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**International Environmental Agreements:  
Much Ado About Nothing?**

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# International Environmental Agreements: Much Ado About Nothing?

by Samuel Rutz

In recent years the problem of transboundary pollution has attracted the attention of many environmental economists. Transboundary pollution refers to pollution which is released in one country but causes damage in at least one other country. Such damages can affect a limited number of countries as, for instance, the acid rain problem. They can, however, also occur on a global level as in the case of the depletion of the ozone layer or climate change due to CO<sub>2</sub>-emissions. Due to the lack of a supranational authority, any contribution to the reduction of transboundary pollution problems must be based on the voluntary consent of a country. Typically, countries express their willingness to contribute to the abatement of a transboundary pollution problem by signing or not signing international environmental agreements.

The main focus of this book is on the incentives to participate or not to participate in international environmental agreements. In particular, the incentives for individual countries to join an environmental coalition are studied employing the concept of non-cooperative game theory. The central questions the book attempts to answer are the following: How can initial cooperation between sovereign states be achieved in the presence of free-rider incentives? How can the observed phenomenon of partial cooperation, i.e. the fact that usually not all the affected countries ratify a treaty, be explained? What predictions can be derived about environmental obligations which signatory countries to an agreement are willing to accept?

To this end, the book first introduces the reader to the most important developments in the history of international environmental policy and identifies factors which are potentially important for the achievement of effective treaties. Different game-theoretic models, designed to explain the process of coalition formation in international environmental negotiations, are then discussed. In this context, some new theoretical insights are presented. Further, a hypothesis about the effectiveness of international environmental agreements is derived and empirically tested. Broadly speaking, the results suggest that the conjecture that in many cases accepted obligations under a treaty are not much stricter than what, in its own interest, a country would have attained anyway cannot be rejected.