

SAFE Act passage and incidence of gun violence in New York City

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Background:

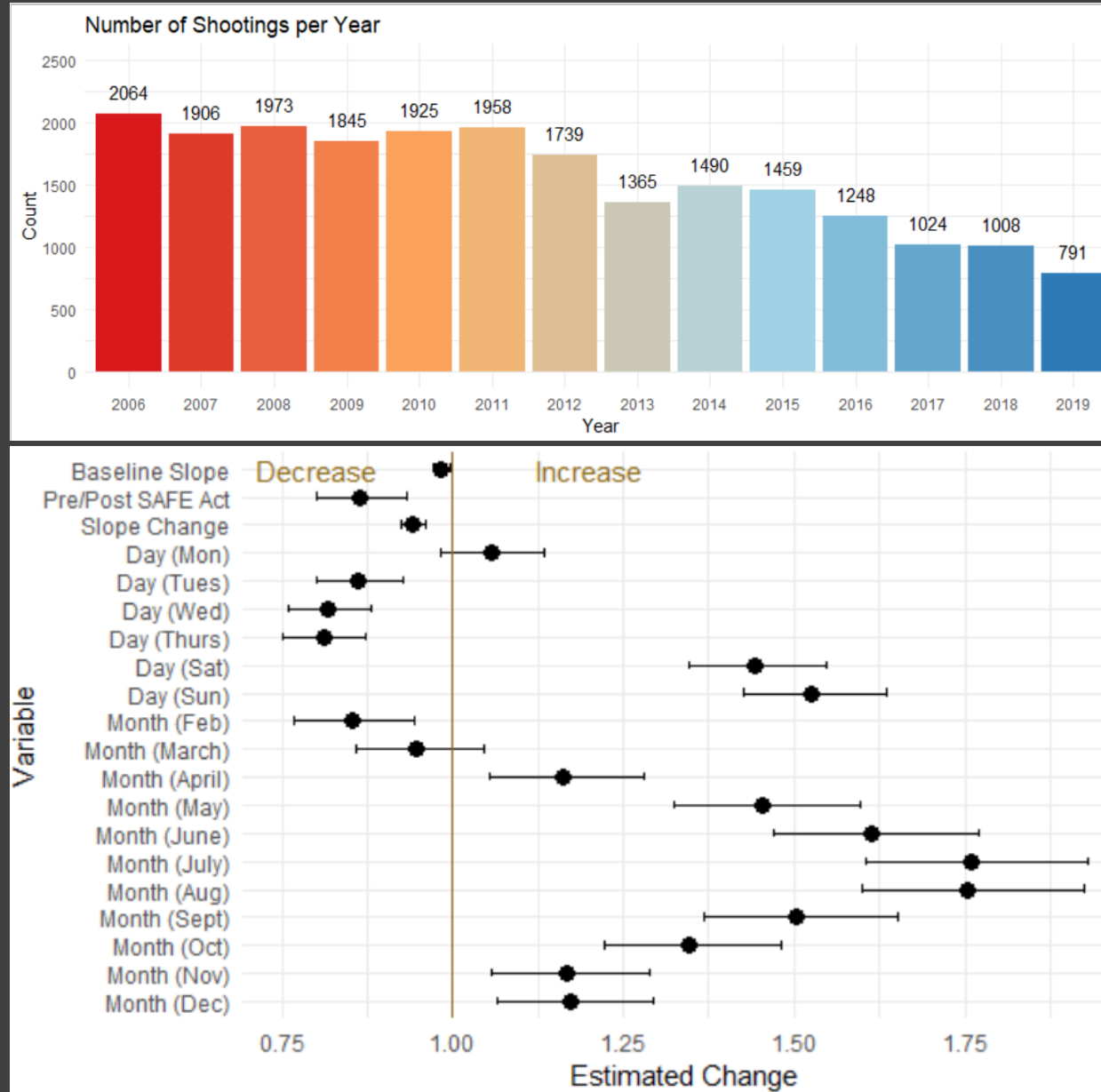
- NYC has had a decline in shootings over the past 12 years (top figure)
- The SAFE Act was passed in January 2013. **Was there a concurrent decrease in gun violence?**
- BONUS: There was a shooting-free weekend in October 2018, we will look at how the odds of that happening have changed over time.

The Data:

- Provided by NYC Open Data Group
- Every reported shooting between January 2006 and **September 2019**
- Contains location, time and demographic data

Methods:

1. Univariate Analysis
2. Negative Binomial Regression with Interrupted Time Series at Day level
3. Interpretation and Estimation
4. Identification of limitations



Intercept: a Friday in January 2006 is estimated to have 3.8 shootings

Findings:

- Tuesdays, Wednesdays, Thursdays are estimated to have 14-19% fewer shootings than Fridays
- Saturdays and Sundays are estimated to have 44% and 53% more shootings, respectively
- February had lower estimated shootings incidence with 15% fewer shootings than January
- July and August had the highest estimated incidence with 75% more reported shootings than January.
- Shooting incidence declined an additional 6% per year following SAFE Act
- SAFE Act associated with 13% reduced incidence overall

Conclusions:

1. Shooting incidence decline hastened after SAFE Act passage.
2. Shootings rise on weekends and fall mid-week
3. Shootings rise in warmer months and fall in cooler months