Competitiveness and Ecosystem Services: Linking Concepts and Perceptions

Summary

This study aims at uncovering the relationships between competitiveness and ecosystem services on both theoretical and empirical levels. Exploring the links between the two concepts can help in finding the possibilities of enriching both research fields, and also in integrating the ecosystem services concept into business thinking discourse dominated by competitiveness. In the empirical part we were interested, how do business actors think about ecosystem services, and whether they realize those services as potential competitive advantages at all. In the empirical study reported here the Delphi method was applied as data generating method. From the perceptions of stakeholders among other interesting topics we learned about the vagueness of competitiveness concept, its relative nature, and the risks these perceptions carry for ecosystems. We also met the surprisingly strong need for research in this topic, and for distributing this knowledge to education systems and markets.

Extended abstract

The concepts of *ecosystem services* and *competitiveness* are interconnected in many ways. The concept of ecosystem services was partly created to make the use and degradation of ecosystems in economic, including business processes more transparent while it is also acknowledged (or criticised) as fitting well with a market oriented perspective on the economy. Competitiveness is a concept dominating both economic policies of nations and company decision making. The present study aims at uncovering the relationships between these two concepts on both theoretical and empirical levels.
The more immediate objective of the present research is to understand the nature of the relationship between competitiveness and ecosystem services as different stakeholders conceptualise it. The study is also an attempt to contribute to the discussion in ecological economics that few studies have been initiating on applying the concept of ecosystem services to different industries and different business decision situations (see Koellner et al., 2010; Houdet et al., 2012; Sandhu et al., 2012; Havas et al., 2014).

The novelty of the focus of the research reported here is, on the one hand, the theoretical link between these two concepts which has not yet been widely examined and, on the other hand, exploring this link in the context of the agricultural sector in Hungary. One of the aims of the ecosystem services concept surely is to make the use of ecosystems more evident and tangible to agricultural businesses, farmers and other land users, thus make them aware and embed the ecosystem services perspective in their decision making. In our market societies, actors and discourses are still dominated by the issues of competitiveness, and this strong urge to become and remain more competitive can have various effects on our ecosystems. Exploring the links between the two concepts may assist us finding the possibilities of enriching both research fields and integrate the ecosystem services concept into business discourse.

While there is intense debate whether nations are in competition, there is a strong consensus that firms do indeed compete (Krugman, 1994, Porter, 1998, Chikán, 2008). Our focus is therefore on firm competitiveness, because this is the level, where decisions about business practices are made. The possible link between ecosystem services and national competitiveness will not be discussed here. Building on the resource based view of the firm, the initial idea of the research was that firms enjoying a better access to ecosystem services of a good quality may reap the benefits in competition. To put it simple in this theoretical perspective: the more/better services the business actor has access to, the better chances it has for being competitive. The present research is to explore how do business actors think about ecosystem services and whether they realise those services as potential competitive advantages in the agricultural sector.

The empirical study reported here applied the Delphi method as a data generating method and as a structured communication process to uncover the current perceptions with regard to the relationship between ecosystem services and competitiveness in the agricultural sector, as well as perceptions of future trends and possible solutions for managing potential trade-offs. In the present research, questions characteristic for Policy Delphi, Trend Model, and Structural Modeling Delphi were combined as our research interests covered conceptual questions.
The panel sample was initially of considerable size as it was designed rather as a stakeholder than expert-based survey. The broad scope of the stakeholder approach was justified as a sampling strategy since the "ecosystem services – competitiveness" relationship crosses disciplinary and professional boundaries. The explorative character of the present study also called for an inclusive sampling. Although the Delphi method is originally expert-based, the present study is not alone to apply it by a broad engagement of stakeholders (see Glass, 2012; Durham et al., 2014).
In the domain of ecosystem services, the Delphi method is usually used for mapping ecosystem services in specific locations, for valuing these services, developing valuation techniques and other tools, and for summarizing these information to case studies (e.g. Curtis, 2004; Cole et al., 2011; Grudens-Schuck and Larsen, 2012). The present study is focusing on the perceptions of stakeholders about two concepts and their interlinkages and their view of the future trends in this field. This way, the study is trying to bring new insights to ecological economics research on ecosystem services and policy making beyond nature conservation policy.

Selection of the panel was followed by the first questionnaire containing open questions only. In the second round scaling questions from answers to the first questionnaire were created, while in the third round reevaluation of previous answers and closing questions were included. In this process, lasting from April to the end of May 2014, forty-two respondents participated in the first, thirty-eight in the second, and twenty-five in the last round.
Some of the significant findings of the Delphi study included the following. First, competitiveness is of relative nature: in competition, an actor is being competitive compared to another one. This fact may have important consequences to ecosystem management. If competitiveness is what matters and not absolute well-being, then if competitors sacrifice the sustainability of their processes, it is tempting to follow this route for others in short-term. Second, the relationship between competitiveness and ecosystem services operates in both directions. Good ecosystem management can lead to long-term competitiveness, but current competitiveness defines boundaries for possible ecosystem management practices. Third, ecosystem services are only one from the many factors leading to competitiveness, and its weight varies depending on commodities and geographic locations.
Another striking issue that emerged from the Delphi study is the surprisingly strong wish for research and education about ecosystem services (this wish was even stronger than the need for a better financial support system). Respondents attached high importance to understanding the relationship analysed here and to disseminate this knowledge to citizens – both in schools from early childhood on to adult education for farmers and consumers.

Building upon the findings from the Delphi study a theoretical model of ecosystem services and competitiveness is drafted and future research directions are recommended.

References:

Chikán, A. (2008): National and firm competitiveness: a general research model. *Competitiveness Review: An International Business Journal*, 18(½): 20–28

Cole, Z. – Donohoe, H. – Coffin, A. – Swett, R. (2011) Social value and resource use in Sarasota Bay: Using e-Delphi to uncover spatial variables. Conference abstract.

Curtis, I.A. (2004): Valuing ecosystem goods and services: a new approach using a surrogate market and a combination of a multiple criteria analysis and a Delphi panel to assign weights to the attributes. *Ecological Economics*, 50: 163-194

Durham, E. – Baker, H. – Smith, M. – Moore, E. – Morgan, V. (2014): The BiodivERsA Stakeholder Engagement Handbook. BiodivERsA, Paris.

Glass, J. (2012): Delphi Method Tool Review. *Tools: Applications, Benefits and Linkages for Ecosystems (TABLES) project (2012-2014) minireview. http://neat.ecosystemsknowledge.net/pdfs/delphi_tool_review.pdf*

Grudens-Schuck, N. – Larsen, GL.D. (2012): Using Delphi to track shifts in meanings of scientific concepts in a long-term, expert-lay collaboration on sustainable agricultural research in the Midwest. In J. Goodwin (Ed.) Between scientists and citizens: Proceedings of a conference at Iowa State University, June 1-2., 2012. (pp 163-171)

Havas, J. – Matsui, T. – Shaw, R.N. – Machimura, T. (2014): Ecosystem services management tool development guidelines and framework revision for industries, industry policy makers and industry groups. *Ecosystem Services*, 7: 187-200

Houdet, J. – Trommetter, M. – Weber, J. (2012): Understanding changes in business strategies regarding biodiversity and ecosystem services. *Ecological Economics,* 73: 37–46

Koellner, T. – Sell, J. – Navarro, G. (2010): Why and how much are firms willing to invest in ecosystem services? A comparison of international and Costa Rican firms. *Ecological Economics*, 69: 2127-2139

Krugman, P. (1994): Competitiveness: A Dangerous Obsession. *Foreign Affairs*. Vol. 73. No. 2.

Porter, M.E. (1998): *On Competition*. Harvard Business School Press.

Sandhu, H.S. – Crossman, N.D. – Smith, F.P. (2012): Ecosystem services and Australian enterprises. *Ecological Economics*, 74: 19-26.