

The Economics of Tail Events with an Application to Climate Change

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Abstract

From time to time, something occurs that is outside the range of what is normally expected. This is called a tail event in the sense that it is way out the tail of a probability distribution. This article considers the implications of tail events for economic policy and climate change economics. This issue has been analyzed by [Martin Weitzman](#), who has proposed a dismal theorem. The theorem's general point is that under limited conditions concerning the structure of uncertainty and preferences, society has an indefinitely large expected loss from high-consequence, low-probability events and that standard economic analysis does not apply. The present article is intended to put the dismal theorem in context and examine the extent of its relevance with regard to climate change. There are indeed deep uncertainties about virtually every aspect of the natural and social sciences of climate change, and the only way these uncertainties can be resolved is through continued careful consideration and analysis of all data and theories. I conclude that tail events are important phenomena that require careful analysis and attention. At the same time, I find that there is no universal rule for determining when benefit–cost analysis should or should not be applied.

(JEL: Q5, D8, D8)

[Q50](#), [D80](#), [D80](#)

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JEL: [D80 - General](#), [Q50 - General](#)

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