

University of Chile
Faculty of Business and Economics

Environmental Economics and Sustainable Development

Professor: Dr. María Teresa Ruiz-Tagle
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Classes: Monday and Wednesday 14:00-15:20hrs
Classroom: H-204
Teaching Assistants: TBA

PROGRAMME 2020

1. Course objectives

The main objective of this course is to analyse the economic and institutional causes of environmental problems. The course starts by introducing the field and its policy challenges, and by analysing the question of why do people pollute or overuse natural resources. The course then turns towards the design and assessment of environmental regulation and policy to address the previous matters. The analytical foundations of market failure and externalities, as well as the role of property rights, are at the core of the first part, together with the economic theory of environmental policy.

The second part of the course discusses concepts of sustainability as approached from economics, and it provides an overview of the means by which sustainability may be evaluated.

2. Structure

Part I: Environmental Economics

- 1) Economic Perspective to Environmental Policy
- 2) Fundamental Economic Concepts for Environmental Policy:
 - a. Market Failure
 - b. Property Rights
- 3) Elements of the Theory of Environmental Policy:
 - a. Pigouvian Approaches
 - b. Regulatory Measures
 - c. Property Rights-based Approaches
- 4) Environmental Policy under Asymmetric Information and Risk

Part II: Sustainable Development

- 5) Economic Sustainable Development Indicators:
 - a. Weak Sustainability
 - b. Strong Sustainability
- 6) Economic Valuation of the Environment

3. Bibliography

The recommended principal textbook for this course is:

Kolstad, C.D. Environmental Economics. Oxford University Press, 2000.

Or

Kolstad, C.D. Environmental Economics. 2nd Edition. Oxford University Press, 2010.

Part I: Environmental Economics

1) Economic Perspective to Environmental Policy

Kolstad (2000):

Chapter 1: What is Environmental Economics?

Chapter 2: Environmental Problems and Policy Solutions

Chapter 3: Social Choice: How much Environmental Protection?

Chapter 4: Efficiency and Markets

Chapter 5: Market Failure: Public Bads and Externalities

O Kolstad (2010):

Chapter 1: The Environment and Economics

Chapter 2: Normative and Positive Economic Analysis

Chapter 3: Social Choice: How much Environmental Protection?

Chapter 4: Efficiency and Markets

Chapter 5: Market Failure: Public Bads and Externalities

Pearce, David, W. (2002) "An Intellectual History of Environmental Economics",
Annual Review of Energy and the Environment, 27: 57-81

Hanley, Shogren and White, 2001, Introduction to Env. Economics, Chapter 2.

Perman et al. (2003) Natural Resource & Environmental Economics, Chapter 5.

2) Fundamental Economic Concepts for Environmental Policy

Kolstad, Chapter 5.

Ronald Coase (1960), “The Problem of Social Cost”, *Journal of Law and Economics*, 3, pp. 1-44.

Varian, H. *Intermediate Microeconomics: A Modern Approach*, Chapter 32- Externalities.

Pearce, D.W. (2004), “Environmental market creation: saviour or oversell?”, *Portuguese Economic Journal* 3 (2), pp.115-144.

3) Elements of the Theory of Environmental Policy

Kolstad (2000)

Chapter 6: Property Rights

Chapter 7: Pigouvian Fees

Chapter 8: Regulating Pollution

Chapter 9: Emission Fees and Marketable Permits

Or Kolstad (2010):

Chapter 11: Regulating Pollution

Chapter 12: Pigouvian Fees

Chapter 13: Property Rights

Alternative text book exposition chapters:

Tietenberg, T. *Environmental Economics and Policy*,
Colby College 5th Edition, Ch. 14.

Hanley et al (2007) *Environmental Economics in Theory and Practise*, Ch. 4
(Sections 4.6 and 4.7) and chapter 5.

Perman et al. text, chapter 7

Tietenberg, T. (2007): *Environmental Economics & Policy*, 5^a edición, Pearson Education, Inc. Chapter 4.

Turner, R.K., Pearce, D., y Bateman, I. (1993): Environmental Economics, The Johns Hopkins University Press, Baltimore. Chapters 10, 11, 12, 13 and 14.

Review article on Coase:

Medema and Zerbe (2000), “The Coase Theorem” in Bouckaert, Boudewijn and De Geest, Gerrit (eds.), Encyclopedia of Law and Economics, Volume I. The History and Methodology of Law and Economics, Cheltenham, Edward Elgar.

Pigouvian taxes and climate change:

Richard N. Cooper, The Case for Charges on Greenhouse Gas Emissions, Discussion Paper 08-10, Harvard University, Department of Economics.

Aldy, Joseph E., Eduardo Ley, Ian W.H. Parry (2008) A Tax-Based Approach to Slowing Global Climate Change, RFF Discussion Paper 08-26.

4) Environmental Policy under Asymmetric Information and Risk

Tietenberg, T. Environmental Economics and Policy, Chapter 19.

Kolstad (2000):

Chapter 10: Regulation with Unknown Control Costs

Chapter 12: Risk and Uncertainty

Or Kolstad (2010):

Chapter 15: Regulating Polluters with Unknown Costs

Chapter 18: Risk and Uncertainty

Part II: Sustainable Development

5) Economic Sustainable Development Indicators

Hanley, N. et al (1999), “Measuring Sustainability: A Time Series of Alternative Indicators for Scotland”, *Ecological Economics* 28, pp. 55-73.

Pearce, D. and Atkinson, G.D. (1993), Capital Theory and the Measurement of Sustainable Development: An Indicator of “Weak Sustainability”, *Ecological Economics* 8, pp. 103-108.

Ayres, R.U, Viewpoint: Weak versus Strong Sustainability (as the Lecturer for the link).

Dasgupta, P. (2002), “Is Contemporary Economic Development Sustainable?”, *Ambio* Vol. 31 No 4, June.

Dasgupta, P. (2008), “Nature in Economics”, *Environmental Resource Economics*, 39:1-7.

Solow, R. (1991), ‘Sustainability: An Economist’s Perspective’, in Stavins (ed.), *Economics of the Environment: selected readings, Fourth Edition*, Norton.

6) Economic Valuation of the Environment

Kelman, S., “Cost-Benefit Analysis: An Ethical Critique (with replies).

Torras, M. (2000), The Total Economic Value of Amazonian Deforestation 1978-1993”, *Ecological Economics* 33, pp. 283-297.

Perman, R., Y. Ma, J. McGilvray y M. Common (1999), *Natural Resource & Environmental Economics*, Pearson Education. Chapter 14.

Field, B. (2001): *Natural Resource Economics*, Waveland Press, Inc. Chapter 3.

Tietenberg, T. (2007): *Environmental Economics & Policy*, 5^a edition, Pearson Education, Inc. Chapter 2 & 3.

Turner, R.K., Pearce, D., y Bateman, I. (1993): *Environmental Economics*, The Johns Hopkins University Press, Baltimore. Chapters 7 & 8.

4. Evaluations and Exam

Each Part will be assessed with short tests, to evaluate reading material, and a comprehensive test during the first and final examination period.

-Reading Comprehension Tests: during class (30 minutes during class). Bibliography will be given to the students during the week before the test.

-Midterm Test: It will include all the subjects covered so far.

-Exam: It will include all the subjects covered during the Term. **Date: Wednesday 01st July 2020.**

Percentage of the evaluations:

-Reading Comprehension Tests: 35% (3 tests; we will consider the best 2, or the 2 submitted)

-Midterm Test: 30%

-Exam: 35%. **Date: Wednesday 01st July 2020.**