## **Report on Bachelor Thesis**

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

Student:	Petr Polák	
Advisor:	PhDr. Tomáš Havránek	
Title of the thesis:	Meta-analýza v ekonomii a její aplikace na měření efektu eura na obchod	

#### **OVERALL ASSESSMENT**:

<u>Summary</u>: Thesis is divided into two main parts---theoretical and empirical one. Theoretical part comprises of a descriptive methodological discussion about the up-to-date meta-analytical tools frequently used in current economic literature. Being written in Czech, it is the first comprehensive summary in this field for local researchers and therefore an original author's contribution. The empirical application of meta-analysis in the second part addresses an issue of presence of Rose effect (concerning the surprisingly large trade effect of joining a currency union) in euro area. Following an article of Havranek (2010) published in RWE, the author significantly enlarges the original sample of 28 to about 2.5 thousand observations and updates the estimation of the true effect magnitude. Based on a visual and a regression analysis of the statistical relationship between the magnitude and the precision of the effect size estimates, the article confirms the previously raised concerns that publication bias is indeed present in this literature. Using various random effect and robust meta-regression models the author derives 'corrected' estimates of the Rose effect, and therefore establishes a robust and rigorous case for his main findings. Unlike the previous study by Havranek (2010), the author finds the true effect to be significant and amounting between 2 and 6 percent.

<u>General impression</u>: My general impression of the thesis is favorable. The raw body of thesis is structured in an intelligent way and the thesis responds to questions raised in the introduction. Seemingly, lot of work lies behind this thesis. I do not have any major concerns regarding the appropriateness of the methodologies within the specific context of the analysis at hand that would touch upon the very purpose and key results of the second part of the thesis. My concerns are rather of a minor character and relate to the appropriateness of language, style, understandability and structure especially of the first descriptive part of the thesis. Nevertheless, there is no doubt this is an impressive piece for a bachelor student, far exceeding the average works at the Institute of Economic Studies. Moreover, both parts of the thesis could be (after major revisions) published as two single papers.

#### Comments:

Introduction is too long and specific in an undesirable way (out of overall 39 pages, introduction is 6 pages long). Introductory part should be simple and motivating; it must catch the reader's attention and make him want to read the rest of the work---summarizing in a clear way what is the general issue, the motivation, author's approach to the issues raised and his original contribution, ending up with how the thesis will be structured. Author should also avoid using subsections in the introduction. Following these recommendations, author might shorten the introduction to 2 pages at most and thus avoid providing the reader with the same information several times during the thesis.

Chapter 2 can be structured/written better. This part seems to me a little chaotic, accompanied with imprecise or misleading formulations throughout the text (one example of many: on p. 30 author claims that adjusted coefficient of determination amounting to 44% in Nelson and Kennedy 2009 work has far from perfection---that claim is rather far from truth because of the very basis of meta-analytical works). Chapter 2 should be merged with some parts of the introduction. Following comment applies:

Relevant literature could be discussed more comprehensively. Although the meta-analysis is a kind of literature overview itself, I miss in subchapter 3.1 some discussion about the Rose effect (first very critical reply to Rose 2000 came from Richard Baldwin---from that point the avalanche of replies and checks of Rose effect begun, and so on). I miss a comprehensive literature review for meta-analysis in general as a methodological approach and its appearance in economics (which should occur somewhere

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in the beginning of Chapter 2) as an aggregated and recommending overview---although author mentions here and there some important articles made for economists.

Discussion on explanatory variables. Even if the explanatory variables used to model heterogeneneity within the dataset are summarized in Table 9, I missed introducing them already in subsection 2.3. Author writes he mostly follows Havranek (2010), nevertheless a short description before analysis is conducted would be appreciated----for example, I would be very much interested in knowing the background of choosing the variable *women;* though this variable would not be a surprising element in the meta-analysis on, say, wage discrimination, I would like to know why the author assumes that the estimated Rose effects are gender-related.

Termini technici should be clearly specified when translated. Author must be aware of the fact that even if the reader is Czech-speaking he needs to know what the original term looks like. Therefore, when introducing reader with a new term, I recommend the author to use original English term in brackets right after the Czech translation the very first time this term is mentioned---e.g., publikační selektivita (publication bias), lesní graf (forest plot), and so on.

The author has to quote relevant literature in a proper way. Author uses three different references in the article: Barr (2003), Barr et al. (2003), and Barr, Breedon and Miles (2003) but reports in the Bibliography section only one article with Barr's name in it. This seems to be either a problem of inconsistent referencing or incomplete bibliography list. Also, author should not mix different reference styles; once he decided to use Harvard style of Author (Year) he should stick to it (e.g., p.13 Disdier & Head, 2004). It is preferable to use plural when referring to author during the text. Moreover, I believe the author should avoid translating original names of articles into Czech (or at least stay consistent in translating all the article names) and refer to these articles by name only if really necessary---it is always better to stay on the safe side and avoid possible mistranslations of the names or create/ignore double meaning of the original text.

*English vs. Czech.* Although the author's decision on thesis language is hardly a point of criticism, it is very unfortunate the author does not want to share his results with more general public than the Czech-speaking one. I would suggest translating the empirical part in the near future since it is an important contribution to the current discussions in Rose effect literature.

Other minors. Appropriateness and clearness of language is important for general understanding. I suggest the author to use the space at hand more efficiently and avoid unnecessarily talkative language. Also, avoid using the word "to prove" in analyzing the empirical results; hypothesis testing is rather about being able or not being able to reject the claim on some probability level. On p. 21, "elasticity of demand" in brackets should have indicated some example? Explain (say we do not expect price elasticity of demand for gasoline to be positive, right?), do not leave the reader to guess what you mean. Few typos were spotted during reading, e.g. "forrest plot" instead of "forest plot", p. 41 "kde ne nejmenší odhad", p. 43 "vysvětlují MRA je velmi", etc. Dots and commas as a decimal separator are mixed throughout the work. It is also more common to start Latin numbering from the Introduction (so that the first page of introduction is numbered as 1). I did not find any reference to web page where author published the code and dataset or a DVD with such content---this is a suggestion for the future to prove the authors work is transparent and that the author has nothing to hide.

<u>Overall assessment</u>: It was a great joy to read this nice, comprehensive and highly original thesis. I strongly recommend the examining committee to award it by one of the student awards and evaluate the thesis as **excellent**.

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### SUMMARY OF POINTS AWARDED:

CATEGORY		POINTS
Literature	(max. 20 points)	16
Methods	(max. 30 points)	30
Contribution	(max. 30 points)	30
Manuscript Form	(max. 20 points)	15
TOTAL POINTS	(max. 100 points)	91
GRADE	(1 - 2 - 3 - 4)	1

### NAME OF THE REFEREE: Zuzana Iršová

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Referee Signature