

Cross-national comparison of efficiency for water utilities: a metafrontier approach

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Abstract

International cross-comparisons of the performances of water utilities can provide data to improve the efficiency and innovation of these companies. However, such comparisons face issues with data comparability because heterogeneity restricts the ability to compare sets directly. Traditional methods to assess efficiency assume that units operate under the same conditions. To overcome this limitation, we assessed and compared the efficiencies of water utilities from different countries using a metafrontier approach. The model was applied to a sample of 393 water utilities from 11 countries. The results illustrated that these water utilities operate under different conditions. According to the technological gap ratio values, water utilities from Bangladesh had the best efficiency performance compared to all other analyzed countries. Our findings underlined the importance of not comparing directly the efficiencies of utilities from different countries. This issue is relevant to the promotion of benchmarking in the water sector at the international level..

Keywords

Benchmarking, Data envelopment analysis (DEA), Efficiency, Metafrontier, Water company.