

عنوان مقاله:

A NEW MODEL TO DETERMINE RETURNS TO SCALE IN DATA ENVELOPMENT ANALYSIS

محل انتشار:

دومین کنفرانس بین المللی تحقیق در عملیات ایران (سال: 1388)

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خلاصه مقاله:

We extend the concept of returns to scale in Data Envelopment Analysis (DEA) to the weight restriction environments. By the addition of weight restrictions, the status of returns to scale, i.e., increasing, constant and decreasing may suffer a change. We first define "returns to scale" under weight restrictions and propose a method for identifying the status of returns to scale. Then, it is demonstrated that the region of the most productive scale size (MPSS) will usually be narrowed by this addition. For an inefficient decision making unit (DMU), a simple rule for determining the status of returns to scale of its projected DMU will be presented. An empirical study compares the results of the proposed method with those of the BCC model and demonstrates the change in the MPSS for both models. Different models of Data Envelopment Analysis to determine returns to scale are presented. A model is suggested here. The suggested model determines the Constant returns to scale, increasing returns to scale, and decreasing returns to scale in decision making units.

کلمات کلیدی:

Data Envelopment Analysis, decision making units, returns, to scale

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