

Dynamic Panels with Threshold Effect and Endogeneity*

Myung Hwan Seo
London School of Economics

Yongcheol Shin
University of York

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Abstract

This paper addresses a challenging issue as how best to model nonlinear asymmetric dynamics and cross-sectional heterogeneity, simultaneously, in the dynamic threshold panel data framework, under which both threshold variable and regressors are allowed to be endogenous. Depending on whether the threshold variable is strictly exogenous or not, we propose two different estimation methods: the first-differenced two-step least squares and the first-differenced GMM. The former exploits the fact that the threshold variable is strictly exogenous to achieve the super-consistency of the threshold estimator. We provide asymptotic distributions of the two estimators with and without exogeneity of the threshold variable, respectively. The bootstrap-based testing procedure for the presence of threshold effect is also developed. Monte Carlo studies provide a support for our theoretical predictions. Finally, using the UK and the US company panel data, we provide two empirical applications investigating an asymmetric sensitivity of investment to cash flows and an asymmetric dividend smoothing.

JEL Classification: C13, C33, G31, G35

Key Words: Dynamic Panel Threshold Models, Endogenous Threshold Effects and Regressors, FD-GMM and FD-2SLS Estimation, Investment and Dividend Smoothing.

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