

Considering Unobserved Spatial Heterogeneity in Parametric Efficiency Assessment: An Empirical Approach

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Inserisci l'Abstract (max 200 parole).

Despite the literature on the benchmarking of local governments in organizing waste services has recently been enriched with contributions offering solutions for addressing issues that may invalidate and make the assessment unreliable, some aspects remain still neglected. For instance, it's widely acknowledged that there's a high likelihood that production technology exhibits unobserved spatial heterogeneity. Nevertheless, in the majority of empirical studies in this field, production technology is assumed to be spatially invariant. This paper presents an assessment of the efficiency of 926 Italian municipalities in organizing waste service, which accounts for the unobserved spatial heterogeneity of the production function. The efficiency is measured using a parametric frontier model estimated employing quantile regression. A production function assuming that there is spatial homogeneity in the production technology has been estimated, then the territory under observation has been divided into 18 spatial regimes. A local production functions for each spatial regimes has been estimated to compare global and local parameters of the production function. Findings indicate that local production functions fit better to the observations than global one. The discussion of the empirical results warns of the misunderstandings that can arise from using the wrong frontier.