

# Report on Bachelor / Master Thesis

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

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| <b>Student:</b>             | <b>Ondřej Zelený</b>                                   |
| <b>Advisor:</b>             | <b>Mgr. Petr Polák, MSc. Ph.D</b>                      |
| <b>Title of the thesis:</b> | <b>Technology-driven unemployment: A meta-analysis</b> |

## **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**

In his thesis, Ondřej Zelený analyses the impact of technological advancement on the labor market. Such debate is currently connected to the broader usage of artificial intelligence, and predictions about the effects of such technology on employment in different fields are made. To address the issue, Ondřej uses meta-analysis, which means that he looks at 43 different empirical studies and their 516 estimates. The thesis finds very little effect of technological progress on employment, which might be counter-intuitive as theory would assume that with greater capital intensity, less labor would be required, but the real economy creates new jobs every year.

### **Contribution**

The thesis is a new meta-analysis in this area, so any results are of added value. The key finding that technological progress has little effect on employment is also valuable for policy debate, where it can be argued that new technologies should not be feared. It is also shown that the effects for high-skilled workers and those in manufacturing are opposite.

### **Methods**

The thesis follows a standard methodology of meta-analysis, including Bayesian Model Averaging method, which is beyond standard econometrics at the bachelor level. Ondřej collects in total 28 characteristics for each estimate, which required hard work to do. Also, some collected variables turned out to be significant, so the selection of those variables proved to be in the right direction.

### **Literature**

All sources are well-referenced, and the studies used belong to the core of the studied topic (as well as meta-analytics and core studies in the area of technological progress and employment).

### **Manuscript form**

The thesis itself is very well written, using a standard template, which is highly appreciated. A reader can easily follow the structure - the literature review, followed by the theoretical concepts.

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

From the perspective of a supervisor, Ondřej worked on her thesis continuously and with attention to detail. I appreciate that he did great work in data collection, which is crucial for a solid meta-analysis. I am also glad that Ondřej employed Bayesian Model Averaging, which helps to tackle the large dataset that he created.

My grading reflects that the thesis can be easily published after some advancements. These advancements are 1) extending the literature search to see how much more data is possible to collect and 2) being more specific about employment/unemployment phrasing. The title of the thesis is a bit misleading as the effects of employment and unemployment could be different, and Ondřej should address this in his defense.

*I do not have a specific question for the defense, but I would suggest that Ondřej elaborates on issues he faced with data collection and whether he thinks that AI is a different form of technology and that new studies will provide different results compared to the current literature.*

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

*In my view, the thesis fulfills the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defense and suggest a grade A.*

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

| CATEGORY                              | POINTS    |
|---------------------------------------|-----------|
| Contribution (max. 30 points)         | 30        |
| Methods (max. 30 points)              | 27        |
| Literature (max. 20 points)           | 18        |
| Manuscript Form (max. 20 points)      | 20        |
| <b>TOTAL POINTS</b> (max. 100 points) | <b>95</b> |
| <b>GRADE</b> (A – B – C – D – E – F)  | <b>A</b>  |

**NAME OF THE REFEREE:** Petr Polák

**DATE OF EVALUATION:** 30. 8. 2023

*Digitally signed (30. 8. 2023)  
Petr Polák*

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**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     |