

# Opponent's Report on Dissertation Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague  
Opletalova 26, 110 00 Praha 1, Czech Republic  
Phone: +420 222 112 330, Fax: +420 222 112 304

Author:	<b>Tomáš Havránek</b>
Advisor:	doc. Roman Horváth Ph.D.
Title of the Thesis:	Meta-Analysis in International Economics
Type of Defense:	<b>DEFENSE</b>
Date of Pre-Defense:	April 18, 2013
Opponent:	<b>Prof. Tom Stanley</b>

Address the following questions in your report, please:

- a) Can you recognize an original contribution of the author? **Yes, very much so!**
- b) Is the thesis based on relevant references? **Yes, very much so!**
- c) Is the thesis defensible at your home institution? **Yes, very much so!**
- d) Do the results of the thesis allow their publication in a respected economic journal? This question is irrelevant, because these papers have already been published in excellent journals.**
- e) Are there any additional major comments on what should be improved? **None!**
- f) Were your comments raised at the pre-defense, addressed in the dissertation submitted to the regular defense? (The pre-defense report is enclosed below) **Yes.**
- g) What is your overall assessment of the thesis? (a) I recommend the thesis to be defended without major changes; (b) The thesis is not defensible.

(Note: The report should be at least 2 pages long.)

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## Content of the Report:

Last March, I wrote the most positive review of Mr. Havranek's Dissertation that my limited abilities permit me to express. Without repeating everything that I said then, let me state as strongly and as clearly as I can that Mr. Havranek's research is:

- among the very very best that our field (the meta-analysis of economics) has produced. The comparison group consists of approximately 1,000 papers, with over 100 new studies coming out each year. I would put the original contributions that are contained in Mr. Havranek's Dissertation above those of some very famous senior economists: Alan Krueger, David Card, Andy Rose, and Orley Ashenfelter, among others. If we exempt my own paper, because I cannot be objective about those, Mr. Havranek's papers would easily rise to be among the top 10 (*i.e.*, the 99<sup>th</sup> percentile) or even the top 5 among all of these 1,000 papers or perhaps even higher still. However, I should not say more than this at risk of offending good friends and highly respected colleagues and collaborators.
- insightful, technically correct, comprehensive and important.

- wise far well beyond what anyone has a right to expect from even the most brilliant young mind.
- an insightful assessment of complex, often disparate, and yet important (theoretically and practically) economics research. Few senior researchers are able to understand or to explain the relevant ‘take away’ points from an extensive empirical inquiry half as well as Mr. Havranek.

Furthermore, I am fully satisfied with Mr. Havranek’s responses to my comments. He corrected the one small ‘mistake’ that I found, and he sensibly addressed all of my other concerns, which are matters of professional judgment or sensibilities- not issues that can be judged as either ‘right’ or ‘wrong.’

**I recommend this thesis to be defended without any changes!**

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Largely from my pre-defense report, permit me to repeat. . . .

It is a great joy and a profound privilege to be a Professor. We are paid to work with next generation’s most brilliant minds and, on occasion, have a lasting influence on these young people. However, it is very rare that a student can master your life’s work and advance it. I happily welcome Mr. Havranek to our honored profession. Mr. Havranek has already proven himself to be among the very best of the world’s researchers and professors who employ or develop meta-regression analysis in economics. Over the four chapters selected to be included in Mr. Havranek’s Dissertation, he demonstrates a deep, comprehensive, and nuanced understanding of the many statistical tests and techniques of meta-analysis as well as the underlying economics contained in the areas of research surveyed. I have been developing and applying meta-regression analysis (MRA) for more than a quarter century. I am the convener of an international network of over 100 researchers who specialize in these research tools (MAER-Net) and have been elected member of the honorary statistical Society for Review Synthesis Methods. I review many papers every year, give advice to dozens of researchers, and serve as associate editor of the *Journal of Economic Surveys* in charge of their meta-analysis submissions. I apologize for this immodesty, but I thought that it might be relevant for the committee to understand my qualifications for evaluating Mr. Havranek’s Dissertation.

The papers that comprise Mr. Havranek’s Dissertation are the superior or the equal to any published in our field, which might be as large as 1,000 studies with about 100 new ones produced each year. This assessment includes my own work, but I cannot be fully objective about that. Because Mr. Havranek’s methods and approach is largely based on my research, I am in a position to make these comparisons. Not only does he employ this large array of statistical methods correctly, he displays a deep and nuanced understanding of the underlying economics that is being surveyed, synthesized, and evaluated by his MRAs. Few seasoned researchers show half the skill or understanding that is evident in this Dissertation. Fewer still are able to tease out the underlying ‘take-away’ message from the highly heterogeneous and multi-dimensional research results reported in these literatures half as adroitly as displayed in these chapters. Needless to say, I am very impressed with Havranek’s research.

I next turn to some more specific observations about the chapters of Mr. Havranek’s revised thesis.

### Chapter 1: Three Tasks of Meta-Analysis

- In general, this chapter is very well written and organized. Mr. Havranek is quite wise in his selection and ordering of the ‘tasks of meta-analysis.’ I doubt whether I could do better.
- 16 published papers! Amazing, none of my colleagues at Hendrix have achieved that in a career.
- “most of us empirical researchers have prior beliefs about the effect we are going to estimate. I sometimes catch myself. . .” This is a very refreshing display of honesty, rare in economics.

### Chapter 2: The Rose Effect and the Euro: Is the Magic Gone?

- This chapter was published at the *Review of World Economics*, and I served as a reviewer. Thus, I know this paper very well and think that it very well done, well written, correct and very important. Needless to say with the events that have happened since this paper was published surrounding the euro, Greece and European sovereign debt, it is very important to understand the economic consequences of joining the Euro. Before this paper was published, there was a well-known body of literature that showed that was a large positive trade advantage of joining a common currency. Although our paper, Rose and Stanley (2005), identified publication bias in this area of research and as a result greatly lowered the positive trade effect, I long suspected that even this corrected effect might be too high. This suspicion may be seen in Stanley and Doucouliagos (2010) where only a small little trade effect was identified in those studies that referred to Post World War II currency unions and where not coauthored by Rose. Mr. Havranek’s paper does an excellent job in showing that the trade effects from joining the euro are small or nonexistent. Nonetheless, there are a few weaknesses of this 2010 publication, weakness that Mr. Havranek now acknowledges—see footnote 2.
- The largest weakness of this paper is that Mr. Havranek selects one estimate from each study to include in his meta-analysis. This was done in the past, and I once recommended taking the average of multiple estimates to control for within-study dependence and to minimize the dominance of any one or few studies. But conventional practice has moved on, and we use all estimates but explicitly control for their within study dependence with various clustering, panel and multi-level methods. But then Mr. Havranek also knows these methods well, and his competence is adequately demonstrated throughout this thesis.
- The use of iteratively re-weighted least squares is an especially nice idea.
- I greatly enjoyed the confirmation of both the ‘research cycle’ (Stanley et al, 2008) and the ‘winner’s curse’ (Costa-Font, McGuire and Stanley, 2013; “Publication selection in health policy research: The winner’s curse hypothesis.” *Health Policy*, 109: 78– 87).

### Chapter 3: Estimating Vertical Spillovers from FDI: Why Results Vary and What the True Effect Is

- This is an excellent meta-regression analysis, among the best there are. Mr. Havranek skillfully weaves the several tapestries that comprise productivity spillover research. I believe that this MRA represents the definitive assessment of this large and important area of research.

- It is now standard practice to report the exact search terms used in the MRA’s systematic review and should have been explicitly stated here. The current issue of the *Journal of Economic Surveys* includes MAER-Net’s reporting guidelines for MRAs. However, these guidelines have only recently been formulated long after this chapter was published.
- “The simultaneous data collection took three months and the resulting disagreement rate, defined as the ratio of data points that differed between our data sets was 6.7% (of more than 200,000 data points).” The coding protocol used in this study is excellent. I am especially impressed by the honest reporting of their error rate and the method that errors were resolved. This is rarely done in economics, but we should routinely follow Mr. Havranek’s lead.
- I agree with Mr. Havranek’s use of “best practice” methods to make a ‘prediction’ of spillover elasticity using his multiple MRA. This is what we do (Doucouliagos and Stanley, 2009), but few follow.

Chapter 4: Determinants of Horizontal Spillovers from FDI: Evidence from a Large Meta-Analysis.

- The main meta-analysis innovation of this paper is to use Bayesian model averaging to identify the appropriate moderator variable in a data consistent manner that is likely to minimize the chances that the MRA findings are driven by some spurious misspecification bias. Although these methods have been employed in MRA before, Mr. Havranek employs them in a correct and intelligent way and thereby again clearly demonstrates his competence and deep understanding of our complex and rigorous statistical tools of modern empirical analysis. I look forward to coming to Prague, someday, and having Dr. Havranek teach me how best to use these methods Bayesian model averaging for multivariate meta-regression analysis—perhaps in September of 2015? Even old dogs can learn new tricks.
- I was especially impressed and grateful for the intelligent discussion about what magnitude of spillover effect rises to ‘economic importance.’ This is an exercise that is done all too infrequently in economics, but should become part of the conventional MRA practice. Mr. Havranek’s discussion here is wise far beyond his years
- This meta-analysis does an exceptionally nice job in identifying potential moderator variables and basing these meta-analysis choices on the actual research literature being surveyed. This too is a very good idea and should become part of the conventional MRA practice.

**I recommend this thesis to be defended without any changes!**

Date:	October 22, 2013
Opponent’s Signature:	<i>T. D. Stanley</i>
Opponent’s Affiliation:	Prof. Tom Stanley Hendrix College, USA