



Horst Siebert

Economics of the Environment

Theory and Policy

Third, Revised and Enlarged Edition

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Preface

“The labor of nature is paid, not because she does little. In proportion as she becomes niggardly in her gifts, she exacts a greater price for her work. Where she is munificently beneficent, she always works gratis.”

*David Ricardo**

This book interprets nature and the environment as a scarce resource. Whereas in the past people lived in a paradise of environmental superabundance, at present environmental goods and services are no longer in ample supply. The environment fulfills many functions for the economy: it serves as a public-consumption good, as a provider of natural resources, and as receptacle of wastes. These different functions compete with each other. Releasing more pollutants into the environment reduces environmental quality, and a better environmental quality implies that the environment's use as a receptacle of wastes has to be restrained. Consequently, environmental disruption and environmental use are by nature allocation problems. This is the basic message of this book.

If a resource is scarce and if a zero price is charged for its use, then misallocation will result. The environment as a receptacle of wastes is heavily overused, and consequently environmental quality declines. Scarcity requires a price. This book analyzes how this price should be set, whether a correct price can be established through the market mechanism, and what role the government should play. The book offers a theoretical study of the allocation problem and describes different policy approaches to the environmental problem. The entire spectrum of the allocation issue is studied: the use of the environment in a static context, international and trade aspects of environmental allocation, regional dimensions, environmental use over time and under uncertainty. The book incorporates a variety of economic approaches, including neoclassical analysis, the public-goods approach, benefit-cost analysis, property-rights ideas, economic policy and public-finance reasoning, international trade theory, regional science, optimization theory, and risk analysis.

This book grew out of my research at the Institute of World Economics, at the Universities of Konstanz and Mannheim, Germany, and visiting positions at the University of Aberdeen, Scotland, the Australian National University in Canberra, the Energy Laboratory of the Massachusetts Institute of Technology as well as the Sloan School of Management, the University of California at Riverside, the University of New Mexico at Albuquerque, New York University, and Resources for the Future. I appreciate critical comments to this and previous editions from Ralph d'Arge, Ferdi Dudenhöfer, Helga Gebauer, Ralf Gronych, Johannes Heister, Gernot Klepper, Allen V. Kneese, John V. Krutilla, Ngo Van Long, Helmut Meder, Toby Page, David Pearce, Rüdiger Pethig, Michael Rauscher, Cliff Russell, Hans Werner Sinn, Walter Spofford, Sabine

Toussaint, Wolfgang Vogt and Ingo Walter. The revisions to this edition have especially benefitted from my discussions with Ernst Mohr. Rüdiger Pethig has suggested revisions on the section on the mechanisms of social choice. I would also like to thank Lars Kumkar, Jens Schulte-Bockum and especially Ilka Döring who prepared the manuscript for the printer. Sibylle Ruhnke has corrected the proofs.

This edition has been enlarged and revised. A new chapter 11 on transfrontier pollution and global issues has been added. Chapter 15 on risk has been completely rewritten. Many other changes have been made in the text; statistical material has been updated.

I hope that the analysis presented in this book contributes some insights to the emotional debate on environmental disruption, and I wish that it incorporates nature and the environment as a scarce good into the body of economic thought and that it provides an answer of economics as a discipline to a problem of great importance to our societies.

H. S.

Note

* D. Ricardo, *Principles of Political Economy and Taxation*, 1817, quoted accordingly to Everyman's Library, London 1911, Dent, p. 39.