

Models and measures to evaluate the effectiveness of funds utilization for scientific research and advanced technologies development

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Background

There is a common belief that spending funds on scientific research and advanced technologies is one of the most efficient ways to make long-term investments. Despite a number of reports and publications in the subject, it is still unclear whether more money allocated to scientific research yields desired effects. Thus, long-term funding plans, brought up by politicians, are recently more and more put in doubt.

Existing models, describing the correlations between funds spent on scientific research & advanced technologies and the prosperity indicators (e.g. GDP), tend to be inaccurate for several reasons. For instance, consider significant difficulty to provide comparable measurement conditions or statistical insignificance of input data. On the other hand, tools like Science, Technology & Innovation Indicators, or various econometric, nonparametric, or scoring methods, even after adequate modifications do not allow performing a comprehensive analysis. The study should also take into account some long-term effects of investments in scientific research, like the number of implementations, financial profit, impact on economy or on quality of life. Including long-term effects in the analysis and predicting the effects would be a breakthrough that would enable a better funds management.

Main challenge

The purpose of this project is to construct some alternative methods to estimate the effectiveness of investments in scientific research and advanced technologies development, especially their long-term effects.