Causal Exaggeration: Unconfounded but Inflated Causal Estimates

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Abstract

The credibility revolution in economics has made causal inference methods ubiquitous. At the same time, an increasing amount of evidence has highlighted that the literature strongly favors statistically significant results. I show that these two phenomena interact in a way that can substantially worsen the reliability of published estimates: while causal identification strategies can successfully alleviate bias caused by confounders, they reduce statistical power and combined with selection on significance, can create another bias, exaggeration. This is consequential in fields such as environmental economics, as cost-benefit analyses turn estimates into decision-making parameters for policy makers. I characterize this confounding-exaggeration trade-off using a formal mathematical derivation and realistic Monte Carlo simulations replicating prevailing identification strategies. I then discuss potential avenues to address it.

Link to the most recent version of the paper

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