

Report on Bachelor / Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	Lukáš Hochmann
Advisor:	PhDr. Tomáš Havránek, Ph.D.
Title of the thesis:	Economic Rationale for Damage Functions Entering the Social Cost of Carbon

OVERALL ASSESSMENT *(provided in English, Czech, or Slovak):*

An important parameter (or, perhaps, THE parameter) of climate policy is the social cost of carbon. The estimation of the social cost of carbon is a complex exercise involving assumptions about key mechanisms in both climate science and economics and also linking these processes together. While economists have discussed in detail the choice of the discount rate in the social cost of carbon models (for example, the discussion following the publication of the Stern report), the damage functions used in these models to translate changes in temperature to economic costs have received little attention. This is surprising given the importance of the damage function for the results and the obvious policy relevance of the resulting estimate of the social cost of carbon: several countries or regions have already introduced carbon taxes based on some of these estimates.

Lukáš Hochmann provides the first systematic review of damage functions used in integrated assessment models. He illustrates how these functions are often selected ad hoc, and how in many cases they lack clear economic motivation (or the economic rationale is rather simplistic given that the model aims to give precise recommendation for policy). He then proposes how the functions typically used in the most-frequently employed integrated assessment models could be extended to properly account for the basic economic mechanisms that are assumed to be associated with climate change.

Although the thesis does not include elaborate econometric or theoretical models, based on the aforementioned information I believe that the author's contribution is clear and warrants publication in a peer-reviewed academic journal. Moreover, I appreciate the author's passion for the topic and the speed with which he incorporated all of my comments. This clearly is an excellent bachelor's thesis and should be graded accordingly.

SUMMARY OF POINTS AWARDED *(for details, see below):*

CATEGORY	POINTS
<i>Literature (max. 20 points)</i>	18
<i>Methods (max. 30 points)</i>	27
<i>Contribution (max. 30 points)</i>	26

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<i>Manuscript Form</i>	<i>(max. 20 points)</i>	19
TOTAL POINTS	<i>(max. 100 points)</i>	90
GRADE	(1 – 2 – 3 – 4)	1

NAME OF THE REFEREE: PhDr. Tomáš Havránek, Ph.D.

DATE OF EVALUATION: January 10, 2015



Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

Strong Average Weak
20 10 0

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

Strong Average Weak
30 15 0

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

Strong Average Weak
30 15 0

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Strong Average Weak
20 10 0

Overall grading:

TOTAL POINTS	GRADE		
81 – 100	1	= excellent	= výborně
61 – 80	2	= good	= velmi dobře
41 – 60	3	= satisfactory	= dobře
0 – 40	4	= fail	= nedoporučuji k obhajobě