

PERFORMANCE MANAGEMENT OF NATIONS AT THE SUMMER OLYMPICS

Author:
Wen-Bin Lin

email:
patrick@takming.edu.tw

University:
Takming University of Science and Technology

Abstract

In this paper, the performances of the nations participating in the last five Summer Olympic Games (Barcelona 1992, Atlanta 1996, Sydney 2000, Athens 2004, Beijing 2008) are measured by the data envelopment analysis (DEA). Models in the paper considers two inputs (GDP per capita and population) and three outputs (number of gold, silver and bronze medals won), and the weight restrictions are included to guarantee that a unit of silver medal corresponds to a higher value than a unit of bronze medal, and the highest for gold medal, in addition to constant sum as single output. The results reveals a unique ranking of nations based on relatively efficiency, return to scale, benchmarking and superefficiency for the last five Summer Olympic Games. Moreover, this paper demonstrates the metafrontier concept to account for the technological differences among various nations groups. The interesting feature of the model is that it ensures the heterogeneous nations are compared based on one homogenous technology. The results indicate that the technical change ratio (TGR) of a particular nation have a significant impact on its efficiency.

