# DETERRENCE AND PUNISHMENT

A replication from Hansen (2005) "Punishment and Deterrence: Evidence from Drunk Driving"

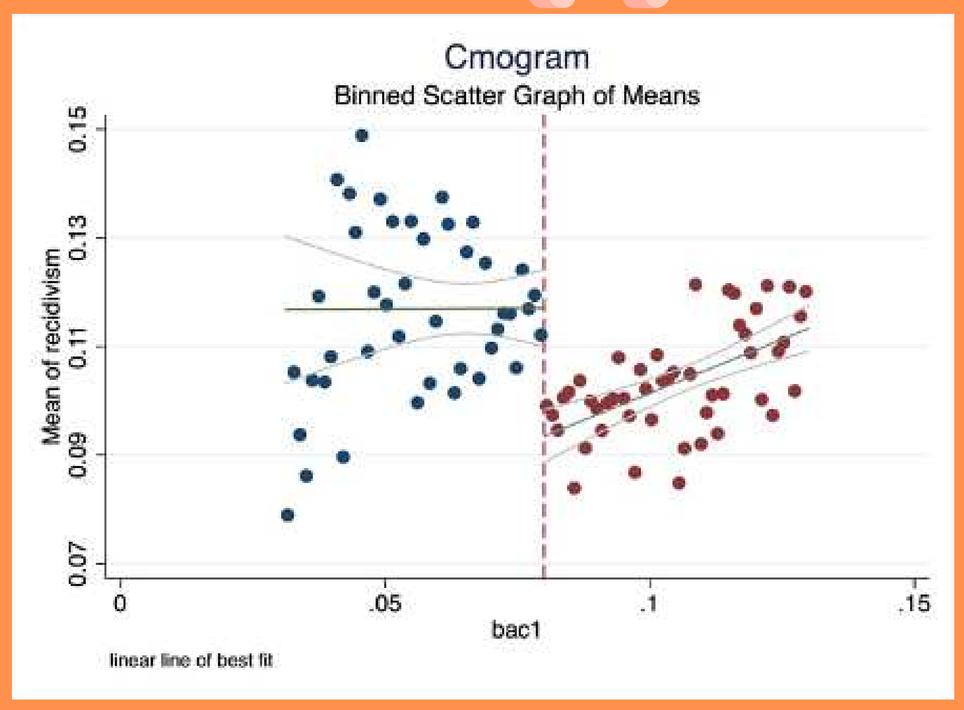
## OVERVIEW AND METHODS

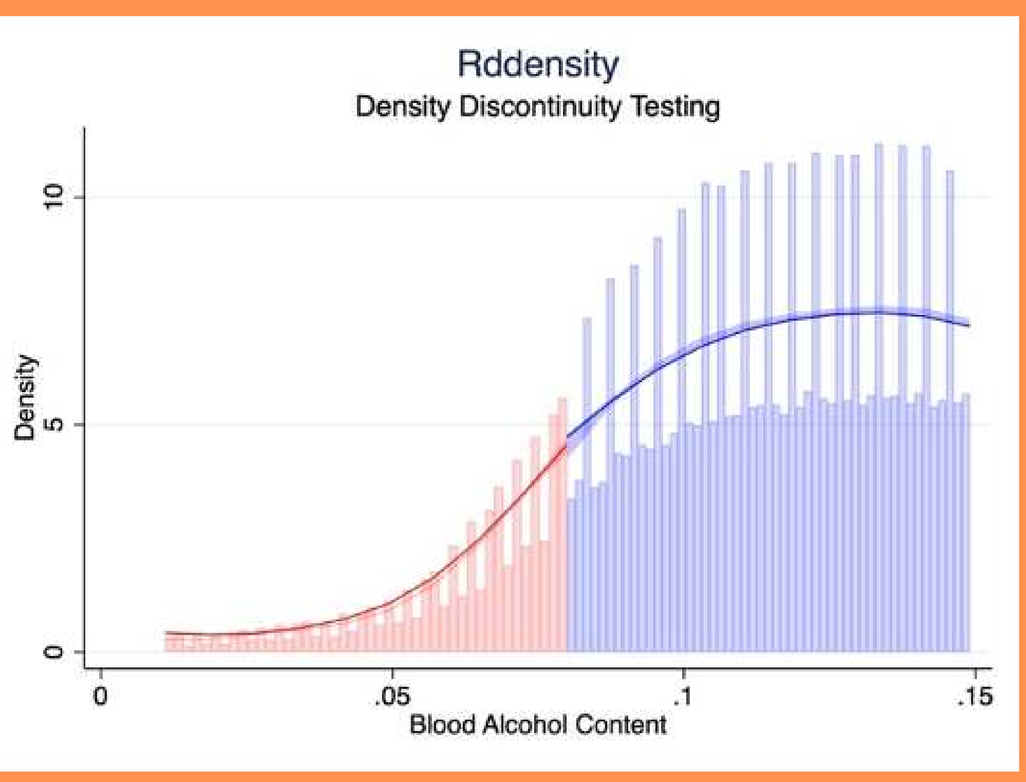
- in 1975, drunk driving factor in **585,138 traffic fatalities** (Hansen, 2015)
- Drunk driving costs the US **132 Billion USD every year** (Madd, 2022)
- Paper uses WA state data on DUIs 1999-2011,
- Aims to uncover the effectiveness of punishment on recidivism
- **Regression discontinuity design (RDD)** using DUI and Aggravated DUI cutoffs

## REPLICATION

- Having a BAC above the 0.08 DUI threshold reduces recidivism by **to 2 percentage points**
- Having a BAC above the 0.08 aggravated DUI threshold reduces recidivism by **an aditional percentage point**

**being punished for drunk driving can reduce your probability of recidivism by almost 20 percent**




## ROBUSTNESS CHECKS

- **No sign of manipulation in the dataset**
  - rddensity test P value > 0.05
  - No significant difference between donut hole and no donut hole (all polynomials with and without data-driven bandwidths)
- No significant covariates
- **Potential overestimation of treatment effect size**
  - 2nd and 3rd order local polynomials with data-driven bandwidths show effect size <0.20
  - Bandwidth without outliers shows **treatment effect < 0.20**

## LIMITATIONS

- Hansen does not use **data driven bandwidths**
- Hansen exclusively investigates the impact of punishment on recidivism, **not first-offenders**
- **Underrepresentation** of minority groups
  - Sample is 86% white, 79% male
- Lack of **granularity** of investigation
- Does a **2 percentage poin**t impact truly constitute an **effective** policy?

## EXTENSIONS

- Conducting investigation in **more diverse state** (e.g. California)
- Assessing i**mpacts of specific punishments on recidivism**
- Investigation of **other interventions to deter crime** (e.g. educational campaigns)
  - Using difference-in-difference approach


Drunk driving costs the United States $132 billion a year. (2022) MADD. Available at: https://madd.org/statistic/drunk-driving-costs-the-united-states-132-billion-a-year/) (Accessed: January 22, 2023).

Hansen, Benjamin. "Punishment and deterrence: Evidence from drunk driving." American Economic Review 105.4 (2015): 1581-1617.