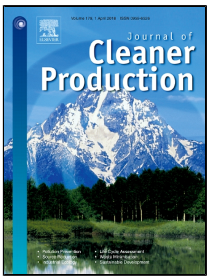
Accepted Manuscript



The efficiency of the public intervention on the environment:Evidence based on non-parametric and parametric approaches

Marta Meleddu, Manuela Pulina

PII:	S0959-6526(18)30446-3
DOI:	10.1016/j.jclepro.2018.02.134
Reference:	JCLP 12081
To appear in:	*Journal of Cleaner Production*
Received Date:	31 May 2017
Revised Date:	21 December 2017
Accepted Date:	12 February 2018

Please cite this article as: Marta Meleddu, Manuela Pulina, The efficiency of the public intervention on the environment:Evidence based on non-parametric and parametric approaches, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.02.134

Word count: 8,804 (text)
4587 (tables)
21 (figures)

The efficiency of the public intervention on the environment: evidence based on non-parametric and parametric approaches

This paper evaluates the efficiency of the allocation of public resources aimed at complying with the European environmental directives. A full and partial frontier Data Envelopment Analysis (DEA) is applied to a panel of decision-making units (i.e. a set of regions), with a specific focus on the air & water and biodiversity sectors. The Malmquist productivity index allows one to analyse regional productivity change; while a post-DEA, based upon Simar-Wilson approach, allows one to explore the factors that affect the performance. Overall, a specific group of regions outperform for air & water intervention while the reverse outcome is obtained for biodiversity. The findings also show a rather low technological change, especially for biodiversity. The post-DEA indicates that an increase in the tourism and agricultural activity exert a negative impact on the air & water public efficiency, while has a positive influence on biodiversity. Higher education in technical subjects also increases performance.

Keywords: Public expenditure; Environment; full and partial frontier DEA; Malmquist; post-DEA.
Jel codes: C1; Q20;Q56.