Università di Brescia

Dipartimento di Economia e Management

Estimating Peer Effects with Observed and Unobserved Networks and Long Panel Data

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The authors develop a network econometric model to estimate peer effects when interactions occur through multiple networks, some observed and others unobserved. They show that ignoring unobserved networks leads to substantial omitted-variable bias in the estimated peer effects associated with observed networks. To address this issue, they propose a three-step estimation strategy for long panel data: first estimating an "aggregate" network that combines both observed and latent networks, and then recovering the peer effects linked to the observed networks. Monte Carlo simulations demonstrate that their approach substantially reduces bias compared to conventional 2SLS estimators. They apply the method to central bank policymaking in 27 economies (2001–2023), finding significant peer effects through trade- and investment-agreement networks and showing that disregarding unobserved networks materially distorts the results.

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