Drug Laws, Police Leniency, and Racial Disparities in Vehicle Searches

Kleinsorge Fellowship Proposal

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The Criminal Justice System (CJS)

"Equal justice under law is not merely a caption on the facade of the Supreme Court building, it is perhaps the most inspiring ideal of our society. It is one of the ends for which our entire legal system exists... it is fundamental that justice should be the same, in substance and availability, without regard to economic status."

-Justice Lewis Powell Jr.

In the Literature

Prior research suggests part of the racial disparity in the CJS comes from discrimination, but it is difficult to argue these show taste-based discrimination, rather than statistical discrimination.

- Evidence of overall discrimination: Mustard (2001), Abrams et al. (2012), Arnold (2018), Arvanites and Asher (2006), Rehavi and Starr (2014)
- Evidence of *taste-based* discrimination: West (2018) and Antonovics and Knight (2004)

Proposed Topic

This research aims to show the magnitude of the racial disparity in arrests for contraband (prohibited substance or stolen belonging) due to taste-based discrimination using the fact that officers exercise leniency.

Contribution:

- Evidence specifically of taste-based discrimination in arrest rates.
- Address how leniency, which is not directly observable in the data, affects arrest rates.

Motivation: Determine the mechanisms through which arrests occur at disproportionately higher rates for minorities.

Data & Methodology

Hypothesis: Officers are more likely to show leniency for less severe offenses than for more severe ones.

- Hit rate models tend to be some variation of this baseline model

$$hit_i = \beta_0 + \beta_1 Black_i$$

- This model's estimates depend on police reporting

$$hit = \begin{cases} 0, & \text{when no contraband is found} \\ 1, & \text{when contraband is found} \end{cases}$$

- Leniency leads officers to report 0s instead of 1s in some cases, so there appear to be more 0s than what occurs in reality

Data & Methodology

Hypothesis: Officers are more likely to show leniency for less severe offenses than for more severe ones.

- If leniency occurs systematically by race, hit rate models are biased toward no taste-based racial discrimination

Hit rate model estimates imply the disparity is caused by statistical discrimination, i.e. officer believes black drivers are more likely to have drugs, but is due to taste-based discrimination, i.e. officer chooses not to report a white driver's contraband because they like them better.

Data

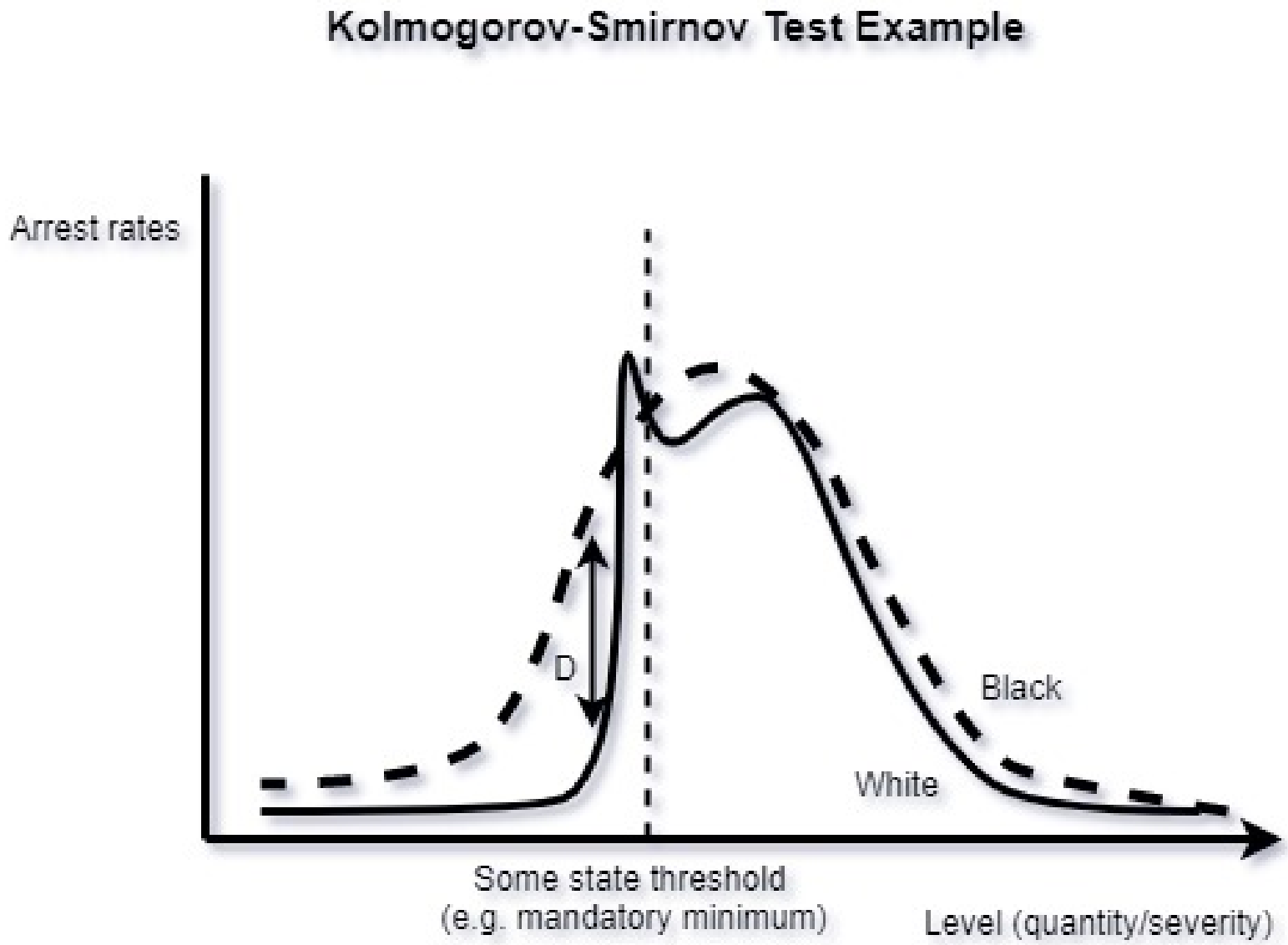
In the process of requesting the following stop and arrest data from state trooper departments:

- Driver characteristics, e.g. race, gender, and age
- Vehicle description, e.g. make, model, and year
- Whether there was a search, citation, or arrest and the reasons for all that apply
- If contraband is found, type and quantity, and potentially purity (esp. for hard drugs)
- Time and location of the stop and an officer identifier

Data

State	Request Sent	Response
Alabama	Yes	Extension
Alaska	Yes	Redirect
Arizona	Yes	Pending
Arkansas	Yes	Extension
California	Yes	Redirect
Colorado	Yes	Extension
Connecticut	Yes	Pending
Delaware	Yes	Extension
Florida	Yes	Extension
Georgia	Yes	Pending
Hawaii	Yes	Pending
Idaho	Yes	Extension
Illinois	Yes	Pending
Indiana	Yes	Pending
Iowa	Yes	Extension
Kansas	Yes	Pending
Kentucky	Yes	Inadequate Data
Louisiana	Yes	Pending
Maine	Yes	Pending
Maryland	Yes	Pending
Massachusetts	Yes	Pending
Michigan	Yes	Pending
Minnesota	Yes	Pending
Mississippi	Yes	Pending

Methodology: KS Test



Methodology

The KS test will provide evidence that standard hit rate model outcomes are biased because of latent variables they do not account for.

Therefore, I will employ a quantile regression approach to decompose the arrest rate racial disparity into the part attributed to different driver characteristics and the part attributable to differential treatment.

Methodology: Quantile Regression

Baseline model for individual i in quantile q:

$$hit_i^q = \beta_0 + \beta_1^q Black_i + \beta_2^q X_i$$

- Estimate hit rate model using the quantile regression approach, then take the difference in β_1:

$$\beta_1^1 - \underbrace{\beta_1^2}_{\text{Statistical}} = \underbrace{\widetilde{\beta}_1}_{\text{Taste-based}}$$

  where q=1 is the lower quantile
- More precise estimate of taste-based racial discrimination
- I expect $\widetilde{\beta}_1$ to be positive and significant

Methodology: Heterogeneity

- Test heterogeneity over different types of drugs
- Test for heterogeneity by officer of bunching in arrests around legal threshold
- Compare distributions for bunching and non-bunching officers

Methodology: Structural Implications

- The next step following this will be to build off of a theoretical model, such as the KPT (2001), to add to the structural literature
- A parameter can be added to allow for variation in the estimated discrimination across the distribution in order to reduce bias

Conclusion

The results of these tests will provide a more accurate picture of the leniency officers apply based on driver's race, and provide evidence for the prevalence of taste-based discrimination.

The policy implications of this would be that relaxation of minor crime laws can decrease the racial disparity in arrests and allow police department funding to be reallocated toward more severe crime enforcement and increased effectiveness.