THESIS: ASPECTS OF PARETO IMPROVING ENVIRONMENTAL TAX REFORMS

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Abstract

'Climate change is the greatest and widest-ranging market failure ever seen' Stern (2006 p. xvii). This vigorous description highlights one of the most important and frustrating realization of the last decades. The main reason of that market failure steams from the fact that climate change is a complex global externality. This makes the design of appropriate measures to mitigate the problem and the identification of their effects on economic activity of paramount importance. The transboundary nature of pollution combined with the skewed distribution of the origin and impact of emissions among countries reveals the need for international cooperation in the direction of multilateral agreements among countries.

The characterization of Pareto-efficient environmental and trade policies has been a key issue (and continues to be) in the literature. Predominantly, however, the literature has focused on the role of taxes (trade and pollution) in achieving the first-best paying no attention to the role (if there is any) of non-tradeable goods. Chapter 4 deals with this issue.

A key issue in mitigating climate change is with the appropriate extent of harmonization of environmental policies. This thesis (Chapters 2) addresses this within a general equilibrium model of international trade with endogenous pollution discharges, paying particular attention to the allocation of tax revenues. It argues that there indeed exist instances in which pollution tax harmonization (that moves the initial pollution taxes towards an appropriately weighted pollution tax vector) can deliver potential Pareto improvements.

The difficulty with the achievement of global environmental agreements should not be, however,

ignored. Chapter 3 deals with the possibility that governments may act unilaterally in order to mitigate the social cost of pollution. It shows that (under certain conditions) there exist unilateral Pareto improving trade policy reforms. Chapter 5 discusses the welfare implication of environmental policy reforms within a subset of countries. It shows that environmental policy coordination has opposing effect on the welfare of the coordinating and non-coordinating countries.

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