

# Review of the Dissertation Thesis

Author of the thesis: Ing. Dennis Nchor, Mendel University in Brno, Faculty of Business and Economics

Title of the thesis: Opportunities and Challenges of the Ghanaian Economy with the Commercial Production of Oil

Reviewer: doc. Ing. Petr Rozmahel, Ph.D., Mendel University in Brno, Faculty of Business and Economics

The dissertation thesis by Dennis Nchor focuses on the role of the newly emerged oil sector in Ghanaian economy. In particular, the main goal is expressed with three research questions. Firstly, the author asks about the impact of oil price changes on aggregate economic performance of Ghana. Secondly, the thesis attempts to identify and estimate the strength of inter-sectoral linkages between the oil sector and other sectors of the Ghanaian economy. Thirdly, possible negative impacts of the new oil sector on traditional sectors such as agriculture or manufacturing are estimated. This part stems from the theory of the Dutch Disease. In addition the final task includes estimation of the impact of the oil sector on the shadow economic activities in Ghana. Apparently the thesis is based on the main assumption that the oil sector can be considered as a newly emerging one and thus the impacts of intensifying production in the short and long run are not clear on the Ghanaian economy. Hence, it is very useful to analyse possible current and future impacts of enlarging oil sector's role on Ghanaian economy and society since some of the impacts can be seen as positive as well as negative.

In my opinion, the main purpose of the thesis is clear. It evokes a large potential for policy implications and recommendations. I do appreciate clear and very well understandable formulations of the research questions. They help to understand the aims of the thesis in details. Reading the introduction and also the first parts of the literature review, one might notice that the author tries to focus on practical applicability of the intended research and expected findings. Regarding the expected theoretical contribution of the thesis, the various methodological approaches testing the examined causalities among main variables and also estimating the inter-sectoral linkages and the extent of shadow economy are the main values added.

The thesis is written in a straightforward way. In the literature review and analytical part of the thesis the author tries to focus solely on the intended research goals and does not waste the room for any additional writings. I do appreciate this style since it makes reading clear and more comfortable. On the other hand there are sections, in which I would appreciate larger room for additional comments, interpretations as well as some detailed descriptions of input data.

The literature review includes papers dealing with the topical areas related to the research questions. I do appreciate the effort of the author to review the literature focused on African developing economies. On the other hand I consider the few beginning sections of the review to include more factual information than the review of literature. In fact, the sections beginning with subchapter 3.5.3 include high quality review of relevant literature. Before that section the text focuses rather on description of economic and also historical background of the oil sector development in Ghana. Although consider this parts to be extremely important for better understanding of the research problem, I would place them in an individual separated chapter out of the literature review in the thesis. Hence the actual review of literature might be considered as rather brief since more papers could have been reviewed related to examined topics (e.g. issue of shadow economy).

The methodology is described rigorously in the fourth chapter. The applied methods are described in a detailed way using a number of formulas and equations to characterize the model specifications applied in the thesis. Though, some of the text might be considered as redundant in this part. Author could avoid general descriptions of methods which are drawn from standard econometrics textbooks. It relates mainly to pages 28-31. Instead I would appreciate the description of the empirical strategy with concrete model specifications including variables applied in the estimated models. Also the description of data is missing. The missing description of used data worsens orientation of the reader in the empirical testing and also makes assessment and interpretation of results more complicated. This is especially significant for the research question No. 2 focusing on multiplication effects and cross sectoral linkages estimation. Also some of the methods used and their role in reaching the objectives are not mentioned in the methodology (such as Granger causality testing, impulse-response functions). The clarity of the empirical strategy would also improve explanation of the role of each method for reaching the objectives and answering the questions. Despite of the small and little bit critical comments on the structure of the chapter describing the methodology, I consider the selection of methods applied in the thesis appropriate and innovative to certain extent (e.g. the MIMIC model for the shadow economy examination).

The analytical part is well processed. It is logically structured following the individual research questions. The illustrative tables and figures are used, which helps the reader to compare and assess the results. Still, I miss the introductory part providing some overview of input data and their descriptive statistics. It would be especially helpful for questions No. 2. Also regarding question No. 1. examining the link between GDP and oil prices, one might think about inclusion of sensitivity analysis using another indicator of aggregate economic activity (GVA, unemployment/employment, gross consumption, industrial production indices etc.).

Regarding the main findings of the thesis I very much appreciate the final parts of the thesis. I consider the chapter 6 (Discussion) and 7.1. (General view of the challenges of the oil sector in Ghana) to be the best parts of the thesis. In the sixth section author summarizes and interprets the main findings. I especially praise the author for interpretation of the results in line with stated research questions. It clearly feels out the thesis' contribution especially in the area of prospective policy implications. In addition the main findings are compared with current existing papers and studies in that section, which improves their validity.

The concluding section consists of two parts. The first parts again briefly summarizes and interprets the main results and findings. The second section (7.1) provides concluding remarks and policy implications. Especially this part includes original policy recommendations which might be helpful to dampen the negative effects of emerging oil sector in Ghana.

I consider the dissertation of Mr. Dennis Nchor to be a scientific text of a high quality. It fulfils stated goals and answers the research questions in a straightforward way. The results and findings are valid and applicable for macroeconomic policies in Ghana. The style of writing is very good. The level of English is excellent.

**Hence I do recommend the thesis for defence.**

Regarding discussion I would like to ask few questions to the author:

*Conceptual:*

The small impact of oil price shock could be attributed to the presence of Ghana Stabilisation Fund in the short run (p. 81). Why is it so? Can this statement be empirically tested?

How one can understand the term of *vulnerability to the crude oil price shock?* (chapter 6.1.1). is it the probability of the shock occurrence? Or is it the extent of negative impact of the oil shock to the economy of Ghana (due to not existing adjustment mechanisms?)

*Technical:*

What input data (time series, frequency) were used for estimations of the sectoral multipliers? (table 15 and 16). What is the rationale behind attributing the change in the multipliers to the impact of emerging oil sector?

Why is the increase in the estimated extent of shadow economy attributed to the oil sector? (as stated on p. 77)

Brno, 9<sup>th</sup> November, 2016

Doc. Ing. Petr Rozmahel, Ph.D.