

Global Pollution, Dynamic and Strategic Policy Interactions, and Long-run Effects of Trade

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Abstract

This paper examines the effects of international trade in a dynamic model in which the global environmental quality changes over time and governments determine the national environmental policies endogenously. It is shown that international cooperation on environmental policy results in a unique and stable steady state both under autarky and trade, and the long-run effect of trade on the stock of global pollution depends on abatement technologies and trade costs. If environmental policies are determined noncooperatively, there may be multiple equilibria, depending on the initial stock of pollution and government strategies for environmental policy. This means that the long-run effect of trade on the global environment may be indeterminate because it depends on, in addition to trade costs and abatement technologies, the actually implemented policy. The welfare consequences of trade are also discussed.

Key Words: Intraindustry trade; Global pollution; Environmental policy; Pollution Abatement; Differential games

JEL classification: F18; H23; C73

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