

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
VIRTUAL COLLOQUIUM

Friday, October 30

3:00 – 4:00 PM

<https://ccsu.webex.com/meet/gotchev>

**SMOOTHED LSDV ESTIMATION OF
FUNCTIONAL-COEFFICIENT PANEL DATA
MODELS WITH TWO-WAY FIXED EFFECTS**

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Abstract: The existing semiparametric estimators for varying-coefficient fixed-effects models exclusively assume one-way fixed effects, typically in the dimension of cross-sectional units. However, more often than not applied researchers wish to control for both the individual and time fixed effects in their panel regressions, with the latter included to account for common unobservable factors correlated with regressors. While rather trivial in a linear model, controlling for time effects by explicitly including time-period dummies as additional regressors does not provide a straight-forward estimation procedure in the case of a semiparametric model. We provide an alternative by extending the Sun et al. (2009) smoothed least-squares dummy variable (LSDV) estimator to the case of a functional-coefficient model with two-way fixed effects whereby we allow for unobservable heterogeneity in both dimensions of the data: cross-section and time. Both fixed effects are concentrated out of the model via locally smoothed two-dimensional within transformation. Simulations show that the estimator performs well in finite samples. We showcase its practical usefulness by revisiting the estimation of the environmental Kuznets curve with the focus on the oftentimes overlooked temporal variability in the coefficients.

For further information:
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