



Australian Government
Productivity Commission

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17 April 2008

From the Chairman's Office

Professor Ross Garnaut
Garnaut climate Change Review
Level 2, 1 Treasury Place
Melbourne VIC 3002

Dear Ross

On 27 February, Nicholas Stern and Cameron Hepburn wrote to you in critical terms about the Productivity Commission's Staff Working Paper *The Stern Review: an assessment of its methodology*. A number of the specific criticisms involve significant misinterpretations. While conscious that engaging in rebuttals can become self-perpetuating, I feel that it is important to set the record straight. I am therefore attaching for your information a response by the authors of the Staff Working Paper. I would be grateful if this could also be placed on your Review's website.

Yours sincerely

A handwritten signature in black ink that reads 'Gary Banks'.

Gary Banks



Date 16 April 2008

To Gary Banks

From Alan Johnston
Rick Baker
Andrew Barker

Re *Comments from Hepburn and Stern on the Productivity Commission Staff Working Paper 'The Stern Review: an assessment of its methodology' (Baker, Barker, Johnston and Kohlhaas, 2007).*

Dr Cameron Hepburn and Professor Lord Nicholas Stern wrote to Professor Ross Garnaut to inform the Garnaut Review of 'serious errors' in our Staff Working Paper (SWP) that assessed the methodology used by the Stern Review (the Review).

Pessimistic and optimistic studies

Hepburn & Stern state that we erred in saying that the Review 'draws heavily on studies that have a more pessimistic view on climate change and its impacts, and gives little attention to more optimistic views'. They claim the opposite is true.

The SWP makes clear that, in this context, we were referring to the Review's *qualitative* analysis of climate change damages. That is, the descriptions of flooding, species extinctions, human health effects, extreme weather events and the like. We stand by that statement. There are many studies that find positive or benign impacts for particular sectors and regions, particularly for moderate temperature increases, but such views rate only occasional mention in the Review.

Hepburn & Stern wrongly interpret the statement to be about their *quantitative* analysis, and so their criticism is miscast. That said, the SWP does question particular aspects of the quantitative estimates of (pre-discounted) damage costs, such as the assumption that developing countries will continue to have an elevated vulnerability to climate change even after their living standards increase substantially. Hepburn & Stern do not comment on this.

Future emissions

Hepburn & Stern say that the Review was probably optimistic, not pessimistic, in assumptions about future emissions. What the SWP says on this issue is that the Review's quantitative analysis is based on a single high emissions scenario which happens to be the second highest of the six IPCC scenarios. As the IPCC had stated that these six scenarios are equally plausible, we

accepted its authority on this. The Review did not, in our view, justify why it had chosen a single high emissions scenario.

With hindsight it could be that ‘business as usual’ emissions will track at a higher level than most thought initially, largely because of very high economic growth in China. This would support the Review’s choice of a high emissions scenario, but at the time it did not posit unanticipated growth in emissions as a rationale for its selected scenario.

Discount rates

A large part of Hepburn & Stern’s letter is devoted to discount rates and ethics. Many of the issues discussed, such as non-marginality, consumption sourcing, market interest rates and riskless rates, are discussed in the SWP. And, while most of the points Hepburn & Stern make are in the SWP, they are typically presented as one view among several. This reflects our purpose in giving an overview of the debate on discount rates so that readers could understand why, among other things, the Review had come to such different conclusions to others such as Nordhaus (2004; 2007) and Tol (2005)¹.

Hepburn & Stern make two main criticisms of us on discount rates:

1. In discussing the prescriptive (associated with the Review) and descriptive (associated with Nordhaus and many others) approaches to discounting we failed to conclude that the descriptive approach was implausible.
2. In relation to our description of the Review’s discount rates (around 1.4 per cent per annum real) as ‘unconventional’, Hepburn & Stern contend that, if the parameters are appropriate, it is irrelevant if they are conventional or unconventional.

The first claim is accurate — we did not see it as our role to come down on one side or the other on what is an ongoing debate. In addition, the different approaches, to some extent, reflect different conceptions of what economists are doing when they undertake cost-benefit analyses, and so it may not be possible to say who is definitively right or wrong.

On the second point, the fact is that such rates are unconventional. However, we agree that this does not mean that they are necessarily ‘wrong’.

We did not criticise the Review for taking a prescriptive approach (based on ethics), but we did point out that no attempt was made to align the rates chosen with an ethical position that is representative of wider opinion. It is a fact that the Review’s ethical position is at odds with the

¹ Nordhaus, W.D. 2004, ‘Economic modelling of climate change: Where have we gone? Where should we go?’, quoted in Montgomery, W.D. and Smith, A.E. 2005, *Price, Quantity, and Technology Strategies for Climate Change Policy*, CRA International, Washington DC.

Nordhaus, W.D. 2007, *The Challenge of Global Warming: Economic Models and Environmental Policy*, April, Yale University.

Tol, R.S.J. 2005, ‘The marginal damage costs of carbon dioxide emissions: an assessment of the uncertainties’, *Energy Policy*, vol. 33, issue 16, pp. 2064–74.

views of others. Indeed, the case for taking a prescriptive approach based on *representative* ethics has been made elsewhere by Hepburn²:

... while the 'revealed ethics' of market behaviour is flawed, one could equally well ask why the ethical parameters should be linked to the judgements of the authors of the Stern Review, or scientists, or any politician making decisions about such ethically contentious issues. The views of the Stern Review team or the scientists, economists, and politicians who pronounce on intergenerational justice (including the authors of this paper) will not necessarily be shared by the vast majority of the world's population (Beckerman and Hepburn 2007, p. 204–5)

Sensitivity analysis

Hepburn & Stern imply that we wrongly criticised the Review for failure to present a range of results for different discount rates. We make two responses to this criticism:

- when the Review was released there was *no* sensitivity analysis on discount rates. A postscript with some sensitivity analysis appeared after the initial wave of publicity for the Review —seemingly in response to criticism of the adopted discount rates.
- the discount rates included in the sensitivity analysis were still low compared to rates that have been seen as appropriate by other analysts.

Concluding comments

In responding to these criticisms raised by Hepburn & Stern, we nonetheless reiterate our overall assessment that the Stern Review is pioneering economic analysis that is methodologically strong in seeking to formally incorporate low probability, but potentially catastrophic, events.

² Beckerman, W. and Hepburn, C. (2007) 'Ethics of the discount rate in the Stern Review on the Economics of Climate Change', 8:1, World Economics, 187-210.