

CAN AGENTS WITH CAUSAL MISPERCEPTIONS BE SYSTEMATICALLY FOOLED?

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Abstract

An agent forms estimates (or forecasts) of individual variables conditional on some observed signal. His estimates are based on fitting a subjective causal model - formalized as a directed acyclic graph, following the “Bayesian networks” literature - to objective long-run data. I show that the agent’s average estimates coincide with the variables’ true expected value (for any underlying objective distribution) if and only if the agent’s graph is perfect - i.e., it directly links every pair of variables that it perceives as causes of some third variable. This result identifies neglect of direct correlation between perceived causes as the kind of causal misperception that can generate systematic prediction errors. I demonstrate the relevance of this result for economic applications: speculative trade, manipulation of a firm’s reputation and a stylized “monetary policy” example in which the inflation-output relation obeys an expectational Phillips Curve. (JEL: D01, D84, E59)

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