

عنوان مقاله:

Investigating Different Multi-Variate Techniques for Measuring the Relationship of Science and Technology with Development

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خلاصه مقاله:

Science and technology are the driving force of economy. This is one of the most rational hypotheses for science and technology policy. But, how can this argument verified quantitatively? In this paper some methods, tools and techniques which are applicable in measuring, analyzing and explaining the extent and form of effect of science and technology on development would be reviewed. These techniques include input-output analysis, econometrics methods, system dynamics and multi-variate statistical techniques. The strengths and weaknesses of each method were compared. Finally, the characteristics of data and information from science and technology field were considered and canonical correlation analysis was selected as most suitable technique to measure this relationship. Two sets of 13 variables including 7 indicators for science and technology (predictive variables) and 6 indicators for industrial growth (criterion variables) were selected. Related data of these indicators for 88 countries were gathered from different sources. The results of primary correlation analysis show strong inter correlation between variables in each set. Also the canonical correlation with two set is significantly high. Five predictive variables show meaningful relationship with the criterion variables that indicates value, value added and activities with higher value added.

کلمات کلیدی:

science and technology, development, multi-variate techniques, canonical correlation

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