

Course Syllabus

Course Information

IPEC 4375.001 (CN: 28079)

Benefit Cost Analysis

Spring 2020

Monday & Wednesday, 1:00pm - 2:15pm, online on Blackboard Collaborate Ultra (Elearning)

Professor Contact Information

Professor Simon Fass

phone: (972) 883-2938; e-mail: "*Course Messages*" on Elearning

Office: GR 3.224

Office hours online on Blackboard Collaborate Ultra (Elearning):

Mon & Weds: 11:30am-12:30pm and 2:30-3:30pm; Tues 11:30am-12:30pm

Course pre-requisites: None. Understanding how to read graphs is an advantage, as is use of spreadsheet software (e.g. MS Excel). Familiarity with elementary concepts of micro-economics is helpful, but we will in any case introduce/review essentials during the course to ensure that everyone is up to speed on them.

Course Description: Benefit-Cost Analysis (BCA) is a helpful analytical method for policy, program and project assessment in the public, non-profit and private sectors. It is a structured approach to weighing the pros and cons of different courses of action. Specifically, it compares the benefits that come from policies, programs or projects to the costs that these actions incur to produce the benefits. This comparison helps to distinguish public and private actions that make better use of resources to reach their objectives from actions that make poorer use of them.

Structured around economic theories of behavior and societal organization, the course offers a conceptual and practical introduction to the method and to the way of thinking. Themes covered include identification of benefit and cost components, valuation of these components, converting future to present values, dealing with uncertainty, estimating impacts, and accounting for transfers between winners and losers that invariably result from actions.

Student Learning Objectives/Outcomes: Students will:

- ❖ become familiar with conceptual underpinnings and other dimensions of benefit-cost analysis;
- ❖ appreciate the wide range of applications for this method of judging the worth of actions;
- ❖ distinguish between higher and lower quality analyses, and be able to critique both well; and
- ❖ be prepared to contribute to preparation of benefit-cost studies and research in practice.

Required Textbooks:

Anthony E. Boardman, David H. Greenberg, Aidan R. Vining, David L. Weimer. 2018. Cost-Benefit Analysis: Concepts and Practice, 5th ed. Cambridge University Press ISBN: 9781108401296 **BGVW**

Asian Development Bank. 2013. Cost-Benefit Analysis for Development: A Practical Guide, Manila, Philippines (*supplied by instructor*) **ADB**

Suggested Additional Materials:

Ginés de Rus. 2014. Introduction to Cost-Benefit Analysis: Looking for Reasonable Shortcuts. Edward Elgar Publishing

Barry P. Keating and Maryann O. Keating. 2017. Basic Cost Benefit Analysis for Assessing Local Public Projects, 2nd ed. Business Expert Press

EJ Mishan and Euston Quah. 2007. Cost-Benefit Analysis, 5th ed. Routledge

Assignments & Academic Calendar

The course requires completion of a case assignment. It involves choosing a specific type of program that no other student selects and that meets my approval - and then designing a benefit-cost analysis study for it. The work should be 1000 (\pm 100) *original* words in length and conform to the writing and formatting guidelines detailed further below under ***Guidelines for Preparing the Assignment***. The assignment topic must get my approval by March 23rd. It is due on April 29th.

1. January 13, 15 Introduction

BGVW: Ch 1. Introduction to Cost-Benefit Analysis

Layard, R., et al. 2007. "*Cost-benefit analysis of psychological therapy.*" National Institute Economic Review 202: 90+

AAEA. 2019. *AAEA review finds that USDA benefit-cost analysis underestimates the true cost of relocating researchers to Kansas City.* June 19

Rachel Augustine Potter, 2017. *Report: How the Trump administration can use benefit cost analysis to justify deregulation,* Brookings Center on Regulation and Markets, August 1

2. January 22 Foundations of the Method

BGVW: Ch 2. Conceptual Foundations of Cost-Benefit Analysis

Ch 3. Microeconomic Foundations of Cost-Benefit Analysis

ADB 2. Economic Analysis of Projects: An Overview

Pamela Misuraca. 2014. *The Effectiveness of a Costs and Benefits Analysis in Making Federal Government Decisions: A Literature Review,* Center for National Security, The MITRE Corporation. McLean, VA

3. January 27, 29 Estimating Value - from Demand Schedules

BGVW Ch 4. Valuing Impacts from Observed Behavior:... Estimation of Demand Schedules (thru 4.1)
Case 4 Use of Demand Schedules in Regulatory Impact Analyses

ADB 7. Economic Analysis of Transport Improvements

US Department of Health and Human Services. 2016. Guidelines for Regulatory Impact Analysis: A Primer. Office of the Assistant Secretary for Planning and Evaluation. Washington DC

Edward Sullivan, et al. 2006. *Web-Based Guide to Transportation Benefit-Cost Analysis.* CALTRANS Economic Development Research Group, Working Paper, 2006-12

FAA. 1999. *Airport Benefit-Cost Analysis Guidance.* Office of Aviation Policy and Plans. Federal Aviation Administration December 15

4. February 3, 5 Estimating Value - from Revenue Flows

QUIZ 1

BGVW 5. Valuing Impacts in Output Markets 119 (5.0 - 5.4)

W.S. Barnett and Leonard N. Masse. 2007. *Comparative benefit-cost analysis of the Abecedarian program and its policy implications.* Economics of Education Review 26, 113-125

Lynn A. Karoly. 2008. *Valuing Benefits in Benefit-Cost Studies of Social Programs.* RAND Corporation Report. Santa Monica, CA

Robert Schalock and John Butterworth. 2000. A Benefit-Cost Analysis Model for Social Service Agencies. Boston: Institute for Community Inclusion/UAP. Children's Hospital. November.

5. February 10, 12 Estimating Value - in Efficient versus Distorted Markets

BGVW 6. Valuing Impacts in Input Markets (6.0 - 6.3)

Phaedra S. Walcott et al. 2018. *Benefit-Cost Analysis of Undergraduate Education Programs: An Example Analysis of the Freshman Research Initiative*. CBE-Life Sciences Education, 17:rm1, 1–8, Spring

6. February 17, 19 Estimating Secondary Market Effects

BGVW 7. Valuing Impacts in Secondary Markets (7.0, 7.3 - 7.5)

Reno, R. 1996, *The Diceman Cometh: Will Gambling be a Bad Bet for Your Town?* Policy Review, March-April n76 p. 40(6)

Grinols, E. and D. Mustard. 2001. *Business Profitability Versus Social Profitability: Evaluating Industries with Externalities, the Case of Casinos*, Managerial and Decision Economics 22, pp. 143–62.

Noll, R and A. Zimbalist. 1997. *The Economic Impacts of Sports Teams and Facilities*, in Noll, R and A. Zimbalist, eds. Sports, Jobs & Taxes: The Economic Impact of Sports Teams and Stadiums,” Brookings Institution, pp.55-91.

7. February 24, 26 The Effect of Time on Value

QUIZ 2

BGVW 8. Predicting and Monetizing Impacts

Case 8: WSIPP CBA of the Nurse–Family Partnership Program

BGVW 9. Discounting Future Impacts and Handling Inflation 201

Case 9 A CBA of the North-East Mine Development Project

Lind, R. 1999. “Chapter 17: Analysis for Intergenerational Decision making,” in P. Portney and J.P. Weyant, eds. Discounting And Intergenerational Equity, Resources for the Future.

8. March 2, 4 Discounting for Society as a Whole

BGVW 10. The Social Discount Rate 237

ADB 3. Theory and Practice in the Choice of Social Discount Rate for Cost-Benefit Analysis: A Survey

Newell, R. and W. Pizer, 2002. *Discounting the Benefits of Climate Change Policies Using Uncertain Rates* Resources, Winter, Issue 146.

9. March 9, 11 Risk and Uncertainty

QUIZ 3

BGVW 11. Dealing with Uncertainty: Expected Value, Sensitivity Analysis, and Value of Information

Herzog, H and A. Schlotzman. 1990. *Valuing Risk in the Workplace: Market Price, Willingness to Pay, and the Optimal Provision of Safety*, Review of Economics and Statistics, pp. 463-70.

Durkin, J.T., and Greeley, A.M. 1991. "A Model of Religious Choice Under Uncertainty: On Responding Rationally to the Nonrational," Rationality and Society, 3:2. 178-196

Camerer, C. and H. Kunreuther.1989. *Decision Processes for Low Probability Events: Policy Implications*, Journal of Policy and Management, September. 8(4) pp.565-92.

CASE ASSIGNMENT PROPOSAL DUE MARCH 9th ... FOR INSTRUCTOR APPROVAL BY MARCH 23rd

10. March 23-25 Extended Spring Break

11. March 30 -April 1 The Value of Just Being (on 3/30 review of Quiz 3 and associated concepts)

BGVW 13. Existence Value

Heinzerling, L. and Ackerman, F. 2002. Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection, Georgetown Environmental Law and Policy Institute, Washington D.C.

Kiel, K. and J. Zabel. 2001. Estimating the Economic Benefits of Cleaning up Superfund Sites: The Case of Woburn, Massachusetts, *Journal of Real Estate Finance & Economics*, 22(2) 163-184.

FEMA. 2009. *BCA Reference Guide*. Federal Emergency Management Agency, Department of Homeland Security, Washington, DC

12. April 6, 8 Impacts Valuation- from Experiments

BGVW 14. Valuing Impacts from Observed Behavior: Experiments and Quasi-Experiments
Case 14 Findings from CBAs of Welfare-to-Work Programs

National Research Council 2014. *Considerations in Applying Benefit-Cost Analysis to Preventive Interventions for Children, Youth, and Families..* Washington, DC: National Academies Press.

Minah Park et al. 2018. *Cost-benefit analysis of vaccination: a comparative analysis of eight approaches for valuing changes to mortality and morbidity risks.* *BMC Medicine* 16:139

13. April 13, 15 Impacts Valuation - with Indirect Methods

QUIZ 4: Posted April 13 at 2:15 pm. Due April 15 at 1:00 pm.

BGVW 15. Valuing Impacts from Observed Behavior: Indirect Market Methods

ADB 6. Economic Analysis of Integrated Services Projects

Zimmerman, D. 1997. *Chapter 4: Subsidizing Stadiums: Who Benefits, Who Pays?* in Noll and Zimbalist, *Sports, Jobs and Taxes:...* Brookings Institution, pp. 119-145.

Recommended:

Viscusi, WK1993. *The Value of Risks to Life and Health*, *Jour. of Econ Literature*, 31, 1912-46.

14. April 20, 22 Impact Valuation - from Surveys/Interviews

BGVW 16. Contingent Valuation: Using Surveys to Elicit Information about Costs and Benefits
Case 16 Using Contingent Valuation to Estimate Benefits from Higher Education

ADB 5. Assessing the Willingness to Pay for Improved Water Supply in Sri Lanka

Hanemann, W.M. 1994. *Valuing the Environment Through Contingent Valuation*, *Journal of Economic Perspectives*, 8(4), pp. 19-43.

Recommended:

ADB 4. Good Practices for Conducting Willingness-to-Pay Surveys in Water/Sanitation Sector
Appendix 4.2 Strengths and Weaknesses of Different CV Elicitation Methods

15. April 27, 29 Shadow (Make Believe) Pricing

QUIZ 5 Posted April 27 at 2:15 pm Due April 29 at 1:00 pm

Case Assignment Due April 29 at 5:00 pm

BGVW: Ch 17 Shadow Prices... Secondary Sources; Case 17 Shadow Pricing a High School Diploma

Lisa A. Robinson. 2017. *Final Report: Estimating Medical Costs for Regulatory Benefit-Cost Analysis: Conceptual Framework and Best Practices*. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. June

US Department of Transportation. 2018. *Benefit-Cost Analysis Guidance for Discretionary Grant Programs*. Office of the Secretary. Washington DC

Bovbjerg, R., F. Sloan and J. Blumstein. 1989. *Valuing Life and Limb in Tort: Scheduling Pain and Suffering*, *Northwestern Law Review*, Summer, pp. 909-76.

Grading Policy

The course grade, ranging from A+ through F, is based on performance on two components:

in-class quizzes (3 quizzes at 15% each):	45 %
at-home quizzes (2 quizzes at 15% each):	30 %
case assignment	25 %
	100 %

Note - I expect students to adhere to the UT Dallas policy on Academic Dishonesty (as defined at the end of this syllabus) when completing the at-home quizzes and the case assignment,

The structure of final grading is:

> 96% =A+ (4.00);	87-89%=B+ (3.33);	78-80%=C+ (2.33);	69-71%=D+ (1.33);
93-96%=A (4.00);	84-86%=B (3.00);	75-77%=C (2.00);	65-68%=D (1.00);
90-92%=A- (3.67);	81-83%=B- (2.67);	72-74%=C- (1.67);	61-64%=D- (0.67);
	< 61% =F (0.00)		

Course & Instructor Policies

Make-up quizzes	none
Extra Credit	none
Late Work	10% of case assignment value is lost for each day overdue
Class Attendance online	preferred
Classroom Citizenship online	civility and politeness much appreciated

Course & Instructor Policies

During online class sessions when participant audio is on, kindly silence cell phones, do not talk or text on the phone, and silence radios, TVs and other background sounds. Inattention and extra noise disrupt participating students and disrespect the instructor... who typically takes unrepentant dising (aka "phubbing" or cellphone snubbing) into account when adjusting grades.

In general, the way to succeed in the course is to read the assigned materials ahead of time, join each class session on time, participate in discussions, not be embarrassed to ask questions or talk, and study diligently.

"Course Messages" on the Elearning course page is the only electronic way to communicate with the instructor. Students should therefore check it often for messages that may contain important information.

Guidelines for Preparing the Assignment

Writing: The logic and presentation of what you submit ought to be clear. Say what you want to say in your own words. "Write like you talk" is good rule. If I understand what you say when you talk but cannot understand what you say when you write, then there is a brain-hand dysfunction that needs cure. Do not be intimidated by what you think may be an "academic" writing style. Most researchers would not be researchers if they had talent for writing. Give me, the reader, a "roadmap" at the beginning of your outline and paper and, as appropriate, recap sentences at the beginning and end of subsections. If I cannot figure out within a minute or so what your submission is about and where leads, then you are in trouble. If I get bored, you are in deeper trouble.

Format: I have excruciatingly strong preferences about format. It would be nice if you could strictly adhere to them so that in the process you learn about aesthetically correct presentation of the written word. Note that here the synonym for "nice" is "mandatory." You lose points if you stray from any of the following 15 commandments:

- 1) margins: 1-inch on all sides
- 2) page: white 8½ inches by 11 inches, portrait orientation
- 3) font: times new roman, regular, 12 points
- 4) alignment: left justification
- 5) page numbering: on all pages, centered at the bottom
- 6) line spacing: single-space within paragraphs (not 1.15 spacing), double-space between paragraphs

- 7) indentation: none
- 8) paper title: at top of first page on one line (i.e. no cover sheet)
- 9) student name: next line after the title
- 10) citations in text: in any standard format (e.g., Smith, 2004)
- 11) bibliography: in standard format (e.g., as you see them at the end of published articles)
- 12) spelling: no errors (i.e., use spelling checker, and also review manually for wrong words)
- 13) grammar: do not be horrible (i.e., use grammar checker set to strictest/most formal level)
- 14) endnotes: place after bibliography (no footnotes)
- 15) tables or graphics: include only if essential, place at very end.

Content: The top of the first page must show your name and the title of what you are writing about.

Length: 1000 (\pm 100) original words, excluding quoted material, bibliography, notes, tables, graphics etc. In other words, the adjective “*original*” refers to what you yourself write. Though rarely necessary, you can include quoted text. But such text does not count as part of the required length.

Media: All submissions should be electronic via Elearning's "*Course Messages*," saved in any format that MSWord can read directly (i.e. no pdf or other format).

Filename: (not Elearning subject heading) must be your name (last then first), followed by "Assignment" For example, the paper *Bobby Smith* submits must be named: **Smith Bobby Assignment**.

Honesty: It is better to be safe than sorry. As noted above, adhere to the university policy on Academic Dishonesty as detailed further below. I submit everything to Turnitin to check for the sin of plagiarism.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

Of particular relevance in relation to at home quizzes is the UT Dallas policy on academic honesty, i.e.

Academic Dishonesty: Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes plagiarism, cheating, fabrication, and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor