Exploring Trade & the Environment

An Empirical Examination of Trade Openness and National Environmental Performance

Yale Center for Environmental Law & Policy

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Executive Summary

This report has been made possible by a grant from FedEx Corporation.

Acknowledgments

This report has been made possible through support from FedEx Corporation.

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Executive Summary

For decades there has been a debate over the interplay between free trade and environmental performance. This debate flows from the idea that free trade and economic growth go hand in hand. A long-standing body of theory asserts that nations prioritizing economic growth will suffer environmental degradation from the associated industrialization, pollution, and natural resource depletion. Competing theories of sustainable development suggest that economic growth generates wealth and enables countries to invest in environmental infrastructure and to mitigate environmental degradation through enhanced access to advanced technology, training, and best environmental management practices.

This report examines the nuances at the interface between trade and the environment. We explore the prevailing theories about the effect of trade openness on environmental performance, providing new empirical analyses that can help support or refute these theories. Specifically, we evaluate the effect on the environment from various measures of trade "openness," including flows of goods and services and trade-liberalizing policies (for example, tariffs and subsidies). We also assess trade relationships with several distinct aspects of the environment, including environmental health (environmental stresses on human health), ecosystem vitality (ecosystem health and natural resource management), and emissions. We further examine the theory that good governance can help mitigate negative effects associated with expanded trade and economic activity.

We build on the data collected through the Yale-Columbia *2010 Environmental Performance Index* (EPI), which covers 163 countries. Our study does not answer all pressing questions, but does help meet the increasing need for more data-driven decisionmaking by policymakers in the complex realm of environmental performance and international trade by providing structure, process, and data.

Our study shows that decisionmaking needs to move beyond the broad definitions of "trade openness" and "environmental performance" and instead recognize the importance of a more refined interplay between international trade flows, liberalization policies, good governance, and disaggregated environmental factors such as environmental health, ecosystem degradation, and climate change. We find evidence that trade openness and economic growth can have both positive and negative empirical environmental associations.

Specifically, there are three main findings:

1. Even after controlling for levels of economic activity, higher trade flows appear to be positively associated with environmental health outcomes and negatively associated with measures of ecosystem vitality.

2. Trade-liberalizing policies also show a positive association with environmental health but a less clear relationship with ecosystem vitality.

3. The data point to the importance of good governance as a possible factor that allows nations to capture the benefits of trade and development while mitigating environmental degradation and greenhouse gas emissions.

We must stress, however, that these associations should not be taken out of context and construed to suggest causation. They simply suggest relationships for future research – and our analysis provides a starting point. While one major contribution of this project is a rich collection of global variables on environmental performance, trade flows, policies, and governance, considerable work is still needed to clarify the policy effects and implications. In particular, our analysis points to the need for improved time series data. Internationally recognized measurement procedures should be used year after year to support long-term analyses. For this reason, *Exploring Trade and the Environment* provides only a snapshot of certain aspects of the complex relationships between trade and the environment, and should not be read as proving causal mechanisms behind the relationships.