Content

keywords : efficiency, productivity, data envelopment analysis, CRS model, VRS model.

METHODS OF MEASURING EFFICIENCY WITH APPLICATIONS IN ECONOMY

.

The paper is structured in 6 chapters, namely:

Chapter 1 Efficiency and Productivity - General Issues, show essential issues regarding efficiency and productivity - general concepts, productive technical efficiency, inputs and outputs in the production process, specific concepts used in measuring efficiency, production border function, methods (decision makers) - methods and techniques for evaluating productive technical efficiency, index method, as a nonparametric method of efficiency analysis, measuring productivity at firm level (decision-making unit) using the Malmquist indexes.

Chapter 2 Econometric Techniques for Efficiency Analysis. The stochastic production frontier presents important aspects in defining the production process, production technologies at the level of a firm (decision units), the optimal technological scale, the elasticity of the scale at the level of a firm (decision units), the deterministic production boundary, the frontier of stochastic production.

Chapter 3 Non-parametric Techniques for Data Envelopment Analysis (DEA), presents aspects related to Data Envelopment Analysis (DEA), the role of enveloping surfaces (winding) in determining the efficiency boundary, DEA model, CRS versus VRS - general aspects, managerial efficiency using DEA technique, scale-level efficiency at the firm level (unit of decision), formulation of the basic model, Data Envelopment Analysis - DEA, scale efficiency in Data Envelopment Analysis - DEA .

Chapter 4 The DEA-based theoretical methodological framework presents important issues regarding the standard specification of DEA models, nonlinear form, explicit / exact data, DEA deterministic model, VRS vs. CRS case, linear form, explicit data, DEA deterministic model with interval data, DEA stochasis model, VRS versus CRS case, DEA fuzzy model (FDEA), CCR versus BCC case, dynamic modeling using DEA technique.

Chapter 5 The practical methodological research framework, based on the DEA technique, presents essential aspects related to the selection of input and output variables, the correction of errors in the input data, the evaluation of the influence of the disturbing factors, the

DEA model formulation, the detection of extreme values (aberrant) of software products in estimating efficiency and productivity.

Chapter 6 Empirical Analysis Data Envelopment Analysis - DEA, with practical emphasis on the role of nonparametric technique in measuring performance at institution / organization / firm level, presents important aspects in terms of objectives, areas of application and working hypotheses, use of nonparametric technique Date Envelopment Analysis - DEA, for the measurement of productive technical efficiency, at the level of a group of companies in the banking system, the use of Data Envelopment Analysis (DEA) techniques in Variable Return Variable (VRS) for measuring the efficiency of Romanian higher education institutions , the use of Data Envelopment Analysis (DEA) techniques in CRS, to measure the efficiency of Romanian higher education institutions.

The paper concludes with Conclusions, implications and recommendations, Bibliographic references and Appendices.