

**SCOTT TAYLOR**

**International Trade and the Environment: A Firm Level Focus**

The relationship between international trade and the environment has been viewed largely through the lens of comparative advantage. The earlier literature's focus on the emergence of pollution havens and the environmental impact of growth were natural given policy concerns in the lead up to NAFTA and the then rapid growth of several developing countries. Today's concerns differ a little, but what has changed significantly is the set of tools available to trade economists to examine the adjustments to trade liberalization within industries and firms. We are proposing research that integrates a "firm-level focus" to trade and environment questions with the literature's broader research agenda to better understand the environmental implications of international trade. A better understanding will mean we have a more accurate picture of the environmental costs and benefits of trade liberalization; it will allow us to design efficient policy interventions to enhance or lessen these impacts; and it will give us a far better understanding of how trade and environmental policy should be coordinated in a world becoming smaller by the day. We think a firm-level focus can bring these benefits for three reasons.

First, researchers have shown there is considerable heterogeneity in emissions and emissions per unit of output across firms in even quite narrowly defined industries. This suggests an analysis focusing on adjustments at the firm level may be important to our understanding of trade's environmental effect. For example, by allowing for adjustments at the firm level, we can discuss how trade-inspired decisions to enter, exit, invest in abatement, or offshore intermediates can affect pollution emissions. Part of our proposed research integrates firm-level theories of international trade with more aggregative theories where across sector trade flows and environmental policy are simultaneously determined by the deeper forces of comparative advantage and national incomes.

Second, a Melitz-style, firm-level analysis to trade and environment questions may provide answers to current puzzles in the literature. Two important and old empirical puzzles in the literature are the apparent weakness of trade liberalization to shift the composition of national output towards dirty (or clean) products; and the apparent strength of technique or technology effects to drive emissions downward. Part of our proposed research uses simulation methods to examine how decomposition exercises identifying the environmental impact of trade may mislead us; and to investigate whether the result of small measured composition effects and large technique effects are perfectly explicable in a world where rationalization, entry and exit by firms is significant in response to trade liberalization.

Third, while many researchers have already adopted a firm-level focus to many trade and environment questions, they have yet to exploit its full potential. Most importantly, researchers have failed to recognize several new and interesting hypotheses linking adjustments at the firm and industry level to changes in emissions. Part of our proposed research works toward an empirical evaluation of these hypotheses using the insights gained from integration and simulation to guide our empirical strategy.

The overall objective is to demonstrate why integrating a firm-level approach with earlier work is useful and instructive; show how this new approach may bring us better answers to old questions, and new answers to remaining puzzles; and ask what new hypotheses this approach presents to researchers interested in understanding the links between liberalized trade and the environment.