

**REPORT ON MASTER THESIS**  
**CENTER FOR ECONOMIC RESEARCH AND GRADUATE EDUCATION**

<b>STUDENT:</b>	<b>Tao He</b>
<b>ADVISOR:</b>	<b>Christian Ochsner</b>
<b>TITLE OF THE THESIS:</b>	<b>Exogenous Crises and Technology Adoption: Evidence from the Effect of COVID-19 on FinTech Adoption</b>

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

*Please provide your assessment of each of the following categories, summary and suggested questions for the discussion. The minimum length of the report is 300 words.*

**CONTRIBUTION:**

This is a very smart master thesis that make use of the COVID-19 crisis as a quasi-experimental setting. The author does a decent job in describing the setting, the data and the empirical identification strategy so that the results of the paper can be taken as hard value. The thesis somewhat tests a hypothesis that was obviously and widely discusses in the media (i.e., adaption of new technologies during the COVID-19 lockdowns). As such, the paper tests somewhat “anecdotal wisdom”. This means that the contribution will not shape the view on the world, but it provides detailed and elaborated evidence on this topic.

**METHODS:**

The paper employs a battery of empirical models and identification strategies. The students demonstrate that he is able to apply these methods and to interpret the results. Moreover, the coefficient plots are very smart and well executed. Maybe the student should focus more on the most promising method, which is the DID-IV approach for me. In the DID-IV approach, the effects are also more pronounced because it allows to control for pre-trend differences in combination with the IV-approach. I suggest to run the robustness exercises and sensitivity analyses also with the DID-IV strategy (these sections mainly use cross-sectional-(IV)-regressions, which is (i) not ideal given that the main results are rarely significant in these approaches, and (ii) is a bit a bug given the data availability). Cross-sectional estimates might suffer from the time-trends in FinTech adaption that is somewhat controlled in DID and DID-IV.

The author also employs an IV that should be orthogonal to FinTech adaption, but predicts COVID-19 exposure. The IV make sense for a country comparison and I consider the chosen IV as feasible for the study and excellent for a Master thesis. This is a big plus. I somewhat miss a more elaborated discussion of the exclusion restriction(s) of the combined IV.

**LITERATURE:**

The literature review is adequate and combines recent findings of the effects of COVID-19 on technology use, and technology adaption in general.

## **MANUSCRIPT FORM:**

Most parts of the manuscript are excellent edited with LATEX. The structure of the paper follows the norms of academic writing, and wording is in large parts polished and excellent.

There are too many redundant tables in thesis. This mainly originates from the fact that the author wanted to report all findings of the respective empirical strategies (OLS, cross-sectional IV, DID, DID-IV). In doing so, the thesis becomes very transparent, but loose stringency and faces difficulties to highlight to most convincing finding. Some figures are badly edited (copy-paste in low quality).

## **SUMMARY AND SUGGESTED QUESTIONS FOR THE DISCUSSION DURING THE DEFENSE:**

**Summary:** Very good to excellent work for a Master thesis. The student shows his ability to work with data and to apply different empirical identification strategies. The thesis is very transparent but would benefit from a more stringent selection of the most promising specification (which is the DID-IV).

### **Potential question for the defense:**

- Why are the robustness checks/sensitivity analyses mainly done with cross-sectional estimates (OLS, cross-sectional-IV)?
- Do the main results hold when running the robustness checks with the DID-IV approach?
- How would you describe the exclusion restriction for “first confirmed COVID case”?
- Both airports and population are not uniformly distributed within countries. In reality, airports are more likely to be located in more densely populated parts of a country. What would happen to your IV estimates if you weight population with respect to airports (would exposure go up or down)?
- Would the instruments also be valid for a within-country analysis?

*Please indicate whether you recommend the Thesis for defense or not.*

**YES: I recommend the thesis for defense.**

**~~I do not recommend the thesis for defense.~~**

## **TEXT ORIGINALITY CONTROL**

I confirm that I acquainted myself with the report on the originality of the text of the thesis from

Theses    Turnitin    Original (Urkund)

Comments on the reported results:

*Plagiarism checks were automatically processed by CU. Tao He's thesis does not show signs of plagiarism. Some paragraphs in the literature review overlap with the respective paper that is introduced there, but the paper is cited. Given this evidence, the work seems to be very original.*

**SUMMARY OF POINTS AWARDED** (for details, please see the page 3)

<b>CATEGORY</b>	<b>POINTS</b>
Contribution (max. 30 points)	25
Methods (max. 30 points)	27
Literature (max. 20 points)	20
Manuscript Form (max. 20 points)	19
<b>TOTAL POINTS (max. 100 points)</b>	<b>91</b>
<b>GRADE (A – B – C – D – E – F)</b>	<b>A</b>

**NAME OF THE REFEREE:** Christian Ochsner

**DATE OF EVALUATION:** August 30, 2023



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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.*

Strong	Average	Weak
30	15	0

### **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.*

Strong	Average	Weak
30	15	0

### **LITERATURE REVIEW:**

*The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

Strong	Average	Weak
20	10	0

### **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.*

Strong	Average	Weak
20	10	0

### **OVERALL GRADING:**

TOTAL	GRADE
91 – 100	<b>A</b>
81 – 90	<b>B</b>
71 – 80	<b>C</b>
61 – 70	<b>D</b>
51 – 60	<b>E</b>
0 – 50	<b>F</b>