

ABSTRACT

PRODUCTION FRONTIERS WITH CROSS-SECTION AND TIME-SERIES VARIATION IN EFFICIENCY LEVELS

In this paper we consider the efficient instrumental variables estimation of a panel data model in which coefficients in addition to the intercept vary over individuals, and we apply the methodology we develop to a model in which there is cross-sectional and temporal variation in productivity levels (or, equivalently, in levels of technical efficiency), using data on U.S. airlines. We relax the assumption that technical inefficiency is time invariant, but in such a way as to not lose the advantages of panel data. One of our more interesting empirical findings is that efficiency levels are increasing over the period 1970I-1981III and the empirical fact that appears to drive this increase is that the firms' productivity levels are becoming more similar over the period in which the industry was deregulated.