

# Report on Bachelor / Master Thesis

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

<b>Student:</b>	<b>Ondřej Varadi</b>
<b>Advisor:</b>	<b>Matěj Bajgar M.Sc., DPhil</b>
<b>Title of the thesis:</b>	<b>The impact of the electronic revenue registry on Czech firms</b>

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

## Short summary

The bachelor thesis examines the consequences of the introduction of the electronic revenue registry (EET) in the Czech Republic in December 2016. This policy was implemented to reduce tax evasion by enhancing the reporting of cash transactions, particularly in industries characterized by high volumes of small cash transactions. The EET required certain industries to use electronic revenue registers that automatically transmitted transaction data to tax authorities. The study utilizes a difference-in-differences estimation on representative firm-level data, comparing affected industries with control groups unaffected by the policy. The research findings indicate that the EET led to increased reported output in sectors such as Food and Beverage Services, Accommodation, and Retail, while reported purchases also increased in Food and Beverage Services. Furthermore, the policy had mixed effects on firm entry and exit, with a notable increase in firm entry in 2016.

## Contribution

The thesis makes a valuable contribution to the existing literature on tax compliance and anti-evasion policies, shedding light on the impact and effectiveness of electronic revenue registries in developed countries, specifically in Europe. It also enhances our understanding of the Czech EET policy by employing firm-level microdata and employing the difference-in-differences methodology. This research explores the effects on reported output, purchases, and firm entry/exit, providing insights into how tax regulations affect businesses.

## Methods

The methodology used in the thesis involves a difference-in-differences analysis with firm and year-fixed effects for output and purchases, as well as industry and year-fixed effects for entry and exit. The decision to switch from the initially proposed synthetic control group method to DiD with fixed effects is well-justified. Furthermore, the thesis provides a detailed explanation of the DiD model, offering a comprehensive overview of the variables and their significance. The incorporation of firm and year-fixed effects in the analysis is sound, as it addresses issues related to panel data, unbalanced datasets, and time-specific effects. The consideration of different versions of the DiD equations, particularly those that account for individual post-treatment year dummies and interactions with the treatment group, reflects the author's commitment to thoroughly exploring the potential variations in the impact of EET over time. This approach adds depth and nuance to the analysis. One noteworthy aspect of the methodology is the acknowledgment of the need to control for potential pre-trends. Multiple control groups were constructed to ensure the robustness of the results, addressing the challenge of finding directly comparable non-treated industries. Furthermore, by introducing models with year and treatment interactions for all periods, the author takes an important step in ensuring the robustness of the DiD analysis.

Overall, the methodology employed in this thesis is commendable. It demonstrates a comprehensive understanding of the chosen econometric techniques and their applicability to the research question. The use of panel data, fixed effects, and interaction terms is appropriate and well-justified.

## Literature

The literature review section comprehensively reviews relevant literature, including studies on tax compliance, third-party reporting policies, the relationship between taxes and firm entry/exit, and the

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impact and effectiveness of electronic revenue registries. This literature provides essential context for the study and supports the research hypotheses.

## Manuscript form

The manuscript is well-structured and effectively conveys the research findings. The author employs appropriate academic language and style throughout the document, maintaining consistency in formatting graphs and tables. However, in some sections, particularly in 4.4, it would greatly enhance clarity and readability if the author utilized tables to present information, such as the list of excluded industries along with their corresponding NACE codes. Furthermore, considering the length and detail of section 4.4, it may be advisable to relocate a significant portion of it to the appendix. Overall, the manuscript adheres to academic standards and adeptly communicates the research findings in an organized manner.

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

This thesis represents a significant and well-executed contribution to the field of tax compliance and anti-evasion policies, particularly in the context of electronic revenue registries. The author's dedication and rigorous analysis are evident throughout the document. The thesis successfully integrates its findings with the existing literature, providing valuable insights into the topic. The results of the Turnitin analysis do not indicate significant text similarity with other available sources.

In summary, I believe this thesis not only meets but exceeds the expectations for a bachelor's thesis at IES, Faculty of Social Sciences, Charles University. I wholeheartedly recommend it for the defense and propose a grade of A, contingent upon the quality of the presentation during the defense, as determined by the committee.

## Discussion Questions:

1. How can the findings of this research inform tax policymakers in the Czech Republic and other countries considering similar electronic revenue registry systems?
2. The study suggests a decrease in the likelihood of firm entry in EET-affected industries. Could this potentially hinder economic growth and innovation in the long term, and are there any policy implications to consider?
3. How might the results of this study be used to improve the design and implementation of tax compliance measures in B2C industries?
4. What are the potential policy implications of the observed increase in reported purchases in Food and Beverage Services? How might this affect tax revenue collection?
5. How can the limitations of the data and control group construction be addressed in future research on tax compliance policies?
6. In your discussion of future extensions, you mentioned the possibility of including small non-incorporated firms in the analysis. How do you anticipate this would impact the results, and what challenges might arise in incorporating such firms into the dataset?
7. Expanding this analysis to other European countries with similar ERR systems is a promising avenue. What data and methodological considerations would be essential when conducting cross-country comparisons of EET or similar policies?

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

CATEGORY	POINTS
Contribution (max. 30 points)	28
Methods (max. 30 points)	20
Literature (max. 20 points)	20
Manuscript Form (max. 20 points)	18
<b>TOTAL POINTS</b> (max. 100 points)	<b>96</b>
<b>GRADE</b> (A – B – C – D – E – F)	<b>A</b>

**NAME OF THE REFEREE:** Mgr. Tereza Palanská M.A.

**DATE OF EVALUATION:** September 3, 2023

Digitally signed (3.9.2023):  
Tereza Palanská

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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