

**NYU****ROBERT F. WAGNER GRADUATE
SCHOOL OF PUBLIC SERVICE**

PADM-GP 2149

Cost-Benefit Analysis

Fall 2022

Instructor Information

- Travis St.Clair
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- Office Address: Puck 3048 (3rd Floor)
- Office Hours: Wednesdays, 2:00–4:00pm, or by appointment
 - Office hours are over Zoom unless otherwise requested
 - [Link to sign up for office hours](#)

Course Information

- Class Meeting Times: Mondays 4:55–6:35pm
- Class Location: Bobst, Room LL149

Course Prerequisites

CORE-GP 1021, CORE-GP 1018, and CORE-GP 1011 are prerequisites. Microeconomics provides the foundation for cost-benefit analysis, and consequently the course assumes a basic background in microeconomics at the level of 1018 or higher. Students who have only taken 1018 and received a grade lower than a B may register but should expect to spend extra time learning the underlying microeconomic principles and tools.

Course Description

Cost-benefit analysis (CBA) involves the use of microeconomics to formally assess the costs and benefits of different projects or investments. CBA is required for major regulations in the United States and is frequently used as a key input into major policy decisions. Understanding its advantages and limitations, and being able to distinguish well-conducted from poor analyses, is an important skill for a policy analyst. This course provides you with the conceptual foundations and practical knowledge you will need to both conduct CBA as well as be a more thoughtful consumer of policy research. The course draws on a mixture of economic theory and real-life case studies to examine both the theoretical and practical issues involved in CBA.

Course and Learning Objectives

1. Understand the economic concepts that provide the foundation for cost-benefit analysis.
2. Learn the practical steps involved in conducting CBA.
3. Develop a set of analytical tools that can be applied to decision-making, including impact analysis, Monte Carlo simulation, sensitivity analysis, and valuation.
4. Become a more critical consumer of policy research and analysis.

Learning Assessment Table

Corresponding Course Learning Objective	Corresponding Assignments
#1	Final Exam, Final Paper, Problem Sets
#2	Final Paper
#3	Problem Sets, Final Paper
#4	Final Exam, Final Paper, Problem Sets

Course Materials

The textbook for this course is: Boardman et. al, **Cost-Benefit Analysis**, Fifth Edition (2019), Cambridge University Press. Additional readings will be posted on Brightspace. You may use another edition of the textbook, though I caution you that some material has changed. There will be a copy of the Fifth edition on reserve at Bobst.

Course Requirements

There will be three components used in determining your final grade for the course:

Weekly Problems Sets, 20%

There are a total of 9 problem sets, each of which is worth 2-3% of your grade. Problem sets are due at the beginning of each class and should be submitted via NYU Classes. I will be grading the problem sets on the basis of completion rather than accuracy. If you make a *good faith effort* to complete all portions of the problem set, you will receive full credit even if your work contains errors. If you do not submit the assignment prior to the start of class, you will receive no credit. If you have hand-drawn graphs, you can scan them or use a camera-based scanner app on your phone (like Scanbot) to turn it into a pdf. I encourage you to work on the assignments in small groups, however each student must write and submit his or her own assignment. Two or more students turning in identical homework assignments constitutes cheating and will be reported to the administration and subject to disciplinary action.

CBA Project, 50% (see handout for details)

- CBA Project Proposal, 5%
- List of Potential Costs and Benefits, 5%
- Literature and Data Review, 5%
- Final Paper, 35%

Final Exam, 30%

The final exam will take place in class during Class 12. Please note the date of the exam; if you have a conflict, please come speak to me at the beginning of the semester.

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by [Wagner's Academic Code](#). All Wagner students have already read and signed the [Wagner Academic Oath](#). Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about how to abide by the academic code, please consult with me.

Henry and Lucy Moses Center for Students with Disabilities at NYU

Academic accommodations are available for students with disabilities. Please visit the [Moses Center for Students with Disabilities \(CSD\) website](#) and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

NYU's Calendar Policy on Religious Holidays

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with class assignments to schedule mutually acceptable alternatives.

Class Schedule at a Glance

Class	Week	Date	Topics	Assignments Due
1	1	9/12	Overview of Cost-Benefit Analysis	
2	2	9/19	Foundations of Welfare Economics	
3	3	9/26	Valuing Benefits and Costs in Efficient Primary Markets	CBA Proposal, PS #1
4	4	10/3	Valuing Benefits and Costs in Inefficient and Secondary Markets	PS #2
5	5	10/11	Predicting and Monetizing Impacts	PS #3
6	6	10/17	Discounting	List of Costs and Benefits, PS#4
7	7	10/24	Valuing Non-Market Goods and Services	PS #5
8	8	10/31	Special Cases of Non-Market Goods in CBA	PS #6
9	9	11/7	Uncertainty	Literature and Data Review, PS #7
10	10	11/14	Distributional Considerations	PS #8
11	11	11/21	Final Exam Review	PS #9
12	12	11/28	Final Exam	Final Exam
13	13	12/5	Alternatives to CBA	
14	14	12/12	How Accurate is CBA	
15	15	12/19		Final Paper Due

Week 1: Overview of Cost-Benefit Analysis

Topics Covered:

- How, When, Why is it Useful?
- Limitations
- Alternatives

Read before class:

- Textbook Chapter 1

Week 2: Foundations of Welfare Economics

Topics Covered:

- Pareto Efficiency
- Opportunity Cost and Willingness-to-Pay
- Consumer Surplus, Producer Surplus, Social Surplus

Read before class:

- Textbook Chapters 2-3
- Washington State Institute for Public Policy. 2015. The King County Education and Employment Training Program: Outcome Evaluation and Benefit-Cost Analysis.

Week 3: Valuing Benefits and Costs in Efficient Primary Markets

Topics Covered:

- Efficient Markets

Read before class:

- Textbook Chapters 5-6
- Siegfried & Zimbalist. 2000. The Economics of Sports Facilities and Their Communities. JEP.

Assignments:

- CBA Proposal Due
- Problem Set #1 Due

Week 4: Valuing Benefits and Costs in Inefficient and Secondary Markets

Topics Covered:

- Inefficient Markets
- Secondary Markets

Read before class:

- Textbook Chapter 7
- Alcott et al. 2019. Should We Tax Sugar-Sweetened Beverages? JEP.
- (PhD/optional) Kotchen and Levinson. When Can Benefit Cost Analyses Ignore Secondary Markets? NBER Working Paper No. 29811.

Assignments:

- Problem Set #2 Due

Week 5: Predicting and Monetizing Impacts

Topics Covered:

- Experimental and Quasi-Experimental Methods

Read before class:

- Textbook Chapter 8. Skim Chapters 4 and 14.
- Belfield et. al. 2006. The High/Scope Perry Preschool Program: Cost-Benefit Analysis Using Data from the Age 40 Follow-Up. JHR.
- (PhD/optional) Cohen et. al. Using Big Data to Estimate Consumer Surplus: The Case of Uber. NBER Working Paper No. 22627.

Assignments:

- Problem Set #3 Due

Week 6: Discounting

Topics Covered:

- Net Present Value
- Inflation

Read before class:

- Textbook Chapter 9. Skim Chapter 10.
- Washington State Institute for Public Policy. 2016. Washington State Ferry Vessel Procurement (focus on pp.16-23)

Assignments:

- List of Costs and Benefits Due
- Problem Set #4 Due

Week 7: Valuing Non-Market Goods and Services

Topics Covered:

- Indirect Markets Methods
- Survey Methods

Read before class:

- Textbook Chapter 15. Skim Chapter 16.
- De Rus. 2011. The BCA of High Speed Rail. Journal of Benefit-Cost Analysis.
- De Rus. 2012. Economic Evaluation of High Speed Rail. [Skim]
- (PhD/optional) Gupta et. al. Taking the Q Train: Value Capture of Public Infrastructure Projects. NBER Working Paper #26789.

Assignments:

- Problem Set #5 Due

Week 8: Special Cases of Non-Market Goods in CBA

Topics Covered:

- Value of a Statistical Life

Read before class:

- Textbook Chapter 17. Skim Chapter 13.
- Holladay. 2011. Valuing the Clean Air Act. Institute for Public Integrity, Discussion Paper No. 2011/1

Assignments:

- Problem Set #6 Due

Week 9: Uncertainty

Topics Covered:

- Sensitivity Analysis
- Value of Information

Read before class:

- Textbook Chapter 11. Skim Chapter 12.
- Hallegatte. 2006. A Cost Benefit Analysis of the New Orleans Flood Protection System. AEI-Brookings Regulatory Analysis 06-02.

Assignments:

- Literature and Data Review Due
- Problem Set #7 Due

Week 10: Incorporating Distributional Considerations into CBA

Topics Covered:

- Distributional Weights

Read before class:

- Textbook Chapter 19 and Case 19 (p. 558).
- Greenberg. 2013. A CBA of Tulsa's IDA program. Journal of Benefit-Cost Analysis.
- (PhD/optional) Hemel. 2021. Regulation and Redistribution with Lives in the Balance. Chicago Law Review.

Assignments:

- Problem Set #8 Due

Week 11: Final Exam Review

Topics Covered:

- Review

Read before class:

Assignments:

- Problem Set #9 Due

Week 12: Final Exam

Week 13: Alternatives to CBA

Topics Covered:

- Cost-Effectiveness Analysis
- Marginal Value of Public Funds

Read before class:

- Chapter 18. [Read up to p. 520, “Cost-Utility Analysis.”]
- Profit et. al. 2010. Clinical Benefits, Costs, and Cost-Effectiveness of Neonatal Intensive Care in Mexico. Plos Medicine.
- Hendren and Sprung-Keyser. 2022. The Case for the MVPF in Empirical Welfare Analysis.
- (PhD/optional) Hendren and Sprung-Keyser. 2020. A Unified Welfare Analysis of Government Policies. QJE.

Week 14: How Accurate is CBA

Topics Covered:

- Bias in CBA

Read before class:

- Textbook Chapter 20.
- Flyvbjerg and Bester. 2021. The Cost-Benefit Fallacy: Why Cost-Benefit Analysis is Broken and How to Fix It. Journal of Benefit-Cost Analysis.

Week 15: Final Paper Due