

Territorial bias in university rankings: a complex network approach

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University rankings are increasingly adopted for academic comparison and success quantification, even to establish performance-based criteria for funding assignment. However, rankings are not neutral tools, and their use frequently overlooks disparities in the starting conditions of institutions. In this research, we detect and measure structural biases that affect in inhomogeneous ways the ranking outcomes of universities from diversified territorial and educational contexts. Moreover, we develop a fairer rating system based on a fully data-driven debiasing strategy that returns an equity-oriented redefinition of the achieved scores. The key idea consists in partitioning universities in similarity groups, determined from multifaceted data using complex network analysis, and referring the performance of each institution to an expectation based on its peers. Significant evidence of territorial biases emerges for official rankings concerning both the OECD and Italian university systems, hence debiasing provides relevant insights suggesting the design of fairer strategies for performance-based funding allocations.

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