

Report on Bachelor / Master Thesis

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

Student:	Bc. Amálie Kašparová
Advisor:	Mgr. Luboš Hanus
Title of the thesis:	The Impact of Renewable Electricity on the Czech Electricity Balancing Market

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 diploma thesis focuses on the Czech balancing market, which plays an important role on the electricity market as the electricity market has to be cleared out. The author looks at the imbalances and their relationship with renewable energy sources. Using appropriate methodology as ARIMA-GARCH and Quantile regression, she finds out how and to what extent the renewable energy sources (error between consumption and production) affect the system imbalances on the Czech electricity market. The text discusses these sources of imbalances and the extent of the effects.

Contribution

The author asks relevant questions considering timing with larger exploitation of renewable energy sources as wind and solar, where producers and regulators might have trouble with precisely forecasting the amounts of energy used or to produce. The thesis is thus relevant for anyone who work with electricity data and more importantly to the national authorities regulating, evaluating and clearing out the market as the transmission system operator. The text does not develop any new methodology rather it focuses on description of effects and their policy relevance.

Methods

The author employs adequate methods while working with time-series data. Using ARFIMA-GARCH models and Quantile regression, she follows the literature focusing on applied energy and energy policy, particularly while modelling the system imbalances. The methodology is at the level of a master student at IES, all taught at master courses. She describes the methods and uses appropriate tests to perform them correctly.

For the analysis, there is also hidden a lot of time required to prepare and collect the data for the main study, which seem well done in this case.

Literature

Although there is a limited literature on the balancing markets as for the Czech Republic, as for other countries, the author works with the resources properly and cites the relevant articles. The description of markets and bringing the reader into the topic is done adequately to the level of a master thesis. The studies on which the main analysis is based are recent ones (e.g., Goodarzi et al. 2019) and are published in well-known journals.

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Manuscript form

The thesis is well structured, systematically brings reader to the topic, provides methods and discussion of results. Almost every text could have been polished unlimited amount of time this is also the case, that some paragraphs do not have a great flow of sentences, but it is a minor limitation of the thesis. The text well presents and refers to the tables and figures. Overall, the manuscript satisfies all the requirements.

Overall evaluation and suggested questions for the discussion during the defense

In conclusion, I believe that Amálie have learnt a number of things, proven that she is able to work with related literature and to use adequate methods to study a topic of choice. She worked consistently and kept me updated about the progress during the year.

In my view, the thesis fulfils the requirements for a diploma thesis at IES, Faculty of Social Sciences, Charles University, I do recommend the thesis for the defense and suggest a grade A.

Q: During the defense, Amálie could discuss the share of the renewable energy resources at the market and her results with respect to this share, thus, the effects.

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

Questions

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

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	28
<i>Methods</i> (max. 30 points)	30
<i>Literature</i> (max. 20 points)	18
<i>Manuscript Form</i> (max. 20 points)	15
TOTAL POINTS (max. 100 points)	91
GRADE (A – B – C – D – E – F)	A

NAME OF THE REFEREE: *Luboš Hanus*

DATE OF EVALUATION: *June 7, 2021*

(Digitally signed June 7, 2021)
Luboš Hanus

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