

Book Review

List, John A. and Michael K. Price, eds. 2013. *Handbook on Experimental Economics and the Environment*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar.

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At least since the 2002 Nobel prizes for Daniel Kahneman and Vernon Smith, economic experiments have reached the discipline's mainstream. Edited by two of the field's most renowned scholars, the *Handbook on Experimental Economics and the Environment* collects contributions on recent developments in the sub-field of environmental experimental economics. The book addresses readers who already have a profound knowledge about experimental and environmental economics; it does not provide a general introduction into experimental techniques. The book covers 498 pages, includes an index, and is structured into five parts with 16 chapters in total.

The first part develops a typology of experimental and quasi-experimental data and shows how the use of different econometric techniques can help in the identification of causal effects. The second part concerns the psychological foundations of environmental valuation. Parts three to five collect empirical applications of experiments dealing with the environment. More specifically, part three elaborates how experiments can increase our understanding of pollution control instruments, whereas part five deals with empirical applications of experiments on voting behaviour and public goods. Of special interest to readers of the *IJC* is part four which collects four empirical applications of Common Pool Resource Games.

This fourth part deals with the complex dynamics between ecosystems and human behaviour. Its applications consider different ways of governing the commons, such as management by the state or by local communities. In the first chapter of part four, Stoop et al. explore peer-to-peer rewards in social dilemmas and present results that question the effectiveness of those rewards when "counter

rewards” are possible. A highlight of the book is the chapter eleven, written by Juan-Camilo Cardenas and co-authors, who show that in experimental research a consideration of the dynamics of ecosystems is possible and can give valuable insights into the interaction between ecosystems and the behaviour of its users. The authors demonstrate, for instance, that even small differences in the use of an “experimental forest” can lead to large differences in forest cover after a couple of periods in the game. Using a framed field experiment, Maria-Claudia Lopez and her co-authors find a complementarity of formal government regulations with informal community-based monitoring efforts. Higher levels of cooperation are reached in settings with both opportunities, although informal sanctioning decreases. Finally, Giordana and Willinger treat the temporal inconsistency of regulation in common pool resource exploitation. Being aware that the regulator has a constrained choice set and that optimal time-consistent policy instruments are practically not feasible in the case of dynamic externalities, they test the effect of three different time-inconsistent fixed policy instruments. The authors find that the three instruments perform differently and that only the “mixed flat instrument” pushes users fairly close towards the optimum extraction path.

To summarise, the book comprises the most recent developments in experimental environmental economics. The excellent contributions provide the reader with various ideas for further research. A critical review in regard to “limitations and weaknesses”, e.g. on the on-going debate on the external validity of experiments or the use of mixed methods to complement weaknesses of experiments would have been an asset. However, especially readers of the *IJC* may be familiar with other books focusing more specifically on these aspects (Poteete et al. 2010). Although the somewhat odd cover picture of the book – showing a plant on which it rains Euro coins – might give a misleading message to the reader, it becomes obvious how much experimental economics in general, and the contributions in this book in particular, can contribute to our understanding of human behaviour when interacting with dynamic ecological systems. In conclusion, the book is an essential reading for every experimental researcher in environmental and resource economics.

Literature cited

Poteete, A. R., M. A. Janssen, and E. Ostrom. 2010. *Working Together: Collective Action, the Commons, and Multiple Methods in Practice*. Princeton: Princeton University Press.