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SPEAKER TITLES/ABSTRACTS

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"Synthetic Control and Weighted Event Study Models with Staggered Adoption"

Estimating the impact of policy changes across states and other jurisdictions remains a challenging methodological problem. In our motivating example, 33 states granted collective bargaining rights to teachers at different times between 1964 and 1987; the question is whether this increased teacher salaries and school spending. Regression-based methods, like event study models, rely on a "parallel trends" assumption that is implausible in this application. Alternative estimators, like the synthetic control method (SCM), were designed for a single treated unit rather than for multiple units adopting over time. In this paper, we generalize SCM to this staggered adoption setting. Fitting separate SCM weights for each treated unit and then averaging does not necessarily achieve good balance for the average of the treated units. We propose a new pooled SCM estimator for the average treatment effect as well as a hybrid estimator that balances both the average treated unit and each treated unit separately. We draw on recent results to show that our hybrid estimator has an interpretation as a generalized propensity score model with partially pooled coefficients. Finally, we combine our staggered adoption SCM approach with event study modeling to obtain an augmented estimator that improves over either SCM weighting or event study modeling alone. We assess the performance of the proposed method via extensive simulations and apply our results to the teacher collective bargaining example. We implement the proposed method in the augsynth R package.
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