

Accepted Manuscript

A dynamic game with feedback strategies for internalizing externalities

George E. Halkos, George J. Papageorgiou

PII: S0313-5926(17)30100-5
DOI: <http://dx.doi.org/10.1016/j.eap.2017.05.005>
Reference: EAP 170

To appear in: *Economic Analysis and Policy*

Received date: 29 April 2017

Revised date: 8 May 2017

Accepted date: 8 May 2017

Please cite this article as: Halkos, G.E., Papageorgiou, G.J., A dynamic game with feedback strategies for internalizing externalities. *Economic Analysis and Policy* (2017), <http://dx.doi.org/10.1016/j.eap.2017.05.005>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



A dynamic game with feedback strategies for internalizing externalities

George E. Halkos & George J. Papageorgiou

Laboratory of Operations Research,
University of Thessaly, Department of Economics
28hs Octovriou 78, Volos, P.C. 38333, Greece
halkos@uth.gr gjpap@otenet.gr

Abstract

In this paper we consider a dynamic nonzero-sum game between the polluting firms and the authorities. Although the proposed game is not easily solvable for the feedback case, i.e., it is not the linear quadratic case of game neither the degenerated game case, we calculate explicitly a stationary feedback equilibrium. In the proposed game the regulator has the ability to turn the optimal allocation of their efforts between pollution abatement and taxation of the polluting firms. During the game, the regulator's criterion is the minimization of the total discounted costs, while the criterion of the polluting firms is their utility maximization. Next, sensitivity analyses regarding the efficiency parameters of both players are provided. The conclusions are that a farsighted regulator should put much effort in abatement measures (instead of taxation measures) as well as in the improvement of abatement efficiency.

Keywords: Optimal abatement; Taxation; Differential games; Feedback equilibrium.

JEL Codes: C61; C62; C7; H21; Q50; Q52; Q58.

Download English Version:

<https://daneshyari.com/en/article/5052663>

Download Persian Version:

<https://daneshyari.com/article/5052663>

[Daneshyari.com](https://daneshyari.com)