

## DRY LAWS AND HOMICIDES: EVIDENCE FROM THE SÃO PAULO METROPOLITAN AREA\*

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We use a difference-in-differences design to estimate the causal impact of the adoption of dry laws in the São Paulo Metropolitan Area (SPMA) on violent behaviour. Dry laws cause a 10% reduction in homicides. Similar impacts were found on battery and deaths by car accidents.

The empirical literature shows that alcohol consumption causes all sorts of social maladies. In this article, we study the impact of social consumption of alcohol on murder, the utmost form of violence.

Specifically, we estimate the causal effect on homicide of restricting the recreational consumption of alcohol, which is mandatory night closing hours for bars and restaurants (dry laws, hereafter).

We evaluate the impact of dry laws on homicides by taking advantage of a unique empirical opportunity. Between March 2001 and August 2004, 16 out of 39 municipalities in the São Paulo Metropolitan Area (SPMA, hereafter) adopted dry laws. We estimate the reduced form effect of dry laws and find that they cause a 10% drop in homicides. Similar impacts are found on battery and deaths by car accident.

Our article relates to several pieces of literature. First, and rather generally, our results pertain to the literature on alcohol consumption and violence. Experimental studies in psychology suggest that alcohol suppresses inhibition, impairs judgment and induces aggressive behaviour (McClelland *et al.*, 1972). However, the literature with non-experimental data has had difficulty documenting a convincing link. Omission of common determinants such as child abuse and mental problems is one issue; see Currie and Terkin (2006) on child abuse and alcohol consumption. Non-random selection plagues studies that use arrest or victim data because sober offenders or victims are less likely to get caught or be victimised (Martin, 2001). Overall, the epidemiological literature has not settled the issue of causality (Lipsey *et al.*, 1997).

In this context of weak documentation of the causal effects of alcohol consumption, our work relates to a few recent articles that employ sharper identification strategies. Arguably, the most convincing work is Carpenter and Dobkin (2008). They exploit the exogenous variation provided by the 21-year-old legal drinking age in the US to show that alcohol consumption causes car accident deaths and youth suicide. The cost of their high internal validity is losing some external validity: the result concerns only

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