The Effect of Castle Doctrine on Murder Rates
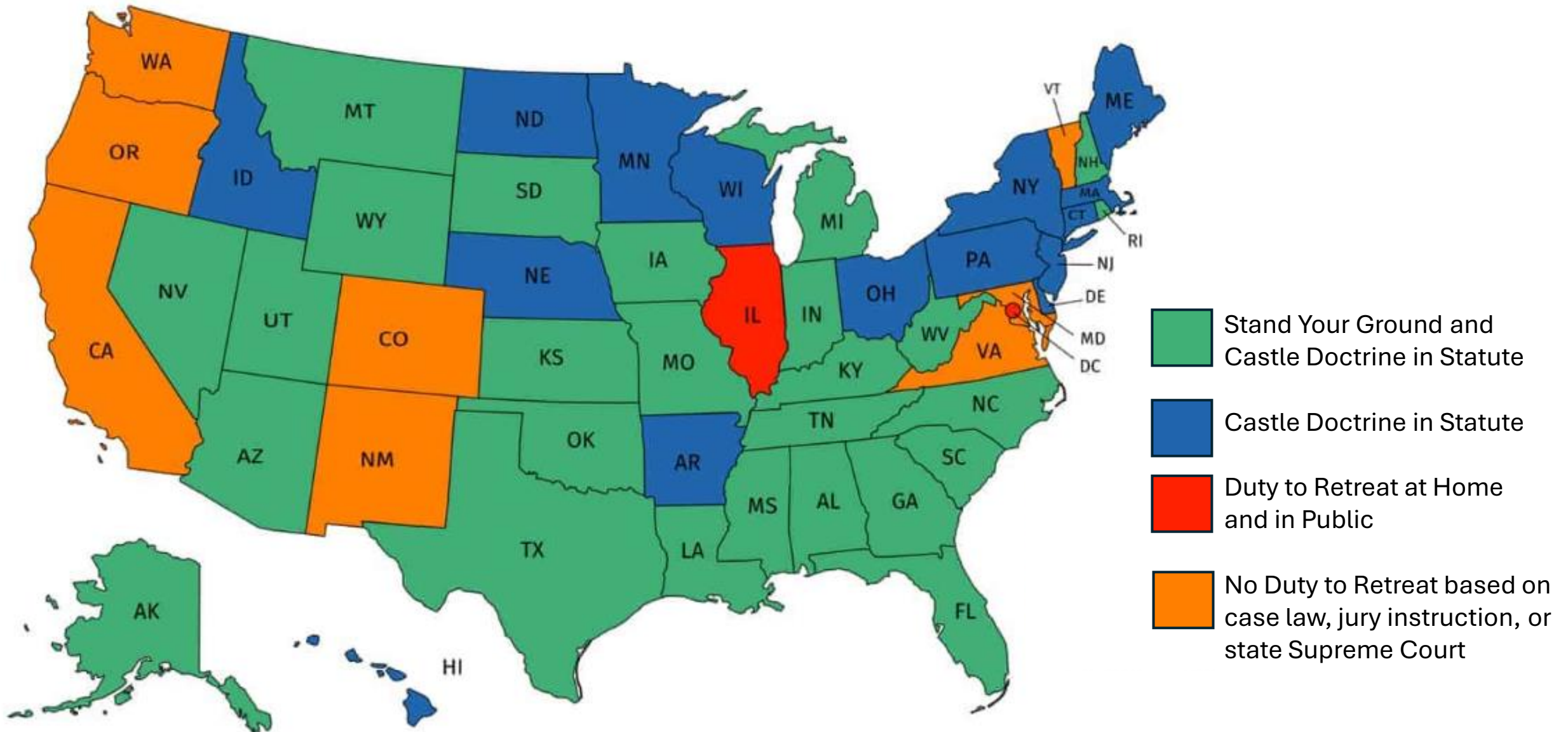
Should states that have implemented Castle Doctrine repeal it?
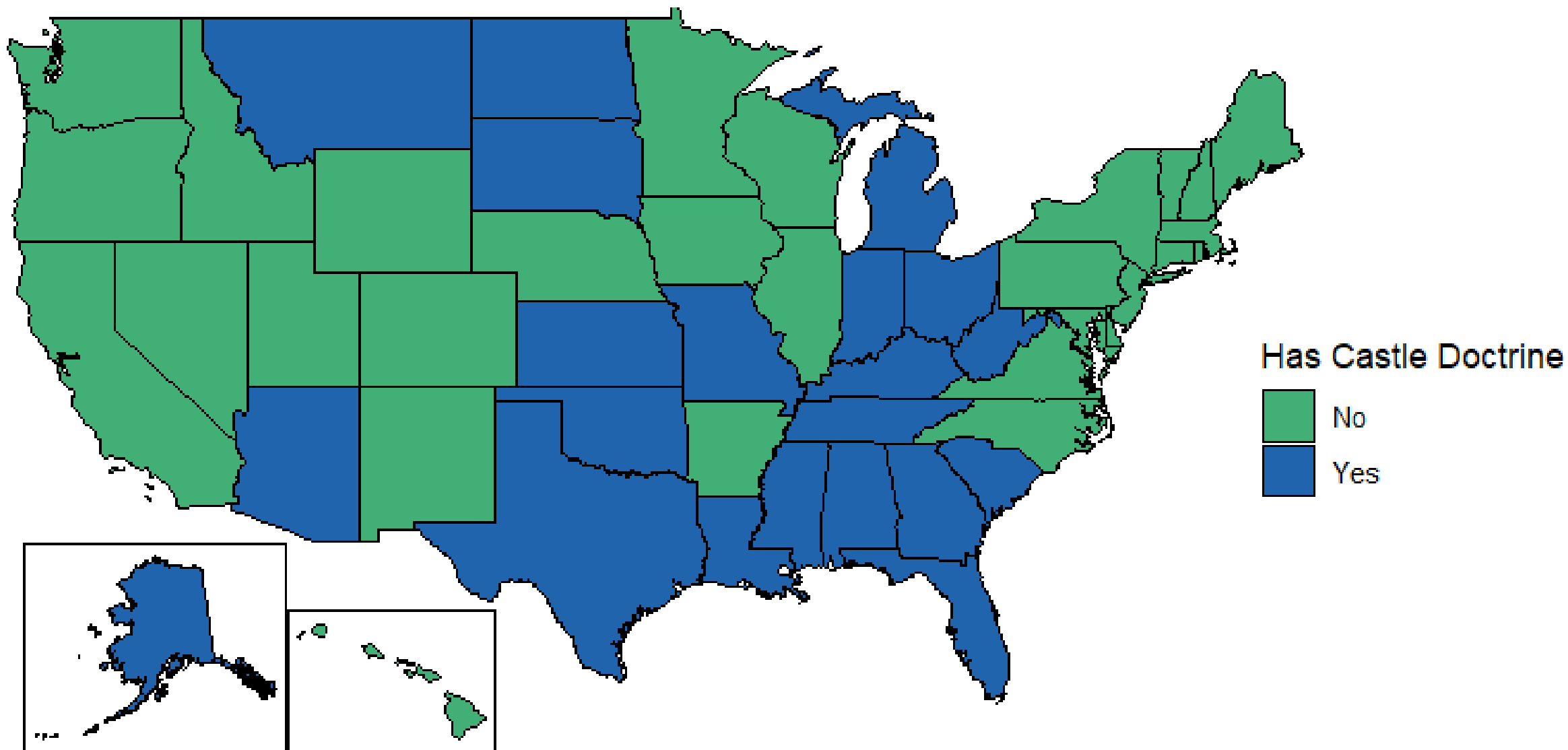
2025-04-28

Castle Doctrine 101

- Stems from English Common Law
  - "A man's home is his castle"
- Removes one's duty to retreat
  - Varies State to State
  - Stand Your Ground:
    - Allows: <u>Defensive, proportional</u> force
    - Where: Any location one has a legal right to be
  - Castle Doctrine:
    - Allows: <u>Deadly</u> force, even if disproportionate
    - Typically, the presence of an intruder automatically satisfies the reasonable fear requirement
    - Where: Varies—always include the home, often includes place of work or vehicle
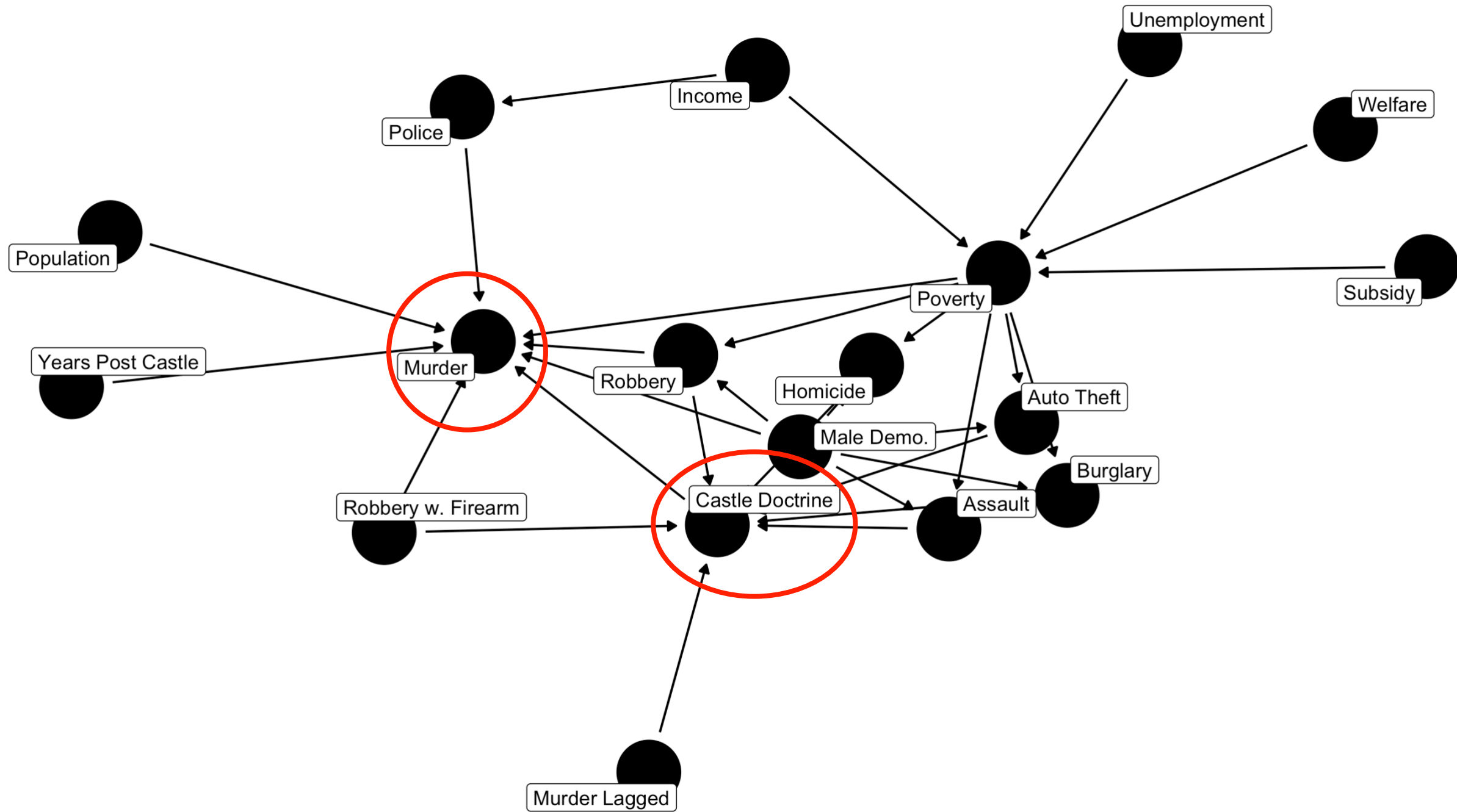
The Current State of the Law

Legend:
- **Stand Your Ground and Castle Doctrine in Statute** (green)
- **Castle Doctrine in Statute** (blue)
- **Duty to Retreat at Home and in Public** (red)
- **No Duty to Retreat based on case law, jury instruction, or state Supreme Court** (orange)
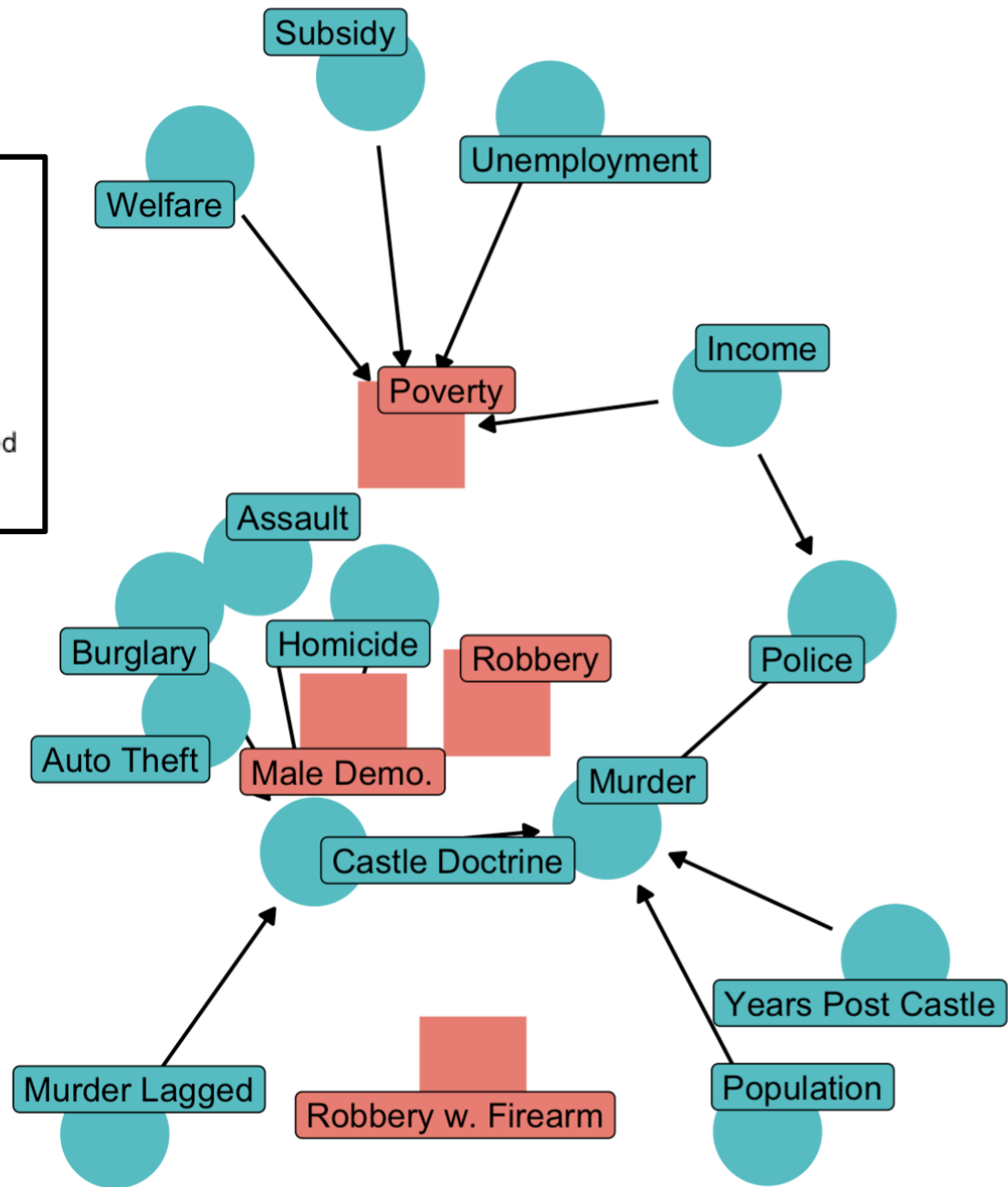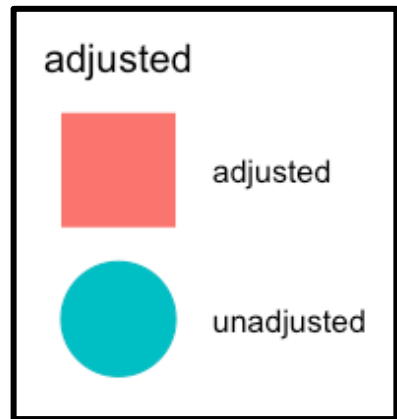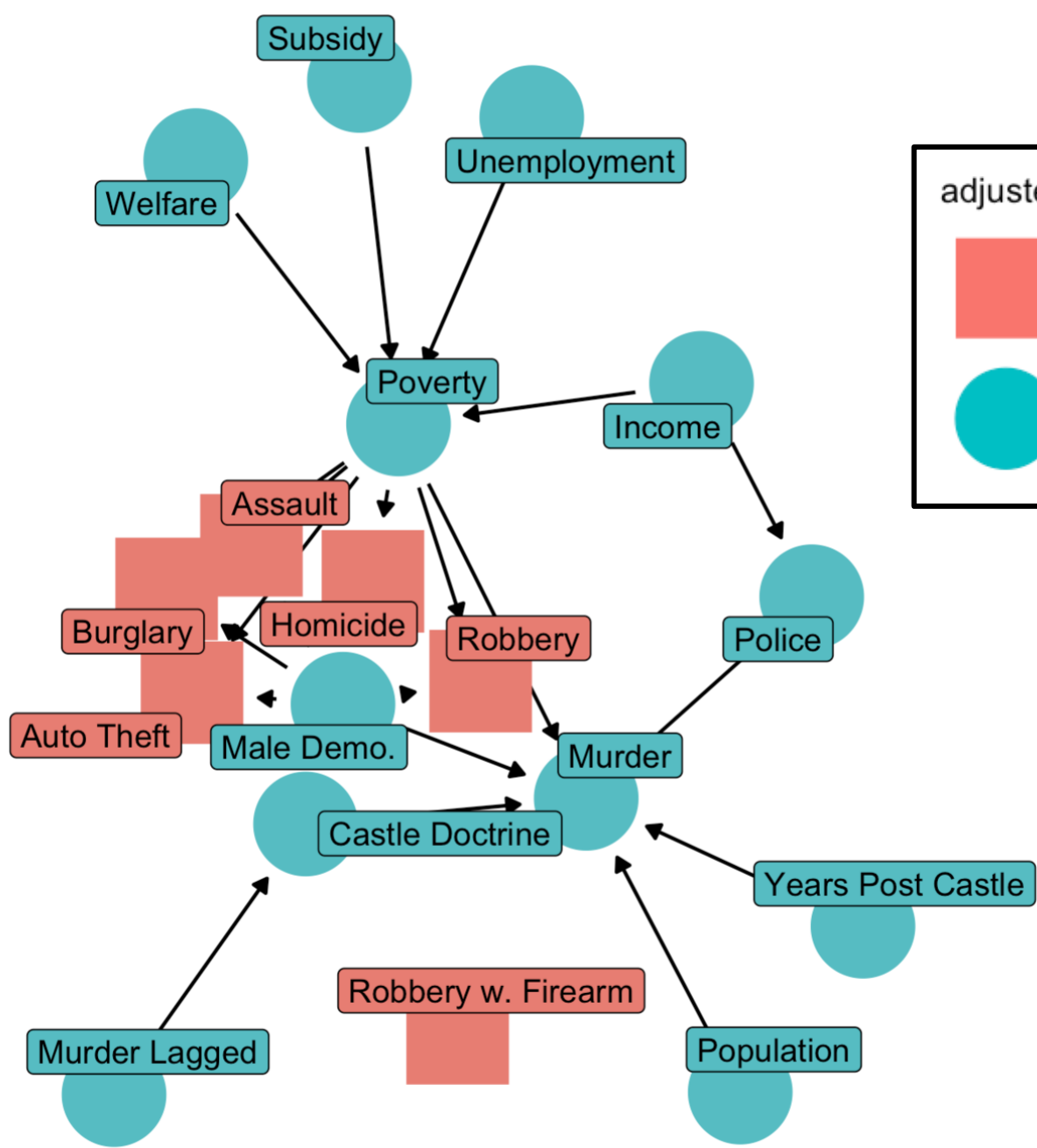
The Law in Our Data (2010)

Causal Question

Among U.S. states that had passed a Castle Doctrine law between 2001 and 2010, what is the effect of those laws on the states' murder rates?

Should states with Castle Doctrine laws repeal them in order to lower their murder rates?

Legend:

adjusted

- adjusted (red square)
- unadjusted (teal circle)

Nodes: Subsidy, Welfare, Unemployment, Income, Poverty, Assault, Burglary, Homicide, Robbery, Police, Auto Theft, Male Demo., Murder, Castle Doctrine, Years Post Castle, Murder Lagged, Robbery w. Firearm, Population
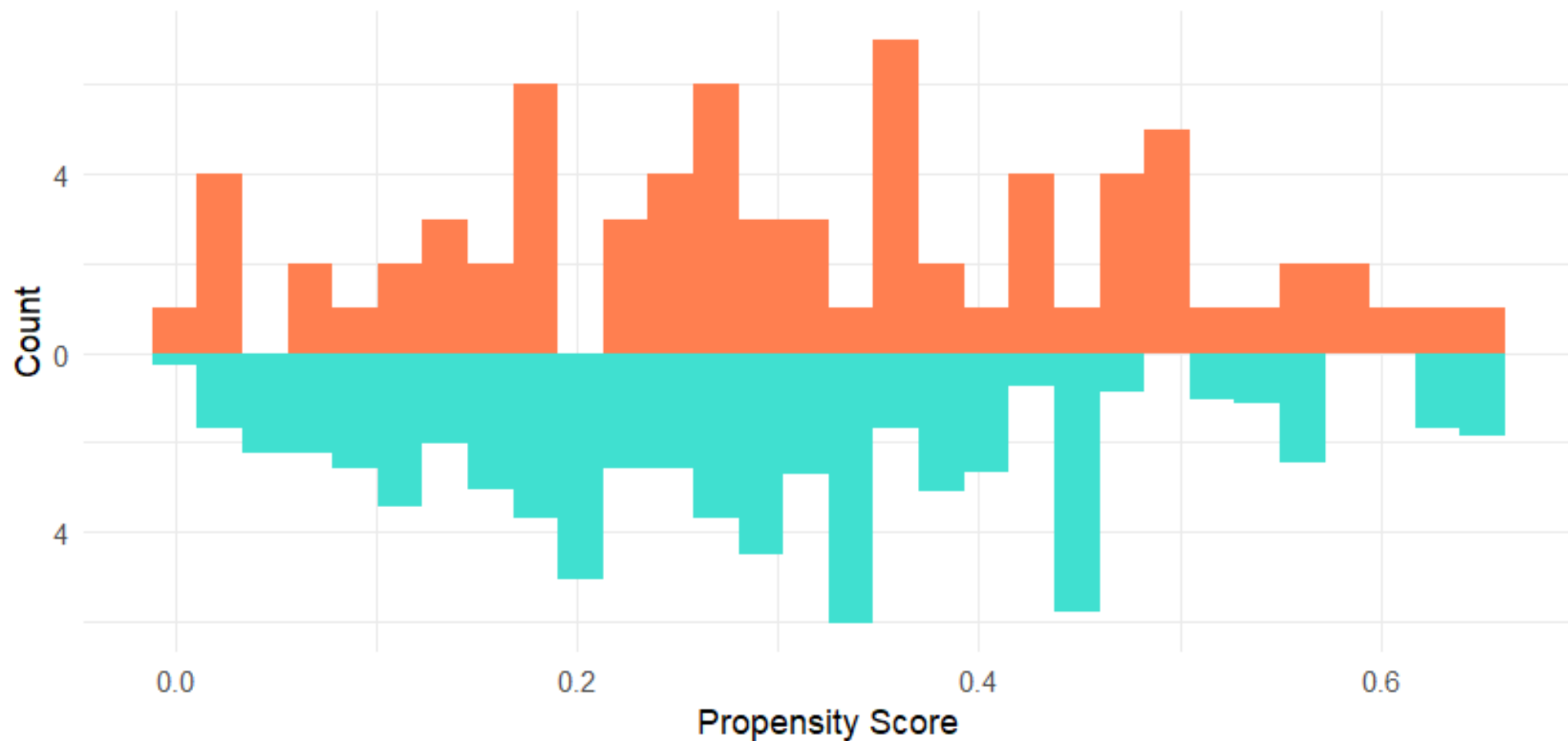
Inverse Propensity Weighting

$$log\_odds_i = S_{1:3}(Homicide_i) + S_{1:2}(Burglary_i) + Assault_i + MotorTheft_i + Robbery_i + ArmedRobbery_i$$
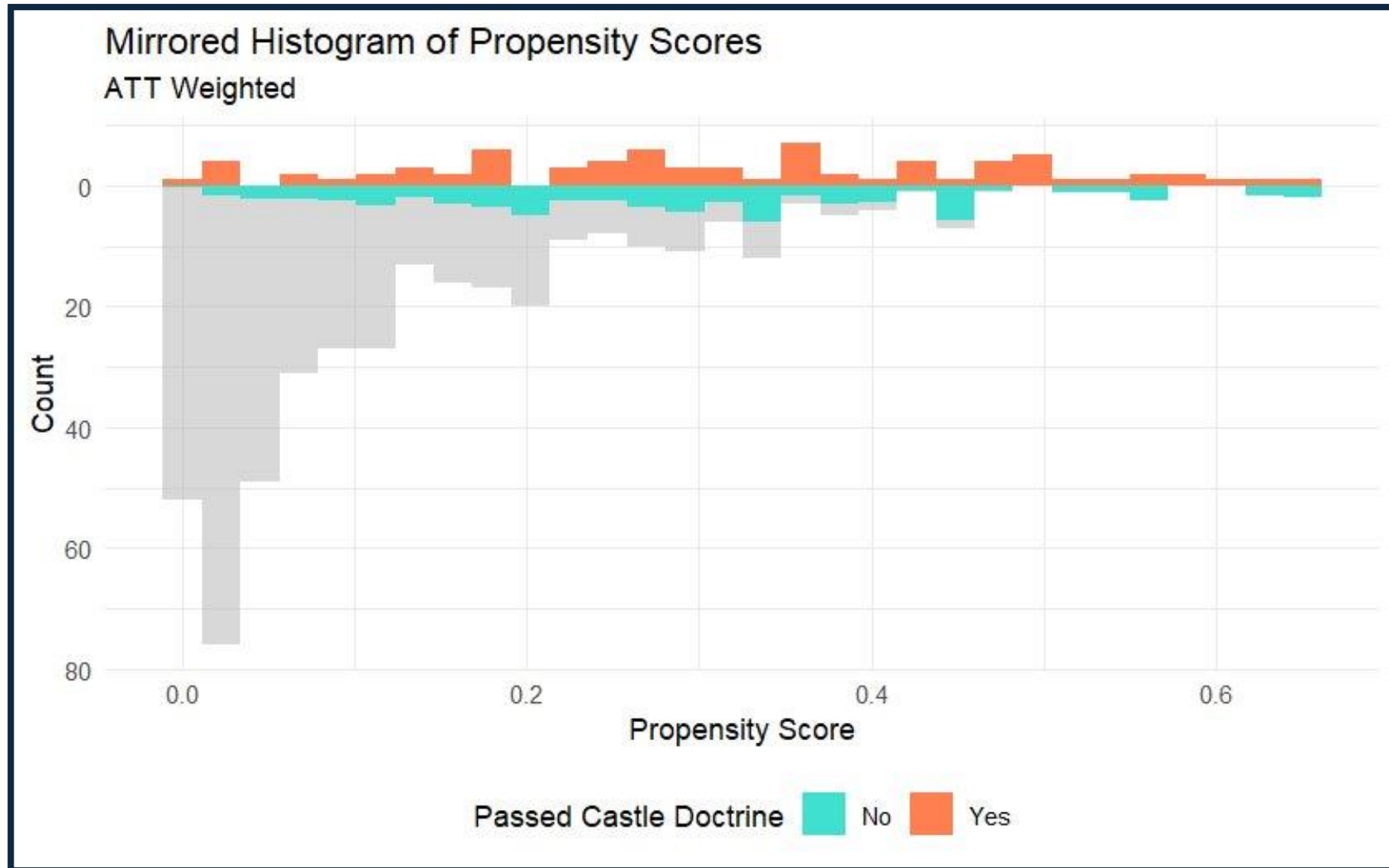
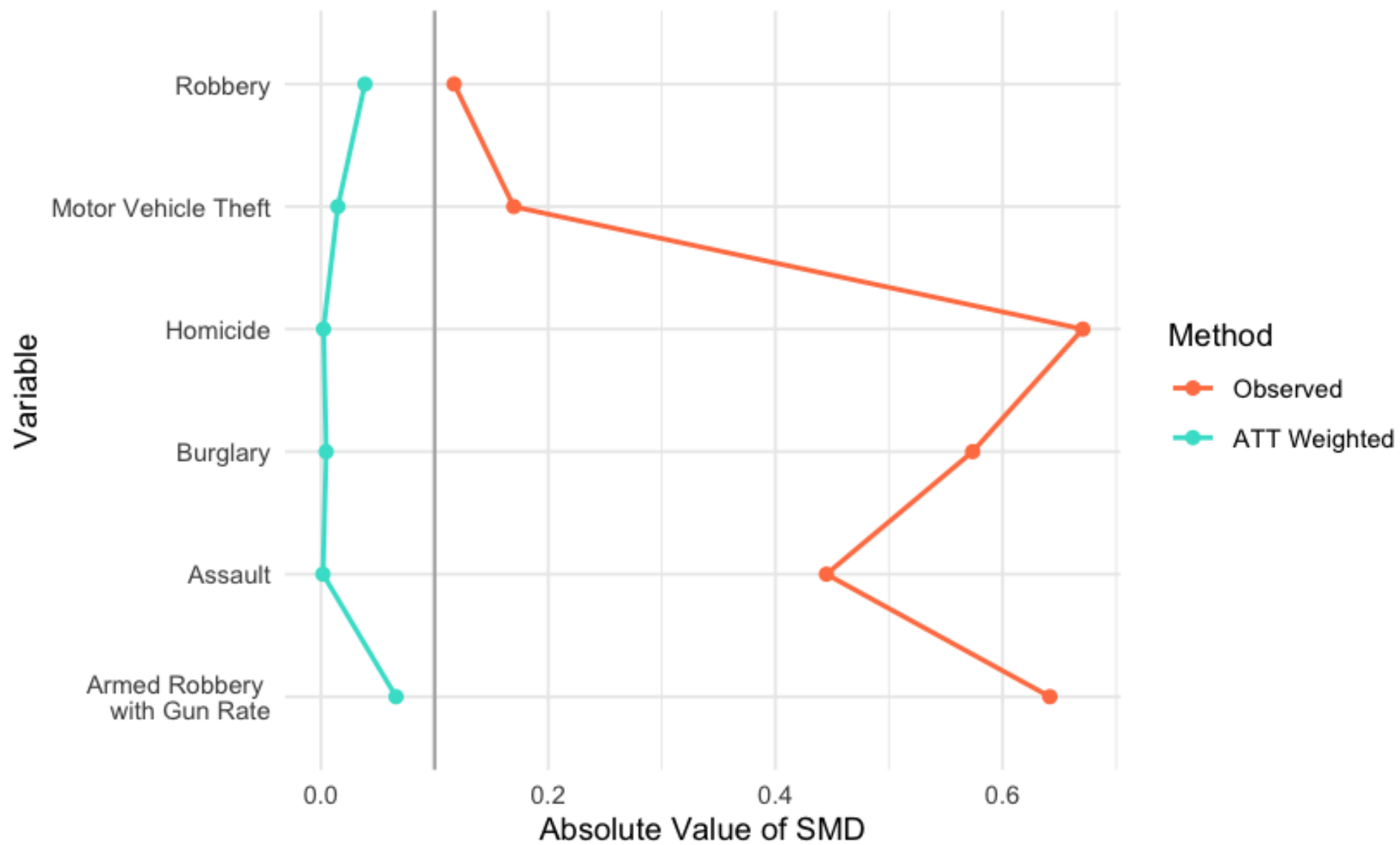Mirrored Histogram of Propensity Scores
ATT Weighted

Mirrored Histogram of Propensity Scores
ATT Weighted

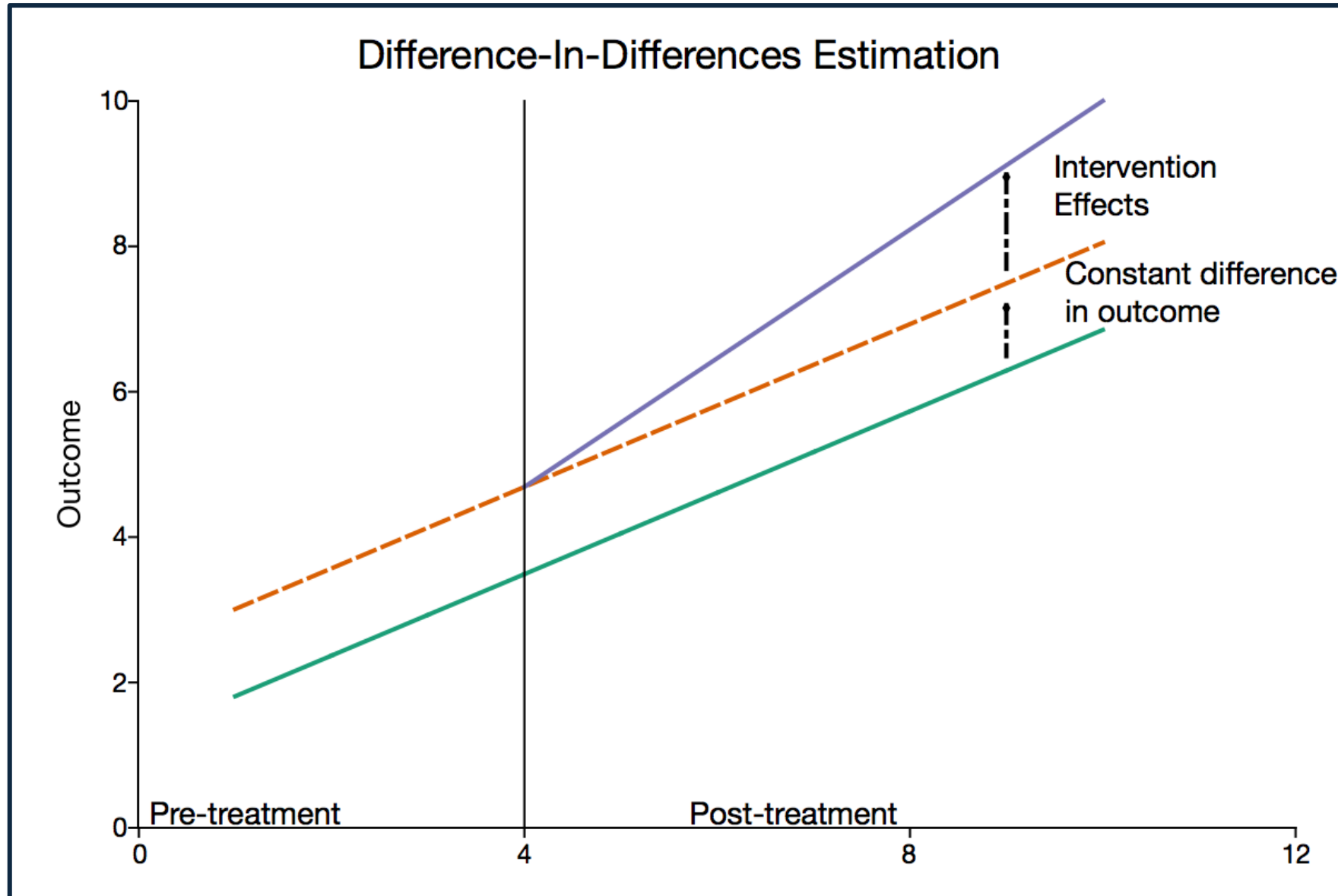# G-Computation + Difference in Differences

$$Murder_i = CastleDoctrine_i + Years_i + CastleDoctrine_i : Years_i$$

Years Before After Castle Doctrine	ATT Point Est.
1	-0.797
2	-1.593
3	-2.390
4	-3.186

Difference-In-Differences Estimation

Eric Clower, updated 08/29/2022 (https://www.aptech.com/blog/introduction-to-difference-in-differences-estimation/)

| Years Before After Castle Doctrine	ATT Estimate	ATT Standard Dev.	95% CI Lower Bound	Upper Bound
1	-0.781	0.584	-1.881	0.342
2	-1.546	1.137	-3.847	0.535
3	-2.323	1.737	-5.580	1.180
4	-3.110	2.370	-7.829	1.510

Uncertainty

1000 bootstrapped samples

Sensitivity Analysis

$$log\_odds_i = S_{1:5}(Poverty_i) + Robbery + S_{1:4}(RobberyFirearm_i) + WhiteMales15to24_i +$$

$$BlackMales15to24_i + WhiteMales25to44_i + BlackMales25to44_i$$

Years Before After Castle Doctrine	ATT Estimate	ATT Standard Dev.	95% CI Lower Bound	Upper Bound
1	-0.399	0.618	-1.559	0.862
2	-0.810	1.190	-3.101	1.462
3	-1.193	1.769	-4.362	2.490
4	-1.616	2.385	-6.166	2.761

Tipping Point Analysis
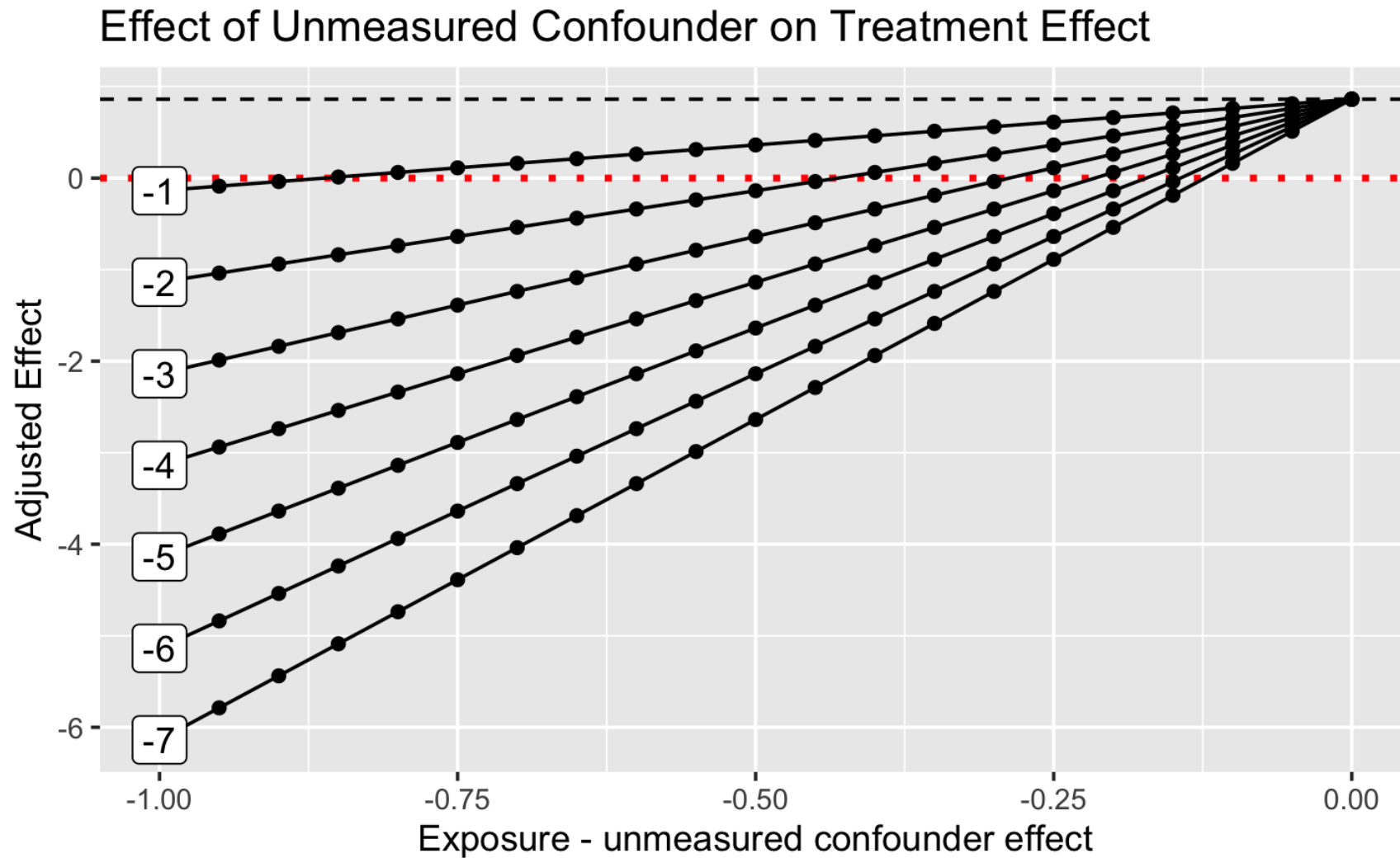
One Year Post / Prior Castle Doctrine

Conclusions, Limitations, and Future Directions

As far as our analysis shows, implementing Castle Doctrine does not significantly increase or decrease a state's murder rate

Reconsider DAG structure

Add other potentially important covariates, such as gun ownership rates or state political leaning

Examine the effect of implementing Castle Doctrine on burglary or overall homicide rates

References

- Cheng, Cheng, and Mark Hoekstra. 2013. "Does Strengthening Self-Defense Law Deter Crime or Escalate Violence? Evidence from Expansions to Castle Doctrine." Journal of Human Resources 48 (3): 821–54.

- Huntington-Klein, N., & Barrett, M. (2024, October 24). Castle Dataset. R PACKAGES. https://r-packages.io/datasets/castle