Workshop in Sustainability Economics:
Responsibility for the Sustainable Management of the Global Commons

July 09–12, 2018 | Genueser Schiff, near Kiel, Germany

Environmental, Resource and Ecological Economics Group, *Kiel University*, Germany
Chair of Environmental Economics and Resource Management, University of Freiburg, Germany
Junior Professorship in Environmental Economics, University of Hamburg

Background

The sustainable development goals have set sustainability high on the international political agenda, especially with regard to the sustainable use of global commons such as climate, biodiversity, or the ocean. Trade-offs between different goals of sustainability, and inherent uncertainty about the future, raise the fundamental question of 'What exactly is implied by, and required for, sustainability with regard to the global commons?'

The workshop explores the hypothesis that the philosophical concept of responsibility can fill a gap in our thinking of how to define, and operationalize, sustainability under uncertainty. The concept of responsibility relates an abstract and general norm (sustainability) to the specific facts of a concrete action context (managing the global commons), to guide action. It applies to actors at all levels of organization, including individuals, corporations, and governments. The concept is especially relevant in situations characterized by limited knowledge about the consequences of actions and asymmetry of agents (e.g. in terms of resource endowment or capacity to act), which typically prevail in decision contexts where sustainability is at issue.

The workshop will discuss in particular:

- principles and limits of responsibility,
- trade-offs between different normative objectives and values,
- societal decision-making under uncertainty in view of long-term ecological-economic system dynamics,
- implementation of responsibility for sustainability in the management of the global commons.

Format

The workshop brings together a focused group of approximately 15 participants in a stimulating environment for an intensive and fruitful discussion.

Aims and Scope

The workshop aims at (1) taking stock of the scholarly discussion of responsibility in view of sustainable management of global commons; (2) exploring the potential of conceptualizing sustainability under uncertainty as responsibility; (3) developing new approaches and concepts for future research on the sustainable management of the global commons.

Keynote Speakers

Geir Asheim	University of Oslo
Elena Cettolin	Tilburg University
Maddalena Ferranna	Princeton University
Charles Figuieres	Aix-Marseille Université
Marc Fleurbaey	Princeton University
James Konow	Kiel University and Loyola Marymount University
Paolo Piacquadio	University of Oslo
Andries Richter	Wageningen University
Alexander Vostroknutov	University of Trento

Venue

The workshop will take place at the Genueser Schiff, which is beautifully situated in the dunes of the Baltic Sea, roughly two hours from Hamburg. The thatched country house and idyllic chimney house are situated at the coast in a pristine nature reserve. The quietness and vastness of the dunes and Baltic Sea provide a peaceful and recreational environment, which should build the basis to stimulate fruitful discussions and productive research. Almost all rooms have a panoramic sea view. The restaurant serves classic as well as modern dishes prepared with fresh locally and organically grown products.

http://www.genueser-schiff.de/Willkommen/-/-/en

Program

Monday, July 09, 2018

	arrival and check-in
6:00 pm	welcome reception
7:00 pm	dinner

Tuesday, July 10, 2018

full day	scientific program,

Wednesday, July 11, 2018

full day	scientific program, hike along the coast

Thursday, July 12, 2018

after breakfast	check-out

Hosts

The workshop is organized by the *Environmental, Resource and Ecological Economics Group* at *Kiel University* (Prof. Dr. Martin F. Quaas), the *Junior Professorship in Environmental Economics* at *University of Hamburg* (Prof. Dr. Moritz A. Drupp) and the *Chair of Environmental Economics and Resource Management* at *University of Freiburg* (Prof. Dr. Stefan Baumgärtner).

Previous installments of the workshop series on *Sustainability Economics* can be viewed at:

https://www.ere.uni-freiburg.de/workshops-en

Contact

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Travel

By plane:

The closest international airport is Hamburg (HAM). There will be a shuttle transfer from/to the airport for workshop participants.

By train:

The closest stations are Oldenburg(Holst) or Plön.

Detailed travel information will be provided later.

Acknowledgement

The workshop is funded through a grant from the German Federal Ministry of Education and Research as part of its program *Sustainable Economy*.

Federal Ministry of Education and Research

Christian-Albrechts-Universität zu Kiel

Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

UNI FREIBURG

Workshop program

Responsibility for the Sustainable Management of the Global Commons

July 09–12, 2018 | Genueser Schiff, Germany

Monday, 09 July 2018

from 15:00	Arrival and registration
18:00	Welcome reception and round of introductions (lobby or outside)
19:00	Dinner (Hotel restaurant)

Tuesday, 10 July 2018

Chair: **Christian Möllmann** (University of Hamburg) Seminar room

09:00–9:15	**Martin F. Quaas** (Kiel University) *Introduction*
09:15–10:15	**Stefan Baumgärtner** (University of Freiburg) *The concept of responsibility: Norms, actions and their consequences*
10:15–10:45	Coffee break
10:45–11:45	**Marc Fleurbaey** (Princeton University) *Universal social orderings and risk*
11:45–12:45	**Paolo G. Piacquadio** (University of Oslo) *Social welfare with other-regarding preferences*
12:45–14:30	Lunch break

Chair: **Stephan Wolf** (University of Freiburg) Seminar room

14:30–15:30	**Andries Richter** (Wageningen University) *The invisible hand of social norms*
15:30–16:00	Coffee break
16:00–17:00	**Elena Cettolin** (Tilburg University) *Justice under Uncertainty*

17:00–18:00	**Alexander Vostroknutov** (University of Trento) *The Impact of the Level of Responsibility on Choices under Risk: the Role of Blame*
19:00	Dinner

Wednesday, 11 July 2018

Chair: **Till Requate** (Kiel University) Seminar room

09:00–10:00	**Martin F. Quaas** (Kiel University) *Responsibility for sustainability? The case of Climate Engineering*
10:00–11:00	**Maddalena Ferranna** (Princeton University) *Intergenerational equity, risk aversion and the social cost of carbon*
11:00–11:30	Coffee break and Group Photo
11:30–12:30	**Moritz A. Drupp** (University of Hamburg) *Truth-telling of fishermen and scientists*
12:30–15:00	Lunch break and hike

Chair: **Linus Mattauch** (University of Oxford) Seminar room

15:00–16:00	**Geir B. Asheim** (University of Oslo) *Coping with climate change when dynasties are responsible for their own descendants*
16:00–16:30	Coffee Break
16:30–17:30	**Charles Figuieres** (Aix-Marseille Université) *Grandfathering by environmental merit*
17:30–18:30	**James Konow** (Kiel University and Loyola Marymount University) *The Just World at Work: Theory and a Natural Field Experiment*
18:30–18:45	Closing of workshop
19:00	Dinner

Thursday, 12 July 2018

before 11:00	Check-out

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Book of Abstracts

Acknowledgement
The workshop is funded through a grant from the German Federal Ministry of Education and Research as part of its program *Sustainable Economy*.

Federal Ministry of Education and Research

Contents

Presentations

Coping with climate change when dynasties are responsible for their own descendants

Geir B. Asheim
Department of Economics, University of Oslo, Norway

Abstract. In a hypothetical world with symmetric and parallel dynasties (regions, nations, smaller entities), it is sufficient that current representatives of the dynasties are responsible for their own descendants. Climate change---where the emissions by one dynasty negatively affect the current representatives of other dynasties though their altruism for their descendants---changes this by leading to technological externalities between dynasties. Attempting to correct this by a promoting a general concern for sustainability---modeled as altruism that extends also to the descendants in other dynasties---entails that intergenerational transfers within one dynasty positively affect the current representatives of other dynasties, leading to preference externalities between dynasties. This presentation discusses climate bargains designed to internalize such externalities between the current representatives of dynasties.

Available background papers:

Asheim G.B., & Nesje, F. (2016). Destructive Intergenerational Altruism. *Journal of the Association of Environmental and Resource Economists* 3: 957–984. [file: Asheim_Backgroundpaper.pdf]

Contact:

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The concept of responsibility: Norms, actions and their consequences

Stefan Baumgärtner
, Department of Environment and Natural Resources, University of Freiburg, Germany

Abstract. We clarify the concept of responsibility – its conditions, meanings, syntax, forms, and ethical status. Our analysis of responsibility proceeds on the secondary level of ethics, i.e. it is focused on conceptual structure and insofar independent of exactly what primary ethical position one adopts (e.g. Kantian, utilitarian, Rawlsian, …). The concept of responsibility, in this understanding, is an ethically neutral concept: it does not by itself constitute any ethical claim. It is, however, an important vehicle for communicating and implementing given abstract norms into practical action. For, the concept of responsibility points to a wide range of practical questions of norm-oriented action, with particular attention to the actions' consequences, and provides a heuristic to address them. For example: What does it mean to be responsible for the consequences of one's actions? Who has to bear what kind of responsibility? What are the prerequisites and the limits of bearing responsibility? Thereby, the concept of responsibility establishes an architecture of argument to assess and guide actions.

Available background papers:

Baumgärtner, S., Petersen, T. & Schiller, J. (2018). The concept of responsibility: Norms, actions and their consequences. *SSRN Working Paper* (April 4, 2018), http://ssrn.com/abstract=3157667 [file: Baumgaertner_Backgroundpaper.pdf]

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Justice under uncertainty

Elena Cettolin
Department of Economics, Tilburg University, The Netherlands

Abstract. Uncertain outcomes are an inevitable feature of policy choices and their public support often depends on their perceived justice. We theoretically and experimentally explore just allocations when recipients are exposed to certainty and uncertainty. In the experiment, uninvolved participants unequivocally choose to allocate resources equally between recipients, when there is certainty. In stark contrast, with uncertainty just allocations are widely dispersed and recipients exposed to higher degrees of uncertainty are allocated less. The observed allocations can be well organized by four different theoretical views of justice, indicating that uninvolved participants differ fundamentally in their views on justice under uncertainty.

Available background papers:

Cettolin, E., & Riedl, A. (2016). Justice under uncertainty. *Management Science*, 63(11), 3739-3759. [file: Cettolin_Backgroundpaper.pdf]

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Truth-telling of Fishermen and Scientists. Experimental Evidence

Moritz A. Drupp
Department of Economics, University of Hamburg, Germany

Abstract. This talk combines results from two artefactual field experiments on ethical behaviour of fishermen and scientists that were conducted as part of the research project in the program *Sustainable Economy*:

Truth-Telling and the Regulator. Experimental Evidence from Commercial Fishermen
Understanding what determines the truth-telling of economic agents towards their regulator is of major economic importance from banking to the management of common-pool resources such as European fisheries. By enacting a discard-ban on unwanted fish-catches without increasing monitoring activities, the European Union (EU) depends on fishermen's truth-telling. Using a coin-tossing task in an artefactual mail field experiment, we test whether truth-telling in a baseline setting differs from behavior in two treatments that exploit fishermen's widespread ill-regard of their regulator, the EU. Fishermen misreport coin tosses to their advantage more strongly in a treatment where they are faced with the EU flag. Yet, some fishermen seem to be more honest in an additional treatment where the source of EU research funding is revealed. Our findings imply that lying is more extensive towards an ill-regarded regulator, and that regulators may affect truth-telling behavior by the nature and communication of their policy.

Do Scientists Tell the Truth? Experimental Evidence
Academic honesty is crucial for the advancement of and trust in science. However, survey evidence suggests that a considerable number of scientists engage in questionable research practices. Motivated by identity economics theory, we provide evidence on incentivized truth-telling behavior of scientists by means of an online field experiment. We conduct an established coin-tossing task with 437 members of an international scientific organization, in which participants face a trade-off between monetary incentives of lying and honest reporting. In particular, we compare reporting behavior across two treatments, either making the private or professional identity more salient. We find that fewer scientists over-report

winning tail tosses in the professional identity treatment. Furthermore, we find that a number of measures of scientific output are associated with truth-telling. Reporting behavior in the professional identity treatment comes very close to the truthful distribution but we still find that scientists over-report tail tosses. Thus, while honesty norms associated with the scientific identity thus seem to increase truth-telling, academia still has to further foster norms of honest behavior and enforce measures for preventing scientific misbehavior.

Available background papers:

Drupp, M.A., Khadjavi, M. & M.F. Quaas (2018), Truth-Telling and the Regulator. Evidence from a Field Experiment with Commercial Fishermen. Working paper. [file: Drupp_Backgroundpaper_Fishermen.pdf]

Drupp, M.A., Khadjavi, M. and R. Voss (2018). Do Scientists Tell the Truth? Evidence from a Field Experiment. Working paper. [file: Drupp_Backgroundpaper_Scientists.pdf]

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Intergenerational equity, risk aversion and the social cost of carbon

Maddalena Ferranna
Princeton University, USA

Abstract. The paper shows how preferences for inter-personal correlation in the spirit of Kihlstrom and Mirman (1974) and Fleurbaey (2010) provide a tractable framework to study the economics of climate change. This welfare criterion: i) disentangles attitudes to risk and attitudes to consumption smoothing across time; ii) captures concerns for aggregate risk and for the inequality in realized outcomes; iii) respects the expected utility criterion, and, as a consequence, satisfies basic principles of social rationality; iv) is well ordered in terms of increase in risk aversion. The paper determines the implications of this welfare framework for the computation of the social cost of carbon, and discusses the type of information needed to implement it. It is shown that preferences for inter-personal correlation induce an implicit shift in beliefs. In particular, if the decision maker is more risk averse than inequality averse, she acts in a more pessimistic way than the utilitarian agent. Under fairly general assumptions about the consumption growth process and the correlation between the risk on marginal climate damages and the macroeconomic risk, more pessimism raises the social cost of carbon. A numerical application substantiates the theoretical results.

Available background papers:

Ferranna, M. (2018). Intergenerational equity, risk aversion and the social cost of carbon. Working paper. [file: Ferranna_Backgroundpaper.pdf]

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Grandfathering by environmental merit

Charles Figuieres
Aix-Marseille Université, France

Abstract. Environmental markets are increasingly designed to overcome the tragedy of the commons and to encourage more efficient natural resource use. Under a broad set of assumptions, it is now well-known that the efficient use of these resources depends only on the cap that is set, and not on the allocation/distribution of rights. In practice, rights have been allocated in a variety of ways including by auction, by historical use (colloquially called "granfathering"), to communities, in equal shares, among other formulae. In this work, we focus on fisheries and we address the question from the point of view of distributive justice and the ethics of responsiblity. We seek fo requality of opportunity among fishermen, and we analyze the tension between this goal and the requirement of individual rationality.

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Universal social orderings and risk

Marc Fleurbaey
Princeton University, USA

Abstract. We study how to define a social objectve embodying fairness principles and able to tackle risk, including risk about the existence of future members of the populations. This type of social objective is needed for the evaluation of long-term policies as in the domain of climate mitigation, for instance. Our starting point is the difficulty to reconciliate basic interpersonal comparison principles coming from the risk-free theory with the presence of risk and heterogeneous risk attitudes. We identify three families of non-utilitarian approaches that deal with this conflict in different ways.

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The Just World at Work: Theory and a Natural Field Experiment

James Konow
Kiel University, Germany, and Loyola Marymount University, USA

Abstract. Two rules have figured prominently in both the descriptive and prescriptive literatures on distributive justice, viz., *equality* and *equity*. The former refers to equal shares, whereas the latter refers to allocations that are in proportion to some variable, such as hours worked or effort. We consider the possibility that worker experience with equal or equitable compensation schemes affects their beliefs about which rule applies. We formulate a simple model of fairness preferences that incorporates the claim of the Just World Hypothesis that people are motivated to rationalize their actual rewards, that is, to adjust their beliefs about what is fair in the direction of their actual allocations. A theory is formulated in conjunction with a natural field experiment. Specifically, Ethiopian workers, who do not know they are participating in an experiment, complete a piecemeal task that contributes to a reforestation project over a two week period. The theory predicts that high and low productivity workers, whose beliefs are affected by their actual pay, will respond in their work effort to changes in compensation schemes depending on whether they have initially been paid equally or equitably. The results of the experiment on worker effort are consistent with the changes predicted by the theory.

Available background papers:

Konow, J., Johansson-Stenman, O., Martinsson, P. & Medhin, H. (2018). The Just World at Work: Theory and a Natural Field Experiment. Working paper.

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Social welfare with other-regarding preferences

Paolo G. Piacquadio
Department of Economics and ESOP, University of Oslo, Norway

Abstract. People care about each other: in economic jargon, they have other-regarding preferences. This paper discusses how to aggregate such preferences in a measure of social welfare. The key challenges are: (i) to disentangle individuals' partiality towards particular others from their aversion to inequalities (here named “revealed solidarity”); and (ii) to combine unbiased social preferences with the respect for individuals’ revealed solidarity. The main result is the axiomatic characterization of a prioritarian welfare criterion, where social aversion to inequality reflects individuals’ revealed solidarity.

Available background papers:

Piacquadio, P.G. (2014), Fair Intergenerational Utilitarianism: Risk, its Resolution over Time, and Discounting. Working paper.

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Responsibility for sustainability? The case of Climate Engineering

Martin F. Quaas
Department of Economics, Christian-Albrechts-University of Kiel, Germany

Abstract. The ambition of the Paris agreement to limit global warming to less than 2 degrees still is in sharp contrast to the actual development of greenhouse gas emissions. If the ambition of effective mitigation fails, geo-engineering -- in particular Solar Radiation Management (SRM) -- could be used as a means of last resort against dangerous climate change. I will review the state of scientific knowledge on some selected SRM approaches, and point to the issues relevant in the context of responsibility for sustainability. Issues related to the dynamic properties of SRM vis-a-vis mitigation of greenhouse gas emissions will be explored in the framework of intergenerational decision-making, highlighting the important differences between these two approaches of mitigating climate change or reducing its adverse consequences.

Available background papers:

Quaas, J., Quaas, M. F., Boucher, O., & Rickels, W. (2016). Regional climate engineering by radiation management: Prerequisites and prospects. *Earth's Future,* 4(12), 618-625. [file: Quaas_Backgroundpaper_2016.pdf]

Quaas, M. F., Quaas, J., Rickels, W., & Boucher, O. (2017). Are there reasons against open-ended research into solar radiation management? A model of intergenerational decision-making under uncertainty. Journal of Environmental Economics and Management, 84, 1-17. [file: Quaas_Backgroundpaper_2017.pdf]

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The invisible hand of social norms

Andries Richter
Wageningen University, The Netherlands

Abstract. Peer sanctions are powerful mechanisms for enforcing social norms of cooperation that can mitigate social dilemmas, but they are often inefficiently costly, misdirected, and may be used by non-cooperators to undermine any cooperative attempts. For most real world problems, the socially optimal solution – such as number of fish harvested or work hours contributed to a common project – is not known by users, further questioning whether social norms alone can lead to an efficient outcome. Here, we develop a model of a community harvesting a joint resource whose members do not know much extraction is socially optimal, nor know how much peer pressure is needed to correct behavior of peers. The model formalizes the idea that moral preferences change endogenously, but at a much slower rate than economic decisions. Surprisingly, we find that social dilemmas can be overcome efficiently if own behavior is used as the moral demarcation line between good and bad behavior, with peers gauging penalties and rewards accordingly. Sanctioning based on this simplistic moral code engenders cooperative behavior even when the socially optimal exploitation level is unknown, sanctions are weak or costly, or individuals make mistakes. Unexpectedly, we find that sanctions are less efficient when not own, but average group behavior is used as the moral yardstick. Thus, our findings may explain why social norms may evolve towards what is best for the group as, even if such social optimum is unknown.

Available background papers:

Richter, A., Brännström, A. & U. Dieckmann (2018). The invisible hand of social norms. Working paper. [file: Richter_Backgroundpaper.pdf]

Contact:

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The Impact of the Level of Responsibility on Choices under Risk: The Role of Blame

Alexander Vostroknutov
University of Trento, Italy

Abstract. We use a within-subjects design to study how responsibility for the payoffs of different number of others influences the choices under risk, and how choosing together with another person changes these decisions. After controlling for the regression to the mean, we do not find an effect of responsibility for one other person on risk taking as compared to choosing just for oneself. We, however, do find that the number of others influenced by the choice matters: when it increases from one to three, risk averse subjects choose riskier options and risk loving subjects choose more cautiously, which pushes the choices towards the modal risk preferences in the population. Mutual responsibility makes choices for others shift even more in the same direction. The observed behavior is in accordance with the blame avoidance hypothesis: decision makers with responsibility try to reduce the amount of blame for their choices, which is minimal when the choices for others are consistent with what they would themselves have chosen in the place of a decision maker.

Available background papers:

Eijkelenboomy, G.G., Rohde, I. & Vostroknutov, A. (2018). The Impact of the Level of Responsibility on Choices under Risk: The Role of Blame. Working Paper. [file: Vostroknutov_Backgroundpaper.pdf]

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