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The Agnostic's Response to Climate Deniers: Price Carbon!

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The Agnostic's Response to Climate Deniers: Price Carbon![*]

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Abstract

With the election of President Trump, climate deniers feel emboldened and moved from the fringes to the centre of global policy making. We study how an agnostic approach to policy, based on Pascal's wager and allowing for subjective prior probability beliefs about whether climate deniers are right, prices carbon. Using the DICE integrated assessment model, we find that assigning a 10% chance of climate deniers being correct lowers the global price on carbon in 2020 only marginally: from $21 to $19 per ton of carbon dioxide if policymakers apply 'Nordhaus discounting' and from $91 to $84 per ton of carbon dioxide if they apply 'Stern discounting'. Agnostics' reflection of remaining scientific uncertainty leaves climate policy essentially unchanged. The robustness of an ambitious climate policy also follows from using the max-min or the min-max regret principle. Letting the coefficient of relative ambiguity aversion vary from zero, corresponding to expected utility analysis, to infinity, corresponding to the max-min principle, we show how policy makers deal with fundamental climate model uncertainty if they are prepared to assign prior probabilities to different views of the world being correct. Allowing for an ethical discount rate and a higher market discount rate and for a wide range of sensitivity exercises including damage uncertainty, we show that pricing carbon is the robust response under rising climate scepticism.

Keywords: climate model uncertainty, differential discount rates, climate scepticism, robust climate policies, max-min, min-max regret, ambiguity aversion, DICE integrated assessment model

JEL codes: H21, Q51, Q54

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