

## Book Review

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Thomas Sterner 2003. *Policy Instruments for Environmental and Natural Resource Management*. RFF Press, Washington DC. 504 pp. hardcover, ISBN 1-891853-13-9/\$75.00, paperback, ISBN 1-891853-12-0/\$36.95.

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During the past two decades there has been an explosion of handbooks and textbooks on environmental and resource economics. This development has made it increasingly difficult to come up with something really new. Nevertheless, Thomas Sterner has succeeded in identifying a niche in this branch of literature. He has produced a comprehensive treatise that digs deep into the foundations and practical matters of environmental and natural resource policy and that complements existing textbooks and handbooks.

Sterner's treatise differs from the existing literature in the sense that his Leitmotiv is environmental and natural resource policy. Two of the six parts of the volume deal with the foundations of this kind of policy, three others with implementation and practical matters in selected fields whereas the first part discusses the rationale for it by focussing on the causes of environmental and natural resource degradation. The first part presents a framework made up of the basic notions of property rights, market failure, externalities, public goods, economic growth, congestion, asymmetric information and uncertainty. Moreover, it addresses intertemporal, spatial and ecological complexities that are fundamental concepts in applying economic theory to environmental and natural resource management.

Part Two presents the range of policy instruments and illustrates how they operate. In this context Sterner introduces the notion of policy matrix that, in a comprehensive fashion, organizes information about the various policy instruments and their applications. The instruments of direct regulation, tradable permits, taxes, subsidies, deposit-refund schemes, refunded emissions payments, liability, voluntary agreements and the provision of information are described in detail. In this context Sterner rightly also pays attention to the wider setting of national and local factors, such as tradition and culture, that enter into the process of environmental and natural resource policymaking.

Part Three deals with the selection and design of policy handles. First, attention is paid to the conventional selection and design criteria, notably static and dynamic efficiency, the nature of technical progress, the role of

uncertainty and information asymmetry. Next, economy-wide (general equilibrium) effects, income distribution impacts and effects of property rights, politics, culture and psychology on instrument selection are discussed. In Part Three Sterner also pays attention to international environmental problems and policy as well as to related topics such as competitiveness and the Porter hypothesis.

The remainder of the volume is devoted to presentations of applications in selected fields. Part Four discusses environmental problems and policy in the road transportation sector whereas Part Five focuses on the design and implementation of policy instruments for industrial pollution in both developed (OECD), developing and transitional countries. The overarching theme of the final Part Six is the management of natural resources and ecosystems: water, waste, fisheries, agriculture, forests and ecosystem services.

What is it that makes Sterner's treatise different from other textbooks and handbooks and mandatory reading for everyone directly or indirectly involved in environmental and natural resource management? First, it is a most comprehensive text in the sense that it presents both the foundations of the subject and probes widely into practical matters. This makes this treatise extremely helpful for practitioners, teachers and students as they need to understand both the foundations as well as the practical hurdles of implementation. Second, it pulls together and synthesizes experiences with the design and implementation from a wide range of different countries, both industrialized, developing and transitional, from all continents. Third, Sterner discusses the foundations and reality of environmental and natural resource management both in an intuitive as well as a formal manner which makes it accessible and appealing to a wide ranging audience. In other words, Sterner's treatise is a pleasure to read for everyone involved in environmental policymaking.

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