DISCUSSION PUBLISHERS
Research Center · Open Access Edition

On Modeling and Interpreting the Economics of Catastrophic Climate Change

Martin L. Weitzman

Discussion Research ID	DPR-2026-1128
Year	2009
Field	Economics, Econometrics and Finance
DOI	10.1162/rest.91.1.1
Licence	CC-BY
Original source	Digital Access to Scholarship at Harvard (DASH) (Harvard University)
Permanent link	https://discussionpublishers.com/research/ca2ae0e3-af15-4abf-a1e2-ebd4e86a7afe
Publisher	Discussion Publishers discussionpublishers.com

Republished by Discussion Publishers under the original CC-BY licence. Copyright remains with the original authors; please cite the original work.

Cite as: Martin L. Weitzman (2009). On Modeling and Interpreting the Economics of Cata. Discussion Publishers, DPR-2026-1128.

Abstract

With climate change as prototype example, this paper analyzes the implications of structural uncertainty for the economics of low-probability, high-impact catastrophes. Even when updated by Bayesian learning, uncertain structural parameters induce a critical tail fattening of posterior-predictive distributions. Such fattened tails have strong implications for situations, like climate change, where a catastrophe is theoretically possible because prior knowledge cannot place sufficiently narrow bounds on overall damages. This paper shows that the economic consequences of fat-tailed structural uncertainty (along with unsureness about high-temperature damages) can readily outweigh the effects of discounting in climate-change policy analysis.

Keywords: catastrophic climate change, structural uncertainty, heavy-tailed distributions, Bayesian learning,

Full text

The complete text of this work is hosted by its original publisher.
Read it via the Discussion Publishers page:
https://discussionpublishers.com/research/ca2ae0e3-af15-4abf-a1e2-ebd4e86a7afe
Original record: http://nrs.harvard.edu/urn-3:HUL.InstRepos:3693423
DOI: https://doi.org/10.1162/rest.91.1.1