a large portion – roughly 60% of the sample – is eligible for the reform.<sup>24</sup> Second, note that the reform targeted a group of defendants that were already being treated more leniently in the initial bail hearing, compared to defendants with ineligible cases. Half of eligible cases already received ROR before the reform, compared to only 7% of ineligible cases. Only about 17% of eligible cases led to at least three nights in jail compared to almost half of ineligible cases. This leniency is likely due to differences in the severity of the case. Even though a substantial portion (45%) of eligible cases carry felony charges, the charges tend to be less serious and defendants have fewer prior charges. Third, note that the FTA and recidivism rates are higher for eligible cases than ineligible cases. This could be because defendants charged with ineligible offenses are more likely to be detained and thus are mechanically prevented from accruing new charges or failing to appear in court. It also could be because eligible defendants are less likely to have monetary or supervisory conditions to incentivize good behavior. Lastly, note that the average poverty rate within defendants' zipcode is 25%, and 75% of eligible defendants had a public defender, which means that they were found indigent by pretrial services. This suggests high levels of resource constraints.

## D. Empirical strategy

Before moving to formal analyses, Figure 1 presents some raw graphical evidence of how the No-Cash-Bail policy seems to have affected eligible cases. Clockwise from the top left corner the subfigures show time trends in ROR, pretrial detention, recidivism and FTA.<sup>25</sup> There was a sharp increase in ROR right after the reform, but neither jail, FTA, or recidivism changed much. At first glance this seems surprising, given that theory would predict that a large increase in ROR would affect all three outcomes. Our

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the case.

<sup>23</sup>At six months, 61% of cases have been resolved; at 10 months, 80% of cases are resolved. We conduct robustness tests in which our recidivism and FTA measures are defined over varying time windows.

<sup>24</sup>Including the case types omitted because of a concurrent change in charging practice (marijuana possession, prostitution, and retail theft ), approximately 67% of all cases filed in Philadelphia before the reform would have been eligible for the No-Cash-Bail policy.

<sup>25</sup>Appendix Figure A2 presents the same raw evidence for ineligible cases



choice of research design is partially motivated by this figure. We considered both a discontinuity-in-time design as well as difference-in-differences, but select the latter because it is higher powered and would make it less likely for us to falsely reject the null. Also, by including ineligible cases as a control, we can account for time varying trends that affect both groups equally, such as seasonal effects.

Our primary specification is shown in Equation 1, where  $i$  indicates case,  $Post$  indicates that the initial bail hearing occurred after the No-Cash-Bail reform, and  $Eligible$  indicates that the case is eligible for the reform. Unless specified otherwise, covariates  $X$  include defendant race, age at arrest, gender, prior FTAs, prior convictions, types of offense,<sup>26</sup> grade of offense, whether the defendant was represented by a public defender, the bail magistrate, day of the week, and magistrate work-shift. The main coefficient of interest is  $\delta$ .

$$Y_i = \alpha + \beta Post_i + \delta Post_i * Eligible_i + \lambda Eligible_i + \theta X_i + \epsilon_i \quad (1)$$

Our identifying assumption is that trends in outcomes between eligible and ineligible cases would have remained parallel had it not been for the No-Cash-Bail policy. We discuss challenges to this assumption and provide some initial evidence in support of this assumption here.

As discussed previously, there were no concurrent policy changes that could complicate analysis on our sample. However, it's possible that police and/or line prosecutors responded endogenously to the reform. For instance, police might deprioritize arrests for eligible offenses, or prosecutors may up-charge defendants to make them ineligible for the reform. This would be independently interesting, but would also be a threat to our research design, as it would result in a change in case composition.

Appendix Figure A3 shows a time trend in the number of eligible and ineligible cases filed. The trend remains roughly parallel with no divergence at the time of the No-Cash-Bail reform. This provides some initial evidence that there were no concurrent changes in behavior that would confound our analysis.

We provide a series of more formal tests in Appendix Table A2 and A3. In Columns 1-3 of Appendix Table A2, we test for changes in arrest patterns using publicly available data on daily arrests in Philadelphia.<sup>27</sup> Then we test for changes in the number of eligible cases filed (Columns 4-6 of Table A2), as well as the number of PWID cases

<sup>26</sup>Offenses have been aggregated to the 23 most common offenses and a catch-all category for the remaining offenses. Standard errors are clustered at the offense level

<sup>27</sup>The data is available here: <https://data.philadao.com/download.html>. Note that since offenses are classified with UCR codes, which are coarser than statutes, we include as eligible and ineligible cases only offenses that are most clearly in either category. Eligible cases are arrests for drug sales, theft, DUI, fraud, and embezzlement. Ineligible cases are arrests for homicide rape, robberies, aggravated assault, sex offenses, threats of violence, assaults, possession of firearms, and burglaries.

(Column 7), which were the most common kind of eligible cases. The number of cases filed is a function of both the number of arrests made, and the decision by a line prosecutor to file charges against the arrestee. The first set of analyses thus focuses solely on policing behavior, while the second set includes decisions made by line prosecutors.<sup>28</sup> Lastly, Appendix Table A3 and Appendix Figure A4 tests for changes in observable case characteristics: charges per case (which can be a proxy for case severity), probability of having a prior, gender, and whether a defendant is black. For all of these analyses, we fail to reject the null, and the coefficients are small relative to the mean. The data shows no evidence that police or charging prosecutors changed behavior in response to the reform.

### III. The impact of a prosecutor-led bail reform

#### A. Bail and pretrial detention

We begin by evaluating whether the No-Cash-Bail policy affected bail. Given that the prosecutor’s role in bail is merely advisory, it’s unclear whether magistrates will change practices as a result of the district attorney’s decree. Prior models of bail setting, in which magistrates set bail to minimize the costs of misconduct, incarceration, and loss of liberty, would predict no response. In contrast, we find strong evidence that district attorney policy affects bail setting behavior.

The first two columns of Table 2 show difference-in-differences estimates of  $\delta$  (as described in Equation 1) with ROR as the outcome. The odd column does not include controls; the even column does – a consistent pattern across many of the tables. We estimate that the No-Cash-Bail policy led to an 11 percentage point (22% relative to the pre-reform mean for eligible cases) increase in the likelihood that defendants will be released on their own recognizance.<sup>29</sup> The coefficient is stable to the inclusion of covariates, again mitigating concerns about changes in arrest or charging practices that would have led to a change in case composition at the time of the reform. The change in bail practices we detect is consistent with our conceptual framework. One of the ways that prosecutors exert influence is by establishing norms within criminal justice. Other actors within the system change behavior in response to changing norms, even if a policy is nonbinding.<sup>30</sup>

<sup>28</sup>Note that since the definitions for eligible and ineligible cases is not exactly the same in both sets of analyses, it is difficult to compare these coefficients directly.

<sup>29</sup>Appendix Table A4 shows the  $\beta$  and  $\lambda$  coefficients from equation 1.

<sup>30</sup>In appendix B, we provide insights on not just in final outcomes, but how bail magistrates respond to DA rep requests, using court observation data. The evidence is suggestive of the role of DAs in changing norms in the courtroom. This analysis also provides some channels explaining limits of discretionary reform.

Figure 2 presents event-study style coefficient plots in support of the difference-in-differences estimation. In each graph, the dummy for eligibility is interacted with lead/lag dummy variables that each correspond to one month of bail hearings: six before and five after the policy. Specifically, we estimate the following equation:

$$Y_i = \alpha + \sum_{g=2}^6 \delta_{-g} Month_{-g} * Eligible_i + \sum_{g=0}^4 \delta_g Month_g * Eligible_i + \sum_{\substack{g=-6, \\ g \neq -1}}^4 \beta_g Month_g + \lambda Eligible_i + \theta X_i + \epsilon_i \quad (2)$$

$Month_{-g} * Eligible_i$  equals 1 if a case was an eligible offense and had its initial bail hearing  $g$  months before Feb. 21st (lags) and  $Month_g * Eligible_i$  equals 1 if a case was an eligible offense and will have its initial bail hearing in  $g$  months after Feb. 21st (leads). The dummy for the month prior to the reform is left out as the comparison category. Figure 2 plots the  $\delta$  coefficients. For instance, the coefficients plotted at -2 in the graphs refer to cases where the bail hearing occurred between one and two months prior to the reform; the coefficients plotted at 1 refer to bail hearings one to two months after the reform. We see that trends in ROR are approximately parallel before the reform for eligible cases. This helps support a central assumption of the difference-in-differences analysis: that trends in outcomes for eligible/ineligible cases would have remained parallel in the absence of reform. The increase in ROR comes immediately after the reform and remains high throughout the time period analyzed.

These results are robust to variations in variable definition, sample, and specification. We present robustness tests in Columns 1-4 of Appendix Table A5. We vary our definition of ROR so that it equals one if the defendant *ever* receives ROR during the pretrial period, as opposed to whether they receive ROR at the *initial* bail hearing. We then limit the sample to 12 weeks before and after the reform; conduct doughnut difference-in-differences regression in which we drop the week just before, the week of, and the week after the reform; and collapse the data to the weekly level for eligible and ineligible cases and conduct the difference-in-differences estimate on the aggregated sample. The estimates remain largely unchanged.

We then move to evaluating the impact on pretrial detention. Curiously, despite the sizable change in ROR, there is no statistically detectable impact on the likelihood of being detained pretrial. As seen in Columns 3 and 4 of Table 2, the point estimates are small, stable to the inclusion of covariates, and correspond with a 0.74 percentage point increase in the pretrial detention rate. We can reject a decline of 1.8 percentage

points or more at the 5% level.<sup>31</sup> Nor is there any visibly detectable change in the event-study graphical analysis – detention rates for eligible/ineligible defendants are parallel and unchanged both before and after the reform (see Figure 2).<sup>32</sup> Despite the hopes of reformers, this discretionary policy did not lead to a meaningful decrease in the pretrial detention rate.

At first glance, this seems inconsistent with claims that a sizable number of defendants are detained pretrial due to an inability to pay monetary bail. However, a closer look at the substitution patterns in bail can help explain why the increase in ROR did not translate into an increase in release. The No-Cash-Bail policy brought about an 11 percentage point increase in ROR, the least restrictive type of bail. Concomitantly, other bail types declined by a net of 11 percentage points. We examine how the No-Cash-Bail policy affected four bail categories: supervised release without monetary conditions, unsecured bail, secured bail of \$5,000 or less and secured bail over \$5,000. (As a reminder, a defendant with secured bail of \$5,000 would only need to pay \$500 to be released.) Table 3 shows difference-in-differences estimates of the impact that the No-Cash-Bail policy had on these types of bail. We see that there was about a four percentage point decline in both supervised release and low monetary (secured) bail. Unsecured bail declined by a little over two percentage points. Conversely, we see little evidence of a decline in higher bail amounts: the point estimate is about -0.7 percentage points and is not statistically significant. Most of those who received ROR as a result of the reform would otherwise have been able to secure their release by either paying a \$500-or-less deposit, accepting the supervisory conditions, or agreeing to the unsecured bail.<sup>33</sup>

Even though the No-Cash-Bail policy did not affect pretrial detention, it still led to changes that are likely to be meaningful to a defendant’s life. Court debt and pretrial supervision can contribute to net-widening in the reach of criminal justice: seemingly minor criminal justice interventions can lead to large burdens for individuals, and in particular for minority men (Rios, 2011; Martin et al., 2018). Several hundred dollars in secured bail deposits is a large sum for an indigent population. Unsecured bail poses no upfront costs but entails a threatening overhang on the defendant’s life. Should she

<sup>31</sup>For many of the outcomes measured, our hypotheses are naturally one-sided. In this instance, we are interested in whether the No-Cash-Bail policy led to a *decrease* in pretrial detention rates. We use a one-sided test to provide boundaries on what size effects are inconsistent with our data.

<sup>32</sup>Our results are not driven by the choice of our definition of being in jail pretrial as having spent at least 3 nights in jail: as shown in Appendix Table A6, the results are similar if we vary the definition to having spent at least 1 to 7 nights in jail.

<sup>33</sup>Even relatively low bail amounts can result in pretrial detention, if defendants are too poor to pay (Stevenson, 2018). One interpretation of our results is that magistrates are able to identify which defendants can afford low monetary bail, and intentionally offer ROR only to those who would otherwise have been able to pay for release. However, given the relatively small changes in secured monetary bail, it would be premature to infer this from our data.

fail to appear in court due to difficulty in understanding when/where she was supposed to appear, accidental oversight in the midst of a chaotic life, inability to get time off of work, or any one of a plethora of reasons, unsecured bail results in court debt. Pretrial supervision requires time-consuming check-ins with pretrial services as well as restrictions on liberty, such as curfews or orders to remain within the jurisdiction. Eliminating the burdens of these conditions has benefit to the defendant. What remains to be seen is whether it has costs in terms of nonappearance or crime.

## B. Pretrial misconduct

A concern with reducing the use of monetary bail and supervisory conditions is that misconduct will increase. This could be due to several reasons. If reducing monetary bail means that more defendants are released pretrial, this could result in a mechanical increase in FTA and recidivism simply because more defendants are out on the streets. Since the No-Cash-Bail reform did not affect the pretrial detention rate, this mechanism is not relevant to our context. However, reducing monetary bail and supervisory conditions could increase misconduct among released defendants if the prospect of monetary penalties act as a deterrent, or if supervision improves compliance. This is what classic economic theory would predict, and the reason why cash bail exists (Becker, 1968).

There are also reasons to think that monetary bail and supervision could lead to a slight increase in misconduct. For instance, the payment of bail and the time burdens of pretrial supervision could have a destabilizing effect on the lives of indigent defendants. In other contexts, researchers have found that the imposition of minor fines can lead to disproportionate financial distress (Harris, 2016; Mello, 2018). Alternatively, the imposition of monetary bail or pretrial supervision without giving the defendant a chance to explain him or herself may feel coercive or unfair (Nagin and Telep, 2017).<sup>34</sup> This could foster the expectation that the court process will be similarly unfair, thereby decreasing compliance.<sup>35</sup> While commentators have focused on the concern that bail reform will increase misconduct, competing hypotheses suggest that this is an empirical question. We provide new evidence here.

Table 4 presents the difference-in-differences estimates with FTA and recidivism as the outcomes ( $\delta$  from Equation 1).<sup>36</sup> We find no statistically detectable impact of the No-Cash-Bail policy on the likelihood of failing to appear in court, or of receiving

<sup>34</sup>Defendants are discouraged from speaking during the bail hearing as they have not yet had a chance to speak to counsel about their case.

<sup>35</sup>The defendant may also see monetary bail as a ‘price’ that has been set for failing to appear. As discussed in the literature on fines as prices (Gneezy and Rustichini, 2000), the defendant may now feel that they have permission to skip the court appearance as long as they’re willing to pay the price in terms of forfeited bail.

<sup>36</sup>Again, Appendix Table A4 shows the  $\beta$  and  $\lambda$  coefficients from equation 1.

new charges within six months after the bail hearing. We can reject, at the 5% level, anything larger than a 0.003 percentage point increase in FTA.<sup>37</sup> We can reject any increase in pretrial rearrest.<sup>38</sup> These results are supported by our graphical event-study analysis, which is presented in the bottom two graphs of Figure 2. Trends in FTA and recidivism remain roughly parallel and unchanged both before and after the reform. In Appendix Table A7, we vary the time-windows for FTA and recidivism. There again, we find very small and insignificant coefficients.

Thus far we have shown that the No-Cash-Bail policy led to a sharp increase in the ROR rate with no evidence of an effect on the likelihood of being detained pretrial. This provides an opportunity to directly test the impact that ROR has on defendant misconduct among released defendants – a topic on which there is little empirical research, in spite of the prevalence of defendants released with monetary or supervisory conditions. To do so, we use an instrumental variables difference-in-differences approach to provide new evidence on this question.<sup>39</sup> Specifically, we use the differential impact that the No-Cash-Bail policy had on eligible defendants as an instrument for ROR. Our first and second stage equations are listed below, where  $Y_i$  is FTA or recidivism of defendant  $i$  and all other variables are as described previously.

$$ROR_i = \alpha + \delta Post_i * Eligible_i + \beta_1 Post_i + \lambda_1 Eligible_i + \theta_1 X_i + \epsilon_i \quad (3)$$

$$Y_i = \alpha_2 + \gamma \widehat{ROR}_i + \beta_2 Post_i + \lambda_2 Eligible_i + \theta_2 X_i + \psi_i \quad (4)$$

We also use an alternative IV specification that exploits the fact that magistrates respond differently to the reform, a phenomenon that is discussed in more detail in the next section. This adds some power to our estimates. We use LASSO regression to identify which magistrates have a meaningfully different response to the No-Cash-Bail reform. We find that only Magistrate 1's response differs meaningfully from the others.<sup>40</sup> The modified specification thus includes  $Post_i * Eligible_i * Magistrate\_1_i$  in the instruments and  $Magistrate\_1_i$ ,  $Post_i * Magistrate\_1_i$ , and  $Eligible_i * Magistrate\_1_i$  as controls in both stages. As a benchmark, we also run OLS regressions of FTA and recidivism on ROR with controls.

Results are shown in Table 5. Columns 1 and 2, the OLS results, shows that release on recognizance is associated with a 4 percentage point increase in failing to appear in court and a positive, albeit statistically insignificant, association with recidivism. Since

<sup>37</sup>Columns 5-8 of Appendix Table A5 present a series of robustness tests, similar to those presented in section III.A., which yield very similar results.

<sup>38</sup>Our inquiry is motivated by concerns that bail reform will have adverse consequences. Consistent with this inquiry, we use a one-sided test to identify the magnitude of increase that can be rejected.

<sup>39</sup>In the crime context, this approach has for example been used by Draca et al. (2011).

<sup>40</sup>We discuss this further in section III.C.

those with ROR are much less likely to be detained pretrial than those with other bail types, this could simply be a mechanical effect of releasing more people.<sup>41</sup> Columns 3 and 4 shows the first instrumental variables results, identifying the local average treatment effect for compliers in our analysis. The point estimates are negative. At the 5% level, we find that ROR leads to at most a 3.5 percentage point increase in FTA and does not increase recidivism. Columns 5 and 6 show the instrumental variables results which allow for heterogeneous magistrate response. In this specification, at the 5% level, we can rule out any increase in FTA, and any increase larger than 5 percentage points in recidivism.

Our IV point estimates are most consistent with the claim that monetary bail and supervision could lead to a slight increase in misconduct, which could be due to the destabilizing effects of monetary involvement, or to the ‘distrust effect’ of the bail process. However, the standard errors don’t allow us to say this definitively.

We can state, with more confidence, that monetary and supervisory conditions were not necessary to ensure appearance for the large majority of those evaluated. This is important, because ensuring appearance is the primary justification for the use of monetary bail. One of our specifications rejects this outright, the other says that such conditions weren’t necessary for at least 97% of those evaluated.<sup>42</sup> Why didn’t defendants respond to the change in incentives? One possible reason is that the amount of monetary penalty was not large enough to deter defendants. That is, it could be the case that higher bail amounts deter FTA but monetary penalties under \$5,000 do not. We find this not fully convincing given the indigence of defendants in Philadelphia. Among eligible defendants in the pre-period, 50% of defendants lived in a zip code where the median income is less than \$30,000, and 75% were poor enough to qualify for a public defender. The mean bail amount for eligible defendants in the pre-period with secured monetary bail under \$5,000 was \$3,750; and \$4,900 for eligible defendants in the pre-period who got unsecured monetary bail. Thousands of dollars of bail – and hundreds of dollars in the bail deposit – are likely a meaningful sum for these individuals (Harris et al., 2010). Another possibility could be that defendants don’t think that this court debt would be collected, and thus discount it. However, there have been moments in recent history when Philadelphia hired debt collection agencies to aggressively pursue court debt, creating threats, hassle, and damage to credit.<sup>43</sup> Failure to pay court debt can also result in criminal penalties, including

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<sup>41</sup>When controls for detention status are included in the regression, the coefficient on FTA shrinks in size and is no longer statistically significant.

<sup>42</sup>Evaluating the relative change with a binary outcome is problematic as the mean outcome approaches 0 or 1, since a simple reframing of the outcome as its inverse (1-X instead of X) can flip the interpretation from a large relative effect to a small one.

<sup>43</sup>See for example <https://www.marketplace.org/2012/12/20/philadelphia-collects-court-debt-decades-later>. Note that ultimately, advocates had success in getting FTA related debt forgiveness in 2015.

incarceration.<sup>44</sup>

Thus, there are a variety of reasons to expect that even relatively low monetary bail would be an incentive. The important thing to note, however, is that other incentives already exist to ensure court appearance. FTA is a crime – not just in Philadelphia, but in most jurisdictions. A person who fails to appear in court receives a bench warrant and, if convicted of this crime, may be punished with fines or even incarceration. Thus, the relevant question isn’t whether the threat of court debt and loss of deposit is a deterrent on its own, but rather whether it provides *marginal* deterrence on top of the criminal justice penalties that already exist. Our results suggest that it does not.

That being said, FTA is still a relatively common phenomenon. If monetary incentives and supervision do not reduce FTA, what can be causing this behavior? While crime policy typically focuses on increasing deterrence, such an approach only works for defendants who are aware of and paying attention to the consequences of their choices. This may not be the case for all defendants, many of whom are young and may lack skills in managing time and attention. Consistent with this theory, Fishbane et al. (2019) find that simple interventions like increasing the salience of the court date on a citation and sending text message reminders resulted in remarkable 13% and 26% decreases in failures-to-appear, respectively. Taken together, results suggest that interventions that target incentives may not be as effective as interventions targeting inattention. Criminal justice policy could gain in efficiency by identifying the causes of misconduct, rather than assuming that it was the result of deliberate choice.

## C. Generalizability

We found no evidence that cash bail and pretrial supervision served to deter FTA or pretrial crime among released defendants in our sample. What can this teach us about the broader impacts of bail reform? To provide some insights on this question, we first compare bail reform and bail setting practices in Philadelphia to other places. We then exploit variation across quasi-randomly-assigned bail magistrates to provide suggestive evidence about the impacts of a more comprehensive bail reform in Philadelphia and other places.

A first generalizability question relates to the scope of the results. Individuals charged with violent felonies were not eligible for the No-Cash-Bail reform and may have different characteristics than those studied here. However, violent felonies tend to be last in line when it comes to bail reform, making them less relevant to generalizability

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<https://clsphila.org/employment/bail-forfeiture/>

<sup>44</sup>News reports from other jurisdictions may also have created fear and uncertainty, such as the debates in Florida about whether it was necessary to pay off all court debt before a felony on the criminal record could be cleared – which has consequences on many aspects of a defendant’s lives.



questions. Indeed, most bail reform efforts across the country are focused on case types similar to those we study here. Reform in New York City was limited to misdemeanors and nonviolent felonies; Harris County, Texas, eliminated cash bail for misdemeanors; Kentucky guarantees release without cash bail for low risk individuals charged with misdemeanors or nonviolent felonies; and so forth. Second, our results speak only to the deterrence function of monetary and supervisory conditions. If reducing monetary bail means that more defendants are released pretrial, this could result in a mechanical increase in FTA and recidivism simply because more defendants are out on the streets. However, using monetary bail to skirt constitutional limits on preventive detention is controversial and potentially unconstitutional (Starger and Bullock, 2018; Mayson, 2020).<sup>45</sup> Our focus on the deterrent effect of pretrial conditions speaks directly to the central issue justifying their use.

A second question relates to how representative Philadelphia is in its pretrial practices. Perhaps the null effects are due to the fact that Philadelphia was unusually heavy-handed in its use of pretrial conditions of release. But Philadelphia is not an outlier. Nationally, 69% of felony defendants had monetary bail set, and 40% of these were detained until case disposition (Reaves, 2013). In Philadelphia, before the No-Cash-Bail policy, 79% of felony defendants had secured monetary bail and 40% of these were detained until disposition.<sup>46</sup> And as described previously, Philadelphia’s bail reform is similar to many of those taken across the country. It targets misdemeanors and low-level felonies; and allows discretion in implementation (PJI, 2009). It seems plausible that other jurisdictions also have a pool of defendants for whom pretrial conditions of release can be relaxed without adverse consequences.

A third question is whether our results can be generalized to other reform-eligible defendants in Philadelphia. Even after the reform, 40% of eligible defendants were still being assigned monetary or supervisory conditions. Could these individuals be released without adverse consequences? While not definitive, we can provide suggestive evidence by exploiting a second natural experiment in Philadelphia. Defendants in Philadelphia are quasi-randomly assigned to magistrates who vary both in their pre-reform ROR rates and in their response to the No-Cash-Bail policy.<sup>47</sup> Evaluating impacts across these heterogeneous magistrates provides a thought experiment in which we can speculatively infer what treatment effects would be like under a variety of different conditions.

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<sup>45</sup>Our analysis also says little about the effectiveness of having bail bondsmen supervise releases, since bail bondsmen are not very prevalent in Philadelphia.

<sup>46</sup>Classification practices could explain why rates in Philadelphia are slightly higher. Pennsylvania classifies offenses as misdemeanors if the sentence is less than five years; in most jurisdictions, misdemeanors only have sentences up to one year.

<sup>47</sup>Philadelphia bail magistrates work a rotating schedule creating quasi-random variation in assignment (Stevenson, 2018).

This analysis is motivated by the idea that, *ceteris paribus*, magistrates are more likely to be lenient with those who have a low misconduct potential.<sup>48</sup> As leniency expands, those with low misconduct potential are selected first, and the average misconduct potential of the pool of defendants still being assigned monetary or supervisory conditions rises. If this characterization is correct, then an expansion of ROR among previously-lenient magistrates should lead to greater misconduct than an expansion of ROR among previously-strict magistrates, simply because magistrates who are already lenient are more likely to have exhausted the pool of defendants with a low misconduct potential. However, if magistrates don't select primarily based on misconduct potential – either because they are following other objectives or because misconduct potential is hard to predict – then the effects of an increase in ROR should be similar across lenient and strict magistrates.

The question of whether, or to what degree, magistrates are selecting defendants for ROR based on their misconduct potential (or, more precisely, their potential for misconduct in the absence of monetary or supervisory conditions) is central to questions about generalizability. If treatment effects are correlated with treatment assignment, as they would be if magistrates select defendants for ROR because they know there would not be adverse consequences of doing so, then the local average treatment effects we identify would not be broadly representative. Thus, evaluating effects of an expansion in ROR by magistrates who vary in their initial level of leniency can provide suggestive evidence about the extent to which the estimates identified in our main IV specifications differ from the average treatment effect for eligible defendants. It thus provides suggestive evidence about the effects of more comprehensive bail reform, as well as bail reform in other jurisdictions.

Table 6 divides the sample into cases with bail set by each of six quasi-randomly assigned magistrates, and uses the difference-in-differences strategy to test impact by magistrate. Panels A-D show magistrate-specific results for ROR, pretrial detention, FTA and recidivism, respectively. Magistrates are ranked across columns by use of ROR before the No-Cash-Bail policy, from lowest to highest usage. First, note that ROR increased for all magistrate. Yet the coefficients on FTA and recidivism are negative or exceedingly small positives for almost every magistrate, including magistrates who were relatively lenient to begin with.<sup>49</sup> This suggests that the stricter magistrates may be able to increase ROR rates to the post-reform level of the lenient magistrates without increasing FTA/recidivism. It also suggests that there is not a strong correlation between treatment effects (the impact of ROR on misconduct) and

<sup>48</sup>Alternatively, magistrates are more likely to be lenient with those for whom bail and pretrial supervision have little effect on misconduct.

<sup>49</sup>Magistrates 5 and 6 granted ROR to ~60% of eligible defendants before the reform and ~70% after the reform.

the likelihood of receiving treatment (the likelihood of being granted ROR). If there were, then misconduct effects for Magistrate 6, whose pre-reform ROR rate is double that of Magistrate 1, should be substantially different than those for Magistrate 1. We find no evidence that this is the case, supporting the claim that the local average treatment effect of bail may not be substantially different from the average treatment effect.

Second, note that Magistrate 1 increased ROR by 30 percentage points with no evidence of adverse consequences. This magistrate was relatively strict before the reform, so perhaps she simply had a larger pool of low-risk defendants to choose from. But nonetheless, a 30 percentage point increase is a large change – three times the size of the average effect across magistrates. For other jurisdictions with low ROR rates, of which there are plenty (Mayson and Stevenson, 2020), there may also be a large pool of defendants that could be granted ROR without increasing FTA/crime.

The magistrate-level analysis is not perfect. Our discussion above focuses on the point estimates, but standard errors are large enough to preclude firm conclusions. Nonetheless, we consider it generally supportive of the argument that many defendants in Philadelphia are still receiving unnecessarily restrictive bail. This may be true in other jurisdictions as well.

Regardless of the exact number of defendants receiving unnecessarily restrictive bail conditions, the results still have important constitutional implications. The government’s right to require the payment of monetary bail or placement on pretrial supervision are subject to constraints outlined in the excessive bail clause and the due process clause. If such conditions do not aid in ensuring appearance in court or preventing crime, they may be in violation of the United States Constitution (Wiseman, 2014; Funk, 2019; Mayson, 2020).

## **D. Differential leniency: racial disparities in implementation**

In theory, discretionary reform allows decision-makers to take advantage of private information and allocate the benefits of reform to those for whom the misconduct potential is lowest. However, discretion may also lead to human biases in the allocation of benefits. Racial biases are of particular concern, given the massive racial disparities in bail, pretrial detention, and criminal justice more broadly (Ayres and Waldfogel, 1994; Arnold et al., 2018). In this section, we compare the characteristics of defendants selected to benefit from the reform to characteristics of the pool of potential beneficiaries. Our goal is to shed light on how magistrates select defendants for enhanced leniency in a discretionary reform.

Determining the type of defendants selected for leniency as a result of the No-Cash-Bail reform is non-trivial. A common technique in the literature is to use heterogeneous treatment effects analysis to test for differential effects. However, this is inappropriate for our research question because it ignores base rates in the pool of eligible defendants. To illustrate this, consider the following example. Imagine the data consists of 100 white defendants and 100 black defendants who are eligible for the reform. Before the reform, 90 white defendants received ROR and 10 black defendants received ROR. Both groups saw a 10 percentage point increase in ROR as a result of the reform. A heterogeneous treatment effects analysis would say that both groups benefited equally, and that black defendants experienced a greater percent change in ROR relative to their pre-reform rates. However, white defendants were disproportionately selected for the benefit. That is because the pool of eligible defendants – those who were not already receiving ROR before the reform – was disproportionately (9/10) black. If defendants were selected for ROR out of the pool of eligible defendants in a manner that is orthogonal to race, there would have been, in expectation, 18 black defendants and 2 white defendants chosen. In other words, a selection mechanism that was uncorrelated with race would lead to highly heterogeneous treatment effects.

To identify what types of defendants benefited from the reform, we adapt a method from the instrumental variables literature: complier analysis. In this context, ‘compliers’ are those who received ROR solely because of the reform. In contrast, ‘never-takers’ (referred to here as ‘never-ROR’) are defendants who were eligible for the reform, but who did not receive increased leniency as a result of it. We use this language to be consistent with the IV literature, but we want to ward off a potential confusion: the active agents here are the bail magistrates, not the defendants. We call a group of defendants ‘compliers’ not because they chose to comply with the reform, but rather because magistrates complied with the reform in granting ROR to this group. The pool of defendants who could potentially benefit from the reform (those whose cases were eligible and who were not already receiving ROR before the reform) consist of compliers and the never-ROR group (‘potential beneficiaries’, henceforth).

We use the methodology developed by Jäger et al. (2019), which extends complier analysis methods (Imbens and Rubin, 1997; Abadie, 2003) to the context of difference-in-differences. In this method, the characteristics of the never-ROR group are estimated using eligible defendants who did not receive ROR after the reform. The characteristics of compliers are derived by examining differences between eligible defendants who received ROR after the reform and eligible defendants who received ROR before the reform, with adjustments based on the parallel trends assumption. This method is described in more detail in Appendix 1.

Note that we are taking a slightly different approach from most applications of this

method. Usually, complier analysis is used to determine how different the LATE is from the ATE. We use it to evaluate the differential impacts of a discretionary policy. When a decision-maker has discretion to comply or not-comply with the policy, complier analysis provides a useful tool to evaluate which type of person the decision-maker will choose to be lenient with. This provides insight both into the decision-making process and the differential impacts of a policy.

Table 7 presents a comparison of characteristics of the beneficiaries of the reform (compliers) against the pool of potential beneficiaries. Column 1 shows average characteristics of beneficiaries, Column 2 shows the average characteristics of potential beneficiaries, and Column 3 shows the ratio of Columns 1 and 2. This ratio captures the disproportionate under- or over-representation of the characteristic among beneficiaries. In the first three rows, we evaluate whether magistrates disproportionately select people of certain races/ethnicities for benefit. We find strong evidence that they do. While the pool of potential beneficiaries is 53% black, only 37% of those who benefited from the No-Cash-Bail policy were black. In contrast, Hispanics are slightly overrepresented among beneficiaries, and white defendants are substantially overrepresented. 32% of beneficiaries are white, compared to only 21% of potential beneficiaries.

In the fourth row, we evaluate whether magistrates are disproportionately selecting people from wealthier neighborhoods. We find that beneficiaries tend to come from ZIP Codes with slightly higher poverty rates, although the difference is not very large.

In the last two rows, we consider whether magistrates are disproportionately selecting people with low predicted recidivism or FTA rates. To do so, we generate two separate risk assessments by taking the fitted values of regressions from recidivism and FTA (respectively) on case and defendant characteristics.<sup>50</sup> Race is not included as a predictor. We find that magistrates are indeed selecting individuals with low recidivism risk to be beneficiaries of the reform. Interestingly, the same does not hold true for FTA risk – if anything, beneficiaries have a slightly higher FTA risk than the pool of potential beneficiaries.

In the previous section, we showed that magistrates may not be selecting individuals for ROR based on the likelihood that ROR would lead to misconduct. The analysis presented here is slightly different – we evaluate whether magistrates are selecting individuals for ROR based on their *likelihood* of misconduct, not the likelihood that ROR would *increase* misconduct. When it comes to FTA risk, however, both analyses

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<sup>50</sup>Predictors include whether the defendant was charged with a felony, age at time of arrest, gender, prior charges, prior FTAs, day and time of the bail hearing, magistrate fix effects, whether the defendant had a public defender, and the current charge. To avoid mechanical incapacitation effects, our training data set excludes defendants who were detained pretrial. In our primary model this is defined as detained at least three days; results are similar if this is defined as detained until case disposition.

tell a similar story: magistrates do not prioritize FTA risk in setting bail. This casts one of the potential benefits of discretionary reform in doubt, particularly, the claim that discretion enabled more efficient criminal justice reform by leveraging individualized information about FTA risk. If magistrates pay little attention to FTA risk when setting bail, it seems unlikely that they can be credited with selecting only those individuals for whom ROR is not necessary to ensure appearance.

Evidence on the extent to which magistrates select based on FTA or crime risk also illuminates the racial disparities in selection. Such disparities cannot be explained by differences in FTA risk across races, since magistrates do not appear to select based on FTA risk at all. And even though magistrates select on recidivism risk, race appears to be an as-strong or stronger predictor of whether a defendant will be selected as a beneficiary than their risk of reoffending. Column 3 of Table 7 indicates that black representation among beneficiaries is 0.69 that of the pool of potential beneficiaries. In contrast, predicted recidivism rates among beneficiaries are 0.72 that of the pool of potential beneficiaries.<sup>51</sup>

Thus, the data is more consistent with racial bias in leniency. A few recent papers provide other examples in which discretion to ‘give someone a break’ is utilized differently for recipients of different races. Goncalves and Mello (2017) show that police officers under-report the extent to which white drivers were speeding in order to reduce their fine, but were less likely to offer that same courtesy to black drivers. Chen and Philippe (2017) show that white judges sentence more leniently if the sentencing date falls on the defendant’s birthday, but only for white defendants. These results also highlight a tension outlined in our theoretical framework. Discretionary reform allows human bias in determining who benefits (Yang, 2015).

## IV. Conclusion

We provide new evidence on discretionary bail reform by evaluating the impacts of the No-Cash-Bail policy in Philadelphia. This setting provides a unique opportunity to evaluate the main justification for the use of monetary bail: that it helps ensure

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<sup>51</sup>We provide one robustness test for the complier analysis, in which we drop defendants charged with possession with intent to deliver (PWID). Eligibility for PWID cases is measured imperfectly, since a variety of characteristics not fully captured in our data can make a PWID case ineligible for the reform. Thus, the results shown in Table 7 might be due to classification error rather than discretionary choices. In other words, perhaps some black defendants did not benefit because they were not eligible, not because they were not selected. Appendix Table A8 shows our complier analysis for non-PWID cases. Even in the sample where classification error is unlikely, we still see substantial race differences. The fraction of black defendants in the compliers category is one quarter that of the pool of potential beneficiaries. In this sample, however, there is very little difference in crime and FTA risk across the two groups. This lends support to the racial bias in leniency hypothesis. (Note that our main results on ROR, jail, FTA and recidivism remain unchanged when we drop PWID cases, as shown in Appendix Table A9.)

appearance and prevent crime among released defendants. We find no evidence to support this, and can reject even small increases in FTA and rearrest. Prior to the reform, magistrates appear to have been setting unnecessarily restrictive conditions of release. This could be due to asymmetric penalties in errors: the consequences of setting bail too low are salient and costly from the perspective of the magistrate, whereas the consequences setting bail too high are less noticed.

Our evidence mitigates concerns about the adverse consequences of bail reform, and raises questions about the constitutionality of current practices. Current bail reform efforts focus on limiting the scope of pretrial detention; for example, by replacing high bail amounts with affordable bail, unsecured bail, or pretrial supervision. The results from our paper suggest that such conditions may not be necessary to prevent pretrial misconduct. If nonappearance in court has more to do with inattention than deliberate choice, then interventions targeted towards the root of the problem – such as court reminders – will be more effective (Fishbane et al., 2019). Careful attention to the motivation of different actors can help in the design of effective policy.

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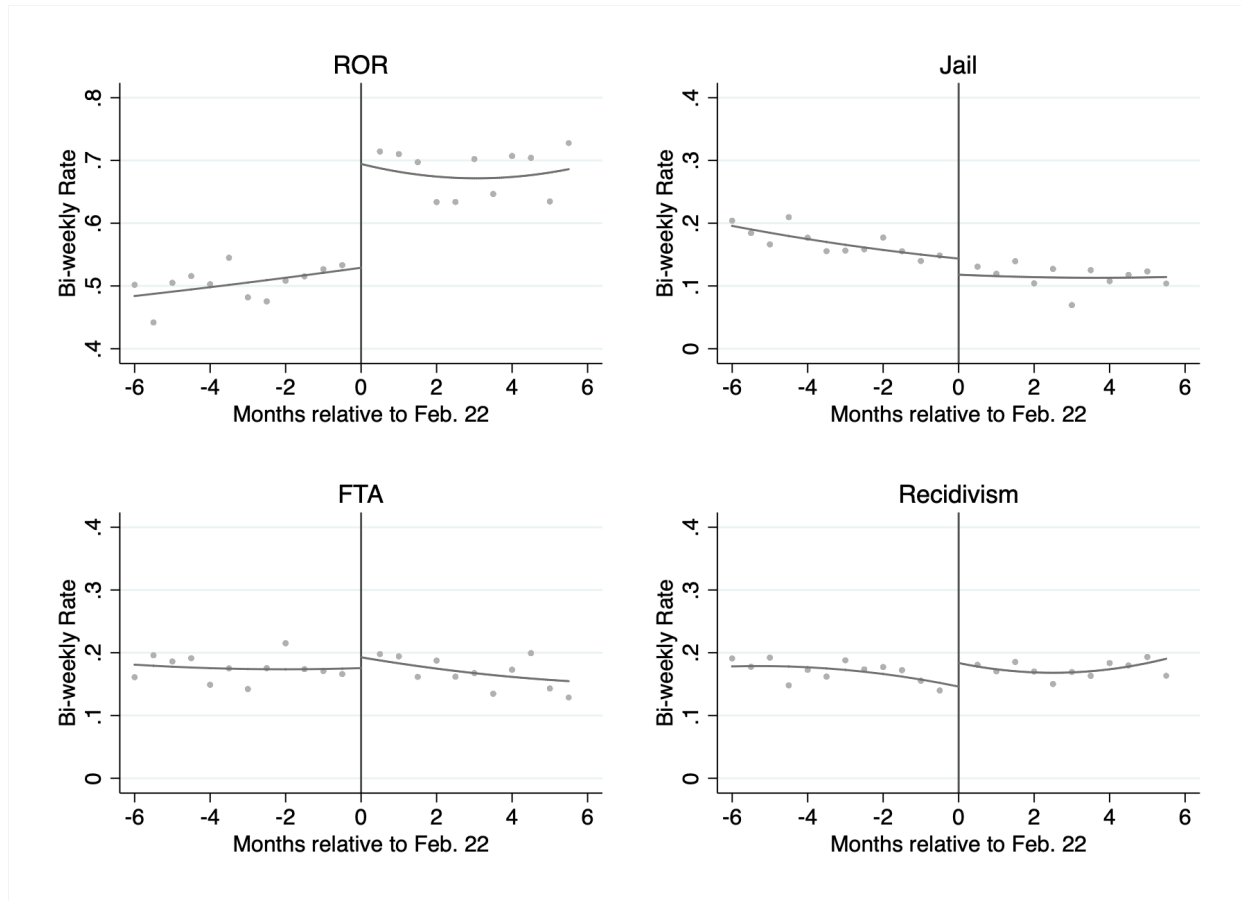


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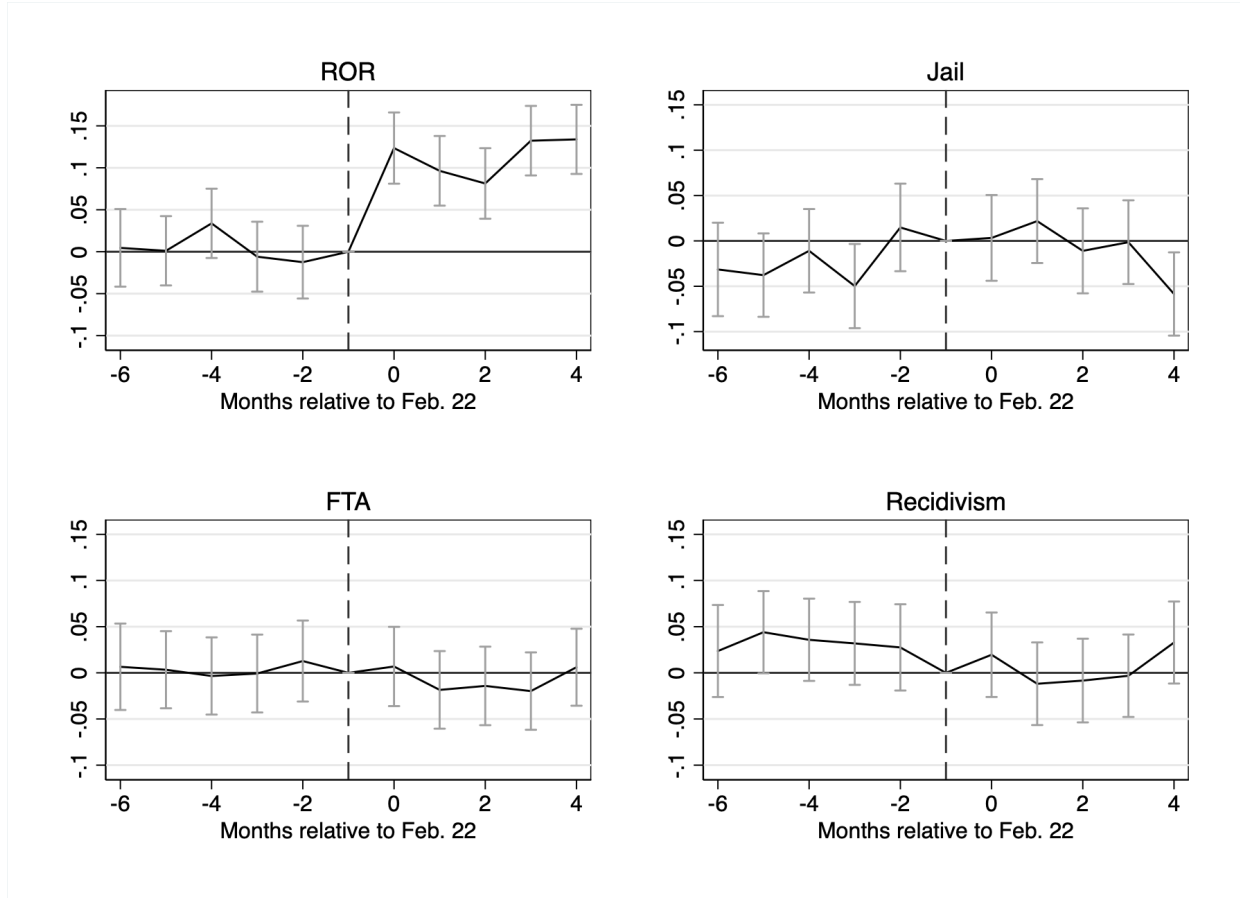
## Figures and tables

**Figure 1:** Time trend in ROR, pretrial detention, FTA and recidivism for eligible cases



Note: Each dot represents the mean value in a two-week time period. The vertical line represents the Feb. 22 date of the No-Cash-Bail policy. The lines are quadratic fits, before and after Feb. 22. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Figure 2:** Difference-in-differences estimates with leads and lags for how the No-Cash-Bail policy affected ROR, jail time, FTA and recidivism



Note: This figure plots the difference-in-difference coefficients obtained from estimating a single equation with monthly leads and lags (Equation 2), with the 95% confidence interval of the coefficient estimate. The treatment group is eligible cases and the control group is ineligible cases. The vertical dashed line indicates the month prior to Feb. 22. That month is left out as the comparison category. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Table 1:** Descriptive statistics for cases before the No-Cash-Bail policy

	<i>Eligible cases</i>	<i>Ineligible cases</i>
<b><i>Defendant characteristics</i></b>		
Age	34.41	32.76
Male	0.84	0.83
Black	0.48	0.67
Hispanic	0.22	0.16
White	0.29	0.16
Median household income in zip code	37847	35401
Percent below poverty in zip code	26.46	26.49
Public defender	0.75	0.68
Felony	0.45	0.70
Has a prior FTA	0.17	0.12
Has a past conviction	0.57	0.53
Has a past felony conviction	0.27	0.39
<b><i>Pre-trial conditions</i></b>		
ROR	0.51	0.08
Supervised release	0.06	0.01
Unsecured monetary	0.07	0.07
Secured bail up to 5000	0.16	0.27
Secured bail over 5000	0.20	0.56
Denied bail	0.00	0.01
Jail (3+ nights)	0.17	0.46
<b><i>Misconduct</i></b>		
FTA	0.17	0.06
Recidivism	0.17	0.11
Observations	7468	4281

This table presents descriptive statistics for cases filed during the six months before the No-Cash-Bail policy. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. All variables are dummies except age and median household income. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Table 2:** Difference-in-difference estimates of the effect of No-Cash-Bail policy on ROR and jail

	ROR		Jail	
	(1)	(2)	(3)	(4)
Eligible*Post 02/21	0.12*** (0.028)	0.11*** (0.021)	0.0079 (0.021)	0.0074 (0.016)
Controls	No	Yes	No	Yes
Mean Dep. Var.	0.505	0.505	0.169	0.169
N	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. Odd columns don't include controls; even columns do. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. ROR means released on own recognizance. Jail refers to being detained pretrial for at least 3 nights after the bail hearing. "Mean Dep. Var." is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table 3:** Difference-in-difference estimates of the effects of the No-Cash-Bail policy on initial bail type

	Supervised release	Unsecured Monetary	Secured Under 5,000	Secured Over 5,000
	(1)	(2)	(3)	(4)
Eligible*Post 02/21	-0.041* (0.019)	-0.021* (0.0077)	-0.046* (0.019)	-0.0068 (0.024)
Controls	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.061	0.069	0.164	0.200
N	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. Secured bail requires the payment of a deposit before release; unsecured bail does not. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. 'Mean Dep. Var.' is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table 4:** Difference-in-difference estimates of the effect of No-Cash-Bail policy on FTA and recidivism

	FTA		Recidivism	
	(1)	(2)	(3)	(4)
Eligible*Post 02/21	-0.014 (0.011)	-0.012 (0.0092)	-0.017 (0.013)	-0.019 (0.011)
Controls	No	Yes	No	Yes
Mean Dep. Var.	0.174	0.174	0.171	0.171
N	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. Odd columns don't include controls; even columns do. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. 'Mean Dep. Var.' is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table 5:** OLS and IV estimates of the effects of ROR on FTA and recidivism

	OLS		IV		Magistrate IV	
	(1) FTA	(2) Recidivism	(3) FTA	(4) Recidivism	(5) FTA	(6) Recidivism
ROR	0.042* (0.018)	0.015 (0.012)	-0.11 (0.090)	-0.17 (0.094)	-0.11 (0.062)	-0.10 (0.091)
[1em] Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.174	0.171	0.174	0.171	0.174	0.171
N	22589	22589	22589	22589	22589	22589

Note: Columns 1 and 2 present OLS estimates; Columns 3 and 4 present IV estimates in which we use  $Post_i * Eligible_i$  as an instrument for the change in ROR (release on recognizance). In Columns 5 and 6 we also include interactions of  $Post_i * Eligible_i$  with a dummy for having one's case examined by Magistrate 1, who had by far the biggest change in ROR, as shown in Table 6. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. 'Mean Dep. Var.' is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**Table 6:** Difference-in-difference estimates of the effect of No-Cash-Bail policy, by bail magistrate

	Bail magistrate					
	1	2	3	4	5	6
<b><i>Panel A: ROR</i></b>						
Eligible*Post 02/21	0.30*** (0.023)	0.020 (0.020)	0.085*** (0.020)	0.12*** (0.023)	0.11*** (0.023)	0.064** (0.022)
Mean Dep. Var.	0.324	0.445	0.490	0.543	0.599	0.621
<b><i>Panel B: Jail</i></b>						
Eligible*Post 02/21	-0.044 (0.028)	0.044 (0.026)	0.0030 (0.025)	0.012 (0.023)	0.0057 (0.026)	-0.0081 (0.026)
Mean Dep. Var.	0.200	0.171	0.159	0.175	0.154	0.155
<b><i>Panel C: FTA</i></b>						
Eligible*Post 02/21	-0.036 (0.025)	-0.026 (0.023)	0.00070 (0.023)	0.019 (0.021)	-0.013 (0.023)	-0.037 (0.024)
Mean Dep. Var.	0.171	0.185	0.176	0.160	0.159	0.194
<b><i>Panel D: Recidivism</i></b>						
Eligible*Post 02/21	-0.0085 (0.026)	0.0077 (0.025)	0.036 (0.024)	-0.072** (0.023)	-0.037 (0.025)	-0.071** (0.026)
Mean Dep. Var.	0.165	0.170	0.154	0.189	0.180	0.172
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	3187	3922	3586	3449	3287	4096

Note: This table presents estimates of  $\delta$  in Equation 1, separately for each of the six bail magistrates who saw more than 100 cases in 2017. Eligible cases are the treatment group, and ineligible cases are the control group. Each panel presents a different outcome, specified at the top of that panel. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. "Mean Dep. Var." is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.



**Table 7:** Comparing the characteristics of beneficiaries and of potential beneficiaries of the No-Cash-Bail reform

	Beneficiaries (compliers)	Potential beneficiaries (compliers + never-ROR)	Ratio: beneficiaries / potential beneficiaries
	(1)	(2)	(3)
Black	0.37	0.53	0.69
Hispanic	0.28	0.25	1.09
White	0.32	0.21	1.57
Percent below poverty	0.23	0.27	0.85
Predicted recidivism	0.23	0.31	0.72
Predicted FTA	0.16	0.15	1.07

Note: This table presents the average characteristics of compliers, who are the beneficiaries of the No-Cash-Bail policy, to that of all potential beneficiaries of the No-Cash-Bail policy, which to say compliers of never-ROR. Calculations follow the methodology outlined in appendix A.

## For Online Publication

### A Determining complier characteristics

We present a brief overview of our estimation procedures to determine complier characteristics, which is based off the approach developed in Jäger et al. (2019).

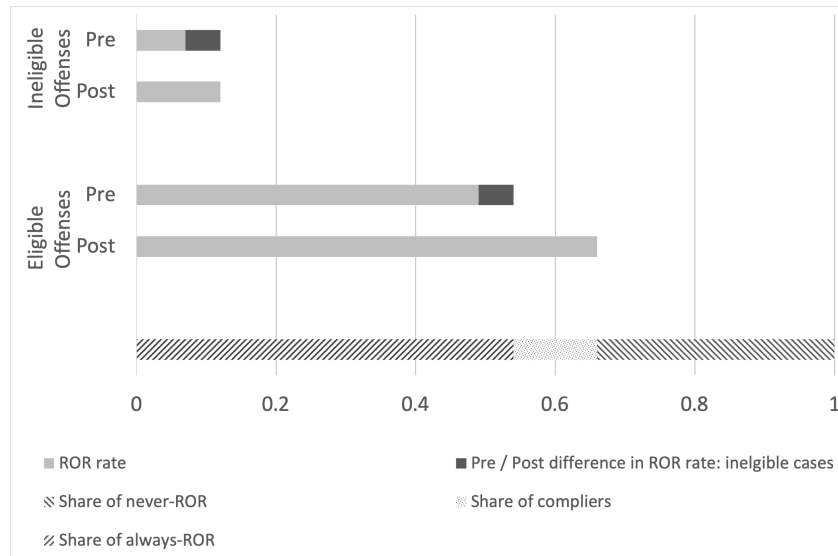
*Notations.*  $R \in \{0, 1\}$  indicates whether a defendant got ROR or not.  $T \in \{t_1, t_0\}$  indicates whether the offense is eligible or not; and  $P \in \{p_1, p_0\}$  indicates whether the case is in the post period (i.e. after the No-Cash-Bail reform) or not.  $Z \in \{0, 1\}$  indicates whether a defendant could potentially benefit from the No-Cash-Bail reform, which depends on whether that defendant's offense is eligible, and whether his case is heard after the No-Cash-Bail reform.  $Z = 1$  for  $(t_1, p_1)$ , and  $Z = 0$  for  $(t_1, p_0)$ ,  $(t_0, p_1)$  and  $(t_0, p_0)$ .  $R_0$  and  $R_1$  denote the potential values of  $R$  for  $Z = 0$  and  $Z = 1$ .

- Compliers have potential outcomes  $R_0 = 0, R_1 = 1$
- Never-ROR have potential outcomes  $R_0 = 0, R_1 = 0$
- Always-ROR have potential outcomes  $R_0 = 1, R_1 = 1$

*Overview.* We are interested in comparing the characteristics of compliers to the characteristics of never-ROR, to understand towards what kinds of defendants criminal justice actors are willing apply greater leniency, and for whom they are not. The estimation procedure has two steps:

1. Estimate the proportion of compliers, never-ROR, and always-ROR among eligible cases in the post-period.
2. Estimate the average of variables of interest among compliers and never-ROR among eligible cases in the post-period.

*Step 1: Estimating the proportion of each group* The figure below illustrates how we define the shares of always-ROR, never-ROR and compliers.



The first part of the figure shows the ROR rates for **ineligible** cases, before and after the No-Cash-Bail reform. The darker part of the bar shows the difference in ROR between the Pre and the Post period for ineligible cases.

The second part of the figure shows the ROR rates for **eligible** cases, before and after the No-Cash-Bail reform. The darker part of the bar reports the difference in ROR between the Pre and the Post period for **ineligible** cases.

The share of always-ROR is made up of defendants who get ROR among eligible cases in the Pre periods; adjusted for the difference between the Pre / Post period of ineligible cases. This captures our parallel trends assumption for difference-in-differences: in the absence of the No-Cash-Bail reform, we assume that eligible cases would have experienced the same change in ROR as ineligible cases. The remaining RORs for eligible cases in the Post period are for compliers. Lastly, never-RORs are the kinds of defendants who did not get ROR even when they have eligible offenses and are in the post-period.

Formally, we can derive the proportion of compliers, always-ROR and never-ROR by using the following difference-in-differences equation:

$$R_i = \alpha + \beta P_i + \delta P_i * T_i + \lambda T_i + \epsilon_i$$

- Compliers have potential outcomes  $R_0 = 0, R_1 = 1$ . Their proportion,  $\pi_c$ , is  $\hat{\delta}$ .
- Always-RORs have potential outcomes  $R_0 = 1, R_1 = 1$ . Their proportion,  $\pi_a$ , is  $\hat{\alpha} + \hat{\beta} + \hat{\lambda}$ .
- Never-RORs have potential outcomes  $R_0 = 0, R_1 = 0$ . Their proportion,  $\pi_n$ , is  $1 - \hat{\alpha} - \hat{\beta} - \hat{\delta} - \hat{\lambda}$ .

*Step 2: Estimating average characteristics within each group*

Now that we know what portion of eligible defendants in the post-period are in each group, we can estimate their average characteristics in the post-treatment period. For the never-ROR group, this is straightforward: it is the average characteristics of eligible defendants who **did not** get ROR in the post-period. (By monotonicity, we assume that eligible defendants who did not receive ROR in the post-treatment period would also not have received ROR in the pre-treatment period.)

$$E[x|p_1, t_1, R_1 = 0, R_0 = 0] = E[x|p_1, t_1, R_1 = 0]$$

For the always-ROR group, we identified the average characteristics of eligible defendants who **did** get ROR in the pre-treatment period, adjusting for time trends in characteristics using Pre/Post changes in the ineligible group, and again relying on the monotonicity assumption. This adjustment (the second term below) derives from the parallel trends assumption.

$$E[x|p_1, t_1, R_0 = 1] = E[x|p_0, t_1, R_0 = 1] + (E[x|p_1, t_0, R_0 = 1] - E[x|p_0, t_0, R_0 = 1])$$

This gives us all the ingredients we need to estimate average characteristics of compliers. We know that eligible defendants who received ROR in the post-period are a mix of compliers and always-ROR. From Step 1, we know what portion of these

defendants are compliers, and what portion are always-ROR. Simple algebra yields the average characteristics of compliers.

The average characteristics of defendants for who get ROR if  $Z = 1$  can be decomposed as follows:

$$\begin{aligned} E[x|p, t, R_1 = 1] &= E[x|p, t, R_1 = 1, R_0 = 1] * P(R_0 = 1|p, t, R_1 = 1) \\ &\quad + E[x|p, t, R_1 = 1, R_0 = 0] * P(R_0 = 0|p, t, R_1 = 1) \end{aligned}$$

Rearranging terms to isolate the average characteristics of compliers:

$$\begin{aligned} E[x|p, t, R_1 = 1, R_0 = 0] &= \frac{1}{P(R_0 = 1|p, t, R_1 = 1)} E[x|p, t, R_1 = 1] \\ &\quad - \frac{P(R_0 = 0|p, t, R_1 = 1)}{P(R_0 = 1|p, t, R_1 = 1)} E[x|p, t, R_0 = 1, R_1 = 1] \end{aligned}$$

By monotonicity,  $E[x|p, t, R_0 = 1, R_1 = 1] = E[x|p, t, R_0 = 1]$  and so

$$\begin{aligned} E[x|p, t, R_1 = 1, R_0 = 0] &= \frac{1}{P(R_0 = 1|p, t, R_1 = 1)} E[x|p, t, R_1 = 1] \\ &\quad - \frac{P(R_0 = 0|p, t, R_1 = 1)}{P(R_0 = 1|p, t, R_1 = 1)} E[x|p, t, R_0 = 1] \end{aligned}$$

Using Bayes rule, this can be re-expressed in terms of the shares of always-ROR,  $\pi_a$ , and compliers,  $\pi_c$ :

$$E[x|p, t, R_1 = 1, R_0 = 0] = \frac{\pi_c + \pi_a}{\pi_c} E[x|p, t, R_1 = 1] - \frac{\pi_a}{\pi_c} E[x|p, t, R_0 = 1]$$

Empirically, we can calculate this for  $p = 1$  and  $t = 1$ . The values  $E[x|p_1, t_1, R_1 = 1]$  and  $E[x|p_1, t_1, R_0 = 1]$  can be derived with observational data:

$$E[x|p_1, t_1, R_1 = 1] = E[x|p_1, t_1, R = 1, Z = 1]$$

And the average characteristics of always-ROR in the post-treatment period,  $E[x|p_1, t_1, R_0 = 1]$ , was defined above.

## B Prosecutor requests and bail magistrate decisions: dilution through discretion

Discretion explicitly plays a role in the No-Cash-Bail policy in at least two ways. As discussed previously, bail magistrates are not bound to follow the recommendations associated with the district attorney’s policy, and can set bail as they wish. But the policy also grants some limited discretion to the line prosecutors charged with carrying it out.<sup>52</sup> Although the presumptive default is to request ROR, the policy states that prosecutors can continue to request monetary bail when ‘justice requires it’. This, however, is supposed to only be in ‘exceptional circumstances’.

Almost 40% of eligible cases were assigned monetary and supervisory conditions of release even after the reform.<sup>53</sup> Is this entirely due to the magistrates’ unwillingness to follow the requests of the DA rep? Or did the DA reps themselves not fully comply with the policy? Distinguishing between these two theories can help refine our understanding about how discretionary reform moves through the criminal justice pipeline.

We are able to provide some insights into this question by using novel court-watching data, collected by volunteers for the ACLU. Volunteers attended bail hearings to manually collect data for a project focused on whether bail magistrates asked about defendants’ ability to pay bail.<sup>54</sup> It contains information about what type of bail is requested by the prosecutor’s representative, as well as what type of bail is actually assigned by the magistrates. Our final sample contains 565 cases, which we match to the court records to verify bail outcomes.<sup>55</sup> Ideally, we would have these data before and after the policy change, to see how actors’ behaviors changed. However, these data were collected only in the post-reform period – between September and December of 2018, and just after our main study period.<sup>56</sup> This subsection therefore presents a descriptive snapshot of requests by the DA rep, and of the bail magistrate’s subsequent decision, in the medium-run after the policy change.

Is the continued incidence of monetary and supervisory conditions because the DA rep continued to request them? Or because the bail magistrate continued to require them, despite the requests of the DA rep? Our data suggests that it was a little bit of both. Appendix Table 10 plots the bail requests made by the DA rep against bail decisions made by the magistrates for eligible defendants.<sup>57</sup> The rows of Appendix Table 10 show the DA rep’s requests and columns present magistrates’ decisions.

<sup>52</sup>The full policy as described here <https://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&ttl=42&div=0&chpt=57&sctn=47&subctn=1>

<sup>53</sup>In some of these cases, monetary bail may have been set upon request from the defense. If a defendant is arrested while on probation or parole, their probation officer may choose to file a detainer. If so, the defendant will be automatically detained until a hearing is held to evaluate whether probation should be revoked. The defendant will only get credit for time served on a detainer if monetary bail is set. In 2015, 8% of misdemeanor cases and 18% of felony cases resulted in a detainer. Thus, while this may account for some incidence of monetary bail among eligible cases, it is unlikely to account for much of it.

<sup>54</sup>This inquiry is not directly related to our research collection. Thus, if there are biases in terms of data collection due to the agenda of the observers, they are not related to the questions that we are asking with these data.

<sup>55</sup>We drop from our analyses 174 cases where the prosecutor’s representative was inaudible. Our results are very similar if we include the inaudible cases, or drop all dates where the inaudible rate was high (results not included in the paper).

<sup>56</sup>Bail decisions were similar over that time period as they were in the period immediately after the reform.

<sup>57</sup>For completeness, Appendix Table A11 presents a similar table for ineligible cases.

First, note that the DA rep only requests ROR among eligible cases in 7% of cases.<sup>58</sup> And they continued to request monetary bail in 19% of eligible cases. For more than two thirds of cases, the DA rep simply makes no request, which usually – but not always – results in ROR. Perhaps the DA rep makes no request because she believes that none is necessary. But ROR is not guaranteed when the DA rep remains silent. In 18% of cases where the DA rep makes no request, the magistrate assigns monetary or supervisory conditions anyway. Given the frequency with which the DA rep makes no request, these instances account for more than one third of cases in which the bail magistrate assigns monetary bail.

Thus, the policy was diluted not only by magistrate discretion, but also by discretion wielded by actors *within the prosecutor's office itself*. This could potentially be due to moral hazard in the workplace. Given incomplete monitoring, economic theory predicts that agents may not act in a way that advances the interests of the principal.<sup>59</sup> If the line prosecutors have their own habits and preferences around bail, or if they disagree with the extent of the No-Cash-Bail reform, they may deviate from the district attorney's instructions. On the other hand, the instructions provided informally to line prosecutors within the office may be different from those announced publicly in the No-Cash-Bail policy. What appears to be incomplete compliance may actually be due to a discrepancy in how the policy is conveyed publicly and how it is understood within the office.

The high rate of 'no-request' shown in the court-watching data also provides tentative evidence that the reform may have acted more *to remove* a constraint on the bail magistrates (the request for monetary bail) rather than *to add* a constraint. Put simply, the increased ROR rates after the reform may be more in line with the bail magistrates' true preferences. This is just suggestive because we do not have data on bail requests made by the DA rep before the reform, nor immediately after the reform.<sup>60</sup> But if this interpretation is correct, it is consistent with our Wille-Horton hypothesis. The risk of peer condemnation for a Type II error is higher when leniency is granted against the wishes of the prosecutor. When this constraint is relaxed, magistrates become more lenient.

As a case moves through the criminal procedure it passes through many hands. Since each actor has discretion, reform can be watered down at each stage. In this subsection, we demonstrate that discretion wielded by actors within the district attorney's office diluted the impact of the No-Cash-Bail reform. The prevalence of discretion in the criminal justice means that careful attention should be paid to the incentives of different criminal justice agents when designing policy.

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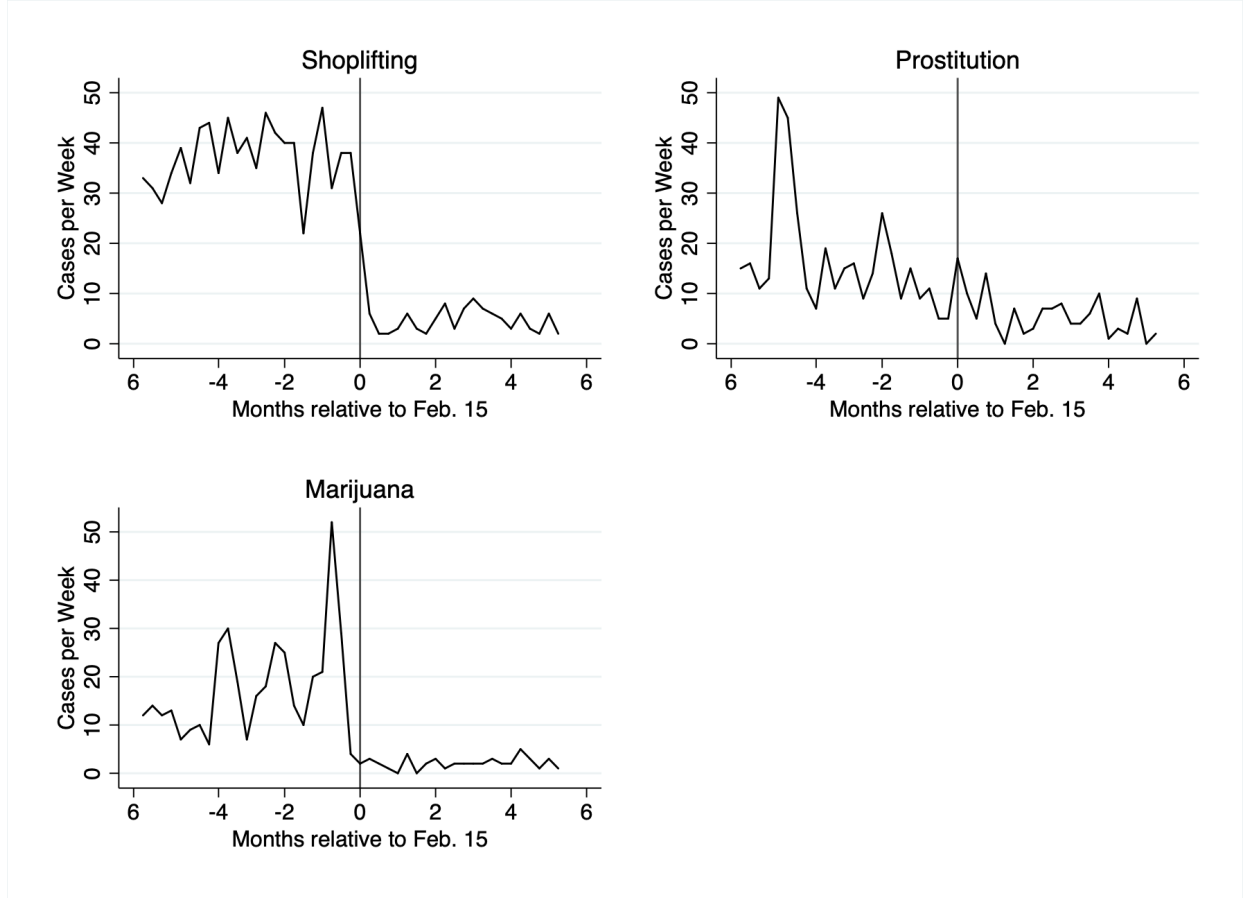
<sup>58</sup>The DA rep receives instructions on what amount of bail to request from a line prosecutor within the charging unit.

<sup>59</sup>There is no systematic record of bail requests made by the DA rep that could be used to inform supervisors of compliance.

<sup>60</sup>It's also possible that the DA rep actively advocated for ROR immediately after the reform passed but then switched to no request once a new set of norms had been established. We cannot rule this out, since this observation data is 7-10 months after the No-Cash-Bail reform, and not immediately after.

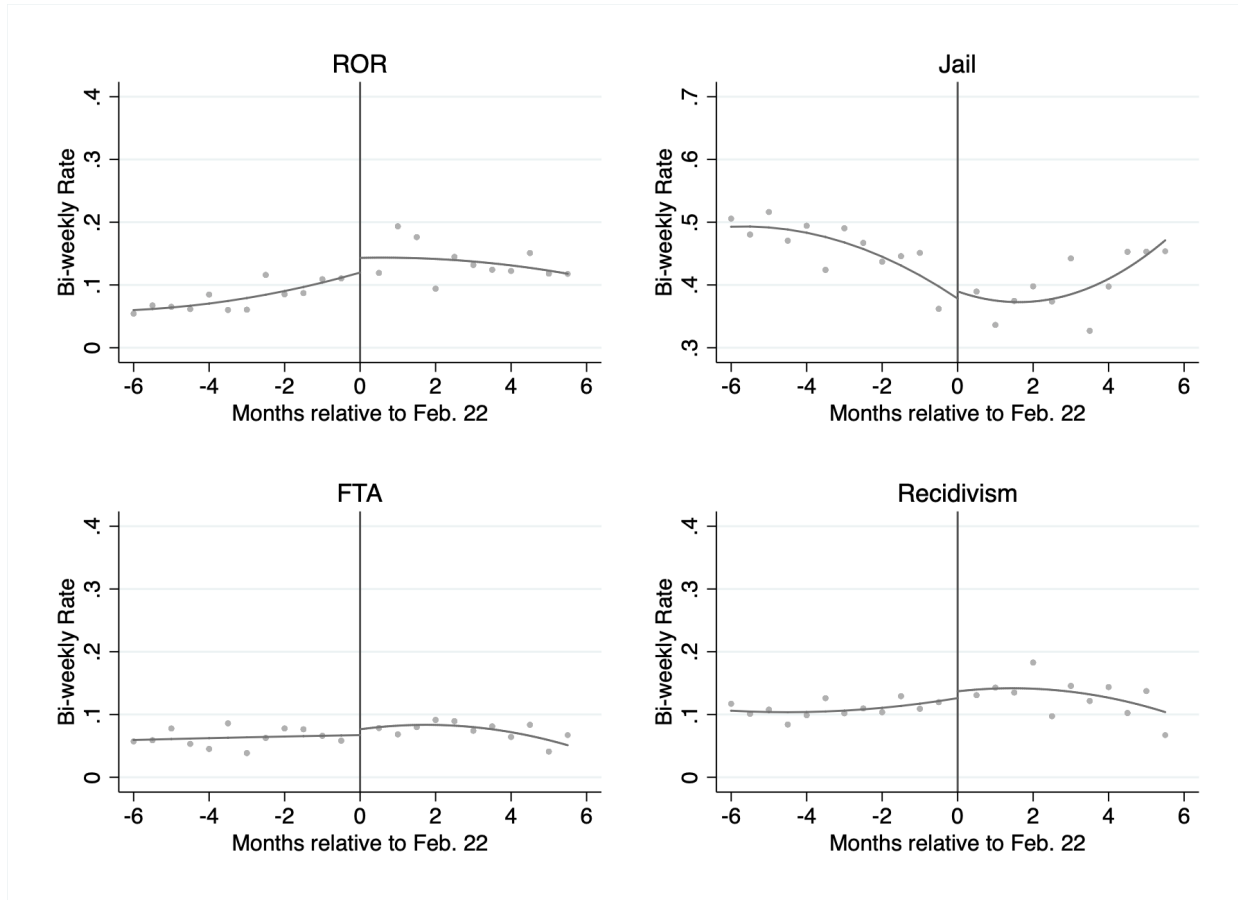
## C Additional figures and tables

**Figure A.1:** Changes in the weekly number of cannabis, prostitution and shoplifting cases after the Feb. 15th announcement not to prosecute these kinds of cases anymore. For all of our analyses, we drop these cases.



These figures document a decline in the number of cases filed for shoplifting, prostitution and marijuana offenses that occurred due to changes in prosecutorial policy around the same time as the No-Cash-Bail reform. We drop these cases from our analysis. Data source: court dockets from the Pennsylvania Unified Judicial System.

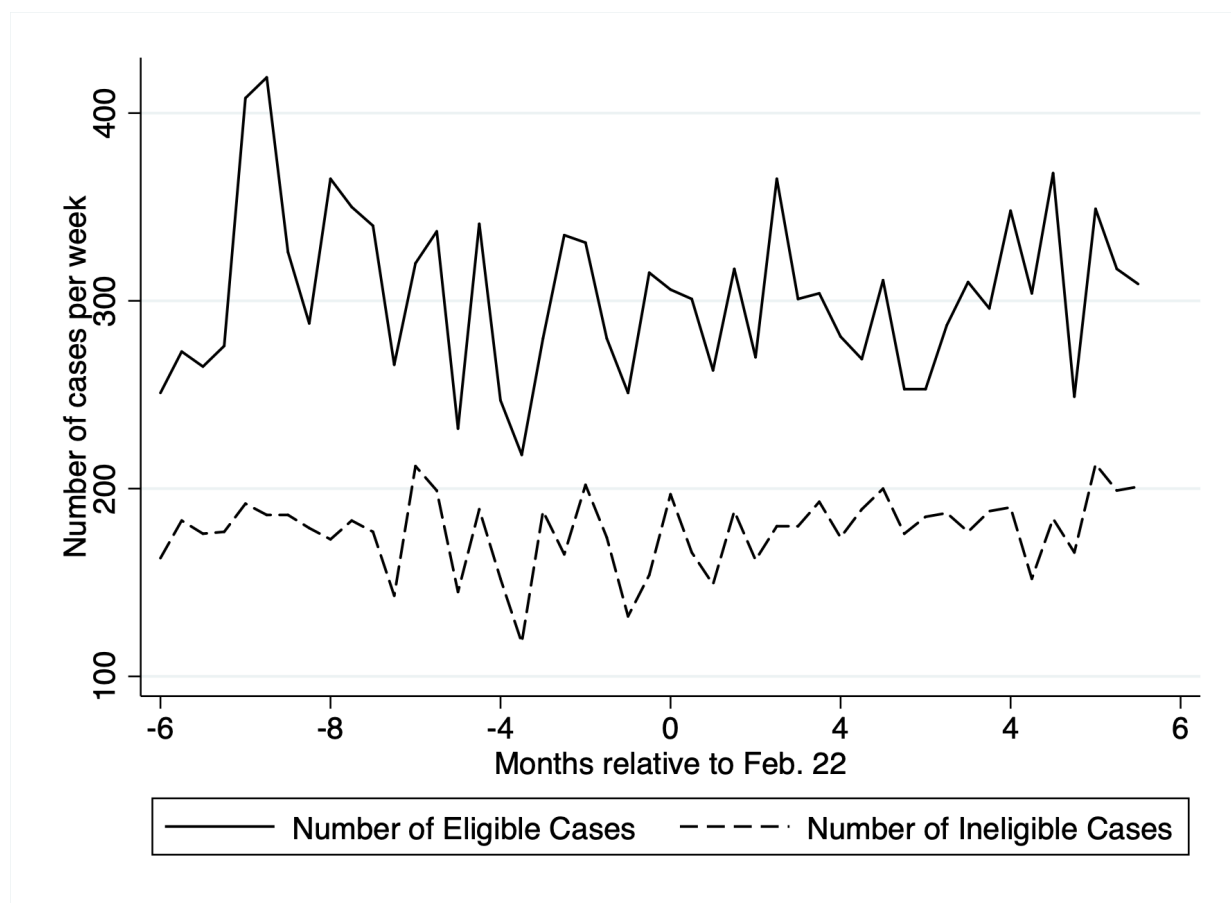
**Figure A.2:** Time trend in ROR, pretrial detention, FTA and recidivism for ineligible cases



Note: Each dot represents the mean value in a two-week time period. The vertical line represents the Feb. 22 date of the No-Cash-Bail policy. The lines are quadratic fits, before and after Feb. 22. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. Data source: court dockets from the Pennsylvania Unified Judicial System.

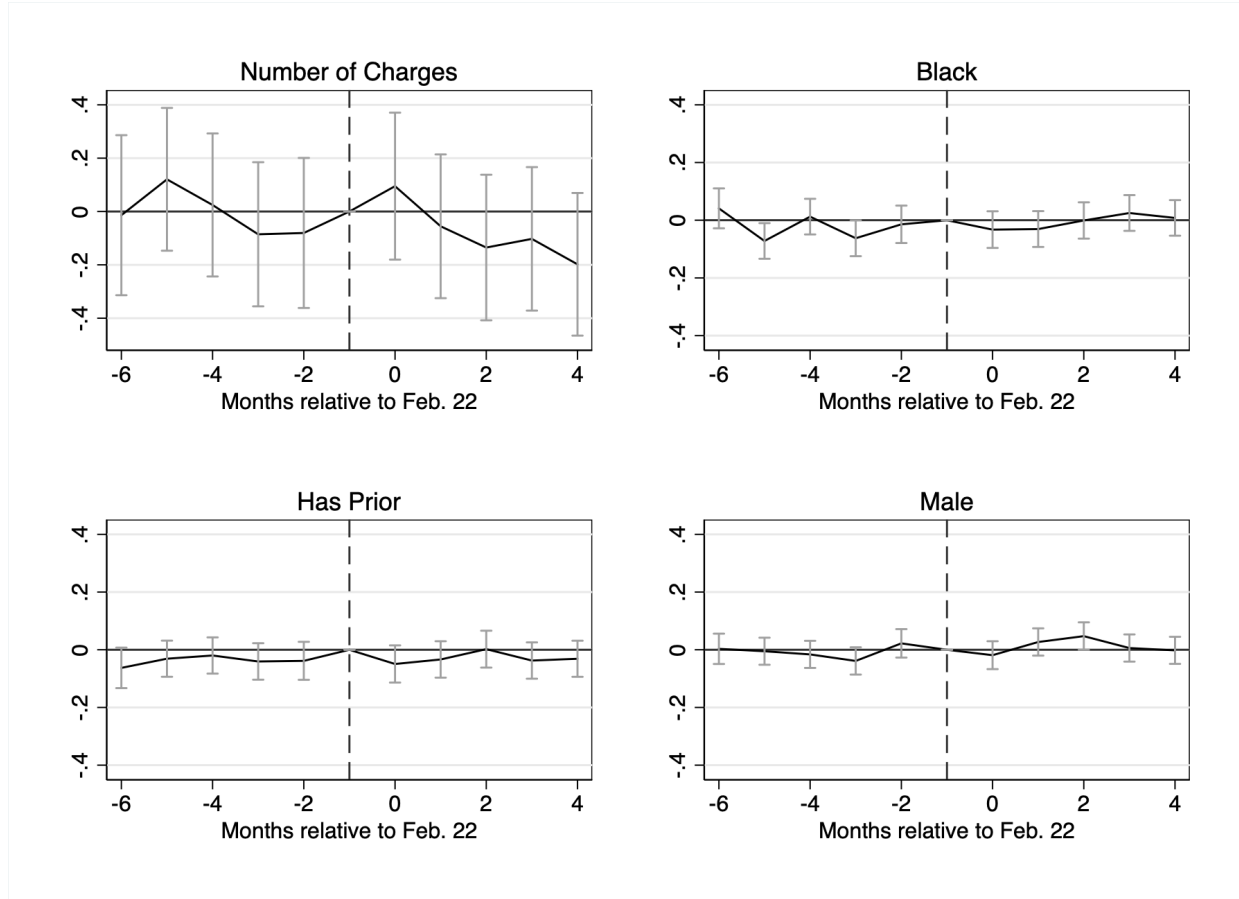


**Figure A.3:** Trends in the weekly number of eligible and ineligible cases



This figure presents trends in the weekly number of cases filed that were eligible for the No-Cash-Bail reform as well as those that were ineligible. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Figure A.4:** Balance check: Difference-in-differences estimates with leads and lags for how the No-Cash-Bail policy affected case composition



Note: This figure plots the difference-in-difference coefficients obtained from estimating a single equation with monthly leads and lags (Equation 2), with the 95% confidence interval of the coefficient estimate. The treatment group is eligible offenses and the control group is ineligible offenses. The vertical dashed line indicates the month prior to Feb. 22. That month is left out as the comparison category. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Table A1:** Offense category frequency for eligible and ineligible cases

Panel A: Eligible Cases	
Possession with intent to deliver (PWID)	0.28
Drug purchase	0.20
Drug possession	0.18
DUI	0.15
Theft	0.06
Burglary	0.04
Receiving stolen property	0.03
Other	0.03
Observations	7468
Panel B: Ineligible Cases	
Aggravated assault	0.20
Firearm violation	0.12
Robbery	0.10
Simple assault	0.09
Possession with intent to deliver (PWID)	0.09
Possession of weapon	0.06
Domestic violence	0.05
Other	0.17
Observations	4281

Note: This table shows the most frequent offense categories for eligible and ineligible cases. While PWID in general are eligible offenses, PWID cases for which the defendant had a PWID in the past 6 months are not eligible. Data source: court dockets from the Pennsylvania Unified Judicial System.

**Table A2:** Testing for changes in case composition at time of reform

	# arrests (1)	arrests eligible (2)	arrests ineligible (3)	# cases (4)	# eligible (5)	# ineligible (6)	# PWID (7)
Eligible*Post 02/21	-9.40 (12.1)			-17.5 (14.3)			
Post 02/21		-9.07 (20.6)	-3.47 (11.8)		8.61 (25.4)	15.7 (13.0)	6.13 (12.5)
Mean Dep. Var.	231.280	246.160	216.400	307.417	307.417	173.417	102.792
N	94	47	47	92	46	46	46

Note: In Columns 1-3, we use publicly available data on daily arrests in Philadelphia. Since offenses are classified with UCR codes, which are coarser than statutes, we include as eligible and ineligible cases only offenses that are most clearly in either category. Eligible cases are arrests for drug sales, theft, DUI, fraud, and embezzlement. Ineligible cases are arrests for homicide, rape, robberies, aggravated assault, sex offenses, threats of violence, assaults, possession of firearms, and burglaries. In Columns 4-7, we use court dockets from the Pennsylvania Unified Judicial System. In Columns 1 and 4, our data is collapsed at the weekly level for both eligible and ineligible cases. In Columns 2, 3 and 5-7, the data is collapsed to the weekly level, and estimations include quadratic time trends. ‘Mean Dep. Var.’ is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A3:** Testing for changes in case composition at time of reform

	Charges per case (1)	Has Prior (2)	Male (3)	Black (4)
Eligible*Post 02/21	-0.058 (0.047)	0.0054 (0.016)	0.020 (0.011)	0.0078 (0.015)
Mean Dep. Var.	2.456	0.574	0.839	0.478
N	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. The outcomes are number of charges per case (Column 1), a dummy equal to 1 for having a prior (Column 2), for being male (Column 3) or for being Black (Column 4). ‘Mean Dep. Var.’ is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A4:** Difference-in-difference estimates of the effect of No-Cash-Bail policy on ROR, jail, FTA and Recidivism, showing coefficients on Post and Eligible Offenses

	ROR	Jail	FTA	Recidivism
	(1)	(2)	(3)	(4)
Eligible*Post 02/21	0.11*** (0.021)	0.0074 (0.016)	-0.012 (0.0092)	-0.019 (0.011)
Post 02/21	0.034 (0.019)	-0.045** (0.015)	0.018 (0.011)	0.029*** (0.0075)
Eligible Offense	0.070 (0.086)	-0.080 (0.089)	-0.0021 (0.043)	-0.031 (0.030)
Controls	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.505	0.169	0.174	0.171
N	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$ ,  $\beta$  and  $\lambda$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. "Mean Dep. Var." is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

Table A5: Robustness checks

	ROR				FTA			
	Ever (1)	12 weeks (2)	Donut (3)	Weekly (4)	Total (5)	12 weeks (6)	Donut (7)	Weekly (8)
Eligible*Post 02/21 good and	0.11*** (0.020)	0.11*** (0.022)	0.11*** (0.019)	0.12*** (0.017)	-0.015 (0.011)	-0.0071 (0.0085)	-0.012 (0.0087)	-0.012 (0.0091)
Mean Dep. Var.	0.512	0.515	0.505	0.510	0.213	0.174	0.174	0.175
N	22175	10680	20736	96	22175	10680	20736	96

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. Columns 1-4 present robustness tests for ROR, and columns 5-8 present robustness tests for FTA. In column 1, Ever ROR is a dummy equal to 1 if a person gets an ROR at any point during the pretrial period, instead of just the initial bail hearing. In column 5, total FTA is the total number of FTA incidents, instead of the likelihood of having an FTA. Columns 2 and 6 limit our sample to 12 weeks before and after Feb. 21. Columns 3 and 7 exclude the week of the policy, and the weeks just before and after. Columns 4 and 8 are collapsed to one observation per week. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. ROR means released on own recognizance. FTA is failure to appear in court. 'Mean Dep. Var.' is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A6:** Difference-in-difference estimates of the effect of No-Cash-Bail policy on jail: different lengths of jail time

	Spent at least x nights in jail, with x equal to...						
	1	2	3	4	5	6	7
Eligible*Post 02/21	0.0049 (0.017)	0.0070 (0.017)	0.0074 (0.016)	0.013 (0.015)	0.014 (0.016)	0.015 (0.016)	0.013 (0.016)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.190	0.175	0.169	0.164	0.159	0.157	0.155
N	22589	22589	22589	22589	22589	22589	22589

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. The outcome in each column is being detained pretrial for at least x nights after the bail hearing – Column 1 is at least 1 night, Column 2 is at least 2 nights, and so on. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. “Mean Dep. Var.” is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A7:** Robustness for difference-in-difference estimates of the effect of No-Cash-Bail policy on FTA and recidivism: different time windows

	FTA within...			Recidivism within...		
	1 month (1)	3 months (2)	10 months (3)	1 month (4)	3 months (5)	10 months (6)
Eligible*Post 02/21	0.0057 (0.0056)	0.0029 (0.0064)	-0.0041 (0.010)	-0.0026 (0.0049)	-0.0081 (0.0081)	-0.025* (0.0093)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.035	0.085	0.157	0.046	0.108	0.235
N	22589	22589	20524	22589	22589	20524

Note: This table presents estimates of  $\delta$  in Equation 1. Eligible offenses are the treatment group, and ineligible offenses are the control group. The outcome in Columns 1-3 is FTA and in Columns 4-6 is recidivism. They are defined as having missed one's court date or failed to appear in court within 1 month (Columns 1 and 4), 3 months (Columns 2 and 5) or 10 months (Columns 3 and 6) within one's initial court hearing. In Columns 3 and 6, we limit our sample to defendants for whom we observe outcomes for at least 10 months after their initial court hearing. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. "Mean Dep. Var." is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A8:** Comparing the characteristics of beneficiaries and of potential beneficiaries of the No-Cash-Bail reform for cases other than PWID

	Beneficiaries (compliers)	Potential beneficiaries (compliers + never-ROR)	Ratio: beneficiaries / potential beneficiaries
	(1)	(2)	(3)
Black	0.11	0.43	0.26
Hispanic	0.35	0.22	1.62
White	0.50	0.34	1.49
Percent below poverty	0.23	0.24	0.95
Predicted recidivism	0.27	0.26	1.02
Predicted FTA	0.16	0.14	1.17

Note: This table presents the average characteristics of compliers, who are the beneficiaries of the No-Cash-Bail policy, to that of all potential beneficiaries of the No-Cash-Bail policy, which to say compliers of never-ROR. Calculations follow the methodology outlined in appendix A. We drop PWID (possession with intent to deliver) cases, whose classification into "eligible" and "ineligible" cases may be more ambiguous, since it depends on prior drug cases whose characteristics we do not fully observe in our data. Note that our main results are unchanged when we drop PWID cases (Table A7).



**Table A9:** Difference-in-difference estimates of the effect of No-Cash-Bail policy on ROR, jail, FTA and Recidivism, dropping PWID cases

	ROR (1)	Jail (2)	FTA (3)	Recidivism (4)
Eligible*Post 02/21	0.099*** (0.021)	0.013 (0.016)	-0.014 (0.011)	-0.017 (0.015)
Controls	Yes	Yes	Yes	Yes
Mean Dep. Var.	0.684	0.084	0.194	0.156
N	17952	17952	17952	17952

Note: This table presents estimates of  $\delta$  in Equation 1, dropping PWID (possession with intent to deliver) cases. Eligible offenses are the treatment group, and ineligible offenses are the control group. ROR (released on own recognizance) means that a defendant is released with no monetary or supervisory conditions. Pretrial detention is defined as spending at least 3 nights in jail immediately after their initial bail hearing. FTA means failure to appear in court. Recidivism (new criminal charges) is measured within 6 months after one's initial court hearing. Controls are for offense statute and class, age, gender, day of week, shift, presence and number of past offenses and past FTAs, and initial bail commissioner. "Mean Dep. Var." is the mean of the dependent variable for eligible cases before the No-Cash-Bail policy. Data source: court dockets from the Pennsylvania Unified Judicial System. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Standard errors, clustered at the offense level, are in parentheses.

**Table A10:** Prosecutor requests and bail magistrate decisions for eligible cases.

	Bail outcome				Number of cases	Fraction of cases
	ROR	Supervised Release	Unsecured Monetary	Secured Monetary		
Requested ROR	0.57	0.04	0.39	0.00	28	0.07
Requested Supervised release	0.33	0.67	0.00	0.00	3	0.01
Requested Unsecured monetary	0.36	0.00	0.64	0.00	11	0.03
Requested Secured monetary	0.12	0.03	0.07	0.78	74	0.19
No Request	0.82	0.03	0.08	0.07	281	0.70
Overall	0.66	0.03	0.12	0.19	397	1.00

Note: This table presents the breakdown of bail outcomes, by type of request made by the prosecutor's representative. Each row represents one type of prosecutorial request, and each cell presents the fraction of cases with that bail outcome. ROR is released on recognizance. Supervised release means that the defendant is released with monetary conditions. Unsecured bail means that the defendant does not have to post money, but they owe the court their bail if they fail to appear in court. Secured monetary bail means that a defendant must pay 10% of the bail amount as a deposit, and will owe the full amount if they don't show up to court. This is calculated using court observation data collected by ACLU volunteers between September 11th and December 20th, 2018. We drop cases where the requests of the prosecutor's representative were inaudible.

**Table A11:** Prosecutor requests and bail magistrate decisions for ineligible cases.

	Bail outcome				Number of cases	Fraction of cases
	ROR	Supervised Release	Unsecured Monetary	Secured Monetary		
Requested ROR	0.67	0.00	0.33	0.00	3	0.02
Requested Supervised release	0	0	0	0	0	0.00
Requested Unsecured monetary	0.00	0.00	1.00	0.00	5	0.03
Requested Secured monetary	0.01	0.01	0.17	0.80	76	0.48
No Request	0.43	0.01	0.19	0.36	77	0.48
Overall	0.22	0.01	0.21	0.55	161	1.00

Note: This table presents the breakdown of bail outcomes for ineligible cases, by type of request made by the prosecutor’s representative. Each row represents one type of prosecutorial request, and each cell presents the fraction of cases with that bail outcome. ROR is released on recognizance. Supervised release means that the defendant is released with monetary conditions. Unsecured bail means that the defendant does not have to post money, but they owe the court their bail if they fail to appear in court. Secured monetary bail means that a defendant must pay 10% of the bail amount as a deposit, and will owe the full amount if they don’t show up to court; we also include in that category defendants who got no bail (i.e. who would be detained pretrial regardless), which only happened once in our data. This is calculated using court observation data collected by ACLU volunteers between September 11th and December 20th, 2018. We drop cases where the requests of the prosecutor’s representative were inaudible.