ISABEL HOVDAHL

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Contact Information

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Academic positions

2020-present: Assistant Professor, Norwegian School of Economics

Education

Ph.D., Economics, Norwegian University of Science and Technology (NTNU), 2016-2020.

M.Sc., Economics, NTNU, 2016.

B.Sc., Social anthropology, NTNU, 2014.

Affiliations

Visiting PhD student, BI Norwegian Business School Centre for Applied Macroeconomics and Commodity Prices (BI CAMP), 2016-2020.

Visiting PhD student, Norwegian Centre for Energy Transition Strategies (NTRANS), 2019-2020.

Visiting PhD student, University of Chicago Harris School of Public Policy, 2017.

Research Fields

Primary fields: Environmental economics, innovation, climate change.
Secondary fields: Econometric modeling, machine learning.

Teaching Experience

2019, '18	Statistics for Economists, Norwegian University of Science and Technology, Lecturer
2019	International Trade, Norwegian University of Science and Technology, Lecturer
2018	Bachelor's Thesis in Economics, Norwegian University of Science and Technology, Teaching Assistant

Fellowships and grants

IAERE Young Environmental Economist Award, 2020

NTNU Teaching fellowship, 2019-2020

NTNU Graduate fellowship, 2016-2019

Research grant, BI CAMP, 2017

Master Thesis collaboration, Norges Bank, 2016

Conference and seminar presentations
* cancelled due to covid-19

2020	8th Italian Association of Environmental and Resource Economists Annual Conference (Brescia, Italy), Scottish Economic Society Annual Conference* (Perth, Scotland), NHH Norwegian School of Economics (Bergen, Norway), Association of Environmental and Resource Economics Annual Summer Conference* (Miami, US), 35th Annual Congress of the European Economic Association (Rotterdam, the Netherlands)
2019	University of Chicago EEE PhD Student Workshop (Chicago, US), 24th Annual Conference of European Association of Environmental and Resource Economists (Manchester, UK), 4th Conference on "Econometric Models of Climate Change" (Milan, Italy), University of Reading (Reading, UK), BI Norwegian Business School (Oslo, Norway)

Working Papers

"Patent Protection and the Transition to Clean Technology"

Abstract: This paper investigates how patent policy can induce the transition to clean technology. It is well established that environmental policy should not only price emissions, but also induce innovation in emission-free technology. Although the combination of a price on emissions and a government subsidy to clean research has been shown to be first-best, we argue that this policy is unattainable. First, the magnitude of the necessary carbon tax seems unfeasible, and second, there can be large efficiency losses associated with public research funding. Using an endogenous growth model with directed technical change, we show how reducing patent protection on dirty technology can improve second-best outcomes. In numerical simulations, we find that combining environmental policy with patent policy can recover a substantial amount of the welfare loss in second-best, and at a lower carbon tax and clean innovation subsidy than in first-best.

"Deadly Variation: The Effect of Temperature Variability on Mortality"
CAMP Working Paper Series No. 01/2020

Abstract: While economists have focused on the effect of mean temperatures on mortality, climate scientists have emphasized that global warming might not only lead to an increase in mean temperatures, but can potentially also affect temperature variability. This is the first paper to estimate the causal effect of temperature variability on mortality. Using monthly state level data for the US in the period 1969-2004, I offer three main results: (1) Increased monthly temperature variability causes increased mortality, (2) omitting the effect of temperature variability on mortality can severely bias our predictions on the number of temperature-induced fatalities caused by global warming, and (3) adaptation to increased temperature variability is more difficult than adaptation to increased mean temperatures.

"On the use of machine learning for causal inference in climate economics"
CAMP Working Paper Series No. 05/2019

Abstract: One of the most important research questions in climate economics is the relationship between temperatures and human mortality. This paper develops a procedure that enables the use of machine learning for selecting the functional form of the causal temperature-mortality relationship. The machine-learning model is compared to a traditional OLS model, and although both models are capturing the causal temperature-mortality relationship, they deliver very different predictions of the effect of climate change on mortality. These differences are mainly caused by different abilities regarding extrapolation and estimation of marginal effects. The procedure developed in this paper can find applications in fields far beyond climate economics.

Miscellaneous

Computing: R, Stata, Python, MATLAB, GIS, LaTeX