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WASTE MANAGEMENT COMPANIES TOWARDS CIRCULAR ECONOMY: WHAT IMPACTS ON PRODUCTION COSTS?

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Abstract

Waste production and management is a strategic issue for all countries, because it relates to environmental, social, and economic conditions. The European Commission pushes EU member states to implement the “hierarchical principle”, which aims to prevent negative environmental impacts caused by waste. Within this context, the article deals with Italian municipal companies operating in the field of waste management. The objective is to verify if and how separate waste collection rates impact production costs, accounting for size factors (number of employees and total quantity of waste collected), and contextual factors (population and the land area covered by companies’ services). Conforming to the latter, we verify if the impact of separate waste collection rate on production costs changes at varying population density levels, evaluating the interaction effect. For this purpose, an empirical analysis on 52 Italian municipal waste management companies has been conducted, using the analysis of covariance (ANCOVA) statistical method. Findings show that separate waste collection has a positive impact on the dependent variable (production costs), after the means of production costs have been adjusted to remove the influence of covariates (number of employees and total quantity of waste collected). Thus, the trend of companies’ costs seems to be mainly influenced by size factors, assigning a primary role to efficiency issues. Even the population density factor shows a significant effect on the production costs. Whereas, the interaction between separate waste collection rate and population density is not statistically significant.

Key words: circular economy, Italian companies, production costs, separate waste collection, waste management

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