

Hamilton College

Hamilton Digital Commons

Posters

4-2022

Bail Reform

Matthew Shang '22

Follow this and additional works at: <https://digitalcommons.hamilton.edu/posters>

 Part of the [Mathematics Commons](#)

MATH498- Mathematics in Social Context: Bail Reform

By: Matthew Shang

Introduction

Funded by Arnold Ventures, the Advancing Pretrial and Policy Research group created the Public Safety Assessment (PSA) to assess the likelihood of pretrial risk. Then, the information is used to decide the conditions of release, including components like bail. The factors used are detailed on the chart to the right, and they are related only to age and criminal history. In short, the algorithm helps judges make more informed decisions.

The algorithm has experienced considerable success, with the DA of Mecklenburg County, North Carolina, stating that “Charlotte’s jail population is down almost 20 percent,” and “crime has not increased, ... and many poor defendants have been spared the damaging effects of incarceration, including unemployment and homelessness.” One main benefit of the algorithm is that it removes a lot of bias. For example, ‘baby-faced’ defendants, who normally would be shown more compassion, are instead correctly identified. Previously, judges relied on guides that may be outdated, which had factors that were subjective, irrelevant, or even discriminatory. Now, they look at current statistics to make a better decision.

Important Consideration

When assessing the success of the algorithm, we need to ensure that there aren’t any lurking variables that reflect race. One concern I have is that people of color are more likely to have a misdemeanor/felony conviction. If so, according to the algorithm, they will have a higher bail amount, which feeds into the race problem.

PRETRIAL OUTCOMES AND PSA FACTORS

FAILURE TO APPEAR(FTA)	NEW CRIMINAL ARREST (NCA)	NEW VIOLENT CRIMINAL ARREST (NVCA)	PSA FACTOR
	✓		1. Age at current arrest
		✓	2. Current violent offence
		✓	2A. Current violent offence and 20 years old or younger
✓	✓	✓	3. Pending charge at the time of arrest
	✓		4. Prior misdemeanor conviction
	✓		5. Prior felony conviction
✓		✓	5A. Prior conviction (misdemeanor or felony)
	✓	✓	6. Prior violent conviction
✓	✓		7. Prior failure to appear in the past 2 years
✓			8. Prior failure to appear older than 2 years
	✓		9. Prior sentence to incarceration

Background of Problem

One of the problems facing the U.S. criminal justice system is that judges often assign too high of a bail amount so people cannot go to their jobs, causing too many people stuck in prison that don’t belong. The paper “What’s Wrong with Machine Bias” by Clinton Castro also detailed a method that tried to calculate the bail amount but was plagued due to variables that correlated with race.

My Perspective

As alluded to, one of the most important factors when constructing an algorithm like this is to ensure that race is not a factor; the prison system throughout the US still has a massive race problem. According to the website, the method “doesn’t worsen racial disparities.” However, doesn’t this mean that the difference stays the same, so it keeps the entrenched biases that the previous system has? In short, it acts like a regular judge, only that it makes decisions faster. This is not the most ideal situation, since we should strive for a system that reduces racial bias. Despite this, it does have improved outcomes, by not punishing poor people, as there is “less use of financial conditions of release.”

Another positive aspect of this method is that it augments, not replaces, the judge’s decision. This is relevant to a class discussion before, as we want humans to still have autonomy in the decision-making process, and not letting the algorithm have all the power.

Overall, there are still a few aspects on which the algorithm can improve, but it is a good step forward toward a more equal society.

Sources:

Arnold Ventures. (2022, February 14). *What is the PSA?* Advancing Pretrial Policy & Research (APPR). Retrieved April 3, 2022, from <https://advancingpretrial.org/psa/about/>
 Dewan, S. (2015, June 26). *Judges Replacing Conjecture With Formula for Bail*. The New York Times. Retrieved April 3, 2022, from <https://www.nytimes.com/2015/06/27/us/turning-the-granting-of-bail-into-a-science.html>