

Environmental Valuation: Interregional and Intraregional Perspectives, edited by John I. Carruthers and Bill Mundy. 2006. Series: Urban Planning and Environment. 305 + xviii. Aldershot, U.K. and Burlington, Vermont: Ashgate. ISBN 0-7546-4471-5, \$99.95.

Carruthers and Munday's edited volume is a collection of 13 papers by 21 authors in the areas of economics, agricultural economics, geography, public policy, regional science, and urban planning. The impetus of the project that led to this book was, as stated by the editors, "to produce a cohesive volume on how people react to differences in environmental conditions among and within regions" (p. xvii). They go on to describe the key goal as: "to explore this diverse and rapidly expanding area of study in as holistic of a way as possible in order to familiarize the reader not only with the existing body of theory and evidence but, also, with how the research is conducted" (ibid.). In an effort to meet this goal, the book is divided into two parts, the first having five chapters on environmental valuation from an *interregional* perspective and the second having eight chapters on evaluation from an *intraregional* perspective. In this review I describe why I think the book succeeds in some aspects of the editors' goal but fails in others. I also examine some of the more noteworthy essays in the volume.

As an environmental economist I find the book's title to be somewhat misleading. With the title *Environmental Valuation*, one might suppose it is a book describing theoretical or empirical applications of revealed preference and stated preference techniques used by environmental and urban economists to value the environment. This supposition is initially supported by the editors' statements in the preface suggesting that the contributing authors attempt to understand how people value the environment from interregional and intraregional perspectives using both theory and empirics. However, upon reading the book, one discovers that the focus is primarily on the valuation of "quality of life" using hedonic techniques in the housing market (chapter 11 is a somewhat oddly inserted exception on benefit transfer).

Although the valuation of quality of life and hedonic analysis are certainly closely related to, and used to conduct environmental valuation, a more revealing title for the book might be *Valuing Quality of Life: Interregional and Intraregional Hedonic Perspectives*.

Given that the book certainly does not cover environmental valuation in a “holistic” fashion, it should be judged by how well it meets the stated goals of familiarizing the reader with (i) the existing body of theory, (ii) the existing body of empirical evidence, and (iii) the research techniques in the quality of life literature. First, *how well does it cover the existing body of theory?* In most of the chapters, one finds citations to the foundational theoretical papers by Rosen and Roback. However, there is not a detailed discussion of the explicit and implicit assumptions of their models. John Carruthers and Gordon Mulligan do provide a nice background/overview of the literature (chapter 1), while David Clark and Katherine Kiel give some discussion of the theory behind the Roback and Rosen models (chapters 4 and 6). However, it would have been nice to have one integrated theoretical chapter at the beginning that walked the reader through the hedonic model, linked it to the Roback model, and discussed the strengths and weaknesses of both.

Second, *how well does the volume cover the existing body of empirical evidence in the quality of life literature?* I think it is more successful here than in describing the theoretical literature. All the essays have an empirical focus that are grounded in the relevant literature. Because the essays were written as stand-alone papers, the book does not read as an integrated treatise on the literature. However, by reading the essays one is exposed to much of the empirical evidence on valuing quality of life, although the primary themes are often repeated from essay to essay. It is important to note that most of the empirical applications are from an urban policy perspective. Although policy prescriptions are outlined, rarely are there links to

actual policies that have been implemented. This is what likely leads the editors to state in the concluding chapter, “The fact that the theoretical and empirical insights of research on quality of life have not permeated deeper into urban and regional policy is particularly surprising” (p. 297).

Third, *how well does the volume cover the relevant research techniques?* I think it receives mixed reviews on that goal. Certainly the essays illustrate how to implement a Roback-type model using reduced-form housing and wage hedonics, and some essays illustrate how to conduct a cross-sectional hedonic analysis, however rarely do any of them demonstrate frontier econometric techniques. After the buildup in the preface that a key focus was to be the spatial research techniques, I was particularly disappointed with the lack of cutting-edge spatial regression methods. In chapter 9 Rosalind Bark-Hodgins, Daniel Osgood, and Bonnie Colby provide a novel discussion of possible uses for satellite imagery in the quality of life literature, and other authors certainly use GIS and some spatial regression analysis, but none demonstrates what I would consider as cutting-edge spatial econometric techniques. In the concluding chapter the editors do mention the potential of geographically weighted regression, but there is no discussion of implementation. I would have also liked to see more discussion in the applied chapters (Matthew Kahn’s chapter 2 is an exception) about omitted variable bias, causation versus correlation, and quasi-experimental analysis as it relates to estimating the hedonic price function (see Chay and Greenstone (2005) for a discussion). Finally, there have also been advances in structural hedonic modeling that could have been discussed (see for example Bajari and Kahn (2005)), but are not.

Although the book does not fully accomplish the editors’ goals, there are some excellent chapters that will be very useful to practitioners. For example, in the “Interregional Perspectives” section, John Carruthers and Gordon Mulligan describe the link between quality of

life and the environmental conditions surrounding households. They drive home the point that space matters and they discuss this link within the analytical framework of compensating differentials. Their empirical analysis, although overly simplified, does give the reader an introduction to the idea of understanding empirically quality of life differences over space. Matthew Kahn provides an outline of recent developments in the field of cross-city hedonic methods and describes potential future research areas. He does an outstanding job of outlining the potential biases and challenges of estimating cross-city hedonic regressions, and he also discusses whether certain types of amenities should matter more for within-city estimation or cross-city estimation. As many of the most prominent hedonic analyses in recent years have used the quasi-experimental method, there is also a discussion of the potential strengths and weaknesses of these experiments in terms of omitted variable bias, and I found it especially timely and interesting.

David Clark investigates the validity of the assumption of an interregional equilibrium. His is one of the most balanced essays in the book in that it provides a nice review of the theory and literature of the concept of interregional equilibrium and then proceeds to make an important contribution to the literature. He attempts to answer empirically whether regional disequilibria disappear over time. His analysis suggests that regional factor markets move towards equilibrium relatively quickly, so an interregional equilibrium assumption may be useful for understanding implicit quality of life prices.

In the “Intraregional Perspectives” section, Katherine Kiel provides a useful review of the intraregional hedonic literature. One small weakness of the chapter is that it does not provide some important details on the hedonic model. For example, some assumptions such as no transaction costs and continuity in attributes are not discussed at all. However, Kiel does a good

job describing the empirical functional form issues as well as the data requirements for estimating a hedonic regression. Her tables summarizing reviews of literature on air quality, undesirable land use, and water quality will be valuable references to practitioners in these areas. I liked Daniel McMillen's essay on the benefits of a river clean-up plan in Gary, Indiana because of its straightforward application of the hedonic method to a practical policy question. His objective was to estimate the monetary cost of living near the Grand Calumet River that had been heavily polluted by U.S. Steel Corporation, so that he could calculate the potential benefits of cleaning the river. The process of data collection and analysis that he outlines to arrive at a benefit estimate is fairly straightforward, but it is articulated clearly and therefore will be useful to researchers applying the hedonic method to cost-benefit analysis.

Finally, an essay by Yan Song and Gerrit-Jan Knapp that summarizes and extends their work is a thought provoking analysis of the value of various amenities produced by constructing "New Urbanist Communities." Although I am somewhat skeptical about the causal interpretation of some of their results, I appreciate their implicit point in this chapter that valuable amenities can be created and destroyed by the nature of community design.

In conclusion, the book is a useful compilation of chapters aimed at valuing quality of life using primarily hedonic analysis. Although it is certainly not a cohesive and absolutely complete volume on the subject, it does have many important chapters that should be well cited in the future. I agree with the editors that the continued study of environmental valuation and quality of life research is important given the increasing locational flexibility of households and the growing importance to them of amenities important to quality of life.

Jaren C. Pope
Department of Agricultural and Applied Economics
Virginia Polytechnic Institute and State University

REFERENCES

- Chay, Kenneth and Michael Greenstone. 2005. "Does Air Quality Matter? Evidence from the Housing Market," *Journal of Political Economy*, 113, 376-424.
- Bajari, Patrick and Matthew Kahn. 2005. "Estimating Housing Demand with an Application to Explaining Racial Segregation in Cities," *Journal of Business and Economic Statistics*, 23, 20-33.