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**Ba Chu\*** ([ba.chu@carleton.ca](mailto:ba.chu@carleton.ca)), Carleton University, C-870 Loeb Bldg., 1125 Colonel By Dr., Ottawa, Ontario K1S-5B6, Canada. *Composite Likelihood Estimation of Dynamic Panels with Group-Specific Heterogeneity and Spatially Dependent Errors.*

This paper proposes a dynamic panel data model with spatially dependent errors that allows for known or unknown group-specific patterns of slope heterogeneity. Analysis of this model is conducted in the framework of composite likelihood maximization. Unlike the traditional maximum likelihood paradigm the method of composite likelihood (CL) does not require a specification/estimation of the spatial variance-covariance matrix to obtain asymptotically unbiased feasible estimators. Moreover the proposed CL estimator is robust against some misspecification of the unobserved individual/group-specific fixed effects. Clustering and estimation of the parameters of interest involve a large-scale non-convex mixed-integer programming problem, which can then be solved via a new efficient approach developed based on DC (Difference-of-Convex functions) programming and the DCA (DC algorithm). Suppose that the number of time periods and the size of spatial domain grow simultaneously, asymptotic theory is derived for both cases where the covariates are stationary and nonstationary. An extensive Monte Carlo simulation is also provided to examine the finite-sample performance of the proposed estimator. (Received January 11, 2017)