

AREC 625/825 Economic Welfare Analysis Fall 2007

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Overview:

We will study how economists attempt economic measures of changes in an individual's well-being. The course will typically move from basic theory to applications in the major areas of valuation in environmental economics. The focus will be principally on the conceptual issues, but econometric issues will not be completely omitted. In all cases we will try to use first principles to define welfare measures. While we will begin with the underlying theory, the ultimate aim is to put that theory in practice and find ways to measure the welfare concepts we define. We will study many models and arguments that have far wider applicability than applied welfare economics, so you should go away from the course with a broader knowledge of commonly used analytical constructs.

The course involves reading, attending lectures, participating in discussions and occasionally presenting papers, and writing a paper yourself. You must do the reading and participate in the discussions. I expect every student to participate in class discussions.

Core Readings:

The readings are from two books as well as papers:

JH&S: Just, R., D. Hueth and A. Schmitz. 2004. *The Welfare Economics of Public Policy*. Northampton, MA: Edward Elgar. This is a complete text for most welfare economics related to the market. It's a good book to own. The book is now available in paperback and has been ordered so the bookstore should have it.

B&M: Bockstael, N. and K. McConnell. 2006.. *Environmental and Resource Valuation with Revealed Preferences*. Springer Publishing. I will make pdf files available to you. It can also be purchased.

Application Readings – required!:

Each section of the course (except the first one) will include application readings that you **must** read before the day we discuss the readings in class. These are listed throughout the syllabus. All papers are available in the AREC 825 folder on the S drive.

The papers we read will be a blend of old but insightful papers, new papers that appear to advance the state of the art, and some papers that illustrate what not to do. Learning to read papers critically is an important skill, so look for things you don't like about these papers as well as things that you do like. For each paper, you should be able to explain the substantive issue, the nature of the intellectual value added, and how the authors achieved their results. You should also pay attention to how the authors made their arguments. These assessments of papers will become easier when you compare different papers—that is, how did paper A make the point compared with paper B, etc.

Some recommended readings for the future - two sources of interest.

- Haab, T. and K. McConnell. 2002. *Valuing Environmental and Natural Resources: The Econometrics of Non-market Valuation*. Northampton, MA: Edward Elgar. This book explains how, econometrically, many of the models that we discuss in the second part of the course are actually made operational. It's useful as a resource. It is now available in paperback.
- EPA Guidelines for Benefit Cost Analysis:
The Guidelines explain in very basic terms what the issues are in measuring the benefits and costs of environmental regulations and how EPA thinks about these. As such they give you a good policy overview, for those interested in environmental policy, and they show you how the things we are talking about in class are actually considered in evaluating policy at the national level. The guidelines are available on the web at <http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html>
The relevant chapters for you will be Chapter 7 (measuring the social costs of regulation) and 8 (measuring the benefits of environmental regulation). You may be interested in other sections of this document as well.

Course Requirements:

Your grade will depend on a final exam, a paper, and class participation. The paper will be written as a series of submissions to me. I will give you oral and written comments on each installation. That's the way papers should be written, so it is a good chance to practice the process.

Paper Assignment.

Choose any topic, as long as it has some applied welfare content. Your paper must be in the form of a journal paper. The paper should be relatively short and well-focused. And, it needs to be well organized and well argued. A good idea hasn't arrived until it is articulated well.

Papers are the principal means of communication and advancement for economists. You should try to pick a topic that you hope will evolve into a publishable paper. Papers are made by hard work. Because it will take you some time to get into the theory and literature, you probably won't have time to do too much original empirical work this semester. There are two options to a good paper. One is to come up with a good idea, conceptual or empirical, and develop the implications of the idea. A paper written this way should have the promise of developing into a publishable work, perhaps in a future course. For example, you might add empirical support for an interesting conceptual idea. Second, a paper that critiques the literature on some chosen topic, as long as the critique demonstrates an in-depth understanding of the underlying welfare economics and adds original thought to critiquing the existing work. Note that a critique does not consist of criticizing the assumptions of models.

Sept 19th (3rd week) by email (tmccconnell@arec.umd.edu) -

send me a short statement of the general topic of interest and then meet with me to discuss the topic during the week of Sept 19th if you wish.

Oct 16th (7th week) by email send:

a written motivation for your paper. Write a page or two describing the issue/problem you are pursuing. Look at journal papers to see how others motivate their topic. Present the elements of the problem that make it worth looking at and that pose a question to be answered.

a discussion/review of the literature of importance. You should be able to identify some relatively small set of papers that are central to your problem. Put your question in the context of this literature.

Nov 6th (10th week) by email send

a revision of the previous assignment based on the comments you've gotten from me, and a first draft of a section on the next relevant section of your paper. For most students this will be a section on *the underlying theory* of the problem you have identified. However, not all papers are best constructed this way, and you may have another strategy. You must send me some new section of the paper, however.

Nov 27th – by email send

a revision of previous assignment based on my comments, and a draft of the remainder of the paper – whatever analysis, critique etc. that your paper is about.

Dec 18th – by email send

the final draft of your paper.

Class Schedule

Part I: Markets and Welfare Economics

Week 1: Pareto Optimality and the Compensation Principle:

JHS: Chapters 2.1, 2.2; 3.1.

Welfare Theory of Price and Income Changes for the Household and Price Changes for the Firm

B&M Ch 2 - all sections except 2.6.

B&M Ch 9 - only through section 9.2.2 at this point.

JHS section 4.4

Week 2: Aggregation to the Market Level; Distortions and Gains from Trade

JH&S: Ch 8 - sections 8.1, 8.2, 8.4, 8.9

JH&S: Ch 8 - sections 8.5, 8.6, 8.7

Applications:

Schmitz and Seckler, "Mechanized Agriculture and Social Welfare: The Case of the Tomato Harvester", *American J. of Agricultural Economics*, 1970, **52**, 569-77.

Schmitz, T., A. Schmitz, and C. Dumas. "Gains from Trade, Inefficiency of Government Programs and the Net Economic Effects of Trading", *J. Political Economy*, 1997, **105**, 637-647.

Week 3: Multimarket welfare

JHS: Ch 9.1, 9.2

Price Dependent Demands

Barten and Bettendorf: 'Price formation of fish' *European Economic Review* 1989, 1509-1525.

Moschini and Vissa 'Flexible specification of mixed demand systems' *AJAE*, 1993: 1-9

Part II: Non-Market Welfare Economics and Environmental Valuation

Week 4: Valuing Environmental Goods that Affect Preferences

B&M: Ch 3, but omit sections 3.3.2, 3.4.1, 3.5

B&M: Ch 4, sections 4.3 (but not 4.3.4), 4.4, 4.5

B&M: Ch 5, sections 5.1, .2, and 5.3 only

Week 5: The Willingness to Pay-Willingness to Accept Controversy

Hanemann 'Willingness to pay versus willingness to accept: how much can they differ?' *AER*, 1991 635-641.

Horowitz and McConnell "WTA, WTP and the Income Effect" *J. of Economic Behavior and Organization*, 2002.

Chattophyay 'Divergence of alternative hicksian welfare measures...' *J. of Applied Econometrics*, 2002, 641-666.

List 'Does market experience eliminate market anomalies?' *Quarterly J. of Economics*, 2003, 41-71.

Weeks 6-9: Applications and paper presentations.

Foster and Just, "Measuring Welfare Effects of Product Contamination with Consumer Uncertainty", *J. of Environmental Economics and Management*, **17**, 1989, 266-283.

Bockstael, Strand and Hanemann. 1987. "Time and the Recreation Demand Model." *American J. of Agricultural Economics*, 69, 293-302.

Phaneuf, Herriges, Kling. 2000. 'Estimation and welfare calculations in a generalized corner solution model...' *Review of Economics and Statistics*, **82**: 83-92.

Leggett, C. 2002 'Environmental valuation with imperfect information' *Environmental and Resource Economics*, 343-355.

Morey, E.R., W.D. Shaw, and R. D. Rowe, "A Discrete-Choice Model of Recreational Participation, Site Choice and Activity Valuation When Complete Trip Data is Not Available", *Journal of Environmental Economics and Management*, **20**, 1991, 181-201

Discrete choice equilibrium models

Timmins and Murdock 'A revealed preference approach to measurement of congestion in travel cost models' *J. of Environmental Economics and Management*, 2007, 230-249

Week 10: Using Housing Prices and Wages to Value Environmental Changes

B&M: Ch 6, but omit section 6.5

B&M: Ch 7, sections 7.1, 7.2 (except 7.2.6), 7.3

Weeks 11-12: Applications and paper presentations:

Leggett, C. and N. Bockstael. 2000. "Evidence of Effects of Water Quality on Residential Land Prices", *J. of Environmental Economics and Management* **39**: 131-144.

Leigh, J. P. 1995. "Compensating Wage Differentials, Value of a Statistical Life and Inter-Industry Differentials". *J. Environmental Economics and Management* **28**: 83-97.

Simonsohn, U. and G. Loewenstein. 2006 'Mistake #37: The effect of previously encountered prices on current housing demand' *Economic Journal*, **116**, 175-199.

Timmins 'Roy model sorting and non-random selection in the VSL' working paper, 2007

Week 13: The Environment as an Input into Household or Firm Production

B&M: Ch 8, omit sections 8.3.3 and 8.4.4 and omit appendix.

B&M: Ch 9, sections 9.2.3, 9.3, 9.5

Weeks 14-15: Applications:

Abdalla, Roach, and Epp. 1992. "Valuing Environmental Quality Changes Using Averting Expenditures: An Application to Groundwater Contamination." *Land Economics*, **68**, 163-169.

Barbier, E., I. Strand, and S. Sathirathai. 2002. "Do open access conditions affect the valuation of an externality? Estimating the welfare effects of mangrove-fishery linkages in Thailand," *Environmental and Resource Economics*, **21**: 343-367.