

# DEA MODEL FOR ASSESSING EFFICIENCY IN PROVIDING HEALTH CARE AND MANAGEMENT DECISIONS

Daniela BORISOV<sup>1</sup>, Claudiu CICEA<sup>2</sup>, Carmen TURLEA<sup>3</sup>

<sup>1</sup>Academy of Economic Studies, Piata Romana 6, Bucharest, Romania, daniela.borisov@yahoo.com

<sup>2</sup>Academy of Economic Studies, Piata Romana 6, Bucharest, Romania, claudiu.cicea@man.ase.ro

<sup>3</sup>Academy of Economic Studies, Piata Romana 6, Bucharest, Romania, turleacarmen@yahoo.com

## Abstract

The present paper analyzes the overall efficiency at the regional level in health care system in the EU states members which joined after 2004 in a time period between 2003 and 2005. Data Envelopment Analysis (DEA), which is a method proven to be useful in a diverse variety of applications in managing, examining and improving efficiency. The DEA technique is used to measure health care efficiencies of transition economies and to discuss potential policy implications of the findings. Data for this study are collected from official sources and covers 14 units, the new states members of the EU (joined the EU after 2004) and two composite group of units (the entire EU region and the group of the 12 new members). The research question concerns the efficiency rates in which different countries use their resources to achieve their health outcomes and the policy implications for pointing out the future attention towards input versus outputs.

In this study, the inputs are the number of physicians, hospital beds and measles immunization and per capita health expenditure. The traditional outputs for the general health status in a country's population are: life expectancy at birth and infant mortality rate. Application of data envelopment analysis (DEA) reveals that some countries achieve relative efficiency advantages, including those with good health outcomes (Cyprus, Hungary, Poland) and those with modest health outcomes (Czech Republic, Latvia, Romania, Slovakia, Slovenia).

**Keywords:** efficiency estimation, health care system, decision making, DEA

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