Efficiency Benchmarking Of North American Airports: Comparative Results Of Productivity Index, Data Envelopment Analysis And Stochastic Frontier Analysis

Zhuo (Frank) Lin, Yap Yin Choo, Tae Hoon Oum

Abstract

Using three common methodologies for measuring airport efficiency, namely the productivity index method, Data Envelopment Analysis (DEA) method, and stochastic frontier analysis (SFA) method, this study examines the efficiency performances of 62 Canadian and U.S. airports. Unlike most previous studies, this study includes aeronautical and non-aeronautical outputs of airports as they are inexplicably tied to each other in airport production. The empirical results reveal that the efficiency scores and rankings measured by these alternative methods are quite similar to each other in the top 15 and bottom 15 ranked airports, whereas considerable differences exist among the airports in the middle range. We also found that the percentage of non-aeronautical revenue, passenger volume, average aircraft size, percentages of international and connecting traffic significantly affect our airport efficiency estimates in all of the three alternative approaches used.

Full Text: PDF

DOI: http://dx.doi.org/10.5399/osu/jtrf.52.1.4139

Refbacks
- There are currently no refbacks.