

Report on Bachelor Thesis

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

Student:	Tomáš Doležal
Advisor:	Mgr. Petr Polák, MSc., Ph.D.
Title of the thesis:	Economics and return on investment of photovoltaic power plant on houses in the Czech Republic

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, Tomáš Doležal investigates the economics and return on investment of installing photovoltaic systems on residential properties in the Czech Republic. The primary aim is to assess whether such installations are a viable cost-saving measure for households, considering local factors such as installation costs, electricity prices, subsidies, and solar irradiation.

Contribution

The thesis makes a meaningful contribution to understanding the financial viability of residential PV installations in the Czech Republic. By focusing on the specific conditions of the Czech market which includes local subsidies, electricity prices, and the technical challenges associated with PV installations, the author provides insights that can be useful to both policymakers and potential investors in residential solar energy.

Methods

The author uses a combination of a historical data and scenarios put into a model assess the ROI of PV installations. Although the method as such in principle is ok, the lack of clarity behind the model and the final results are the main drawback of the thesis.

Literature

The work with the literature is proper and follows academic standards, when working with primary sources. The literature review is thorough, covering key studies on PV topic. However, the outcomes of the previous works are not always fully presented (i.e. thesis describes what is in the papers done, but not what the actual results are). These findings should be also compared to result provided by this thesis.

Manuscript form

The thesis is ok to read, but author forgot about abstract. The thesis covers economic, legal and technical aspects, but especially for the technical ones, the thesis should be more precise. E.g on page 8, "Given that most of today's appliances are single-phase, a symmetric power inverter would not use up to two thirds of generated electricity locally, which would dramatically decrease the profitability." Is not fully true. It depends on the way the household wiring is done and what type of appliances are used. Also, asymmetric inverters are limited by output per phase...

In addition to that, I kind of feel that the thesis is unbalanced while reading it, meaning that some details are discussed, others are almost overlooked or their importance is not fully stated or discussed – e.g. that for the mentioned billing per phase issue.

Overall evaluation and suggested questions for the discussion during the defense

Being an advisor of the topic, I am sad that the comments I provided in spring were not incorporated and I am not 100% sure, if the thesis as such is defensible mainly due to the analytical part. The core of the analysis is headed in a good direction, but the actual presentation and implementation is very weak and non-transparent. The analysis also does not provide any sensitivity analysis so that the robustness of the results could be assessed. Some of the assumptions are not discussed fully along with possible implications on the final results.

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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 E.

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

CATEGORY	POINTS
<i>Contribution (max. 30 points)</i>	11
<i>Methods (max. 30 points)</i>	10
<i>Literature (max. 20 points)</i>	15
<i>Manuscript Form (max. 20 points)</i>	15
TOTAL POINTS (max. 100 points)	51
GRADE (A – B – C – D – E – F)	E

NAME OF THE REFEREE: Petr Polák

DATE OF EVALUATION: 26. 8. 2024

*Digitally signed (26. 8. 2024)
Petr Polák*

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