

**THE IMPLEMENTATION AND ENFORCEMENT OF ENVIRONMENTAL  
REGULATIONS IN A LESS DEVELOPED MARKET ECONOMY: EVIDENCE  
FROM URUGUAY**

A Dissertation Presented

by

MARCELO F. CAFFERA

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

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Resource Economics

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## **DEDICATION**

To Monica, Geronimo, Julieta and Malena

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## **ABSTRACT**

### **THE IMPLEMENTATION AND ENFORCEMENT OF ENVIRONMENTAL REGULATIONS IN A LESS DEVELOPED MARKET ECONOMY: EVIDENCE FROM URUGUAY**

SEPTEMBER 2004

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This dissertation consists of two different research efforts. In the first one I describe the institutional framework, policy instruments, and the enforcement process that characterize industrial water pollution regulation in Montevideo, Uruguay, aiming to identify and weigh institutional and political economy constraints that may help to explain the present instrument choice of command and control instruments as opposed to more cost-effective economic instruments. The identification of these constraints allows one to evaluate the possibilities that the country has of moving toward incentive-based instruments for the control of industrial water pollution. The second part of my dissertation is a formal econometric analysis that aims to first empirically examine the determinants of the allocation of inspections of industrial plants by the municipal and national governments in Montevideo and then to empirically testing the effect of these inspections, fines and other intermediate enforcement actions on the reported levels of



emissions of Biological Oxygen Demand (BOD<sub>5</sub>) and the compliance status of industrial plants with regard to BOD<sub>5</sub> standards.

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