Contingent Valuation of Environmental Goods: A Comprehensive Critique, edited by Daniel McFadden and Kenneth Train. Published by Edward Elgar Publishing, Cheltenham, United Kingdom, 2017, pp. 319, ISBN: 978-1-78643-468-5, AU$210.

Most economists naturally prefer to use revealed preference approaches (e.g. travel costs or hedonics) for the valuation of environmental and natural resources. Revealed preference approaches are commonly believed to provide unbiased estimates of the economic value of changes in recreation, health, and other endpoints related to environmental and resource policy. However, revealed preference approaches often do not cover the full range of environmental values. It is not unusual for an environmental policy to create a behavioural context that has not been observed in the past. In this situation, researchers will not have any possibility of collecting revealed preference data for *ex-ante* policy analysis. For example, revealed preference methods are limited when used to estimate the recreation value of new fishing sites or pollution cleanup that enhances residential property. These situations are outside the experience of consumers and are unfamiliar environmental goods. No *ex-ante* revealed preference data exists with which to estimate the values.

Stated preference approaches, such as the contingent valuation method (CVM) and the closely related discrete choice experiments (DCE), are useful when *ex-ante* valuation information is required in the absence of observed behaviour. Using survey approaches, stated preference approaches can elicit hypothetical behaviour data that can be combined and used in tandem with revealed preference data. A fairly large 'joint estimation' literature has developed over the past 25 years (Whitehead *et al.* 2011).

Another gap where revealed preferences methods are insufficient is due to non-use values, which could be an important part of the total value of the environment. Many environmental resources may provide non-use values (aka existence value or passive use value) and sometimes these non-use values may dominate the use values. As there is no observable behaviour that would allow revealed preference methods to estimate non-use values, stated preference methods are the only approach capable of estimating non-use values.

The primary purpose of the current book is to discredit stated preference (both CVM and DCE) approaches for the measurement of non-use values. Never explicitly stated, the context is Natural Resource Damage Assessment (NRDA) compensation for the BP/Deepwater Horizon oil spill in the United States.[1] McFadden and Train's effort is not original. After the Exxon Valdez oil spill in 1989, Exxon hired a number of consultants to examine the ability of the CVM to estimate economic values suitable for NRDA. The consultants for Exxon conducted a number of studies designed to discredit the CVM

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[1]In the United States, compensation to resource trustees from oil spills via NRDA is allowed through the Oil Pollution Act of 1990.

(Maas and Svorenčík 2017). A conference was held to publicise the results of the studies undertaken on behalf of Exxon. Proponents of the CVM, many of them working as consultants for the State of Alaska, were invited and allowed to comment on the studies. A proceedings volume was published by Hausman (1993). The effort to criticise a valuation methodology, undertaken on behalf of Exxon to avoid paying damages to the State of Alaska led to what has become known as the 'CVM Debate' (Banzhaf 2017).

In their book, McFadden and Train follow this same path, sans the conference, in discrediting the CVM (and DCE). A large number of consultants from several major firms were hired, studies were conducted and the current book has been published critical of the CVM (and DCE). McFadden and Train mostly follow the approach taken by Hausman (1993). Several chapters focus on the historical weaknesses of stated preference methods and some focus on newer issues. Some of the data collected with funding from BP is of relatively low quality. Overly broad generalisations are made from these studies without placing them in the context of the literature. The studies are conducted by researchers with limited experience in stated preference methods. The data analysis for each chapter leaves many questions. A good objective round of peer-reviews would have tightened each chapter.

The criticisms of the CVM are often inconsistent and contradictory. For example, using data collected with funding from BP, Chapter 7 closes the 'fat tail' that Chapter 2 says is a pervasive problem. The reader is left to wonder what is driving this difference. Chapter 5, the scope test chapter, eliminates internal scope tests (i.e., using repeated valuation questions) from inclusion in the meta-data while Chapter 6 states that repeated questions may be necessary for respondent learning (in the context of stated preference marketing surveys used by profit-maximising firms). The reader is left wondering why repeated questions can be used for market goods but not for non-use values. Chapter 6 states that opt-in panel data are of relatively low quality and lead to marketing errors, while Chapters 3 and 4 rely on BP funded opt-in panel data. None of these inconsistencies are recognised by the editors. The chapters could have been edited more thoroughly to develop a cohesive message.

While CVM applications to recreation and health have been shown to have convergent validity with revealed preference approaches, this sort of application of CVM is not recognised in the book. The authors take aim at non-use values in the context of NRDA, leaving naïve readers with the impression that this is the only type of application for which CVM is applied. The editors conclude that the CVM (and DCE) is of little use in policy making. While some of the issues raised in the chapters are legitimate concerns, the book provides no suggestions or guidance on how to improve the state of the art of the CVM.

The final nail in the CVM coffin is the last chapter; a legal opinion that the CVM should not be used for NRDA because it has no precedent. This

capstone chapter is suggestive that the studies published in the book were the raw material for expert testimony in front of a judge presiding over BP's NRDA. The heading of the last section of this chapter: 'Trustees should abandon contingent valuation and similar methods as a matter of policy', makes clear the ultimate purpose of the book, which describes a bleak dystopia.

McFadden and Train have missed a major opportunity following the BP/Deepwater Horizon oil spill. Instead of a balanced discussion of the advantages and disadvantages of stated preference methods in a broad range of contexts, they focus on the disadvantages in a single narrow context where only a few studies have been conducted (NRDA). The book does not address the broader purpose of the CVM and other stated preference methods, which is to provide measures of economic value for ordinary benefit-cost analysis when there are no conceivable revealed preference approaches available to obtaining these values (or, simply in the spirit of basic research, to develop a better understanding of environmental values). The danger of the book is that it will have a chilling effect on attempts at research that has a goal of improving the accuracy of environmental valuation. In this sense, the editors have performed a disservice to the economics profession and to the general public that economics research is intended to serve.

Following the BP/Deepwater Horizon oil spill, the economics profession is waiting for an objective book that recognises the intended purpose of stated preference methods and critically evaluates strengths and weaknesses with a primary goal of improving the accuracy of environmental valuation. An improvement in the accuracy of environmental values will almost certainly enhance the efficiency of modern-day economies by improving economic decision-making. 'Abandon(ing) contingent valuation and similar methods as a matter of policy' will only benefit oil companies and other business firms that insult the environment and wish to avoid full compensation.

Conflict of interest statement

The author worked on behalf of the State of Florida conducting a CVM study of economic damages to support litigation against BP. The State of Florida ultimately joined the Federal case against BP and neither the Florida nor Federal study was used for litigation.

A longer version of this review which discusses each chapter in detail is available upon request from the author.

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Economics and Environmental Change: The Challenges We Face, by Clement A. Tisdell. Published by Edward Elgar, Cheltenham, UK, 2017, pp. 256, ISBN: 978-1782549628, AU$175.00 (Hardcover).

In this ambitious and wide-ranging book, Tisdell seeks to explore the challenges associated with environmental protection using a holistic, and interdisciplinary perspective. While the book is fundamentally grounded in economic thinking, *Economics and Environmental Change* draws on ideas and concepts from the humanities, social, and natural sciences to cast a critical lens on topics ranging from sustainable development, biodiversity conservation, climate change, and consumer decisions.

Interdisciplinary research is a fundamentally difficult exercise, which becomes only more pronounced when working as a single author rather than a collaborative team. Not only must you become knowledgeable in the particular topics that are the focus of research, but also to be cognisant of the often-divergent research philosophies and methodologies adopted by different disciplines, the role of varied methods, and key works and histories of scholarly thought in each field (MacLeod 2018). There are challenges associated with reviewing, publishing and describing research findings in line with the traditions of each field (Ledford 2015). As such, a book with an aim as broad as *Economics and Environmental Change* could easily become impractically large. In an effort to constrain the length of the book, Tisdell focusses on big picture concepts rather than fine detail, and references are selective and minimal. Striking a balance between the breadths of topics covered, diversity of perspectives, the need for brevity and accessibility, and interest to a wide range of readers is fundamentally difficult, and unfortunately, *Economics and Environmental Change* rarely achieves this balance.

Two core issues underpin my critique of *Economics and Environmental Change*. First, the intended audience of the book is unclear, as the level of assumed knowledge varies considerably between chapters. This is inescapable to a degree with any interdisciplinary endeavour, but I would suggest some topics, including the central thesis of social embedding (Granovetter 1985), are advanced concepts even for readers with undergraduate or graduate-level