

# Report on Bachelor / Master Thesis

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

<b>Student:</b>	Lucia Sihelská
<b>Advisor:</b>	doc. PhDr. Havránková Zuzana, Ph.D.
<b>Title of the thesis:</b>	The case of coal: A meta analysis of demand and substitution

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

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

**Short summary:** The thesis discusses energy substitution possibilities, especially coal since these are the key parameters for environmental policies focused on mitigating climate change. The author accessed the topic via meta-analysis using the state-of-art methodology of the field. I found the topic really interesting and the methodology above bachelor's theses standards. On the other hand, I have several points that need to be kept in mind during the discussion of the thesis evaluation.

**Contribution:** The contribution of the study I see three-fold. First, the theme is very topical. Second, it does not scrutinize only the own-price, but even cross-price elasticity. Third, it builds on the already written literature, goes more in-depth, and expands it. Just related to the third point, I think that author should delineate herself more strongly and clearly towards the two already written meta-analyses and thus, clarifies her contribution better. Something is done on page 9, but I think it could be done more rigorously and the major contribution of this thesis may be mentioned there.

**Methods:** Most of my points tackle the methodology. First, I am not sure whether the translog estimates are directly comparable with the linear probit ones (p7-8). If yes, how? The thesis is silent about the linear probit methodology and I miss it a bit.

Next, I want to ask whether the method of snowballing or even the recursive snowballing was used to enhance the number of articles included in the literature. Snowballing is the current standard and the recursive snowballing appears from time to time as well. I would recommend it since the number of the estimates and studies is not so high. Next, only journal articles are included? I understood it this way from the text, but I did not find this information directly mentioned.

Furthermore, I am not sure about using WAAP methodology in the publication bias part. This method works well with a high number of estimates since it used only the adequately-powered ones. Thus, I do not recommend its usage with 193 observations. Besides, the comparison of the benefits of the particular methods for publication bias should be included. I want to pinpoint that the number of observations in table 4.2 is not correct, each of the methods uses just part of the sample, not the whole data.

The last note for the methodology turns to BMA. I find it unfortunate to run BMA on 100-200 observations. The low number of observations together with a high number of the explanatory variables causes the correlations that evolve to the omission of some variables (p30). Thus, I would recommend estimating the whole data at once and adding a dummy for each subgroup you mention (Coal-Coal, Coal-Electricity...), of course, drop one to avoid the dummy variable trap. If the author thinks that such an estimation is unfeasible, turn to partial correlation coefficients (PCCs) to gain comparable estimates and estimate BMA for the full sample using this method. Did you think about estimating the whole sample at once? Or did you ponder about the PCCs?

**Literature:** Regarding literature, I found the topic well penetrated and solidly cited. Only notes turn to the publication bias part and to page 41. In the publication bias part, I wonder what found similar meta-analyses in this area (besides the two meta-analyses written on the same topic. On page 41, I found reference to Kamenicka (2021), which is some thesis, I think. I would appreciate citing some rigorous academic work instead. I know several articles, where the BMA methodology is described well.

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**Manuscript form:** Overall, I liked the thesis and the way it is written. I just struggle a bit with the „we“ form, when it is surely a solo-authored thesis. Next, in the appendix, I would mention, which heterogeneity drivers affect the results and I would write the beginning of the introduction stronger. Maybe adding one paragraph about the Coal elasticity and motivation immediately behind the first one would be great. Besides, I would lower the number of the tables (e. g. Tables 3.2-3.5 are together a bit long for me regarding the information they carry). I would avoid one-sentence paragraphs as in the 2.2 chapter at the beginning. On page 11 there is a small overhang (... coal-electricity). But all in all, these are just minor comments and rare mistakes.

## Overall evaluation and suggested questions for the discussion during the defense

Based on my comments above I have several questions for the thesis defense:

1. What is the main contribution of this study in comparison with the two previously written meta-analyses?
2. Do you use only journal articles? If yes, does the omission of the working papers cause some bias or not? Why?
3. Is the usage of the WAAP methodology appropriate?
4. What are the advantages and disadvantages of each of the methods you used in the publication bias part?
5. Why you did not run the BMA on the whole sample? Did you think about PCCs in the BMA part?

Despite a bit longer report, Lucia did a good job as a bachelor's student. From my perspective, the thesis fulfills the requirements for a bachelor's thesis at IES, Faculty of Social Sciences, Charles University. I recommend it for the defense and suggest a grade B. Besides the results of the Urkund analysis do not indicate significant text similarity with other available sources.

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

CATEGORY	POINTS
Contribution (max. 30 points)	27
Methods (max. 30 points)	26
Literature (max. 20 points)	15
Manuscript Form (max. 20 points)	18
<b>TOTAL POINTS</b> (max. 100 points)	<b>86</b>
<b>GRADE</b> (A – B – C – D – E – F)	<b>B</b>

**NAME OF THE REFEREE:** Josef Bajzík

**DATE OF EVALUATION:** Digitálně podepsáno (25. 5. 2021)

Josef Bajzík

**Referee Signature**

**EXPLANATION OF CATEGORIES AND SCALE:**

**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.*

**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.*

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

**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.*

**Overall grading:**

TOTAL	GRADE
91 – 100	A
81 - 90	B
71 - 80	C
61 – 70	D
51 – 60	E
0 – 50	F