

EDITORIAL - Applications of Data Envelopment Analysis in developing countries

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The Central European Review of Economics and Management (CEREM) has been recognized for the cutting edge and pertinence of topics selected for publication. In the previous issue, Data Envelopment Analysis (DEA) has been widely used in measuring efficiency in developing countries. This issue follows the same topic with five papers on DEA, analyzing a variety of themes of efficiency matters in developing countries. In addition to the five DEA articles, there are three more papers that, respectively, refer to the performance of the cooperative purchasing in healthcare, the emotional bias decisions during financial crises, and the alternative finance of sustainable development.

The paper by Swati Raju examined the efficiency of co-operative banks in India using both Stochastic Frontier Analysis (SFA) and DEA analysis. The study finds moderate to high efficiency in banking activities. Deposits and loans disbursed emerge as major determinant of efficiency for core banking activities. Off balanced activities also showed a considerable degree of efficiency.

In an interesting article Anoop Singh and Bharat Sharma present a DEA based approach to set an energy efficiency target in the cement industry in India. The study proposes an alternative target setting a method based on DEA, which takes into account technical and operational differences across the industrial plants. Within

Perform, Achieve, and Trade (PAT) framework, the authors highlight the efficacy of DEA methodology in implementing the PAT scheme.

Alexandra María Ríos Cabral and Francisco S. Ramos, in their contribution, aim to evaluate the technical efficiency of 44 Brazilian port terminals that handled containers during 2016. For this purpose, the authors applied output oriented DEA and Free Disposal Hull (FDH) models. The main result show that half of the terminals have an inefficient infrastructure with idle capacity. Additionally, a strong relationship between terminal size and degree of specialization with efficiency was found.

This is followed by the next paper by Berna H. Ulutas that refers to efficiency evaluation of “green airports” in Turkey. The author introduces a DEA model to assess the efficiency of 22 airports in Turkey with pollutant emissions as an undesirable output. Airport location shows up as a critical factor on environment pollution. Likewise, the weather and proximity to tall buildings or hills have a significant impact on environmental quality.

In their paper, Rajani Neraj Mathur and Swati Raju Ramanath, seek to analyze efficiency in production of food grains for India using data for the period 1960-1961 and 2013-2014. Using DEA and SFA, the authors maintain that the problem of food security lies not in shortage but in an imbalance in distribution. In addition, the authors argue that food security requires more than one strategy to transform the current patterns and practices of production, distribution and consumption of food.

The main purpose of the study by Cees Johannes Gelderman, Jelle De Jonge, Jos Schijns and Janjaap Semeijn, is to find an explanation for performance of co-operative purchasing in healthcare. By investigating the roll of trust, commitment, organizational factors and interpersonal skills, the authors developed a conceptual model for performance of co-operative purchasing. The model has been empirically validated using a survey of 88 Dutch hospital purchasing professionals. Such analysis showed a significant impact of trust and commitment in cooperative purchasing groups on performance. Although proper IT support is often neglected in healthcare organizations, efforts to improve IT systems facilitate the tactical cooperative purchasing process.

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Peter Scholz, David Grossmann, Sinan Krueckeberg present a paper in which they hypothesize that during financial crisis market participants are presumably prone to emotional bias decisions. The authors use the economic policy uncertainty indicator, the Dow Jones Industrial Average and the Nikkei 225 GARCH volatilities to test the ambiguity aversion and selective perception of investors. For most crises, the authors found a significant link between uncertainty and market volatility. However, as far as ambiguity aversion is concerned, the causality differs between crises indicating that investors not always are driven by uncertainty.

The paper by Anna Motylska-Kuzma aims to evaluate alternative finance for implementation of basic assumptions and goals of sustainable development. The author uses comparative analysis of the common methods of alternative finance. The results show that despite many features that indicate the inclusion of alternative finance, the basic assumptions and goals of sustainable development are arbitrary.

Finally, the editorial team of CEREM ratifies its commitment to provide the reader with a newly generated knowledge. We hope the readers will find the present content useful. Likewise, we are grateful to all authors and the many reviewers who helped us to make the current issue a reality. Specially, Prof. Joost (Johannes) Platje, Editor in-Chief, who kindly guided and supported us in every task that preparation of this issue required.