

Jan Evangelista Purkyně University in Ústí nad Labem

Faculty of Environment

Study material

VALUATION OF PUBLIC GOODS AND ECOSYSTEM SERVICES

doc. Ing. Lenka Slavíková, Ph.D.

Ing. Jan Macháč, Ph.D.



EUROPEAN UNION
European Structural and Investment Funds
Operational Programme Research,
Development and Education



MINISTRY OF EDUCATION,
YOUTH AND SPORTS

STUVIN - Education, research and innovation of science and technical doctoral programmes
on J. E. Purkyně University in Ústí n.L., reg. n. CZ.02.2.69/0.0/0.0/16_018/0002735

Objectives

To deepen students' knowledge in the area of applied economics for the area of valuation of public goods and ecosystem services. The ecosystem service concept will be used to demonstrate to students the need for a multidisciplinary approach to environmental protection and illustrate relationships between natural and social science outputs for formulating environmental policy objectives with an emphasis on landscape renewal. The subject will pay particular attention to more advanced valuation methods, their specific features, limitations and advantages in connection with the valuated object (different types of ecosystem services) and their subsequent application in practical environmental management and protection. The subject is a loose continuation and extension of the subject Applied Economics and Ecosystem Services.

Study topics

1. Specific features of environmental goods and services and associated challenges for decision-making on their protection and provision (public, collective and club goods, externalities)
2. Utility vs value vs price and importance of valuation of non-market goods for decision-making in environmental policy
3. Ecosystem service concept and its application in valuation of public (natural) goods and services
4. Selected methods of valuation of natural goods and services (e.g., choice experiment, hedonic pricing, travel cost method)
5. Temporal value of money and its significance for valuation (discounting, net present value vs annualized values)
6. Practical application of methods of valuation of public goods and environmental services (MCA, CBA, CEA, etc.)
7. Examples of valuation of various ecosystem service types (provisioning/regulating/cultural ecosystem services)

Study literature

Mandatory literature

SLAVÍKOVÁ, L., VEJCHODSKÁ, E., SLAVÍK, J., VOJÁČEK, O., LOUDA, J. 2012. *Ekonomie životního prostředí – teorie a politika*. Praha: Alfa nakladatelství, 287 p. ISBN 978-80-87197-45-5

BRAAT, L. C., DE GROOT, R. 2012. The ecosystem services agenda: bridging the worlds of natural science and economics, conservation and development, and public and private policy. *Ecosystem Services*, 1(1), 4-15. DOI:10.1016/j.ecoser.2012.07.011.

COASE R.H. 1960. The Problem of Social Cost. In: GOPALAKRISHNAN C. (eds) *Classic Papers in Natural Resource Economics*. Palgrave Macmillan, London. https://doi.org/10.1057/9780230523210_6

LINK, A. N. a SCOTT, J. T. 2011. *Public Goods, Public Gains: Calculating the Social Benefits of Public R&D*. Oxford: University Press. ISBN: 9780190453404.

MIKUŠOVÁ-MERIČKOVÁ, B., STEJSKAL, J. 2014. Hodnota statku kolektivní spotřeby. *Politická ekonomie* 2/2014: 216-231.

KÖLLE, F. 2015. Heterogeneity and cooperation: The role of capability and valuation on public goods provision. *Journal Of Economic Behavior And Organization*, 109120-134. doi:10.1016/j.jebo.2014.11.009

Recommended literature

MACHÁČ, J., TRANTINOVÁ, M., ZAŇKOVÁ, L. 2020. Externalities in agriculture: How to include their monetary value in decision-making?. *Int. J. Environ. Sci. Technol.* <https://doi.org/10.1007/s13762-020-02752-7>

MACHÁČ, J., DUBOVÁ, L., LOUDA, J., HEKRLE, M., ZAŇKOVÁ, L., BRABEC, J. 2019. Metodika pro ekonomické hodnocení zelené a modré infrastruktury v lidských sídlech. Ústí nad Labem: Institut pro ekonomickou a ekologickou politiku (IEEP).

BURENY, J. 2000. Is Valuing Nature Contributing to Policy Development? *Environmental Values*, No. 9, pp. 511–520

MILLENIUM ECOSYSTEM ASSESSMENT 2005. *Ecosystems and Human Well-being: Synthesis* <https://www.millenniumassessment.org/documents/document.356.aspx.pdf>

CONSERVATION STRATEGY FUND. 2015. Valuation of Ecosystem Services: Classes of Values: <https://www.youtube.com/watch?v=q8AZHtF2f50&t=42s> (Složky celkové ekonomické hodnoty na příkladu ekosystémových služeb)

SANTOS, J. L., MADUREIRA, L., FERREIRA, A. C., ESPINOSA, M., GOMEZ Y PALOMA, S. 2016. Building an empirically-based framework to value multiple public goods of agriculture at broad supranational scales. *Land Use Policy*, (Addressing the social landscape dimensions: the need for reconciling cross scale assessments for capturing Cultural Ecosystem Services (CES)), 56-70. doi:10.1016/j.landusepol.2015.12.001

LOUDA, J., VOJÁČEK, O., SLAVÍKOVÁ, L. 2021. Achieving Robust and Socially Acceptable Environmental Policy Recommendations: Lessons from Combining the Choice Experiment Method and Institutional Analysis Focused on Cultural Ecosystem Services. *Forests* 12(4): 484.