

Report on Bachelor / Master Thesis

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

Student:	Bc. Vít Kulháněk
Advisor:	Mgr. Roman Kalabiška
Title of the thesis:	The impact of vaccinations on the development of Covid-19 pandemic

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 main aim of the thesis is to study the effects of vaccines on health outcomes – new deaths and hospitalizations. The author uses country-level data to study the issue, and performs panel data analysis. The results are a bit mixed, but some of the estimated coefficients suggest that greater vaccine take up is associated with better health outcomes. Next, there are two country level studies based on time series data in CZ and Israel, focusing on similar question. Further, the author calculates excess deaths caused by Covid and tries to figure how much the society will save on pension payments and whether these future financial savings could cover the costs of the vaccines.

Contribution

Understanding the effects of vaccines on health outcome is an interesting and timely issue. There has been numerous studies looking at this aspect. Most of the existing work, to my knowledge, uses more granular, micro-level data – either RCTs or regional level data within countries, in order to avoid all sorts of country-level confounders associated with country level analysis. The comprehensiveness (120 countries) is an interesting aspect of the thesis, but it would be useful to explain in more detail what are the advantages of country-level data in pursuing this question, given the identification issues (timing of vaccine adoption is not random).

Methods

In the main part, the author uses standard panel data analysis. Overall, I found the evidence more mixed than how it is presented in the thesis – number of coefficients are not statistically significant, some are even positive. Is there any coherent explanation?

Literature

The literature review is fine, the author engaged with related studies and provides their summary. At the same time, this section is sometimes too detailed and hard to follow.

Manuscript form

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The manuscript has the usual structure and form. As mentioned above, sometimes the text is somewhat hard to follow.

Overall evaluation and suggested questions for the discussion during the defense

In my view, this is an interesting thesis that 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 C.

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

Here are some possible questions for discussion:

(Q1) One aspect that I found problematic is that in the main estimates (e.g., in Table 5.2.) the author controls for new cases when estimating the effects of the vaccine on health outcomes. But new cases should be treated as a dependent variable and not a control variable, right? Because the reasoning is: vaccines -> new cases -> health problems. Controlling for new cases then likely biases the estimates of the effects of vaccines on health outcomes (in fact, it should reduce the estimated coefficients if reduced prevalence of new cases are the channel through which new vaccines affect health outcomes).

(Q2) It is hard to compare the estimated effects on hospitalizations and on death, because the set of studied countries changes (the data on hospitalizations are not available only for a sub-set of countries), so it is not clear whether differences in effects are due to differences in the outcome variable or a sample. It would be useful to discuss what happens when the effects on deaths are estimated on a sample of countries for which hospitalization data are available, in order to get a sense of what is going on.

(Q3) I did not understand why it is meaningful to calculate pension savings from excess deaths, in order to figure out how much it could help covering vaccination costs. It sounds like excess death is considered desirable in some way, because it can help with covering the vaccine costs. There are many other, much less controversial economic, social and health justifications for investing in vaccines, other than the unfortunate fact that covid has freed future pension resources. I think this part deserves some clearer justification during the defense.

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

CATEGORY	POINTS
Contribution (max. 30 points)	22
Methods (max. 30 points)	22
Literature (max. 20 points)	16
Manuscript Form (max. 20 points)	15
TOTAL POINTS (max. 100 points)	75
GRADE (A – B – C – D – E – F)	C

NAME OF THE REFEREE: Michal Bauer

DATE OF EVALUATION: 31.5.2023

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