# Report on Bachelor / Master Thesis

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

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|---|---|
| **Student:** | **Bc. Kateřina Kroupová** |
| **Advisor:** | ***Doc. Tomáš Havránek, Ph.D.*** |
| **Title of the thesis:** | **The Impact of Student Employment on Educational Outcomes: A Meta-Analysis** |

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

## Contribution

I have supervised 46 finished bachelor's and master's theses in my life, and the one submitted by Kateřina Kroupová is the best of them all by a large margin. Not only could it be easily defended as a part of a PhD dissertation, but a paper based on this thesis can be published in a good international journal. It's not just a brilliant application of meta-analysis. It's a highly original work (the topic was Ms. Kroupová idea) that brings several novelties to the practice of meta-analysis in economics. One novelty is the clever use of a dilution prior due to George (2010); then, in one stroke, the author's Bayesian model averaging exercise tackles both model uncertainty and collinearity. Ms. Kroupová also addresses two important problems in traditional meta-analysis. First, the relationship between estimates and standard errors in the presence of publication bias does not have to be linear. She employs newly developed non-linear techniques (some of them fresh working papers at the MIT, for example). Second, standard error can easily be endogenous because some techniques affect both estimates and standard errors systematically. She uses the number of observations in a primary study as an instrument for the standard error. Equally important, the thesis is clearly written and structured like a proper research paper. It is full of economics, full of interpretation. I simply like this.

## Methods

As I have noted above, the thesis uses up-to-date techniques (and sometimes goes beyond the state of the art). Let me provide a list of advanced methods used in this thesis: wild bootstrapping of standard errors, Bayesian model averaging with novel priors, frequentist model averaging, caliper test, stem-based correction, endogenous kink method, weighted average of adequately powered estimates (due to John Ioannidis, the famous epidemiologist), Andrews-Kasy selection model, and others.

## Literature

All of the most relevant papers are properly cited.

## Manuscript form

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The thesis is beautifully typeset in LaTeX and written in excellent English.

**Summary and suggested questions for the discussion during the defense**

The thesis fulfills the requirements for a master's thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defense and suggest a grade A. **As I have noted, this is the best thesis I have ever supervised, so I give 100 % of points and recommend an award.**

The results of the Urkund analysis do not indicate significant text similarity with other available sources.

Question for thesis defense: There is one recent technique that is not used in the thesis, p-uniform* (comes from psychology, available as a working paper in 2020). Could you explain how it differs from the techniques used in the thesis?

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

| CATEGORY | POINTS |
|---|---|
| *Contribution* (max. 30 points) | 30 |
| *Methods* (max. 30 points) | 30 |
| *Literature* (max. 20 points) | 20 |
| *Manuscript Form* (max. 20 points) | 20 |
| **TOTAL POINTS** (max. 100 points) | **100** |
| **GRADE** (A – B – C – D – E – F) | A* |

*NAME OF THE REFEREE:* *Doc. Tomáš Havránek, Ph.D.*

*DATE OF EVALUATION:* 11.1.2021

*Digitally signed*
*Tomáš Havránek*

*Referee Signature*

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## 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 |