

16.3.2026

**Author**

NIGSCH, Stefano (SCHENKER-WICKI, Andrea)

**Title**

Frontier efficiency analysis in higher education / Stefano Nigsch ; Andrea Schenker-Wicki

**Publication year**

2015

**Source/Footnote**

In: Incentives and performance : governance of research organizations / I. M. Welpé ... (Ed.). - Cham [u.a.] : Springer, 2015. - S. 155 - 170

**Inventory number**

38506

**Keywords**

Hochschulreform : allgemein

**Abstract**

Over the last 20?30 years, many European governments have implemented reforms to improve the efficiency and competitiveness of their national higher education and research systems. They have granted universities more autonomy while introducing new accountability tools and fostering competition through performance-based funding schemes. The growing emphasis on productivity and efficiency has led to the diffusion of a variety of performance indicators, including publication and citation counts, and university rankings. Another approach increasingly applied in the higher education sector is frontier efficiency analysis. Similarly to university rankings, efficiency analyses include several indicators for research and teaching in order to assess the performance of a university or a university department. However, as opposed to most rankings, they relate the outputs to the inputs used and do not necessarily favor larger or richer institutions. Moreover, estimation techniques such as Data Envelopment Analysis (DEA) do not require any assumption about the form of the production function and allow for different factor combinations to achieve efficiency. The method

16.3.2026

thus accounts for the diversity among universities and does not necessarily penalize more teaching-oriented institutions as compared to research-oriented ones. In this contribution we present the frontier efficiency approach and its application to higher education, highlighting the main estimation techniques and methodological specifications. We provide an overview of studies that have applied DEA to the higher education sector and discuss their results, methodological contributions, and shortcomings. We conclude by identifying the advantages and limitations of frontier efficiency approaches as compared to other performance measures in higher education and delineating possible areas for further research. (HRK / Abstract übernommen)

**Signature**

W 01 INCE