

THE ENVIRONMENTAL EFFECTS OF TRADE WITHIN AND ACROSS SECTORS

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January 2019

Abstract

This paper presents a model that combines within and across sector channels through which trade affects our environment by embedding heterogeneous firms and fixed costs into a two-sector framework with an endogenous response to environmental policy. In contrast to existing literature that tends to examine these channels separately, the combined framework developed here shows how cross-sector comparative advantage and within-sector responses to trade and environmental policy or factor endowments interact to affect our environment through three channels: changes in output, cross-sector market share, and emissions intensity. In contrast to a single-sector model with neutral productivity, consideration of two sectors allows for trade liberalization to affect the allocation of inputs in each sector and thereby affect total pollution output. The additional consideration of heterogeneous firm responses to falling trade costs will generate endogenous increases in productivity that increase output, reduce aggregate emissions intensity, and moderate the cross-sector resource adjustment, relative to a representative-firm model. Simulation results show how the combined framework can replicate existing empirical outcomes, and provide concise *ceteris paribus* insights regarding the potential role of trade and environmental policy changes and factor expansion in driving observed outcomes and their contribution to each of the three channels.

Keywords: Trade and Environment, Heckscher-Ohlin, Firm heterogeneity

JEL Classification: F11, F12, F18, F64, Q56, Q58

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[†]Many thanks to Georg Schaur, J. Scott Holladay, and Christian Vossler for helpful comments. This manuscript has also greatly benefited from comments by the editor and two anonymous referees.