

Defining and identifying the effect of treatment on the treatment

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The *effect of treatment on the treated* (ETT) is a causal effect commonly used in the econometric literature. The ETT is typically of interest when evaluating the effect of schemes that require voluntary participation from eligible members of the population—those who participate are regarded as the treated. We show by means of examples, that it can be used as an alternative measure of effectiveness in Epidemiologic contexts where randomisation is not possible or flawed. The ETT has so far been expressed in terms of potential responses in the literature. We propose a new approach to formulate and derive the ETT based on the decision theoretic framework for causal inference [1]. The potential responses formulation turns out to be a special case of the decision theoretic formulation. Finally, we derive the conditions under which the ETT can be identified and employ an instrumental variable approach to do so.

References

- [1] Dawid, AP (2002) Influence diagrams for causal modelling and inference. Intern. Statist. Rev. 70:161-189.