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## **A NOVEL HYBRID MCDM PROCEDURE TO ASSESSMENT OF SOCIO-ECONOMIC DEVELOPMENT OF UNITS AT DIFFERENT GOVERNMENT LEVELS**

### **Abstract:**

In the paper we proposed a hybrid multi-criteria decision-making (MCDM) procedure related to assessment of socio-economic development of units at different governments levels. The studies related to socio-economic development of government units belong to the most important challenges both for the local and central authorities. At the same time it is an issue often considered and studied by economists. Despite a great deal of interest in the subject no standardized approach to it has been agreed. Therefore, assessment of socio-economic development of units at different government levels (national, regional, subregional) needs a complex and methodological approach, and also application appropriate methods on each level. In this paper we propose new complex procedure to the construction of synthetic measure, where the objects are assessed at different levels: national, regional and subregional. Each level of units may be described by different types of the variables (i.e. with normal distribution, strong asymmetry, extreme values). The aim of the paper is to present the application potential of the novel hybrid MCDM procedure based on the Extreme Values Theory (EVT) i.e. Mean Excess Function (MEF) and Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS), to assessment of socio-economic development of units at different government levels. MEF has been used to determination of the positive and negative ideal solutions of socio-economic development of local administrative units (LAUs). TOPSIS method is useful in creating the ranking of objects describing by many variables. In the study we propose application two types of TOPSIS (classic and positional) depending on types of variables. This approach was used in the assessment of socio-economic development of LAUs at national, regional and subregional levels in Poland in 2017.

### **Keywords:**

TOPSIS, mean excess function, synthetic measure, socio-economic development, local administrative units

**JEL Classification:** C10, C49, H70