

عنوان مقاله:

Energy Resources Consumption Performance in Iranian Manufacturing Industries Using Cost/Revenue Efficiency Model

محل انتشار:

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خلاصه مقاله:

Industries are one of the main sources of pollution in the world. Besides, the levels of energy resources consumption including water, electricity, and fossil fuel are very different among industries. On the other hand, Iranian government pays a large amount of energy subsidy to manufacturing units. Because of it, the government wants to know which of manufacturing industries are efficient, produce less environmental pollutions, and hence, must be supported. Besides, manufacturing industries are classified into various groups. In this paper, the conventional data envelopment analysis (DEA) model has been extended to multi-group state for evaluating manufacturing systems. The main feature of the proposed model is that it takes into consideration inputs/outputs prices (cost/revenue). In the other words, we propose a linear multi-group cost/revenue efficiency model. The data of 59 Iranian manufacturing industries are grouped under 23 classes to demonstrate the model. The inputs are energy resources such as the amount of fossil fuel, water and electricity consumption as well as a non-energy resources such as the number of employees. The results show that the efficiency scores and energy consumption performance are greatly changed when each industry is evaluated in its own group.

کلمات کلیدی:

Energy Resources Consumption Data Envelopment Analysis Environmental Pollution Cost/Revenue Efficiency Manufacturing Industries Multi-group Model

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