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Title: A comparison analysis of dynamic panel data estimators in the presence of endogenous regressors

Abstract:

Data used in applied econometrics are typically non-experimental in nature. This makes the assumption of exogeneity of regressors untenable, and poses a serious identification issue in the estimation of economic structural relationships.

As far as the source of endogeneity is confined to unobserved heterogenity between groups (for example time-invariant managerial ability in firm-level labour demand equations), the availability of panel data can identify the parameters of interest. If endogeneity, instead, is more pervasive stemming also from unobserved within group variation, (for example, a transitory technology shock hitting at the same time both the labour demand of the firm and the wage paid) then standard panel data estimators are biased and instrumental variable or generalized method of moments estimators provide valid alternative techniques.

This paper extends the analysis in [Bruno, G.S.F., 2005: "Estimation and inference in dynamic unbalanced panel data models with a small number of individuals" The Stata Journal, 5, 473-500] focussing on dynamic panel data (DPD) models with endogenous regressors.

Various Monte Carlo experiments are carried out through my Stata code -xtarsim- in order to assess the relative finite-sample performances of some popular DPD estimators, such as Arellano and Bond (-xtabond-, -xtabond2-); Blundell and Bond (-xtabond2-); Anderson and Hsiao (-ivreg-,-ivreg2-, -xtivreg-, -xtivreg2-); and LSDVC (-xtlsdvc-).

New versions of the codes -xtarsim- and -xtlsdvc- are also presented.