

Equilibrium Counterfactuals

We incorporate structural modellers into the economy they model. Using the traditional moment-matching method, they ignore policy feedback and estimate parameters using a structural model that treats policy changes as zero probability (or exogenous) "counterfactuals". Estimation bias occurs since the economy's actual agents, in contrast to model agents, understand policy changes as positive probability endogenous events guided by the modellers. We characterize equilibrium bias. Depending on technologies, downward, upward, or sign bias occurs. Potential bias magnitudes are illustrated by calibrating the Leland (1994) model to the Tax Cuts and Jobs Act of 2017. Regarding parameter identification, we show the traditional structural identifying assumption, constant moment partial derivative sign, is incorrect for economies with endogenous policy optimization: The correct identifying assumption is constant moment total derivative sign accounting for estimation-policy feedback. Under this assumption, model agent expectations can be updated iteratively until the modellers' policy advice converges to agent expectations, with bias vanishing.