

Mining and Alcohol Consumption: New Evidence from Northern Canada

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Abstract

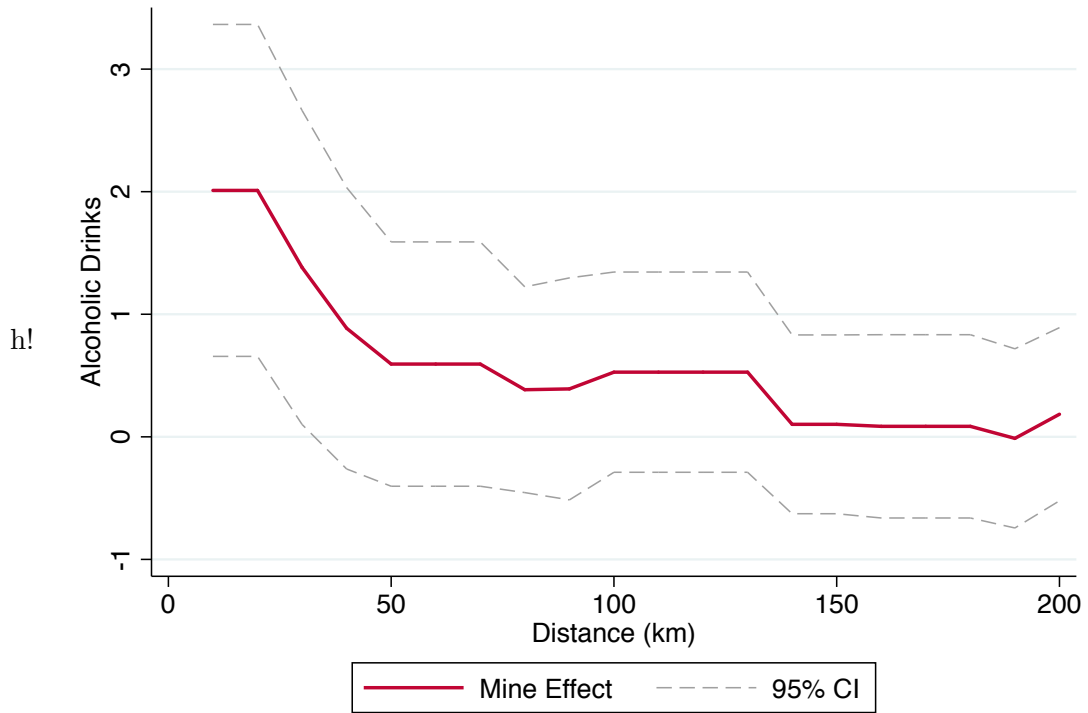
The world population has relied on mines and the minerals they produce as important sources of individual and national wealth for thousands of years. The number of mines in operation worldwide has been steadily on the rise since the industrial revolution, but with a growing world population the global economy, mineral production have undergone exceptionally large amounts of growth in the last twenty years. There is a long history of mainly sociology literature examining the social impacts of large economic development projects on small rural communities (e.g. Freudenburg and Jones, 1991). Papers in this literature use qualitative methods to conclude that social disruptions caused by large development projects can lead to an increase in alcohol and substance use (e.g. Parkins and Angell, 2011).

We contribute to this debate by offering a rigorous statistical analysis of the effect of living close to a land mine on alcohol consumption. The empirical approach uses a unique dataset of 3928 residents of Northern Canada compiled by matching 6 years of socio-economic information collected by Statistics Canada's Canadian Community Health Survey and mining data collected by Natural Resources Canada.

We use Propensity Score Matching to estimate the average treatment effect (ATE) of mines on alcohol consumption. We categorize respondents into 'treatment' or 'control' groups based on the presence of a mine, where a treated individual lives within r km of a mine (control group otherwise). We find a positive and statistically significant effect of mine proximity on alcohol consumption (see figure 1). Specifically, individuals who live within 10 km from a mine have, on average, 2 additional alcoholic drinks per week when compared with those in the control group ($p < 0.01$). This effect decreases to 1.4 additional drinks when we consider a radius of 30 km ($p < 0.05$). With alcoholism at the root of many societal problems, our findings suggest that mining operations may have further reaching social consequences in small communities than the focus of this study alone.

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Figure 1: ATE Estimates ($10\text{km} \leq r \leq 200\text{km}$)



References:

Freudenburg, W. R. and R. E. Jones (1991). Criminal behavior and rapid community growth: Examining the evidence. *Rural Sociology* 56 (4), 619-645

Parkins, J. R. and A. C. Angell (2011). Linking social structure, fragmentation, and substance abuse in a resource-based community. *Community, Work & Family* 14 (1), 39-55