

Estimating Efficiency Effects in a Panel Data Stochastic Frontier Model

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Abstract

This paper proposes a panel data based stochastic frontier model which accommodates time-invariant unobserved heterogeneity along with efficiency effects. The efficiency effects are specified by a standard normal cumulative distribution function of exogenous variables which ensures the efficiency scores to lie in a unit interval. The model is within-transformed and then estimated with non-linear least squares. The finite sample properties of the proposed estimator are investigated through a set of Monte Carlo experiments. The experiments suggest that our estimation procedure generally performs well also in small samples. Finally, an empirical illustration based on widely used panel data on Indian farmers reveals the simplicity and easy applicability of the model.

Speaker Profile

Sriram Shankar is a Senior Lecturer in Economics in the Research School of Economics and a Fellow in the Centre for Social Research and Methods at the Australian National University. He is an Empirical economist and his research interests include Environment and Resource Economics, Labour Economics and Applied Econometrics. He has also published in leading International journals such as *Review of Income and Wealth*, *Urban Studies*, *European Journal of Operational Research*, *Journal of Productivity Analysis*, *Empirical Economics*, *Economic Modelling*, *Econometrics Review*, *Journal of Business and Economics Statistics*, *International Journal of Manpower*, *Australian Journal of Agricultural and Resource Economics*, *Review of Development Economics*, *Land Use Policy*, *Social Indicators Research* and *Ecological Economics*.

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