

Editorial: Economics of the Environment in the Shadow of Coronavirus¹

Ian J. Bateman^{2,3}, Astrid Dannenberg⁴, Robert Elliott⁵, Michael Finus⁶, Phoebe Koundouri⁷,
Katrin Millock⁸, Alistair Munro⁹, Elizabeth J Z Robinson¹⁰, Daniel Rondeau¹¹, Ingmar
Schumacher¹², Eric Strobl¹³, Anastasios Xepapadeas¹⁴

The Coronavirus pandemic is imposing tremendous health impacts around the world. At the time of writing (20th July 2020) there have been nearly 15 million cases worldwide and well over half a million deaths from the Covid-19 disease caused by the virus. The fact that this statement needs to be effectively date-stamped reflects the rapid development of this pernicious virus. While several vaccines are under rapid development, so far it is unclear if any will be truly effective given the ability of the virus to mutate; already the vast majority of Covid-19 cases are caused by a virus which is no longer identical to that which appeared in Wuhan in late 2019.

Alongside these truly horrific health consequences, coronavirus and those policy measures put in place to contain its spread, are wreaking havoc upon the global economy, causing a worldwide recession the nature and extent of which has caused analysts to reach for

¹ The Chief Editor is very grateful to Katrin Millock, Elizabeth Robinson, Daniel Rondeau and Ingmar Schumacher for preparing the majority of this Editorial.

² Land, Environment, Economics and Policy (LEEP) Institute, Department of Economics, University of Exeter Business School, UK, and School of Agricultural and Resource Economics, University of Western Australia, Perth, Australia.

³ Corresponding author: i.bateman@exeter.ac.uk

⁴ Department of Environmental and Behavioral Economics, University of Kassel, Germany.

⁵ Department of Economics, University of Birmingham, UK.

⁶ Department of Economics, University of Graz, Austria.

⁷ School of Economics and ReSEES Laboratory, Athens University of Economics and Business, Athens, Greece.

⁸ Paris School of Economics, Paris, France.

⁹ The National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan.

¹⁰ School of Agriculture, Policy and Development, University of Reading, UK.

¹¹ Department of Economics, University of Victoria, Victoria, British Columbia, Canada.

¹² IPAG Business School, Paris, France.

¹³ Department of Economics, University of Bern, Switzerland.

¹⁴ School of Economic Sciences, Athens University of Economics and Business, Athens, Greece, and Department of Economics, University of Bologna, Bologna, Italy.

comparators stretching back to WWII and the Great Depression. The policy response of closing borders and shutting down a substantial fraction of non-essential economic activity in hopes of controlling the outbreak has been surprisingly swift and increasingly global. This has imposed substantial disruptions and huge costs to the world's economy. As the number of infections worldwide is still growing, it is too early to know how long the combined health and economic crisis will last and what its long-term consequences might be.

This combined health and economic shock has also raised major questions regarding both short and long term consequences for the environment and natural resources; questions which thrust environmental and resource economics into the forefront of a debate even wider than has traditionally been the case. Questions abound at the microeconomic level: Who is most affected by the disease? Is the incidence or severity of the illness related to environmental conditions such as background levels of air pollution? What is the relationship between the pandemic and the demand for and supply of wild meat from which coronavirus is suspected of originating? How is the pandemic affecting the rate of deforestation in the Amazon basin and will this change be long-lived? Questions also abound at the macroeconomic and policy level: How deep will the recession be? How long will the health crisis and economic support program last? How can we help those most affected? What are the implications for sustainable development? Will this crisis foster or hinder a green transition? Can environmental reforms be built into anti-recession measures to correct for local and global externalities? Why have most decision-makers had the resolve to tackle the pandemic but not climate change?

This Special Issue of *Environmental and Resource Economics* was conceived as an initial step towards answering these and many other related questions. As we observed some of the earlier short-term effects of the pandemic in early 2020 we saw both a need to spur the academic community into producing timely research-based results, and the rapid rise of forward-looking analyses of policy challenges and opportunities. This Special Issue is the product of this collective effort. It is made up of an outstanding collection of peer-reviewed articles spanning most areas of environmental and resource economics and policy. It includes theoretical models, timely econometric analysis, and provoking policy ideas.

Readers will find three types of articles within the Special Issue: (i) traditional, full-length research papers; (ii) concise sectoral analyses of the short term and potential long terms

impacts of the pandemic; and (iii) a novel, multi-authored, perspective article assembled from short individual submissions¹⁵. This latter, innovative feature of the Special Issue presents a curated series of brief policy-relevant discussions of the impacts of COVID-19 on different subfields of interest to environmental and resource economists. The resulting paper is non-technical and intended to be readily accessible to policy makers and the general public alike.

As a whole, this special issue of the journal constitutes an initial record of observations on the breadth and significance of the early impacts of the pandemic. It shows the state of our collective academic and policy thoughts, and expresses the varied research foci of our profession at this moment in time. Furthermore, it identifies the many challenges and opportunities that the pandemic brings both to policy making and research, and offers a diversity of research ideas and wealth of policy advice. The special issue demonstrates how environmental and resource economists across the globe are contributing to the urgent debate over the implications of Covid-19, embracing health, the environment, and critically the directions that should be considered in responding to this truly global challenge.

What have we learned from editing this special issue?

There is a broadly shared sense among us and expressed by several authors featured in this volume, that the pandemic is both a deeply disturbing event but also an opportunity for learning and a call for action. The articles recognise the tragedy of well over half a million deaths worldwide, the millions more suffering from this illness, and the very many more who have been thrown into poverty, desperation and food insecurity. They document how entire communities have suddenly lost their primary sources of income, and how border closures have minimized migration, leading to a rapid increase in the number of people who must rely on nature for their survival. At the same time, the global shutdown has provided a real-life natural experiment that can be used by researchers to understand environmental-economic relations in a manner that would never normally be possible. For example, issues such as the links between economic production, air pollution and CO₂ emissions, or the extent to which economic shocks lead to changes in behaviour and attitudes towards environmental policies, can now be assessed in this unfortunate but truly unique global lab.

¹⁵ The Chief Editor is very grateful to Ingmar Schumacher for curating the “Perspectives” article within the Special Issue.

Several articles in this Special Issue study the linkages between the trade in wild animals, the emergence of zoonotic diseases, and how the macro-economic impacts of the pandemic have forced many people in precarious economic conditions to rely more heavily on wild meats for sustenance. The fact that close interaction between humans and wildlife are the very source of the global crisis underscores the importance of future research to develop a better understanding of the complex links between livelihood strategies, resource dependence, and zoonotic diseases. More rapid progress can be expected on this front if environmental and resource economists work across disciplines with conservation scientists and epidemiologists. That the impacts of the epidemic on environmental quality and natural resource management may be very different for low and middle income countries than for richer ones should not be surprising. However, it is a reminder that both research and policy making need to pay greater attention to distributional impacts across the globe.

Many of the papers in the special issue draw parallels between the pandemic and the 2008-09 financial crisis. However, the scope and depth of impacts caused by the pandemic also makes it a far more momentous event. With massive unemployment, growing government debt, increasing numbers of firm defaults and breakdowns in international cooperation, disruption of internal and international trade networks, and disruption to some food networks, the pandemic shares many characteristics not only with past economic crises but also with armed conflicts, political shocks and natural disasters. It is proving to be a test of political doctrines and of the ability of nations to coordinate and cooperate. This could turn out to be especially important for the economic stimuli packages that are intended to restart economies. To minimize a likely rebound effect, policies need to be much better coordinated. However, as some of the papers argue, coordination or cooperation remains difficult. We thus wonder whether a crisis such as this pandemic will make countries shift back further into protectionism and individualism, or whether world leaders can use this moment to focus on shared interests. This question also has important repercussions for the ability of countries to cooperate on issues such as climate change or international pollution spillovers. Will this pandemic help spur a recognition that global crises require global solutions?

The fact that most countries and international organizations have demonstrated an ability to mobilize and a willingness to put in place drastic measures to curb the spread of the virus, accompanied by extraordinary levels of economic support to affected individuals, must leave

us with some optimism. We concur with many authors featured herein that the need for continued economic stimulus presents an opportunity to usher in the green transition necessary to address the longer term environmental challenges, such as climate change, that threaten the viability of all national economies and people globally. The scale of current and foreseeable fiscal interventions is such that if fiscal policies were strategically deployed to incentivize more efficient greener economic activities, it could mark a significant shift towards addressing the threats posed by climate change, ocean/fisheries collapse, as well as habitat and species losses.

Many parallels have been drawn between this pandemic and climate change. Both involve externalities, both induce substantial costs to society, and both require us to rethink our approach to trade, growth and welfare. There are, however, important differences between the two. No drastic measures have been taken to combat rising temperatures. Instead, despite continued warnings, actions remain generally delayed. Hence, as economists we are keen to understand the differences in the incentive structure between these two problems and to learn how the climate change debate can be reframed in order better communicate the risks and prompt action.

The number of calls across academia and society for rescue packages to be tied to a green transition have been astonishing and these are reflected within this Special Issue. However, the ongoing economic recession following the health epidemic has changed the scene for research on economic policy instruments. In particular, if carbon taxes are increasingly seen by the public at large as simply a means to decrease wage income and put work opportunities at risk, it will become even more important than before to explore and advance our knowledge of the actual implications of carbon pricing on labour markets. In order to obtain stronger social support of carbon pricing and policies for environmental transition, a stronger social contract with a higher degree of citizen involvement is both necessary for the acceptance of such changes and essential for strengthening the social norms required for decentralized internalization of externalities. Again, the question of international cooperation looms heavily over whether or not this crisis will create, or reduce, incentives for international carbon policy. Related questions that arise are: Do the green deal measures have to be redesigned? How do we avoid an economic recovery that simply leads us back to previous emissions trajectory? How should the Market Stability Reserve be designed, or redesigned, in order to deal with similar problems in the future?

For environmental and resource economics as a discipline, such uncertain times can be both unsettling and tremendously stimulating. In the pages that follow, a rich collection of research ideas and agenda waits to be discovered. It is our hope that as a reader, you will find interesting early results, be motivated to develop new research questions, and take note of the policy challenges and opportunities that lie ahead.

The Guest Editors

Environmental and Resource Economics

The Official Journal of the European Association of Environmental and Resource Economists

A word from the editor

This Special Issue is unusual in many ways. It introduces new formats to the journal, has allowed us to spearhead new approaches to publishing which reduce processing speed, and of course it has been produced in the most unusual conditions with the vast majority of authors, reviewers, editors and all those concerned in the processing of papers and production of the journal confined to their homes. Most unusually it has been produced at a time of great personal stress to many of those concerned and at a speed which is uncharacteristically rapid for the wider field. All of this has put a lot of pressure on a lot of people and I wanted to take this opportunity to thank everyone concerned for their superb work in producing this wonderful collection of papers.

Thank You!

Ian Bateman

Chief Editor, ERE