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"Has Economics Caught Up with Climate Science?"

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Whereas scientific evidence points towards substantial and urgent reduction in greenhouses gas (GHG) emissions, economic analysis of climate change seems to be out of sync by indicating a more gradual approach. In particular, economic models that use benefit cost analysis, namely, integrated assessment models (IAMs) have been criticised for being conservative in their recommendations on the speed of reducing GHG emissions and the associated levels of carbon taxes. This essay focuses on a prototypical IAM, namely, Nordhaus' DICE model to argue the schism between science and economics is more apparent than real. Analysis of the DICE model suggests extreme climate scenarios can be captured through alternative specifications of the damage function (the impact of temperature on the economy). In particular, damage functions that extend the standard quadratic representation are highly convex (Weitzman 2012). Thus, they are able to capture climate tipping points as well as "fat tail" risks originating from uncertainty with regard to equilibrium climate sensitivity. (Article abstract)

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