

Economic Analysis of Public Policy

Yoshitsugu Kanemoto

Course Description

The objective of the course is to enable students to conduct policy analysis for real-world policy problems. The students are expected to learn how to design and conduct a policy research for a given policy problem and to evaluate policy alternatives with solid understanding of the theoretical foundation of cost-benefit analysis and full recognition of their effectiveness and limits.

Topics covered are (1) the theoretical foundation of cost-benefit analysis, (2) concepts and tools in cost-benefit analysis such as the social discount rate, risk and uncertainty, existence value, hedonic and travel cost methods, CVM, evaluation by social experiments, (3) application of cost-benefit analysis and cost-effectiveness analysis to public projects and regulation policies, among others. Students are required to conduct real-world case studies.

This course requires good understanding of elementary economics and statistics but does not pursue sophisticated economic analysis. Prerequisites are (1) Microeconomics for public policy, (2) Statistical Method, or their equivalents.

Textbooks

Boardman, A. E, D. H. Greenberg, A. R. Vining and D. L. Weimer. *Cost-Benefit Analysis: Concepts and Practice*, Fourth Edition. Prentice-Hall, Upper Saddle River, NJ, 2010. International Edition [BGVW] (On Reserve in the Economics Library on the 3rd floor of Akamon Bldg.)

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Course Web Site:

<http://lecture.ecc.u-tokyo.ac.jp/~ekanemot/index.html>

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ITC-LMS Web Site:

Available after course registration.

Schedule (Tentative, subject to change)

1. Introduction: How to do policy analysis (04/07)
2. Valuing benefits and costs (04/14)
HW1 (due 04/19)
3. Valuing benefits and costs (Continued) (04/21)
HW2 (due 04/26)
4. Conceptual foundations of cost-benefit analysis, Discounting (04/28)
HW3 (due 05/10)
5. Predicting and monetizing impacts; Estimating benefits: Market demand function (05/12)
HW4 (due 05/24)
Mini CBA Team Formation, Mini CBA project proposal version 1 (due 05/19)
6. Policy evaluation cases: Transportation investment (Mr. Junji Shibata, Oriental Consultants) (05/19)
7. Estimating benefits: Experiments and quasi experiments; Estimating benefits: Indirect market methods (05/26)

- Mini CBA project framework (due 06/01)
8. Estimating benefits: Contingent valuation; Estimating benefits: Shadow prices from secondary sources, Mini project framework discussions (06/02)
 9. Mid Term Quiz (06/09)
Mini project outline (due 06/22)
 10. Risk and uncertainty (06/16)
 11. Cost-effectiveness analysis, Mini project outline discussions (06/23)
 12. Social discount rate, Existence value (06/30)
 13. Distributional weights, Mini project discussions (07/07)
 14. **Presentation of policy analysis mini projects (07/21)**
Presentation Evaluation (due 07/25)
Mini Project Final Report (due 08/12)
Final Report Evaluation Form (due 08/18)

Reading List

1. Introduction: How to do Policy Analysis

Weimer, David L. and Aidan R. Vining. *Policy Analysis: Concepts and Practice*. 5th ed., Longman, Upper Saddle River, NJ, 2010. Chs. 1 and 2. [WV] (On Reserve in the Economics Library on the 3rd floor of Akamon Bldg.)

Posner, R.A., "Cost-Benefit Analysis: Definition, Justification, and Comment on Conference Papers," in Adler, M.D. and E.A. Posner, *Cost-Benefit Analysis - Legal, Economic, and Philosophical Perspectives*, University of Chicago Press, 2000.

2. Valuing benefits and costs

BGVW Chapter 1 "Introduction to Cost-Benefit Analysis"

BGVW Chapter 4 "Valuing Benefits and Costs in Primary Markets"

BGVW Chapter 5 "Valuing Benefits and Costs in Secondary Markets"

Kanemoto, Y., "Urban Transport Economic Theory," *A Companion to Urban Economics*, Edited by Richard J. Arnott and Daniel P. McMillen, Blackwell Publishing, Oxford, UK, 245-260. (Full understanding requires the knowledge of elementary calculus, but the essence of the logic should be accessible to a student who has not learned calculus.)

World Bank Transport Notes No. TRN-5 (Framework), 14 (Operating costs), 15 (Time savings), 16 (Accident costs): Concise guidelines for practitioners.

3. Conceptual Foundations of Cost-Benefit Analysis

BGVW Chapter 3 "Basic Microeconomic Foundations of Cost-Benefit Analysis"

Kanemoto, Y., (2011), "Surplus Theory," *A Handbook of Transport Economics*, Edited by A. de Palma, R. Lindsey, E. Quinet, and R. Vickerman, Edward Elgar Publishing, Cheltenham Glos, UK, 479 - 499. (For students with a calculus background.)

4. Discounting

BGVW Chapter 6 "Discounting Future Benefits and Costs"

World Bank Transport Notes No. TRN-6 (When and How to Use NPV, IRR and Modified IRR)

5. Predicting and monetizing impacts

BGVW Chapter 11 "Predicting and Monetizing Impacts"

6. Estimating Benefits: Market Demand Function

BGVW Chapter 13 "Valuing Impacts from Observed Behavior: Direct Estimation of Demand Curves"

7. Estimating Benefits: Experiments and Quasi Experiments

BGVW Ch.12 Valuing Impacts from Observed Behavior: Experiments and Quasi Experiments

Khandker, S.R., G. B. Koolwal, and H. A. Samad, *Handbook on Impact Evaluation: Quantitative Methods and Practices*, World Bank, 2009. (Randomized evaluations, Matching methods, Double difference methods, Instrument variable methods, Regression discontinuity design and pipeline methods)

8. Estimating Benefits: Indirect Market Methods

BGVW Chapter 14 "Valuing Impacts from Observed Behavior: Indirect Market Methods"

9. Estimating Benefits: Contingent Valuation

BGVW Chapter 15 "Contingent Valuation: Using Surveys to Elicit Information about Costs and Benefits"

Kolstad, C.D., (1999), *Environmental Economics*, Oxford Univ. Press, Oxford, England.

10. Estimating Benefits: Shadow prices from secondary sources

BGVW Chapter 15 "Shadow Prices from Secondary Sources"

11. Risk and uncertainty

BGVW Chapter 7 "Dealing with Uncertainty: Expected Value, Sensitivity Analysis, and the Value of Information"

BGVW Chapter 8 "Option Price and Option Value"

12. Cost-effectiveness analysis

BGVW Chapter 18 "Cost-Effectiveness Analysis and Cost-Utility Analysis"

13. Social discount rate

BGVW Chapter 10 "The Social Discount Rate"

14. Existence value

BGVW Chapter 9 "Existence Value"

15. Distributional Weights

BGVW Ch.19 Distributionally weighted cost-benefit analysis

General references

Other textbooks on CBA

Belli, P., et al., *Economic analysis of investment operations: analytical tools and practical applications*, The World Bank, 2001.
(http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2006/01/27/000160016_20060127112546/Rendered/PDF/298210REPLACEMENT.pdf)

Broader approaches to policy analysis

Weimer, David L. and Aidan R. Vining. *Policy Analysis: Concepts and Practice*. 5th ed., Prentice Hall, Upper Saddle River, NJ, 2010. [WV]

Khandker, S.R., G. B. Koolwal, and H. A. Samad, *Handbook on Impact Evaluation: Quantitative Methods and Practices*, World Bank, 2009.

Theoretical Foundation of CBA

Transportation

Small, K. A., "Project Evaluation," in *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer*, Ed. by J. Gomez-Ibanez, W. B. Tye and C. Winston, The Brookings Institution, Washington D.C., 1999.

Quinet, E. and R. Vickerman, *Principles of Transportation Economics*, Edward Elgar, 2004. Chapter 7.

Textbooks in microeconomics

Varian, H. R., *Microeconomic Analysis*, Third Edition, W.W. Norton & Company, Inc., New York, 1992. Chapter 10 Consumers' Surplus, Chapter 12 Econometrics

Jehle, G.A. and P.J. Reny, *Advanced Microeconomic Theory*, Second Edition, Addison Welsley, Boston, 2001. Chapter 4 Partial Equilibrium

Theoretical foundation of CBA

Just, R.E., D. L. Hueth, and A. Schmitz, *The Welfare Economics of Public Policy*, Edward Elgar, Cheltenham, UK, 2004.

Boadway, R. and N. Bruce, *Welfare Economics*, Lightning Source Inc, 1985. A classic.

The role of CBA in policy making

Adler, M.D. and E.A. Posner, *Cost-Benefit Analysis - Legal, Economic, and Philosophical Perspectives*, University of Chicago Press, 2001.

Sunstein, C.R., *Risk and Reason - Safety, Law, and the Environment*, Cambridge University Press, 2002.

Guidelines and Manuals

US Department of Transportation, *Economic Analysis Primer*, Federal Highway Administration, Office of Asset Management, 2001. (<http://www.fhwa.dot.gov/infrastructure/asstmgt/primer.pdf>)

World Bank, *Transport Notes TRN-5 through TRN-26: Economic Evaluation Notes*, 2005.
(<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/0,,contentMDK:20464962~menuPK:1323557~pagePK:148956~piPK:216618~theSitePK:337116,00.html>)

UK: COBA11 (Economic Assessment of Road Schemes)

http://www.dft.gov.uk/stellent/groups/dft_control/documents/homepage/dft_home_index.htm

AASHTO (2003), *User Benefit Analysis for Highways Manual*, American Association of State Highway & Transportation Officials.

US OMB Guidelines

<http://www.whitehouse.gov/omb/inforeg/regpol.html>

Circular [A-094](#) Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

Circular A-4, "Regulatory Analysis" (September 17, 2003)

<http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>

Reports to the Congress

http://www.whitehouse.gov/omb/inforeg/regpol-reports_congress.html

UK Guidelines

[Green Book, Annex](#) (PDF)

http://www.hm-treasury.gov.uk/economic_data_and_tools/greenbook/data_greenbook_index.cfm

Regulatory Impact Assessment, Cabinet Office, UK

<http://www.cabinetoffice.gov.uk/regulation/ria/>

Profile of the instructor

KANEMOTO, Yoshitsugu

Yoshitsugu Kanemoto is the President of Organization for Cross-regional Coordination of Transmission Operators and Senior Professor of the National Graduate Institute of Policy Studies (GRIPS). Until March 2015, he was Professor and Vice President at GRIPS. Before joining the faculty of GRIPS in 2011, he was a Professor at the Graduate School of Public Policy at University of Tokyo, serving as a dean from 2008 to 2010. He is also a Fellow of the Regional Science Association International.

He is widely published in the fields of urban economics, contract theory and public economics in such journals as *Econometrica*, *Journal of Urban Economics*, *Journal of Labor Economics*, and *Review of Economic Studies*. He has served as a member of advisory boards of the Japanese government, including Council for Transportation Policy (Chair, Subcommittee on Civil Aviation from 2006 to 2007), Commission on Policy Evaluation and Evaluation of Independent Administrative Institutions (Chair, Subcommittee on Policy Evaluation from 2005 to 2011) and Advisory Committee for Natural Resources and Energy (Chair, Subcommittee on Electricity Industry from 2010 to 2013; Chair, Subcommittee on Electricity and Gas Industry from 2013 to present).

Kanemoto received his Bachelor of Economics degree from University of Tokyo in 1972 and Ph.D. from Cornell University in 1977. In the third year at Cornell University, he visited Department of Economics at the Massachusetts Institute of Technology, writing the dissertation under the guidance of Professor Robert M. Solow. After completing his PhD in regional science, he taught at University of British Columbia before returning back to Japan in 1980.