

CONNECTICUT SENTENCING COMMISSION

2020 Interim Report

A Study of the Disparities in Pretrial and Sentencing Outcomes of Criminal Defendants

January 30, 2020



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Report to the Judiciary Committee
of the Connecticut General Assembly,
pursuant to Special Act 19-17

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Executive Summary

On July 1, 2019, Governor Lamont signed into law Special Act 19-17, *An Act Concerning a Study of the Disparities in Pretrial and Sentencing Outcomes of Criminal Defendants*. The Act requires the Connecticut Sentencing Commission to study potential disparities in pretrial and sentencing outcomes related to the racial, ethnic, gendered, and socioeconomic characteristics of criminal defendants in the state's criminal justice system. The Commission is required to submit an interim report on this study to the Judiciary Committee of the General Assembly not later than January 1, 2020 and a final report by January 1, 2021.

Since the passage of Special Act 19-17, the members of the Commission have worked with key stakeholders and Professors Miguel de Figueiredo and Stephen Ross of the University of Connecticut to develop a study that will document and quantify disparities in accordance to the legislative mandate. The Commission submits this interim report, which documents the methodology, data sources, current status, and timeline of the study.

The study will use three approaches to identify and quantify racial, ethnic, gendered, and socioeconomic disparities in pretrial and sentencing outcomes. First, the Commission will identify and calculate disparities in various pretrial and sentencing outcomes across different racial, ethnic, gendered, and socioeconomic populations. The Commission will then control for the risk factors used in pretrial release and detention decisions and assess the extent to which these non-discriminatory factors can explain any observed racial, ethnic, gendered, and socioeconomic disparities in pretrial outcomes. Second, the Commission will utilize a series of quasi-experimental methods to estimate the impact of being detained pretrial on later sentencing outcomes. This will enable the Commission to determine the extent to which disparities in sentencing outcomes are caused by disparities in pretrial outcomes. Lastly, the Commission will analyze disparities in pretrial misbehavior (failure to appear and rearrest rates) to assess whether defendants of different races, ethnicities, genders, and socioeconomic backgrounds who pose similar risks are detained at different rates.

To complete this study, the Commission will be utilizing data from the Connecticut Information Sharing System, a comprehensive, state-wide criminal justice database that aggregates offender information from various law enforcement, judicial, and correctional agencies. The Commission is currently in the process of acquiring the agency approvals required to obtain the requisite data.

The Commission intends to have the final report for this study by January 1, 2021, and, conditional on timely access to the requisite data, does not see an obstacle in meeting this deadline. Professors de Figueiredo and Ross and members of the Sentencing Commission staff continue to work actively on this study and will provide updates to the Commission during each of its regular meetings in 2020.

The authors emphasize that this study fundamentally focuses on identifying *disparities* in criminal justice, not *discrimination*. Individuals of different racial, ethnic, gendered, and socioeconomic backgrounds often experience differential criminal justice outcomes. While the

Commission intends to document these disparities, given the vast number of observable and unobservable characteristics that are considered in pretrial and sentencing decisions, it is exceedingly difficult to definitively attribute these disparities to discrimination.

Per its enabling statute, the Commission intends to continue its exploration of disparities and their causes beyond the conclusion of this study. Identifying and eliminating inequalities in Connecticut's criminal justice system is a task core to both the Sentencing Commission's purpose as an agency and Connecticut's constitutional obligation to provide "equal protection under the law." The Commission is excited to undertake the responsibility of identifying disparities in Connecticut's criminal justice system and looks forward to utilizing the results of this study to inform the its ongoing initiative to achieve a more just and equitable criminal justice system.

I. Introduction

On July 1, 2019, Governor Ned Lamont signed Special Act No. 19-17 into law. This law requires the Connecticut Sentencing Commission (CSC) to conduct a study of disparities in the criminal judicial system of the State of Connecticut. The mandate is relatively broad, encompassing disparities in any pretrial and sentencing outcomes, and requiring consideration of disparities by race, ethnicity, gender and socioeconomic status of criminal defendants. According to the legislation, the CSC must have access to the Criminal Justice Information System (CJIS), the Connecticut Information Sharing System (CISS) and any state or local criminal or judicial databases that have not yet been incorporated into the CISS. The Act establishes a very aggressive timeframe for the Sentencing Commission requiring the submission of an interim report on January 1, 2020 and a final report on January 1, 2021. The exact text of the bill is provided in Appendix A of this report.

In order to fully understand any disparities that arise within the Connecticut criminal justice system, we propose three major aims or strategies for documenting differential outcomes by the groups to which defendants belong.

Strategy 1. We will directly assess disparities in terms of pretrial release, trial disposition, sentencing and probation by charge(s) and geographic region. We will first assess the raw disparities of these outcomes comparing racial and ethnic subgroups, comparing male and female defendants and using proxies like neighborhood for socioeconomic status. We will then assess disparities conditional on key observable risk factors available in CISS and other administrative data.

These disparities cannot be interpreted as discrimination because individual cases may vary on many factors that are not contained in the administrative data available to the analysts. Therefore, one way in which we will assess the significance of any disparities is by examining the extent to which observable risk factors explain the raw disparities. If controlling for factors in the administrative database explain a large fraction of the raw disparities, then it is quite possible that factors not collected in the database could relatively easily explain the remaining disparities.

Strategy 2. We will assess the impact of disparities in pretrial detention on disparities in later outcomes in the criminal justice system, such as trial disposition and sentencing. First, we will estimate models intended to capture the causal impact of pretrial detention on these later outcomes in part by making comparisons across booking sergeants and lieutenants, bail commissioners, and judges who differ in their leniency and who saw populations of cases that are comparable on average. With these estimates in hand, we will calculate the share of trial disposition and sentencing disparities that are explained by disparities in pretrial outcomes.

In interpreting these findings, the differences in leniency across decision makers is only used to identify the impact of pretrial detention on later outcomes, like trial disposition or sentencing, and these differences are not used to identify disparities. Rather, the overall disparities in pretrial outcomes calculated above in Strategy 1 are used with the

effect of pretrial outcomes on trial outcomes to predict disparities in trial outcomes due to pretrial processes. This predicted trial effect of the pretrial disparities can be compared to the estimated disparities in trial outcomes calculated in Strategy 1. For example, if most of the disparity in plea deals is explained by disparities in pretrial release, then this specific trial disparity could be addressed primarily by focusing on policy reforms at the pretrial stage.

Strategy 3. We will indirectly assess disparities in pretrial release by examining whether the likelihood of adverse outcomes during release differs between groups. Specifically, we will use the techniques exploited in Strategy 2 to estimate for each subgroup (race, gender and socioeconomics) the casual effect of pretrial release on pretrial behavior, such as failure to appear and recidivism. These estimates allow us to examine whether the likelihood of “bad” pretrial behavior during release for defendants just on the bubble or margin of release is higher for one subgroup compared to another.

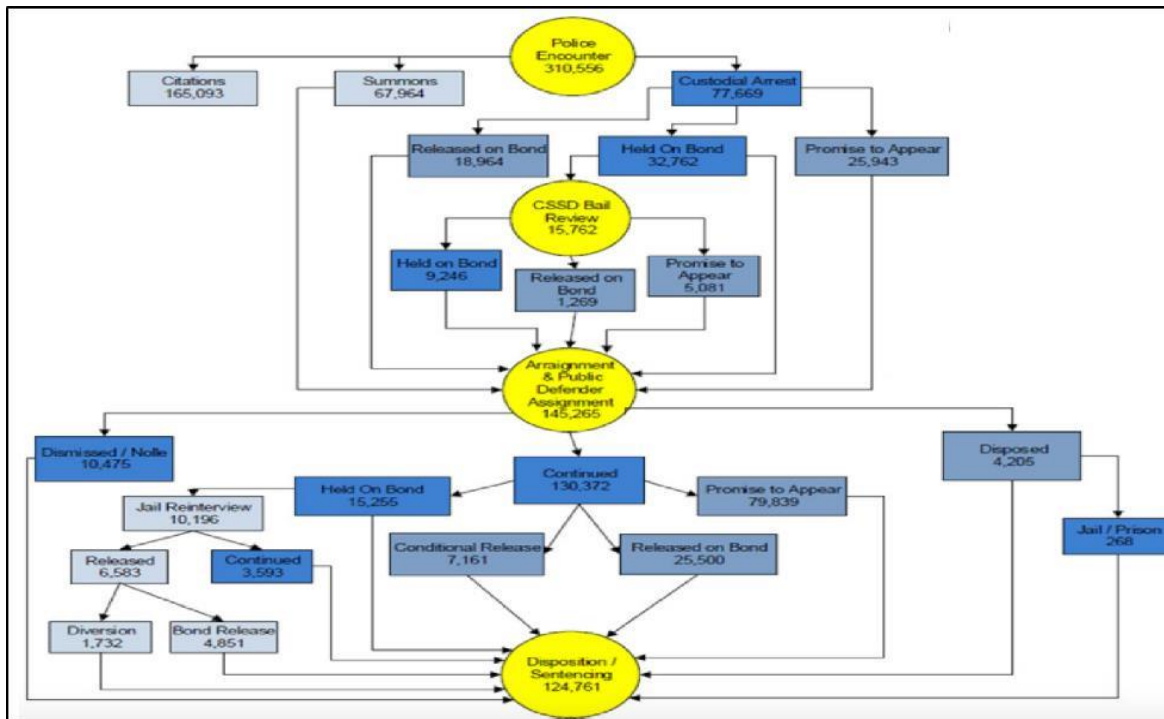
Again, the differences in leniency across decision makers is only used to estimate the incidence of misbehavior for members of each subgroup who were on the bubble in terms of release during the pretrial period. Intuitively, such differences in leniency tend only to move the marginal defendant towards release and likely have minimal impact on very low and very high-risk defendants. As a result, overall differences across subgroups in the pretrial behavior of defendants who are marginal in terms of release is suggestive of disparity where defendants with similar risks experienced different success in obtaining pretrial release. For example, if marginal black defendants have better outcomes on average, then additional black defendants might have been released and still have had pretrial outcomes that were comparable on average to the marginal white defendants who were released.

This proposal is organized in the following manner. The next section lists the pretrial and trial outcomes to be studied in this report, provides details concerning the subgroups for which disparities will be investigated, and describes key factors that will be considered when calculating conditional disparities. The third section explains our strategies for identifying the causal effect of pretrial detention on later outcomes like trial disposition and sentencing, which will then be used to assess the role of disparities in pretrial detention that explain disparities in later outcomes. The fourth section describes our third strategy where we examine the performance of released offenders during pretrial detention and document disparities in these pretrial outcomes, like failure to appear or recidivism, where lower rates of bad pretrial outcomes may be interpreted as a group being at a disadvantage in terms of pretrial release. The final section of the interim report details the terms of the proposed Memorandum of Understanding between the researchers at the University of Connecticut and the CSC, and provides a detailed schedule for the project.

II. Documenting Disparities

Figure 1 below was developed by the CSC in order to provide a general description of the pretrial and trial system in Connecticut. The yellow bubbles indicate key points where public officials make important decisions that affect pretrial and trial outcomes. When an individual is arrested for a warrantless crime, a booking sergeant or lieutenant is typically responsible for determining bail amounts and a limited number of release conditions. If the individual is not released or fails to make bail, their case proceeds to a bail review conducted by either a bail commissioner or an IAR Specialist who then gathers information about the individual case and makes a new determination of bail and any release conditions. Finally, this individual will be arraigned, and the presiding judge will make a final determination on pretrial release conditions. At that point, the figure proceeds to the final bottom yellow bubble, which represents the disposition of the case and eventual sentence recommendations and sentencing if the case results in a plea deal or a guilty verdict.

Figure 1. The Criminal Justice Process in CT



Source: "Pretrial Release and Detention in Connecticut, Connecticut Sentencing Commission (CSC) (2017)

Table 1 outlines the key data that will be utilized for assessing disparities. The first column presents the pretrial and sentencing outcomes. Our analysis will examine whether offenders are released on a promise to appear, bail (including the amount), and non-bail release conditions. We also will examine whether the defendant successfully obtains release, fails to appear, reoffends during the pretrial period, along with the individual's trial disposition including pleas, sentencing, probation, and post-trial recidivism.

Table 1. Key Variables for Analysis

Outcomes	Disparity Characteristics	Conditioning Variables
Pretrial release	Race	Charge
Bail amount	Gender	Geography/Region
Non-bail release conditions	Income proxy (zip code)	Criminal history
FTAs	Income proxy (public defender)	Age
Pleas	Income proxy (Education)	Pretrial risk assessment score
Trial dispositions		Pretrial risk assessment data
Sentencing		
Pretrial recidivism/rearrest		
Probation		
Post-trial recidivism		

We will examine these disparities comparing whites, blacks and Hispanics, and we will also explore documenting disparities for smaller groups such as Asians and Native Americans, but the sample size may be too small. We also will compare the outcomes of minorities as a group versus whites. In addition, we plan to compare disparities between male and female offenders. The administrative data available does not contain income. Therefore, we will use three rough indicators for socio-economic status. The first is that we will examine disparities by zip-code comparing offenders from high- and low-income zip codes. Second, we will examine disparities separately for offenders who are represented by a public defender and for offenders who are not. Third, we will compare disparities based on educational status. When calculating what we refer to as raw disparities, we will typically condition on charge or some set charges so that we are documenting disparities for offenders who were arrested or are on trial for a similar infraction or set of infractions. In Connecticut, there are often substantial differences between the original charges at arrest and the charges filed by the prosecutor, and we will examine disparities along both dimensions. These disparities will be calculated for the entire state as well as separately by geography (judicial districts and counties).

To calculate conditional disparities, we will control for other risk factors collected in CJIS and other criminal justice data based on a multivariate regression. The controls will include age, criminal history, and variables collected as part of the pretrial risk assessment score system that is used by bail commissioners and IAR Specialists. Beyond criminal history, this system uses information on family status, personal references, education and employment history, see Figure 2 below for a complete list. Once we have both raw and conditional disparities, we can assess how much of the disparities in outcomes are explained by important risk factors. If these risk factors explain a substantial fraction of the disparities, then it is likely that a more thorough documentation of the differences between the cases of different groups would erode these disparities even further. However, if most of the disparities remain after controlling for key variables that were identified as critical for collection in the criminal justice system, then it seems unlikely that further documentation of group differences would eliminate these disparities, and so such disparities would be especially important to consider when evaluating the fairness of the criminal justice system.

Figure 2. Risk Assessment System

Pretrial Risk Assessment Point Scale (Revised 10-15)		
1	Charge (Most Serious)	-20 = Capital Felony -10 = Class A Felony -9 = Class B Felony -8 = Class C Felony -7 = Class D Felony -6 = Class E / Unclassified Felony -5 = Class A Misdemeanor -4 = Class B Misdemeanor -3 = Class C Misdemeanor -2 = Class D Misdemeanor -1 = Unclassified Misdemeanor 0 = Motor Vehicle Violation
2	Marital Status	0 = Not Married (includes separated, divorced, and widowed) +3 = Married
3	Lives with	0 = Alone +3 = Nonimmediate family or roommate +6 = Immediate family
4	Verifiable References	0 = No +4 = Yes
5	Means of Support	0 = None or Incarcerated +2 = Reliance on others (includes government support) +5 = Self-reliance (part-time, seasonal, & full-time employment)
6	Length at Employer	0 = Less than one year at current job +3 = One year but less than two years at current job +5 = Two or more years at current job
7	Education	0 = Less than High School +2 = HS or equivalent +5 = More than High School
8	Substance/Mental Health	+3 = No 0 = Yes
9	Prior Failure to Appear*	0 = No prior failure to appears -7 = Prior FTA for a misdemeanor charge -8 = Prior FTA for a felony charge *COUNT PENDING or CONVICTED FTA CHARGES
10	Number of Convictions	0 = No convictions -1 = One or two convictions -5 = More than two convictions
11	Pending Charges	0 = No pending charges -4 = Pending charges
12	Safety Risk Convictions	0 = Not charged with a Safety Risk Offense and does not have a Safety Risk Offense conviction -2 = Charged with a Safety Risk Offense and has a Safety Risk Offense Conviction
13	Safety Risk Pending	0 = Not charged with a Safety Risk Offense and does not have a Safety Risk Offense pending -2 = Charged with a Safety Risk Offense and has a Safety Risk Offense pending
14	Dangerous Instrument	0 = No Dangerous Instrument Involved -2 = Dangerous Instrument Involved
	TOTAL POINTS	Below zero: Surety or 10% Bond Zero or more: Nonfinancial form of release

Source: Court Support Services Division (CSSD), Connecticut Judicial Branch

III. Estimating the Effect of Pretrial Detention

As discussed above, disparities in pretrial detention may contribute to disparities in case disposition and sentencing. If disparities in case outcomes are primarily caused by disparities in pretrial detention, then policy responses to documented disparities would in principle be better focused on the pretrial system. On the other hand, if pretrial detention does not have significant effects on case outcomes, then policy efforts to reduce disparities would need to focus directly on trial outcomes.

In order to assess the effect of pretrial disparities on trial disparities, we need causal estimates of the effect of pretrial detention on trial outcomes. Obtaining such causal estimates can be very difficult because pretrial detention depends upon release conditions that are set by decision makers who have relevant information that is not contained in the administrative data. For example, the bail commissioner or judge may know something about the severity of the criminal offense relative to the actual charges that was not captured in the administrative record. Further, whether the defendant is released conditional on the conditions set for release depends upon the defendant's circumstances, which likely includes factors even the decision maker does not observe. All of these unobserved factors might correlate with trial outcomes biasing any analysis of the conditional correlation between trial outcomes and pretrial release terms or release itself.

In order to address this problem, we will attempt to define situations where two groups of arrestees or defendants have been drawn from the same population, but experience different pretrial release conditions on average. If the two groups of defendants are drawn from the same population, any differences between these groups in terms of severity of the offense or resources is likely to be uncorrelated with membership in the two groups. For example, if judges were randomly assigned cases and both judges worked in the same court house, then even though the cases assigned to the two judges would differ by random chance, those differences would "wash out" as the number of cases increases. Under those circumstances, differences between judges in terms of the leniency in the typical terms set for pretrial release would create a treatment of higher rates of pretrial release for one group (the group randomly assigned to the more lenient judge). Then, differences between the outcomes can be attributed to differences in treatment since the two groups are very similar on average.

We will pursue four different strategies for identifying groups of offenders who are drawn from the same population, but might have different pretrial release experiences.

1. For warrantless arrests, booking sergeants and lieutenants make the initial decision concerning release conditions. In many large, urban police departments, several police officers rotate through very similar shifts. In this case, on average the offenders who are arrested while one officer is working the shift may have different pretrial release experiences when a different officer is working the same shift, even though on average there is little differences between the cases that show up for the same shift one week versus the next.

2. Similarly, while Connecticut does not have random assignment of bail commissioners and IAR specialists to offenders or random assignment of judges to cases, some types of cases are so common and relatively homogeneous, such as drunk driving with no accident or injury, that likely every judge working in a judicial district has to take these cases. Then, typically the next case up would just be taken by the next available judge. Under those circumstances, random variation in the timing of when these cases arrive might create variation in pretrial release terms that are uncorrelated with the average circumstances of the cases.
3. The third strategy focuses on the bail commissioner system where a risk assessment score is created to use in making decisions about pretrial release. If this score involves specific critical thresholds, then there may be a discontinuous change in the treatment of offenders who score below that threshold. For example, the last line of the form in Figure 4 draws attention to scores that fall below zero. Therefore, we will use what is referred to as a regression discontinuity design, where we use the score to control for the average unobservables of the defendants, and compare the pretrial outcomes of individuals just below and just above the threshold. Intuitively, after controlling for the difference in scores, defendants just below and just above the threshold are nearly identical on average, yet might experience quite different average pretrial release conditions.
4. The final strategy will exploit the reassignment of judges across judicial districts. While judges are not randomly assigned to judicial districts, they do rotate between districts regularly, potentially creating a discrete change in the pretrial release experiences of defendants who are arraigned before and after the original judge departs and the new judge arrives. The composition of defendants on average within that judicial district is unlikely to have changed during the few months on either side of that transition.

Below, we explain each of these strategies in more detail.

a. Booking Sergeant Shift Rotations

In large, urban police departments, several officers likely rotate through the same shifts at the same precinct. This rotation system will create information for identifying the effect of pretrial release if some booking sergeants are more lenient than others when making decisions in very similar situations, for example in the same precinct and the same shift. Looking within the same shift over time, any differences between the defendants encountered by two different booking sergeants is effectively random because the same shift in the same precinct should draw from the same population of potential defendants. Over time, the differences in the total sample of defendants encountered by these two booking sergeants should average out and, as a result, differences in pretrial release rates are likely attributable to differences in treatment rather than differences in the circumstances of any particular case. Figure 3 provides a simple illustration. Assume that the Saturday night shifts generate more serious arrests and so have a higher detention rate on average. If one were to simply compare all defendants, the high detention rates for the Saturday night shifts would correlate with defendant unobservables. However, if we compare across booking sergeants within shift, we

would be comparing similar populations of offenders where one booking sergeant tends to have high detention rates and the second sergeant has lower rates on average.

Figure 3. Variation in Leniency in pretrial Detention

Saturday Night Shift (3PM-11PM)					Weekday Shift (7AM-3PM)				
Booking sergeant 1					Booking sergeant 3				
Detention rate 75%					Detention rate 30%				
Booking sergeant 2					Booking sergeant 4				
Detention rate 50%					Detention rate 50%				

One caveat to the shift rotation strategy is that the same shift near a holiday might differ from other shifts at the same time and day of week, and so we will need to carefully avoid such periods.

It is important to know that we will undertake efforts to validate the assumptions that we have imposed for the strategy above and will conduct similar validation efforts for the strategies described below. The key assumption in the current subsection is that the population of defendants seen by the two booking sergeants who work the same shifts is the same on average. This assumption might fail for a variety of reasons including for example one booking sergeant always working the first weekend of the month or one sergeant always working his/her night shift with approximately the same set of patrol officers. Therefore, we test this assumption by examining whether the sample of arrests considered by the two booking sergeants are the same on key observables including both the initial charges filed and both the demographic attributes and criminal history of the arrestee.

b. Idiosyncratic Timing of Common Cases

This strategy exploits variation across bail commissioners, IAR specialists, and/or judges in their past decisions when setting conditions for pretrial release. The concern with making comparisons across bail commissioners or judges even in the same judicial district and the same time frame is that bail commissioners and judges may have some discretion over the cases that they accept. Such discretion would create a potential for bias in our analysis because the case unobservables that influence assignment may also influence the eventual outcomes of the case. The key idea behind this timing strategy is that with assistance of the CSC we could identify charges that are relatively common and homogeneous. For such cases, it would seem unlikely that bail commissioners, IAR specialists or judges would or could take the time prior to assignment of the case to learn the particulars about those specific cases and then select cases based on their preferences. Rather, we anticipate that such common cases, especially for first time offenders, are simply taken as the cases arrive by the first bail commissioner available or at arraignment by the first available judge. For example, two judges working in the same courthouse at the same time would see pools of cases that are on average are very similar to each other. Therefore, while the treatment of any particular case would be affected by the unobserved circumstances of that case, the two pools of cases would on average have very

similar circumstances and so differences in pretrial release across judges on average would be uncorrelated with the average circumstances of the two pools of cases.

Using this structure, we can consider a pool of defendants experiencing a more lenient bail commissioner or judge in the setting of bail terms as a treatment that changes the average likelihood of obtaining pretrial release. One group of offenders drawn from a given population might have a lower likelihood of pretrial release than a second group of offenders drawn from the same population. Since there is no reason to believe that these two groups of offenders should systematically differ, differences between these two groups in trial outcomes such as plea bargains, verdicts or sentencing can be attributed to the differences in pre-trial release. As in section III.a, we can empirically test the validity of this strategy. For example, we can test whether the pools of defendants handled by two different judges in the same judicial district during the same time frame are the same on average with respect to initial charges and observable defendant attributes.

c. Discontinuous Treatment at Risk Assessment Score Thresholds

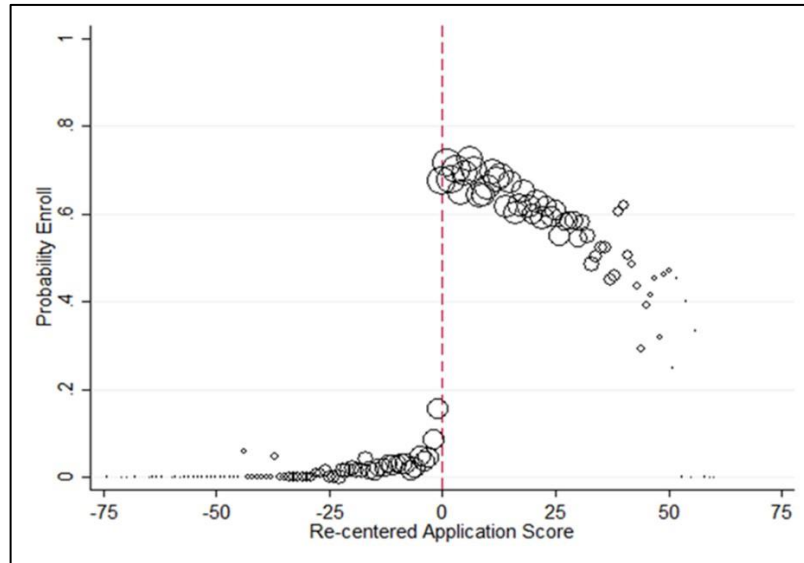
As discussed above, bail commissioners and IAR Specialists apply a formula for developing a risk assessment score before making a final determination of the conditions for release. The current risk assessment system was summarized in Figure 2 above, showing points subtracted based on the seriousness of the charge, circumstances of the offense, criminal history, and points added for mitigating factors such as being married, living with other individuals, employment history, and education.

Naturally, the release conditions set for any specific individual may strongly influenced by factors observed by the bail commissioner or IAR specialist, but unobservable by the researcher. For example, the bail commissioner may learn specific details about the defendant's home life or about the seriousness of the crime that are not recorded in the administrative database. However, as the number of cases becomes large, the differences between individual cases at a given score will average out and the average riskiness of the pool can be expected to increase smoothly and monotonically as the assessment score decreases. On the other hand, users of risk assessment systems tend to utilize thresholds in those scores and typically change treatment substantially when individuals cross key thresholds. This behavior creates a situation where the individuals just above a threshold are on average very similar to the individuals just below the threshold and yet experience quite different treatment. After identifying discontinuities in the application of the pretrial risk assessment system, we can test for different trial outcomes for very similar pools of offenders who were just above and below those thresholds.

To better illustrate this approach, we use an example drawn from one of the authors' assessment of the impact of attending one of Connecticut's technical high schools. These high schools admit students around the state based on a scoring system where a score threshold for admission is established. Then, virtually everyone above the threshold is admitted, and most people below the threshold are rejected. Figure 4 illustrates the treatment experienced by applicants showing the fraction of students attending the technical high school the fall after applying for each value of the admission score. For scores below the threshold (where the

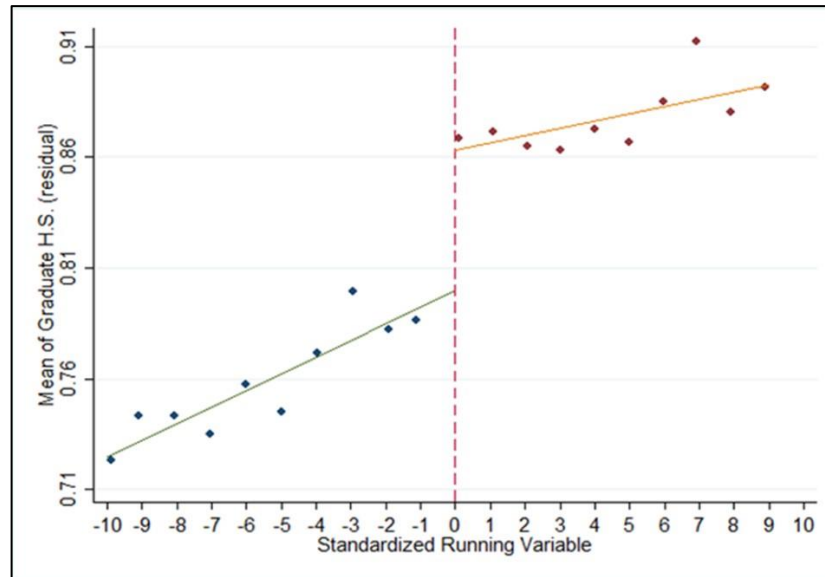
scores are centered so that the admissions threshold is always zero), very few individuals attend the technical high school to which they applied, although a small fraction with scores just below the threshold are admitted and attend. Then, the attendance at the technical high school jumps at the discontinuity by over 50 percentage points. As the score increases above the threshold, we can observe the influence of the students' unobservables as better/high score students have more options on average and so are less likely to actually attend the technical even though they all were admitted.

Figure 4. Score Threshold for Attendance at a Technical High School



Next, Figure 5 shows the causal impact of being just above the threshold. Now the vertical axis shows the high school graduation rate, and the dots show the average graduation rate for each score. Not surprisingly, graduation rates rise with scores on average, as indicated by the upward sloping lines on either side of the dashed line, where the dashed line indicates the threshold score. However, it is also clear from the picture that after allowing the graduation rate to rise smoothly with the score there is a discontinuous change in graduation rates right at the point where school attendance rates jump dramatically. This jump cannot be due to the unobservables because the effect of those unobservables are averaged at each score and the influence of the averages as the score increases should be smooth. Therefore, we attribute this nearly 7 percentage point increase in high school graduation rates to an increase in the likelihood of attending a technical high school.

Figure 5. Effect of Attendance on High School Graduation



In this case, our key assumption is that the average defendant or case attributes vary smoothly with the risk assessment score. Again, we can test this assumption by examining whether the composition of initial charges and defendant attributes vary smoothly over the risk assessment score.

d. Rotation of Judges Across Judicial Districts

Like booking sergeants, judges may vary in how they set the conditions for pretrial release. While judges are not randomly assigned to judicial districts, judges do rotate between districts. While cases are not randomly assigned to judges, the assignment of a new judge involves a treatment of the cases that arrive in that judicial district after the arrival of the new judge. Offenders who are arraigned after the arrival of the new judge have some positive probability of drawing this judge for their arraignment, but those who arrived earlier had no probability if they were arraigned before the judge's arrival. If the new judge differs in his or her leniency in terms of pretrial release conditions from the judge who just rotated out, then the cases for the several months after the new judge's arrival will be treated by the change in average pretrial outcomes in this judicial district, relative to the cases for the months prior to the new judge's arrival. By focusing on the time just on either side of the judge rotation, we hope to be able to compare samples of cases before and after the rotation that are very similar on average because again, they were drawn of the same population of potential cases.

This logic is illustrated by Figure 6. Like in Figure 3 for booking sergeants, Figure 6 shows two judges with different detention rates prior to the rotation, and after the rotation one of the judges has been replaced by a third judge with different detention rates on average. If we compared within the columns, we would not be able to distinguish between situations where trial outcomes were worse for Judge 2 prior to the rotation because Judge 2's detention rate was higher or because Judge 2 had a higher detention rate because on average Judge 2 handled cases involving more serious offenders. However, by comparing across the columns,

we compare cases before rotation that on average experienced higher detention rates compared to the cases after rotation due to one judge being replaced. We attribute differences in trial outcomes between the cases before and after the rotation to the differences in detention because those cases were drawn from the same population, and so on average, should be very similar.

Figure 6. Variation in Leniency at Arraignment

Cases before Rotation					Cases after Rotation				
	Judge 1					Judge 1			
	Detention rate 40%					Detention rate 40%			
	Judge 2					Judge 3			
	Detention rate 50%					Detention rate 20%			

In this case, our key assumption is that the composition of cases is not changing over time at least when considering a time period of for example 4 to 6 months centered around a judge rotation. We can address changing case composition over time by exploiting a regression discontinuity approach like the one described in section III.c except that in this example the score or running variable would be the day and the threshold or discontinuity would occur on the day that the new judge rotates in.

IV. Group Differences in the Likelihood of Pretrial Misbehavior

A key limitation of direct analyses of disparities as in Section II is that race, gender, and socio-economic status may correlate with factors observed by decision makers who set the terms for pretrial release, but not recorded in the administrative data. In response, it is relatively common to also look for evidence of such disparities indirectly by examining the relative performance of different subgroups. For example, when considering disparities in pretrial release conditions, researchers would examine the outcomes of defendants during their pretrial release. In the administrative data, the key outcomes of individuals who are released pretrial appear to be (1) failure to appear on the court date and (2) recidivism prior to the trial. If for example minority defendants have lower rates of pretrial misbehavior on these dimensions than white defendants, then perhaps more minority defendants could have been released pretrial without significant negative effects on public safety and the operation of the criminal justice system.

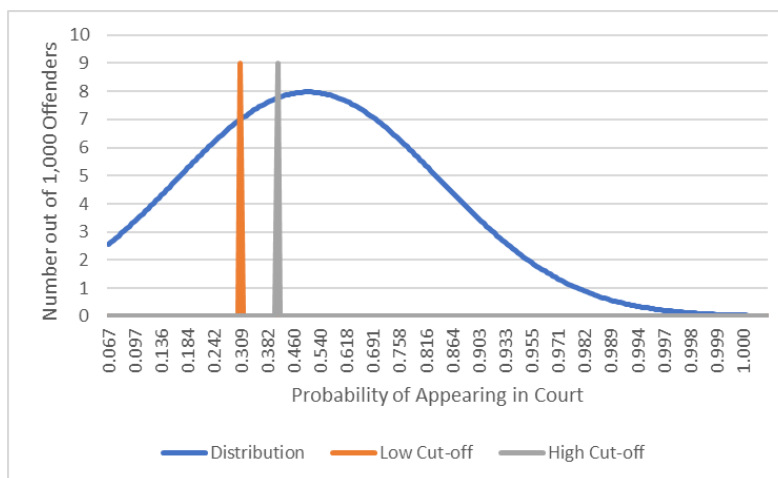
This is analogous to studies that have been done on disparities in banks' issuing of loans. Consider a bank that only gives out \$10,000, 3-year loans at a 10% interest rate. Presumably, when this bank decides to approve or deny a request for the loan, the customer's estimated risk of default is one of its considerations. Now suppose two populations, A and B, frequently apply for loans from this bank. If members of population A who are approved for the loan fail to pay it back 40% of the time, but members of population B who get the loan fail to pay it back 10% of the time, one *potential* conclusion could be that the bank is being more lenient when issuing loans to population A and more strict with population B. For statistical reasons, we should not conclude this. Populations A and B could have different default rates for reasons unrelated to the banker deciding whether to issue the loan.

One way around this is to focus on customers on the "cusp" of receiving the loan or not. If population A customers on the cusp *who get the loan* have significantly higher default rates than population B customers on the cusp of getting the loan, it would more strongly suggest the bank *might* be holding individuals from the two populations to different standards. That said, we *cannot* conclude this unless we also assume that default risk is the only factor banks consider. What we *can* conclude (without having to assume anything) is that some *denied* members of population B could have been given the loan and presented a lower default risk to the bank than some *approved* members of population A.

Similarly, to illustrate this idea, we divide 1,000 hypothetical offenders over a distribution of the likelihood of pretrial misbehavior. The horizontal axis of Figure 7 shows the likelihood of appearing in court for each level of risk and the vertical axis shows the number of offenders in each risk group. If a pretrial detention decision was made on this single dimension of failure to appear risk, then individuals held to a higher standard on that risk (the right most bar) will on average be more likely to appear in court compared to a similar sample of individuals held to a lower standard (left most bar). More generally, two equivalent groups where on average one group performs better across key measures of pretrial behavior is

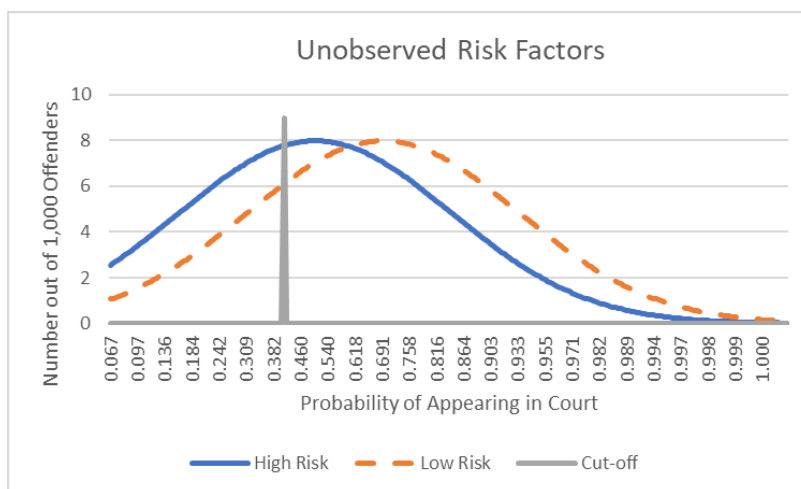
suggestive that this higher performing group tended to be held to a higher standard in terms of expected performance.

Figure 7. Higher Standards Imply Better Average Performance



However, the problem with this simple exercise based on average performance is that the two groups, such as white and minority or male and female defendants, may differ on a host of important factors considered by the decision makers in the legal system. Figure 8 illustrates an example of this problem. In Figure 8, we have a single cut-off so that both groups were held to the same standard, but one group is low risk (dashed line) and the other is high risk (solid line). Even though both groups are held to the same standard, the low risk group on factors unobserved by the researcher will have better performance on average.

Figure 8. Higher Risk Group Appears Favored



Therefore, we need a technique to capture the effect of pretrial detention for the marginal individual, or equivalently the individual for whom the bail commissioner or judge is close to indifferent in terms of whether this individual is released or not. The strategies described above in the previous section (booking sergeant rotations, idiosyncratically assigned cases, discontinuity at key points on the risk assessment score, judge rotation) all capture the

effects of releasing additional individuals who are near the margin of successfully experiencing release. Specifically, decision makers tend to care about the same risk factors when determining pretrial release, and so exposure to a somewhat more lenient decision maker will treat the individuals who were on the margin. Even the least lenient decision maker will likely set reasonably manageable release terms for the lowest risk offenders, and even the most lenient decision maker will tend to very rigid release terms for the highest risk offenders. Looking back at Figure 7, this suggests that the techniques used in the previous section can be used to identify the effect of pretrial release for those individuals would tend to be assessed as being between the two bars or thresholds in terms of risk.

Specifically, we will estimate models of the marginal effect of exposure to more lenient booking sergeants, bail commissioners/IAR specialists, and judges on the likelihood of failure to appear and the likelihood of recidivism during pretrial of offenders over race, gender and socioeconomic status. One possible interpretation of differences in performance would be that offender subgroups that have lower rates of misbehavior on the margin for all of these measures tended to be held to higher standards in the setting of pretrial release terms. More generally from a policy perspective, a group of defendants that has lower misbehavior among those at the margin of release contains individuals who are more likely to be detained, yet represent a lower risk to the public and the operation of the justice system than some members of other groups who were more likely to be released.

V. Data & Schedule

The most critical issue is obtaining access to the data that must be provided to the CSC based on the legislative mandate. Much, but not all, of the required data is available within the Criminal Information Sharing System (CISS). However, CISS is a cooperative venture where individual agencies and departments contribute law enforcement and judicial data. The Criminal Justice Information System (CJIS) governing board that manages and maintains CISS has a policy of only providing data from CISS after receiving the approval of the contributing agency. We only obtained access to the maps of the data structure for data contained in the Connecticut Judicial Branch's contributions to CISS on November 22, 2019, and do not yet have access to any of the other data maps for other departments. Further, the Connecticut Judicial Branch has raised concerns about whether the individual agents identified in the administrative data represent the actual decision makers for the outcomes being studied. These identifiers are required to complete the work previously described. We are working with the Judicial Branch to hear their concerns and understand how we might be able use the administrative data to identify specific decision makers at various stages of the process. This issue is a significant one and represents an important risk factor in terms of project completion.

Next, another significant risk to the completion of the report arises because some critical information is not included in CISS. First, the Case Management Information System that contains information on the probation systems managed by the Court Support Services Division (CSSD) of the Connecticut Judicial Branch is only searchable by CJIS and not directly available as a database for analysis. While future updates of CISS will make this database available for analysis activities, the timing of such an update is uncertain. Second, CSSD also plays a major role in providing pretrial services including collecting information for pretrial risk assessment and establishing release conditions prior to arraignment. It is unclear how much of the information in CSSD's databases on pretrial release is available within CISS, but at a minimum we believe that the risk assessment information is not provided to CISS. Therefore, it is likely that a separate delivery of data from CSSD may be required to complete the report. Finally, CISS does not contain information on the booking sergeants or lieutenants who make initial decisions at the time of arrest on release and bail prior to CSSD bail review. CJIS is currently working with the key contractors who manage data for town police departments, and this may provide an opportunity to obtain this information. However, if not, the CSC may need to work directly with large police departments to obtain detailed information on shift rotations.

The final report is due January 1, 2021. Below in Table 2, we list a series of deadlines that must be met to have a reasonable chance that a completed final report is available for January 1, 2021. This schedule represents a very aggressive time table and missing any of these dates would jeopardize our ability to meet the final report deadline.

Table 2. Dates and Deliverables

Date	Deliverable
5/1/2020	Access to all data required for completion of report
10/1/2020	Delivery of Preliminary Analysts Report to Sentencing Commission
10/15/2020	Comments received from Sentencing Commission
12/1/2020	Delivery of Final Analysts Report to Sentencing Commission
1/1/2021	Final Sentencing Commission Report Deadline

Finally, we want to make clear that we view this project as a collaborative effort with the CSC where we will assist in the creation of a report from the CSC to the state legislature and at the same time will develop more detailed research papers for later presentation at academic conferences and eventual publication in scholarly journals. The proposed Memorandum of Understanding between the University of Connecticut and the CSC is intended to protect both parties: preventing the release of any personally identifying information, limiting public release of any research papers until after the delivery of the final report, providing the CSC with advance access to any research papers and preserving the researchers' access to the data after the delivery of the final report to support the eventual publication of those papers.

Appendix A: Special Act 19-17



Senate Bill No. 1008

Special Act No. 19-17

**AN ACT CONCERNING A STUDY OF THE DISPARITIES IN
PRETRIAL AND SENTENCING OUTCOMES OF CRIMINAL
DEFENDANTS.**

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (*Effective from passage*) (a) The Connecticut Sentencing Commission shall study potential disparities in pretrial and sentencing outcomes related to the racial, ethnic, gender and socioeconomic status of a criminal defendant. In furtherance of such study, said commission shall have access to: (1) All databases maintained in the state's criminal justice information system; (2) the Connecticut Information Sharing System; and (3) any state or local criminal or judicial databases that have not yet been integrated into the Connecticut Information Sharing System.

(b) Not later than January 1, 2020, said commission shall submit an interim report on the study, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to the judiciary. Not later than January 1, 2021, said commission shall submit its final report on the study and any recommendations from the commission, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General

Senate Bill No. 1008

Assembly having cognizance of matters relating to the judiciary and to the Governor.

Approved July 1, 2019