LATE With Mismeasured or Misspecified Treatment: An Application On Woman Empowerment in India

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Abstract

We show that a local average treatment effect (LATE) can sometimes be identified and consistently estimated when treatment is mismeasured, or when treatment is estimated using a possibly misspecified structural model. Our associated estimator, which we call Mismeasurement Robust LATE (MR-LATE), is based on differencing two different mismeasures of treatment. In our empirical application, treatment is a measure of empowerment: whether a wife has control of substantial household resources. Due to measurement difficulties and sharing of goods within a household, this treatment cannot be directly observed without error, and so must be estimated. Our outcomes are health indicators of family members. We first estimate a structural model to obtain the otherwise unobserved treatment indicator. Then, using changes in inheritance laws in India as an instrument, we apply our new MR-LATE estimator. We find that women’s empowerment substantially decreases their probability of being anemic or underweight, and increases children’s likelihood of receiving vaccinations. We find no evidence of negative effects on men’s health. Then, using changes in inheritance laws in India as an instrument, we apply our new M-LATE estimator. We find that women’s empowerment substantially decreases their probability of being anemic or underweight, and increases children’s likelihood of receiving vaccinations.

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