

**Public Affairs 5312 Cost-Benefit Analysis for Program Evaluation (2 credits)**  
**Spring 2023 Humphrey School of Public Affairs**

**Time:** Monday/Wednesdays at 4:00-5:15 pm, January 17 - March 13, 2023

**Instructor:** Prof. Judy Temple  
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**Location:** In person in Humphrey School room 20.

**Office hours:** Mondays 2:00-3:30 in Humphrey School room 235 but generally available after class on both days.

**Purpose:** This class introduces MPP students and others to methods used in cost-benefit analysis, the leading evidenced-based method for guiding decisions about whether a government program or policy improves the well-being of society. For Humphrey students, this course can be used as an elective or as part of the economics core requirement. For students who have already fulfilled that requirement, this course can be used to satisfy requirements in the Advanced Policy Analysis concentration. This course also can be used to satisfy requirements in the Prevention Science graduate minor as well as the Early Childhood Policy graduate certificate. The course also consists of online videos to aid in your use of Excel.

**Required Text:** Boardman, Greenberg, Vining, Weimer (2019) Cost-Benefit Analysis: Concepts and Practice, 5th edition, Cambridge University Press. Note that the fourth edition also is OK, except that some of the chapters are in a different order.

**Evaluation:** There will be two quizzes taken remotely worth 15% each, five short assignments worth 7% each and a final paper worth 30% in total. The final paper will have three parts – a one paragraph summary with several relevant references submitted in advance, a short presentation during class time and the final paper. Class participation could add another 5% to your grade. The final paper will either be an evaluation and critique of an existing cost-benefit analysis or a proposal of a benefit-cost study of an actual policy or program. Students will be able to update the class on their topic during the semester.

The University of Minnesota's Uniform Grading Policy stipulates that a grade of an A represents achievement that is outstanding relative to the level necessary to meet course requirements. Some relevant parts of the distribution include A (94-100%), A- (90-94%), B+ (87-90%), B (83-87%), B- (80-83%), etc. Late work without a valid excuse will be penalized by 20%.

The University policy on academic integrity makes clear that you are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Submitted work with either intentional plagiarism or sloppy sourcing may receive a grade of an F.

The University of Minnesota has policies regarding Covid can be found here, including the expectation that decisions to wear or not wear a mask should be respected. [Covid-19-updates](#). Students should not come to class if they are feeling ill.

**The paper:** Students will write a paper 6-8 pages in length (assuming 11 point font, double spaced, one-inch margins). The paper will either (1) assess the strengths and weaknesses in a published cost-benefit analysis on a topic to be chosen by the student or (2) propose a benefit-cost analysis of an actual policy or program. Students will assess the merits of the study's

identification of important benefits and costs and the measurement strategy. What are the benefits and costs of the program or policy and how well is the author able to quantify these in dollar terms? A strong paper will be well written with a clear organizational structure, will make use of concepts from the readings and discussions in class and will cite the relevant literature. The short paper assignment will be one paragraph summary of paper with at least 4 relevant references. A grading rubric will be distributed in advance to help students prepare the paper.

### Schedule of readings and due dates

January 25	Homework 1 due before class
February 1	Homework 2 due before class
February 8	Homework 3 due before class
February 13	First quiz
February 20	Homework 4 due before class
February 22	Short one page summary of paper with a few references
February 27, March 1, 13	Presentations related to paper
March 1	Homework 5 due before class
March 14	Second quiz (not cumulative)

Dates	Topics and readings (chapters refer to Boardman et al. 2019) All other courses are on Canvas.	What is due?
<b>Week 1</b> <b>Jan. 18</b>	Introduction (chapter 1) Societal benefit-cost analysis, the different political lenses, what are the steps in performing cost-benefit analysis? A look at executive orders from Reagan, Trump and Biden on CBA.	-
<b>Week 2</b> <b>Jan. 23/25</b>	Who has standing? Discuss article by Dana (2010). Conceptual issues (chapter 2). Cost-benefit analysis as consistent with Kaldor-Hicks criterion.  Start discussion of the microeconomic framework of CBA (chapter 3) Use of demand curve to estimate benefits. Present value calculations. See Groom et al. (2022) on the discount rate.	HW 1 due on Wednesday
<b>Week 3</b> <b>Jan. 30/ Feb. 1</b>	More on microeconomic foundations from chapter 3. Consumer and producer surplus. Calculation of observed and imputed costs. Chapter 6 section 6.2.3) on valuing costs of previously unemployed labor. Discussion of Greenberg (2018).  More from chapter 3. Discussion of costs. Discussion of distortionary taxation and how that affects estimation of costs of public projects. Discuss example from Heckman et al. (2010) - students should look over this lengthy study with a focus on the consideration of the distortions of taxation (represented by a deadweight loss of 100%!) and how they affect costs.	HW 2 due on Wednesday-
<b>Week 4</b> <b>Feb. 6/8</b>	Do we need to take into account effects on secondary markets? (Read introduction to Chapter 6 and section 6.1 only). How do we deal with uncertainty? Chapter 11 (sections 11.1 and 11.2 only). We focus on the expected value approach for incorporating uncertainty. If benefits are shown by an area under the demand curve, how do we estimate the demand curve? Chapter 4* in 5 <sup>th</sup> edition. Appendix	HW 3 due on Wednesday

	not required. Also brief discussion of CBS of restricting cell phone use from Cohen and Graham (2003).	
<b>Week 5 Feb. 13/15</b>	First quiz taken in class on Monday  Read chapter 14* on experimental study designs. Read Bartik et al. (2022) paper on the Tulsa, OK preschool program.	Quiz
<b>Week 6 Feb. 20/22</b>	Indirect estimation of benefits (chapter 15) Read article on bike trails by Wang et al. (2005). We will also discuss CBA of airplane regulation using hedonic pricing by Morrison et al. (1999) – this latter reading is not required.  Cost-effectiveness analysis including value of a statistical life and quality adjusted life years. Ch. 18. Discuss Jaldell (2013) and Levin and Belfield (2007) – this latter reading not required.	HW 4 due on Monday  Short one page paper due on Wednesday
<b>Week 7 Feb. 27/Mar. 1</b>	CBA as used in social impact financing. Read Baldini (2015) and Temple and Reynolds (2015). Hendren’s MVPF (Finkelstein and Hendren, 2020). Some student presentations	HW 5 due on Wednesday  Presentations
<b>No class</b>	<b>Spring break!!</b>	
<b>Week 8 Mar. 13</b>	Last day of class – a few student presentations and paper due.	Presentations

Paper due by Tuesday March 14 at midnight.

List of readings (bold indicates required).

Baldini, Noelle (2015) “Pay for Success: Financing research informed practice,” Cascade, Federal Reserve Bank of Philadelphia.

Bartik, Timothy J., Gormley, William, Amadon, Sara, Hummel-Price, Douglas & Fuller, James (2022). A benefit-cost analysis of Tulsa Pre-K, based on effects on high school graduation and college attendance. [https://research.upjohn.org/up\\_policypapers/29/](https://research.upjohn.org/up_policypapers/29/)

**Cohen, Joshua T. & John D. Graham (2003) “A revised economic analysis of restrictions on the use of cell phones while driving,” Risk Analysis, vol. 23, pp. 5-17.**

**Dana, David A. (2010) “Valuing foreign lives and settlements,” Journal of Benefit-Cost Analysis, vol. 1, article 4.**

**Greenberg, David. (2018) Chapter 10: Treatment of employing and disemploying workers. In Farrow, ed. Teaching Benefit-Cost Analysis. Elgar Publishing.**

**Groom, Ben, Drupp, Moritz A., Freeman, Mark C., & Nesje, Frikk (2022). The future, now: A review of social discounting. Annual Review of Resource Economics, 14, 467-491.**

Heckman, James J. et al. (2010) The rate of return to the HighScope Perry Preschool Program, Journal of Public Economics, vol. 94, pp. 114-128.

- Finkelstein, Amy, and Nathaniel Hendren (2020) Welfare analysis meets causal inference. Journal of Economic Perspectives, 34 (4): 146-67.
- Jaldell, Henrik (2013) Cost-benefit analyses of sprinklers in nursing homes for the elderly, Journal of Benefit-Cost Analysis, vol. 4, pp. 209-235.
- Liebman, Jeffrey & Sellman, Alina (2013) Social Impact Bonds: A Guide for State and Local Governments. Harvard Social Impact Bond Technical Assistant Lab.
- Levin, Henry & Belfield, Clive (2007) "Investments in K-12 Education for Minnesota: What Works?" Paper prepared for Growth and Justice conference, November 12, Minneapolis, MN.
- Morrison, Steven et al. (1999) "Fundamental flaws of social regulation: The case of airplane noise," Journal of Law and Economics, vol. 42, pp. 723-744.
- Park, Minah, Jit, Mark, & Wu, Joseph T. (2018). Cost-benefit analysis of vaccination: a comparative analysis of eight approaches for valuing changes to mortality and morbidity risks. BMC Medicine, 16(1), 139. <https://doi.org/10.1186/s12916-018-1130-7>
- Reynolds, Arthur J. et al. (2011) "Age 26 cost benefit analysis of the Child-Parent Center early education program," Child Development, vol. 82, pp.379-404.
- Temple, Judy A. & Reynolds, Arthur J. (2015) "Using benefit-cost analysis to scale up early childhood programs through pay for success financing," Journal of Benefit-Cost Analysis, vol. 6, 628-653.
- Transportation Economics Committee (n.d.) "BCA v. Economic impact analysis," Transportation Research Board of the National Research Council, Washington DC. <https://sites.google.com/site/benefitcostanalysis/>
- Wang, G., Macera, C., Scudder-Soucic, B., Schmid, T., Pratt, M., & Buchner, D. (2005) "A cost benefit analysis of physical activity using bike/pedestrian trails," Health Promotion Practice, vol. 6, pp. 174-179.

*Here are some Minnesota-related reports for additional reading.*

- Martin, Lauren & Richard Lotspeich (2014) A benefit-cost framework for an intervention to prevent sex trading, Journal of Benefit-Cost Analysis, vol. 5, pp. 43-87.
- Tuck, Brigid A., Chazdon, Scott A., Rasmussen, Catherine M. and Bohn, Hannah J. (2020) Measuring the Economic Benefit of Extension Leadership Programs: McLeod for Tomorrow. Journal of Extension. August 2020. V.58-4. <https://joe.org/joe/2020august/a2.php>
- Umbach, Tripp (2018) Economic impact of University of Minnesota FY 2017. Pittsburgh, PA: Tripp Umbach. [https://government-relations.umn.edu/sites/government-relations.umn.edu/files/university\\_of\\_minnesota\\_impact\\_study\\_final\\_report\\_3-7.pdf](https://government-relations.umn.edu/sites/government-relations.umn.edu/files/university_of_minnesota_impact_study_final_report_3-7.pdf) )