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# SILESIAN
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SCHOOL OF BUSINESS
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## Opponent review of Ph.D. dissertation

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

*Author:*   *Ing. Dennis Nchor*

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*Opponent:*   *prof. Ing. Daniel Stavárek, Ph.D.*

## Topic and objective

A comprehensive evaluation of benefits and threats stemming from production of oil in a developing economy is of constant interest of researchers as well as policy makers. An analysis of this issue in conditions of the Ghanaian economy seems to be topical and actual. However, the topic is rather exotic from the Czech point of view. The community of Czech economists (including the opponent) has a limited awareness and knowledge of Ghanaian economy and current development trends. Therefore, I cannot adequately evaluate all findings and recommendations presented in the thesis. In this context, I would suggest the Faculty of Business and Economics to consider whether such specific and exotic topics should be accepted for elaboration in Ph.D. thesis.

The introduction lacks the story and motivation. By reading the introduction I have learnt a lot of facts on international trade with oil, oil prices and government revenues but I have not received and information on why such an analysis is relevant and worth to be elaborated. The next important aspect I really miss is a clear statement what is a scientific contribution of the thesis. It is not underlined how the thesis distinguishes from existing literature and what are the original and unique findings that the thesis has brought forward.

The main objective of the dissertation is clear enough and in combination with more specific research questions sets the direction of the thesis. However, the examined topic of challenges and opportunities related to production of oil is much broader than three given questions. It is not explained why only and exactly these three questions have been chosen for further analysis.

## Structure and methodology

The objective of the thesis as well as research questions are introduced on two places (Chapter 1: Introduction, Chapter 2: Objective). I do not see the point of such an approach which only leads to duplicating the same text in the two subsequent chapters.

Chapter 3 Literature review mixes up two self-contained and important parts of dissertation, i.e. literature review and overview of oil market from international as well as Ghanaian perspective. Therefore, the title of the chapter is somehow misleading. I would suggest splitting the existing Chapter 2 into two separate chapters and expanding both of them to the standard extend. The market overview and literature review presented in the thesis are far below standards for Ph.D. dissertations. In particular the literature review in any Ph.D. dissertation should constitute the foundations of the thesis and, unfortunately, this is not true in the case of Mr. Nchor's dissertation. The literature review is rather flat and can be also extended by including more reviewed paper. It is more a list of relevant studies and their findings than a pure review in which the cited papers are mutually compared and implications for the own research are drawn.

The empirical methods applied in the dissertation can be considered as appropriate. All of them are standard tools that have been frequently used in existing literature for similar kind of research. However, the author spends a lot of space by elaboration of elementary econometric methods such as unit root tests, cointegration test, selection of optimal lag length and others. These techniques are widely known and commonly used in empirical papers and therefore the detailed introduction is somewhat redundant. The author should focus more on final version of the models that are already equipped with data used in the analysis than on general formulas.

A significant commercial production of oil started in 2010 in Ghana and the production increased almost 10 times as compared with the period before 2010. My doubts stem from the fact that this sudden structural shock definitely influences results obtained from models if the dataset contains observations from 1984 to 2015 and includes the two completely different subperiods (1984-2009 and 2010-2015). Hence, I am not sure whether the results are economically valid and relevant. In spite of econometric correctness one should wonder how solid are findings on long-term equilibrium relation, how relevant are forecasts of future development of GDP and oil price or how reliable are impulse-response functions from economic point of view. In my opinion, the methodologically correct approach would be running the models separately for each of the subperiods (no-commercial production vs. commercial production) and subsequent comparison of the partial results. Very similar problematic issue can be observed also in Chapter 5.2 and Chapter 5.3 which analyze sectoral multipliers and Dutch disease symptoms. The author, on one hand, correctly splits the entire period on two subperiods (in Chapter 5.2) but, on the other hand, admits that the second subperiod has been intensively affected by energy crises. Therefore, the results are not reliable as they are probably biased by wide effects of energy crises. I understand that data time series for the period of commercial production are not long enough. I also see that the recent development in the Ghanaian economy has been turbulent. But, as a consequence, this raises a crucial question whether the research questions defined in the thesis can be examined properly at this moment.

**Findings and conclusions**

The results presented in Chapter 5 are accompanied by discussion in Chapter 6. This structure seems to be inconvenient as a reader should frequently consult arguments provided in discussion with results presented several pages above. Nevertheless, the discussion is generally well grounded and provides sound arguments, explanations and implications. I also acknowledge that the author compares his findings with conclusions of existing literature. On the other hand, I found several arguments that are not so clear and straightforward or they are articulated vaguely. Let me mention here couple of examples.

The author points out that the revealed negative impact of crude oil price shocks on economic activities in Ghana can be minimized through improved monetary policy (p. 81). What exactly should be done by the central bank? The only truth I can tell is a general statement that the appropriate monetary policy response depends on both the nature and the persistence of the shock – in particular how households and businesses respond to it.

According to the results presented in the dissertation, the new oil sector has a backward linkage of 1.10 and a forward linkage of 1.02. The author comments this finding by implication that the sector uses the inputs of domestic sectors for its production activities and also supplies its output to some sectors locally. Since the oil sector is in focus of the dissertation, this finding deserves a more detailed explanation. What are the exact input and output linkages of the oil sector in Ghana?

The Dutch disease is usually examined by assessment of the spending effect, factor movement effect and exchange rate appreciation effect. I found the analysis and discussion related to the Dutch disease as insufficient. While the exchange rate appreciation is taken into consideration, the factor movement effect is analyzed only through sectoral growth and contribution. What I really miss in this context is analysis of shifts in financial resources flows, skilled personnel and investment movement to the oil sector from other sectors of the economy. The spending effect is not addressed properly either in the thesis. More attention should be paid on the issue how the revenues from the oil production are utilized and distributed and what are the effects.

**Formal standards**

The PhD thesis is fully in accordance with formal requirements formulated by the Faculty of Business and Economics. The language used is appropriate and consistent with scientific standards. The author cites the literature correctly in text as well as in the reference list. The reference list contains sufficient number of entries ranging from relevant textbooks to papers published from renowned academic journals. This confirms that the author is familiar with up-to-date literature and able to work with scientific publications. Grammar errors and typos are minimalized to a negligible level. The only comment on formal standard is the question why the author uses titles of the third or fourth order if there is only one in the respective subchapter (e.g. 3.1.1, 3.2.1, 4.4.2.1).

**Questions on author and overall assessment**

Besides the questions raised in the review I would welcome if the author could address the following issues during the defense of the dissertation.

- Why the three research questions have been chosen and what could be another research questions that would make the analysis more complex?
- What is the main scientific contribution or "value added" of the dissertation as compared with existing literature?
- What is the author's opinion on the inconsistency of the dataset which contains two enormously different two periods in terms of intensity of the oil production and other structural aspects?

In summary, the thesis deals with interesting topic, particularly form the developing country's perspective. Whereas the author employs appropriate methodology and applies the methods correctly, I am skeptical about the economic relevance of the results and findings. The general quality of the dataset is low and therefore I am not sure whether the formulated research question can be analyzed properly. As a result, **I recommend with strong reservations** the thesis to be defended.

In Karviná, 02 October 2016

prof. Ing. Daniel Stavárek, Ph.D.