

Ward,RE

From: Ward,RE
Sent: 18 October 2013 12:38
To: 'R.Tol@sussex.ac.uk'
Cc: 'c.hope@jbs.cam.ac.uk'
Subject: Query about your 2009 JEP paper

Dear Professor Tol,

I am writing to seek your views about a couple of queries I have about your 2009 paper on 'The Economic Effects on Climate Change', which was published in the Journal of Economic Perspectives.

As you no doubt know, your paper is being cited publicly by Matt Ridley, particularly in his article in 'The Spectator' this week as a justification for stating that "climate change has done more good than harm so far and is likely to continue doing so for most of this century". So I have been re-reading your 2009 paper to check whether Lord Ridley has portrayed it accurately. In doing so, I have found a few issues that puzzle me and would be grateful for your views on them.

The 14 studies included in your meta-analysis are listed in Table 1 and plotted in Figure 1 of your 2009 paper. However, there appears to be a difference for some of the studies between the figures published by the original authors and the figures you cite in the table.

For instance, the Nordhaus 1994b paper, which is listed as 'Expert opinion on climate change' and published in American Scientist, found that the loss from a 3 celsius degree rise in global average temperature by 2090 would result in a loss of between 0 and 21 per cent of gross world product, with a mean value of 1.9 per cent and a mode of 3.6 per cent, as shown in Figure 2 in the paper. However, your 2009 paper indicates that the paper found a loss of between 0 and 30 per cent, with a mean of 4.8 per cent. In fact, these figures correspond exactly to the results in figure 3 of the Nordhaus 1994b paper, which provides the estimates of the likelihood of a high-consequence event from global warming. I wonder whether you have accidentally mixed up the two, and used the wrong numbers?

Your 2009 paper also includes the Nordhaus 2006 paper which is listed as 'Geography and macroeconomics: new data and new findings' and published in the Proceedings of the National Academy of Sciences. The paper presents an estimate of impacts from two scenarios, one which considers warming only and one which includes mid-continental drying as well. On page 3516 of the paper, Nordhaus states that the scenarios are drawn from the IPCC TAR and "have been rescaled to correspond to a 3C global average equilibrium increase". However, in your 2009 paper, you list the Nordhaus 2006 paper as relating to a warming of 2.5 centigrade degrees. I wonder if this is an error?

In both these cases, you have used the same numbers in your 2012 paper 'On the uncertainty about the total economic impact of climate change', which was published in Environmental and Resource Economics. I note that this paper corrects the typographic error in Table 1 of your 2009 paper which accidentally states that the Plambeck and Hope (2006) estimates a positive impact of 2.5 per cent from a warming of 2.5 centigrade degrees.

However, I am puzzled by the figure you cite in your 2009 paper for the Hope 2006 paper on 'The marginal impact of CO2 from PAGE2002: an integrated assessment model incorporating the IPCC's five reasons for concern', which was published in The Integrated assessment Journal. Table 1 of your 2009 paper and Table 1 of your 2012 paper both indicate that Hope (2006) estimates that warming of 2.5 centigrade degrees would result in an impact of between -0.2 and 2.7 per cent, with a mean value of 0.9 per cent. I cannot work out how you have arrived at such a result from the Hope (2006) paper and I wonder if it might be another mistake. I have copied in Chris Hope who I think will be interested in your response about this point.

Best wishes,

Bob

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