

MODELING ERROR IN QUANTITATIVE MACRO-COMPARATIVE RESEARCH

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ABSTRACT

Much quantitative macro-comparative research (QMCR) relies on a common set of published data sources to answer similar research questions using a limited number of statistical tools. Since all researchers have access to much the same data, one might expect quick convergence of opinion on most topics. In reality, of course, differences of opinion abound and persist. Many of these differences can be traced, implicitly or explicitly, to the different ways researchers choose to model error in their analyses. Much careful attention has been paid in the political science literature to the error structures characteristic of time series cross-sectional (TSCE) data, but much less attention has been paid to the modeling of error in broadly cross-national research involving large panels of countries observed at limited numbers of time points. Here, and especially in the sociology literature, multilevel modeling has become a hegemonic – but often poorly understood – research tool. I argue that widely-used types of multilevel models, commonly known as fixed effects models (FEMs) and random effects models (REMs), can produce wildly spurious results when applied to trended data due to mis-specification of error. I suggest that in most commonly-encountered scenarios, difference models are more appropriate for use in QMC.