

# INTERNATIONAL TRADE, THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

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## Summary

The central focus of this article is the relationships between trade, environment and sustainable development. In the first part of the present article attention is paid to the impact of trade on economic welfare without taking into account environmental issues. The workhorse of international trade, the Heckscher-Ohlin model or factor endowment approach, is explained. Then a graphical exposition of a welfare analysis in a partial equilibrium model is shown. The conclusion is that international trade increases welfare. Introduction of environmental externalities can change this conclusion, particularly if environmental externalities are large and not incorporated in prices by environmental policies. In such cases, a country may export pollution-intensive commodities, when it would maximize economic welfare by importing those commodities. The impact of environmental quality on international trade is dealt with theoretically. Environmental services can be a production factor and therefore a source of comparative advantage and thus international trade. If a country is relatively well endowed with environmental

resources e.g. forests, its exports will consist for the most part, of environmentally intensive goods like timber.

The impact of environmental policy on international trade is a 'hot' issue of debate and dispute. More stringent environmental policies increase production costs for pollution-intensive firms. This is what environmental policies are aimed at. The fear among policymakers and businessmen is that these firms can go bankrupt. Losses of employment opportunities will be the result. From the point of view of welfare economics the value of employment loss should be weighted against the value of a less polluted environment. More interestingly is that it is often suggested that increasingly stringent environmental policies affect the international competitiveness of pollution-intensive firms negatively, especially when other countries have relatively lax or even non-existent environmental policies. Empirical studies do not provide evidence in favor of this argument. The Porter hypothesis (1991) argues instead that relatively stringent environmental policies would remove slack (**low-hanging fruit**) out of firms and stimulate innovation, which in the end will result in improved competitiveness for the firm. At the moment there are insufficient empirical studies to give a definite judgement on this hypothesis.

Alternative economic approaches to the trade and environment issue come from ecological economists. They argue that GDP is not a good measure for economic welfare because environmental depreciation is not taken into account. Moreover, they argue that even if all countries in the world would have internalized environmental externalities, international trade provides an incentive for a **race-to-the-bottom**. This means that countries would lower their environmental regulations in order to remain competitive. In order to avoid such a **race-to-the-bottom** it is necessary, in this alternative view, to reduce trade flows by means of impediments to imports from countries that have less stringent or non-existent environmental policies.

Although environmental policies aim at correcting for market failures, many government policies introduce market failures like environmentally damaging subsidies. These are aimed at achieving an (often non-environmental) goal and end up in barely realizing this goal and contributing strongly to environmental damage. This issue is relatively new and needs a thorough investigation to answer the main question of how to reduce or eliminate these subsidies.

## 1. Introduction

The contribution of international trade flows to economic growth has increased enormously since 1945. Together with the increasing public awareness of environmental problems in the developed countries during the 1980s more attention has been paid to the relationship between international trade patterns and the environment.

Environmental problems have long been considered as occurring on a restricted spatial scale. Therefore economic research has long been concentrated on local dimensions of pollution and resource use. During the 1960s this resulted in a focus on local air and water pollution. In the second half of the 1980s a widespread concern for global issues and long-term environmental phenomena emerged, leading to the concept of sustainable development.

Since the beginning of the 1970s there have been efforts to investigate the link between international trade and the natural environment, and recently, attention on trade and environment has increased significantly. The links between foreign trade and environmental quality can be analyzed by means of formal methods based on specific theories. Environmental economists were mainly concerned with environmental policy issues in closed economies while trade economists have focused on imperfections other than environmental externalities, such as imperfect market structures and economies-of-scale. Ultimately some mix of externality and trade theories is unavoidable for answering relevant fundamental and policy questions. Specific models may therefore originate from foreign trade theory and externality theory.

One can distinguish between theories of foreign trade according to whether they are based on the notion of a general or partial equilibrium. General equilibrium models focus on the interaction of markets with each other in determining foreign trade patterns while partial equilibrium theories consider the factors that determine foreign trade from the perspective of isolated markets. The latter is more restricted in scope but they have a clear advantage in that they provide a clear view on how certain environmental policy interventions or environmental phenomena influence foreign trade directly. Both general and partial equilibrium theories of foreign trade theories are discussed in the next section. In section 3 the theoretical approaches discussed in section 2 will be extended to incorporate environmental elements. Four relationships are considered as important in this respect:

- The impact of international trade on environmental quality;
- The impact of environmental quality on international trade;
- The impact of international trade on environmental policies;
- The impact of international environmental policies on trade.

Section 4 pays attention to alternative theoretical approaches of both trade and environment issues that are critical of the neoclassical approach presented in sections 2 and 3. The neoclassical approach is a dominant school of thinking in present economic science, which emphasizes an efficient allocation of scarce resources through the price system and the forces of demand and supply. Empirical work is discussed in section 5. In section 6 some relevant policy and institutional issues with regard to the trade-environment debate are presented and discussed.

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### **Biographical Sketch**

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