

Second-Best Approaches to Regulate Emissions

Doctor of Philosophy in Economics

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Abstract

Emission control involves market interference by a regulating authority. The regulator acts upon environmental issues in order to internalize the cost of damage to the environment. However, regulating harmful emissions is not straightforward when we include aspects such as opposing interests. The challenge of regulating emissions arises when there are conflicting interests either between political factions (first essay), between the regulator and the regulated industry (second essay) or between countries (third essay). The three essays of this thesis consider second-best approaches to the policy problem of regulating emissions. All three essays investigate emission regulation in non-trivial settings, where other types of deficiencies are present, either in the form of relocation and emission leakage (first essay), noncompliance (second essay) or free-riding (third essay). The three essays expand on the standard methodology and introduce new unexplored elements into the analysis of well-known environmental problems. The first essay explores the strategic link between trade policy and environmental policy when regulating footloose firms in a pollutive industry. The first essay outlines the political tension within and across countries when introducing unilateral regulation. In particular, the first essay shows how the two policy instruments counteract each other when regulating local emissions, and complement each other when regulating global emissions. The second essay explores the cost elements within an emission abatement policy that regulates a pollutive industry where some firms violate the abatement requirement. The second essay suggests a policy design that restricts cheating firms' competitive advantage. The third essay explores the use of intellectual property rights in order to establish a cooperative climate club that develops and distributes an emission abatement technology. The third essay demonstrates how this approach can increase global abatement levels. The common thread through all three essays of this thesis, is an analysis of alternative and second-best approaches to regulate emissions in intricate settings that relates to real-world aspects of environmental policy issues.