

Opponent's Report on Dissertation Thesis

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Author:	Petra Valíčková
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Title of the Thesis:	Three Essays in Development Economics
Type of Defense:	DEFENSE
Date of Pre-Defense	October 14, 2020
Opponent:	Claire Nicolas Ph.D.

Address the following questions in your report, please:

- a) Can you recognize an original contribution of the author?
- b) Is the thesis based on relevant references?
- c) Is the thesis defensible at your home institution or another respected institution where you gave lectures?
- d) Do the results of the thesis allow their publication in a respected economic journal?
- e) Are there any additional major comments on what should be improved?
- f) What is your overall assessment of the thesis? (a) I recommend the thesis for defense without substantial changes, (b) the thesis can be defended after revision indicated in my comments, (c) not-defensible in this form.

(Note: The report should be at least 2 pages long.)

Overall assessment of the thesis: I have examined Petra Valickova's PhD thesis entitled "Three Essays in Development Economics". The thesis comprises three substantive papers, one on the impact of financial development and improved access to financial and banking services on economic growth and 2 papers focusing on another important factor of development: energy access and energy cost. My overall assessment of the thesis is as follow and I will detail by chapter below.

- a) Yes, I clearly recognize an original contribution of the author.
- b) Yes, the thesis is based on relevant and recent references.
- c) Yes, I consider this thesis to be defensible at my former home institution (Nanterre University).
- d) Yes, the results of the thesis allow their publication in a respected economic journal and it is already the case. The first paper has been published in the Journal of Economic Surveys, while the second was just accepted in Energy Policy.
- e) I do not have any major comments for improvements.
- f) My recommendation is (a) I recommend the thesis for defense without substantial changes.

Chapter 1 – Introduction

The first main paper of Petra Valickova's thesis is quite different from the two other papers she produced both in terms of topic (impact of financial development on economic growth versus cost of universal access and energy cost in a sub region of Africa) and methodology (meta-analysis versus use of a power system planning model). In my views, this is not an issue and demonstrates Petra Valickova's ability to use a wide range of economic tools. The changes I recommended in the introduction, to discuss the importance of financial services in overcoming credit constraints to soften affordability issues in developing countries have been made.

Chapter 2 – Financial development and economic growth – A meta analysis

I am not familiar with the meta-analysis literature and the techniques and tools used in the paper, so I am not able to judge the relevance of the statistical methods being used. That being said, I found this paper very interesting and I commend the authors for the large quantity of papers collected and analyzed for this work. Petra added a discussion on how this kind of study could be relevant for developing countries, thus answering the comments I had.

Chapter 3 – The Costs of providing access to Electricity in selected countries in Sub-Saharan Africa

This paper has recently been accepted for publication in Energy Policy. I had the opportunity of reviewing this paper for Energy Policy so I am quite familiar with its content. This policy paper is well written and organized and bridges a gap in the universal access investment need literature by focusing on the potential impact of universal access on generation costs. Unlike previous similar works, the authors single out the cost of meeting the additional demand necessary to reach universal access instead of studying the cost of meeting existing + new customer demand. The authors show that this additional cost is quite small compared to the cost of serving the demand growth of existing customers (four times lower) and that this result is robust to variations in access rate or in the way new households are electrified (on-grid/off-grid share). The authors also show that the level of demand considered for newly connected households is an important driver of universal access costs (which was also the findings of previous World Bank work, see [here](#)).

On the methodology employed, the authors use a power system planning model developed for this paper (if I understood well) which demonstrates Petra Valickova's expertise and ability to deal with a wide variety of economic tools (from the meta-analysis statistical methods to the optimization models). With this paper and the following one, the candidate also demonstrates her profound understanding of the power sector in developing countries and more particularly in the context of Sub-Saharan Africa.

I also commend the work of the authors regarding the demand assessments and forecasts which required a significant literature review of documents not always easy to access and study (as the utilities annual reports, development institutions papers and reports and consultants reports are not always well referenced and searchable).

I had 2 minor comments that have been addressed in the new version of the manuscript.


Chapter 4 - Potential Gains from Regional Integration to Reduce Costs of Electricity Supply and Access in Southern Africa

Using the model developed for the previous chapter, Petra Valickova studies how increased interconnections and trade reduces generation cost in the Southern African Power pool. The main result, and an important one, is that current interconnections are not used efficiently and that increasing their use could lead to subsequent cost savings. The second very interesting result is that new interconnectors could help reduce further generation costs but only marginally (compared with using efficiently the existing infrastructure). As the conversation on expanding access and decreasing generation costs is often focused on building new interconnectors, this last result allows to shift the debate towards the soft infrastructure required to facilitate trade.

Since one of the finding of the paper is that half of the possible cost savings from existing interconnectors is due to efficient sharing of reserve capacity between countries, it would be interesting as a next step to also consider spinning reserve needs in the model. Particularly since hydro (a potential flexibility provider), wind and solar are going to represent a growing share of the installed capacity. Petra took this comment into account and included a discussion on spinning reserves in the manuscript.

All other minor comments that I had have been addressed in the new version of the manuscript.

Petra Valickova sufficiently incorporated all my comments and suggestions into the current version of this thesis. Therefore, I fully recommend her thesis to be accepted for the defense as it is without any need for further changes.

Date:	April 13, 2021
Opponent's Signature:	
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