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"Weak identification robust inference in dynamic panel data models"

Abstract:
We consider the linear dynamic panel data model with additional endogenous regressors. We analyze the accuracy of a range of GMM Wald and LM coefficient tests as well as procedures for testing weak identification. Our Monte Carlo simulations show that for a small number of time periods Wald coefficient tests may become heavily size distorted in case of persistent panel data, while weak identification robust statistics are approximately size correct. Furthermore, we show that weak identification robust statistics become size distorted when the number of time periods gets large. Reason is the abundance of available moment conditions. Implementing such tests exploiting various subsets of instruments, however, shows much better size control in finite samples.