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EVALUATION OF FINANCIAL HEALTH OF COMPANIES THROUGH DATA ENVELOPMENT ANALYSIS: SELECTION OF VARIABLES FOR THE DEA MODEL IN R

Abstract:

Existing companies need to continually adapt to changing market conditions. The market situation may change, say, from day to day, as in 2008, when the Great Depression broke out, or as is currently the case during the COVID-19 pandemic. For this reason, companies need to monitor their financial health and be able to cope with such unpredictable situations. The aim of this paper is to provide a detailed guide to selecting appropriate financial indicators for the Data Envelopment Analysis model that can be used to evaluate the financial health of companies. Specifically, we use the Mann-Whitney test for indicators of IT companies in Slovakia during 2012-2017. The result is a process of selecting variables to evaluate the financial health of companies through the DEA model, applicable to both business practice and academia.

Keywords:

Data Envelopment Analysis, Mann-Whitney test, financial health, multicollinearity, financial indicators

JEL Classification: C14, C88, M21