Abstract

The urban waste services in Portugal have been, historically, provided together with other services, such as water services. Despite the lack of discussion on this subject in the literature, some questions have been raised about the gains, in terms of efficiency, of this policy. Following a recent and robust partial nonparametric frontier model, based on order-α, we intend to evaluate the presence of economies of scope and scale in the Portuguese waste sector. The results show the absence of economies of scope between waste and water (and wastewater) services. In addition, we identify the presence of economies of scale in smaller municipalities, suggesting that cooperation (or amalgamation) between these municipalities could lead to cost savings. These outcomes might be useful for policy and decision-makers in further reforms.

Keywords: Economies of scale; Economies of scope; Efficiency; Partial frontier methods; Waste sector

Policy implications

The results obtained in this research show that there are strong diseconomies of scope either in the „wholesale" or „retail" markets in the waste sector in Portugal. What this means for public managers and politicians is that the combined provision of these services (waste, water and wastewater) cannot offer true cost savings to the community at large. Although some economies can be achieved between water and wastewater services (Carvalho and Marques, 2010), the same does not seem to be true for the waste services.

Economies of scale were found in „wholesale" and „retail" market, but to a lesser extent in the „wholesale" market. This means that, in general, operators must invest in specialization on the urban waste services and assume a larger size (that is scale), particularly in the „retail" market, to improve the performance of the services provided.