

Using Panel Data Analysis to Estimate Confidence Intervals for the DEA Efficiency of Individual Urban Paratransit Agencies

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Abstract

This paper demonstrates a methodology using Panel Data Analysis to estimate confidence intervals for the Data Envelopment Analysis (DEA) efficiency of individual urban paratransit agencies and the statistical significance of trends in individual agency efficiency. The procedure accounts for stochastic variations of the inputs and outputs of the target agency as well as stochastic variations of the inputs and outputs of its efficient benchmark peers. The procedure is demonstrated using nine years of data from 34 urban paratransit agencies.

