

## Ward,RE

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**From:** Ward,RE  
**Sent:** 25 October 2013 15:38  
**To:** 'Richard Tol'  
**Subject:** RE: Query about your 2009 JEP paper

Hi Richard,

Following our exchange of e-mail messages last week during which you confirmed that your 2009 and 2012 papers contained at least three errors in the plots they present, I would like to suggest that you make available to me the details of the aggregations of other researchers' data so that I may check them for any additional errors. As the controversy over Reinhart and Rogoff (2010) has demonstrated, peer review of some economics papers is not picking up some basic mistakes and it seems that the reviewers of your papers have similarly failed. I would be happy to check your figures for you and to notify you of any other errors that I might discover to help you with the preparation of a corrigendum to correct your results.

Best wishes,

Bob

Bob Ward

Policy and Communications Director  
Grantham Research Institute on Climate Change and the Environment  
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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]  
**Sent:** 18 October 2013 14:10  
**To:** Ward,RE  
**Subject:** RE: Query about your 2009 JEP paper

Shame on me

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**From:** [R.E.Ward@lse.ac.uk](mailto:R.E.Ward@lse.ac.uk) [<mailto:R.E.Ward@lse.ac.uk>]  
**Sent:** 18 October 2013 14:06  
**To:** Richard Tol  
**Cc:** [c.hope@jbs.cam.ac.uk](mailto:c.hope@jbs.cam.ac.uk)  
**Subject:** RE: Query about your 2009 JEP paper

I have. Figure 1 in your 2009 paper certainly plots Hope 2006 as +0.9%, and so does Figure 3 in your 2012 paper.

Bob Ward

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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]  
**Sent:** 18 October 2013 14:02  
**To:** Ward,RE  
**Subject:** RE: Query about your 2009 JEP paper

You might want to compare the table to the figure

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**From:** [R.E.Ward@lse.ac.uk](mailto:R.E.Ward@lse.ac.uk) [<mailto:R.E.Ward@lse.ac.uk>]  
**Sent:** 18 October 2013 14:01  
**To:** Richard Tol  
**Cc:** [c.hope@jbs.cam.ac.uk](mailto:c.hope@jbs.cam.ac.uk)  
**Subject:** RE: Query about your 2009 JEP paper

Yes, but you have also used the typo in your plots, so Figure 1 in your 2009 paper and figure 3 in your 2012 paper are both wrong.

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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]  
**Sent:** 18 October 2013 13:59  
**To:** Ward,RE  
**Subject:** RE: Query about your 2009 JEP paper

typo

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**From:** [R.E.Ward@lse.ac.uk](mailto:R.E.Ward@lse.ac.uk) [<mailto:R.E.Ward@lse.ac.uk>]  
**Sent:** 18 October 2013 13:58  
**To:** Richard Tol  
**Cc:** [c.hope@jbs.cam.ac.uk](mailto:c.hope@jbs.cam.ac.uk)  
**Subject:** RE: Query about your 2009 JEP paper

So why have you listed Hope 2006 as positive in both papers?

Bob Ward

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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]  
**Sent:** 18 October 2013 13:57  
**To:** Ward,RE  
**Subject:** RE: Query about your 2009 JEP paper

Hope is always negative

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**From:** [R.E.Ward@lse.ac.uk](mailto:R.E.Ward@lse.ac.uk) [<mailto:R.E.Ward@lse.ac.uk>]  
**Sent:** 18 October 2013 13:56  
**To:** Richard Tol  
**Cc:** [c.hope@jbs.cam.ac.uk](mailto:c.hope@jbs.cam.ac.uk)  
**Subject:** RE: Query about your 2009 JEP paper

Hi Richard,

What do you mean? In your 2009 paper you listed the impact for Plambeck and Hope as +2.5%, and changed it to -2.5 for your 2012 paper. But for Hope (2006), you listed the impact as +0.9% in both papers.

Bob

Bob Ward

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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]  
**Sent:** 18 October 2013 13:50  
**To:** Ward,RE  
**Subject:** RE: Query about your 2009 JEP paper

The minus sign was dropped for both Hope and Plambeck and Hope

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**From:** [R.E.Ward@lse.ac.uk](mailto:R.E.Ward@lse.ac.uk) [<mailto:R.E.Ward@lse.ac.uk>]

**Sent:** 18 October 2013 13:47

**To:** Richard Tol

**Cc:** [c.hope@jbs.cam.ac.uk](mailto:c.hope@jbs.cam.ac.uk)

**Subject:** RE: Query about your 2009 JEP paper

Hi Richard,

I'm afraid you appear to be misunderstanding the points I am raising.

On Nordhaus 1994, it seems pretty clear that you have made a mistake and I encourage you to make the necessary correction to your analysis.

On Nordhaus and Boyer, you may be correct that Professor Nordhaus is wrong, so I will raise the issue with him directly.

On Hope 2006, the typo you refer to relates to Plambeck and Hope 1996. If you have also made an error in your analysis of Hope 2006, you appear to have repeated it in your 2012 paper.

Best wishes,

Bob

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**From:** Richard Tol [<mailto:R.Tol@sussex.ac.uk>]

**Sent:** 18 October 2013 13:31

**To:** Ward,RE

**Subject:** RE: Query about your 2009 JEP paper

Thanks for confirming that the cited warming for the Nordhaus 2006 was a mistake. That paper raises another potential question about your 2009 paper. Nordhaus 2006 includes on page 3517 a discussion of other estimates of global impacts. It states: "Nordhaus and Boyer estimated impacts of a 2.5C warming to be -0.2% and -0.4% of global output for output and population weights, respectively". This is a reference to Nordhaus and Boyer (2000), 'Warming the World: Economic Models of Global Warming'. You also include Nordhaus and Boyer (2000) in your 2009 and 2012 papers, but you indicate that they estimated the impact to be -1.5% of GDP for warming of 2.5 centigrade degrees. I have not checked the original text, so Nordhaus may have mis-cited his own work, but perhaps you might check whether you have correctly interpreted the results of Nordhaus and Boyer (2000)?

>More likely, Nordhaus cites a different result

Finally, on the question of Hope (2006), I am still puzzled by your interpretation. Hope (2006) provides figures for the economic and non-economic impacts in the EU of warming of 2.5 centigrade degrees above the tolerable level in each impact sector in the EU (ie the impact of warming by about 4.5 centigrade degrees). Hope (2006) also provides weights for other regions of the world. In every region except Eastern Europe and the former Soviet Union, the mean impacts are negative. Hence I am puzzled both that you list Hope 2006 as providing estimates of warming by 2..5 centigrade degrees instead of 4.5 centigrade degrees and that you found an overall positive impact. Perhaps Chris might be able to provide a more detailed comment on this puzzle?

>That was a typo in the paper, dropped “-“

Richard

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