

**Essays on Environmental Management and Economics:
Public Health, Risk and Strategic Environmental Assessment**

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AKADEMISK AVHANDLING

som med vederbörligt tillstånd för vinnande av
filosofie doktorsexamen vid
Handelshögskolans fakultet, Göteborgs universitet,
framlägges till offentlig granskning
fredagen den 8 september, kl 10.15, i C-G-salen,
Institutionen för nationalekonomi med statistik, Vasagatan 1

Göteborg 2017

Abstract

Current large-scale environmental and climate change leads to the emergence of new and potentially dramatic risks for individuals and societies. The welfare costs associated with these risks largely depend on our ability to take them into account in decision-making and adapt to new circumstances. By analysing how people perceive and manage risks individually and collectively, this thesis aims to improve the understanding of how these environmentally related welfare costs may be reduced. Papers 1–3 focus on risk perceptions and decision-making at the individual level and concern how people perceive and manage risks in relation to the increasing incidence of Lyme borreliosis (LB) and tick-borne encephalitis (TBE). The empirical analysis is based on a survey with 1500 randomly selected respondents in Sweden. Papers 4 and 5 focus on risk assessment and decision-making at the collective level and concern how strategic environmental assessments are used to manage environmental risks in low- and middle-income countries. The empirical analysis is based on interviews with stakeholders involved in environmental assessments of policy reforms.

Paper 1: Learning to Live with Ticks? The Role of Exposure and Risk Perceptions in Protective Behaviour Against Tick-Borne Diseases

We analyse the role of risk perceptions and exposure for five protective measures against tick bites and the related diseases TBE and LB. We find a strong positive association between exposure and checking the skin for ticks, but no or weak associations between exposure and the use of protective clothing, tucking trousers into socks, the use of repellent or avoidance of tall grass in areas with ticks.

Paper 2: Valuation When Baselines Are Changing: Tick-borne Disease Risk and Recreational Choice

We estimate willingness to pay to avoid recreational areas with ticks, LB and TBE risk. In northern Sweden, where the presence of ticks is relatively new, the willingness to pay to avoid risk is significantly higher than in southern Sweden, where ticks are endemic. We also find that TBE-vaccinated respondents have a lower willingness to pay. These differences in willingness to pay for risk reduction between groups with different baseline risk should be taken into account when estimating welfare costs of the spread of disease vectors to new areas due to environmental and climate change.

Paper 3: The Willingness to Pay for Vaccination against Tick-Borne Encephalitis and Implications for Public Health Policy: Evidence from Sweden

We estimate the TBE-vaccination rate to 33% in TBE-risk areas and analyse the role of vaccine price, income and other factors influencing the demand for vaccination. We project that a subsidy making TBE vaccines free of charge could increase the vaccination rate in TBE risk areas to around 78%, with a larger effect on low-income households, whose current vaccination rate is only 15% in risk areas.

Paper 4: Greening Growth through Strategic Environmental Assessment of Sector Reforms

Based on an evaluation of a World Bank programme, we analyse whether strategic environmental assessments can contribute to greening sector reforms in low- and middle-income countries. We find that the institutional context plays a crucial role for the performance of environmental assessments and suggest that increased attention to institutional aspects could improve effectiveness.

Paper 5: Challenges to Institutionalising Strategic Environmental Assessment: the Case of Vietnam

We develop a conceptual framework for analysing constraints to the institutionalisation of strategic environmental assessments at four different institutional levels. The framework is tested in an empirical analysis of the environmental assessment system in Vietnam.

Key words: risk, risk perception, public health, strategic environmental assessment, institutions, governance, willingness to pay, protective behaviour, vector-borne diseases, ticks, TBE, tick-borne encephalitis, Lyme borreliosis, climate change

JEL Classification: D61, I12, I18, O19, O44, P47, Q51, Q54, Q57

ISBN: 978-91-88199-21-8 (tryckt), 978-91-88199-22-5 (PDF)

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