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A DECADE AFTER OIL DISCOVERY IN GHANA: THE ECONOMIC IMPACTS AND POLICY IMPLICATIONS

By

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SUMMARY

The main objective of this study is to undertake an empirical assessment of the macroeconomic impacts of oil production in Ghana over the period 2012 to 2015. It also attempts to determine whether Ghanaians have benefitted from the exploitation of oil. The results indicate that although oil production has increased exports and improved the trade balance, it has had an insignificant impact on economic output and household welfare. Economic output (represented by GDP) and household income increased by only 0.3 and 0.1 percentage points, respectively, annually over this period on average.

Are Ghanaians getting the best out of oil production? The overwhelming answer is "No". There have been minimal impacts on output and job creation due to weak linkages between the oil sector and the rest of the economy. For example, the crude oil is exported from offshore to foreign markets. In spite of the local content provisions, many individuals and SMEs are unable to participate in the industry due to lack of skills and capacity. Furthermore, Ghana has not benefited from previous oil contracts in terms of the economic rent extracted.

The paper makes the following recommendations:

(i) As a matter of urgency, government should make the necessary investments required to facilitate onshore processing of oil and gas. This will enhance the developmental impacts of petroleum in terms of job creation and backward and forward linkages with other sectors.

(ii) The government should invest in human capital in this area to promote significant local participation.

(iii) There is a strong case for re-negotiating all oil contracts. In so doing, much can be learned from Norway which began oil production in 1969/70 and has done very well in terms of the management of its resources.

IEA Ghana

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INTRODUCTION

Oil exploration has been documented as having taken place in Ghana in the late 1800s and early 1900s in the onshore Cape Three Points area. However, the initial exploratory wells did not return any evidence of substantial deposits. Oil was first discovered in Ghana in 1970 by the US firm AgriPetco off the coast of Saltpond. However, the reserves were not in sufficient commercial quantities and were abandoned for some time.[1]

In 2007 a substantial discovery was made by Kosmos Energy LLC in the Gulf of Guinea's Tano Basin with recoverable reserves of more than 600 million barrels of oil and an upside potential of 1.8 billion barrels. Production commenced in December 2010 with an initial output of 25,000 barrels of oil per day. Ghana has therefore experienced six years of oil production a decade after the major discovery.

Since the Jubilee discovery, 25 other discoveries of oil and gas condensates have been made in the Deep Water Tano and West Cape Three Points Blocks. These include the Tweneboa, Enyenra, Ntomme (TEN) and the Sankofa-Gye Nyame (SGN) oilfields. The TEN oil and gas prospect contains estimated recoverable reserves of 245 million barrels of oil (mmbo) and 353 billion cubic feet (bcf) of gas, while the SGN field is estimated to hold combined oil and non-associated gas reserves of 162 mmbo and 1,366 bcf, respectively. Oil production from TEN commenced in August 2016 and is expected to plateau at 76,000 bopd between 2017 and 2020. The SGN field is expected to commence production in 2018.

Although modest by international standards, these discoveries confirm Ghana's potential to establish a hydrocarbon industry that could have a significant impact on economic growth and development.

This is why the recent resolution of the ITLOS Boundary dispute with Cote d'Ivoire in favour of Ghana is highly significant because it means that development of these resources can now proceed with certainty.

Given Ghana's experience as a nascent oil producer and the potential to scale up production, it is important to enquire about the impacts of the past production. This would allow the current policies and strategies to be critically analysed to determine how they could be modified to achieve the desired impacts.

In light of the foregoing this paper seeks to address the following questions:

1. What has been the economic impact of oil production in Ghana to date?
2. Are Ghanaians getting the best out of it?
3. What can be done to enhance the developmental impacts of oil and gas production?

The remainder of the paper is organised as follows. The next section puts the study in context by providing a brief overview of the Ghanaian economy, followed by a description of the role of petroleum. Section 4 discusses the modelling approach in a non-technical way. The results are presented and discussed in the penultimate section, while the final section concludes with the policy recommendations.

1 The field is currently being exploited by a joint venture comprising the state-owned Ghana National Petroleum Corporation (GNPC) and Lushann Eternit Energy Limited of Houston.

OVERVIEW OF THE GHANAIAN ECONOMY

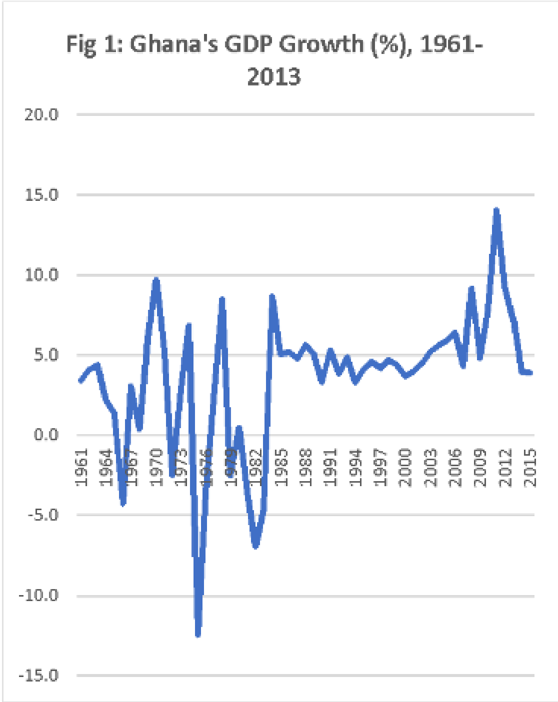
Following positive growth soon after Independence in 1957, Ghana's economy began to decline from 1963 due mainly to falling cocoa prices. The first coup d'état that overthrew Osagyefo Kwame Nkrumah in 1966 resulted in a decline in GDP growth of -4.3% in that year (Fig. 1). The subsequent coups between 1966 and 1981 also resulted in declines in GDP growth. The period of PNDC rule (1983-92) brought some measure of stability, although growth was sluggish. Economic growth can be said to have taken off after 2001 following the transition to constitutional rule. The average growth rate of real Gross Domestic Product (GDP) from 2000 to 2008 was 5.6% per annum.

The highlight of this period was in 2011 when the economy recorded a growth rate of 14% on the back of one full year of oil production. However, this growth rate could not be sustained.

Owing to the effect of a number of factors including falling commodity prices, persistent power shortages, high and rising business costs, high government budget deficits financed by borrowing from the domestic market, high inflation and an unstable exchange rate, economic growth declined to a low of 2.9% in 2016.

THE ROLE OF PETROLEUM IN THE ECONOMY

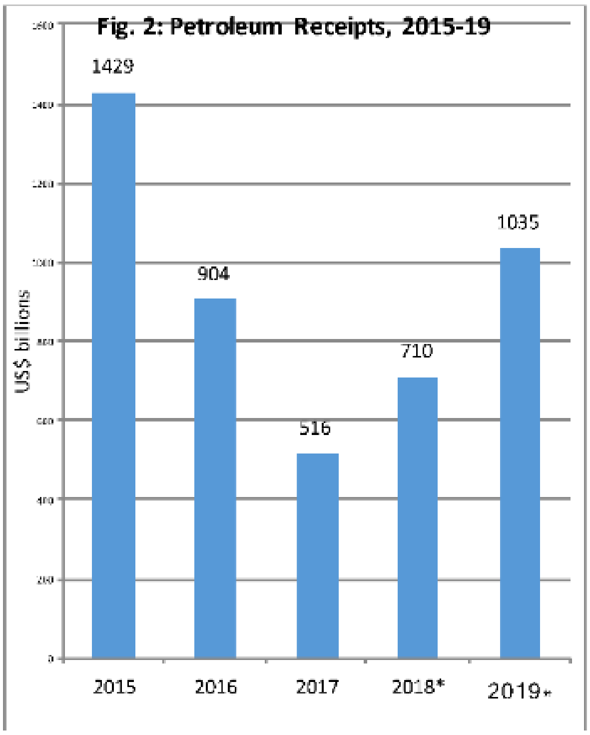
In 2015 Petroleum contributed GHS2.076 billion (or 6.4%) to real GDP.



In comparison, the contribution of other sectors (in GHS) were as follows:

Mining:	2.77 billion (8.5%)
Manufacturing:	2.39 billion (7.4%)
Agriculture	7.54 billion (23.3%)
Services:	17,553 billion (54.1%)

Petroleum's share of the economy is projected to increase from additional oil and gas production from the TEN and SGN fields. Fig. 2 shows that petroleum receipts by 2019 are estimated to reach $1035 billion. It is therefore of utmost importance to take stock of the impact of oil on the economy in order that proactive measures can be undertaken to maximise the impacts of this vital non-renewable resource.



Note: 2018 to 2019 figures are projections.

THE MODELLING APPROACH

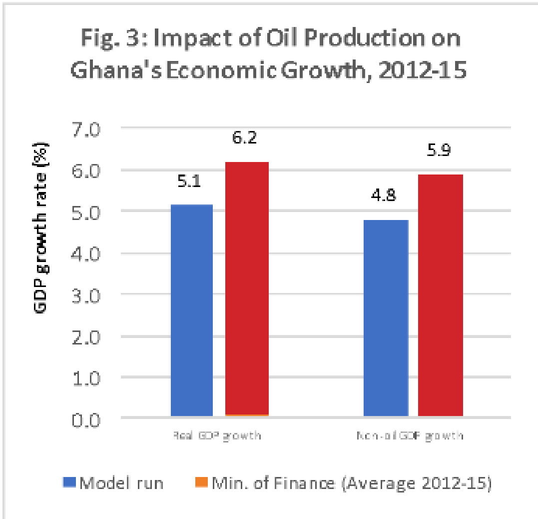
The Global Trade Analysis Project (GTAP) model was used in this analysis. GTAP is a computable general equilibrium (CGE) model which has a database comprising 140 regions/ countries, including Ghana.

Ghana's data is based on a social accounting matrix jointly constructed by the International Food Policy Institute and the Ghana Statistical Service.

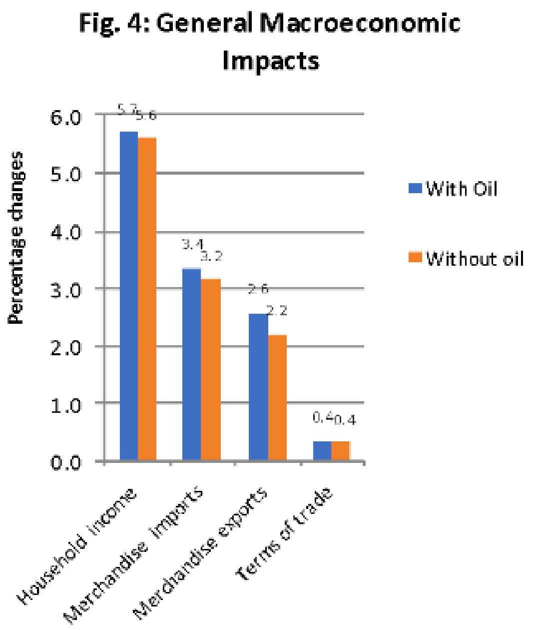
To determine the impact of oil production in the economy, we imposed a shock to the model in the form of the average value of oil production over the period 2012 to 2015 - Scenario A. We then applied another shock to the model excluding oil - Scenario B. The net impact of oil is then given by the difference between the solutions in Scenarios A and B.

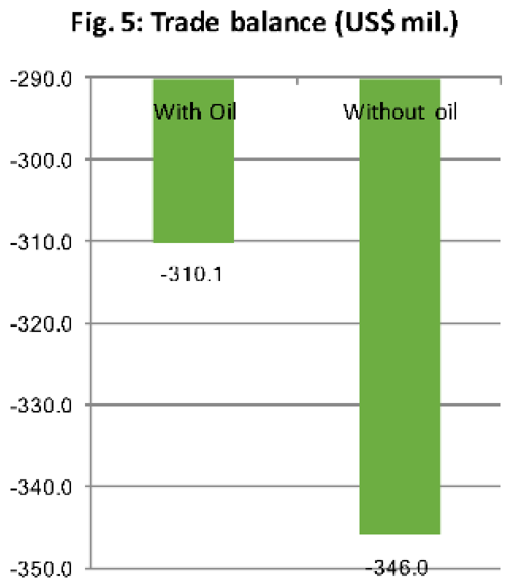
RESULTS AND DISCUSSION

The model projects that over the period 2012-15, Ghana's GDP grew by 5.1% per annum with oil and 4.8% per annum without oil on average (see blue bars in Fig. 3). Therefore, the impact of oil on growth was about 0.3 percentage points per annum over the period. The model slightly under predicts GDP growth, but compares quite favourably with actual figures from the Ministry of Finance (see red bars, Fig. 3).



We also estimated the general macroeconomic impacts focusing on variables such as household income, exports, imports and the terms of trade. The results (see Fig. 4) indicate that oil production has very little impact on household income, with a net impact of just 0.1 percentage points per annum over the reference period on average.





The largest impact of oil production was on exports, which saw an increase of 0.4 percentage points per annum on average over the period. Generally, imports (with or without oil) grew faster than exports. Therefore, the main effect of oil production was to improve the balance of trade.

Fig. 5 shows that oil production improved the trade balance by about $36 million per annum on average over the reference period.

What has been the economic impact of oil production so far?

On the positive side, oil has generated additional revenues for government to spend on development projects, although the developmental impacts of these expenditures so far are questionable. Another positive effect is that a portion of the revenues has been saved for future generations.

On the economic front, oil production has increased exports and improved the trade balance.

However, oil has contributed very little to economic growth, and by extension, employment and poverty alleviation.

Are Ghanaians getting the best out of oil production?

The overwhelming answer is “No”. The minimal impacts on output and job creation are due to weak linkages between the petroleum sector and the rest of the economy. In spite of the local content provisions, many individuals and SMEs are unable to participate in the industry due to lack of skills and capacity.

Furthermore, Ghanaians have not benefited from previous oil contracts in terms of the economic rent extracted. Apart from corporate taxes, royalties and a few other charges, the only other benefit derived from oil production is from equity participation which currently stands at only 10%. Key elements of the governance framework were not finalised before production commenced. For example, even though first oil was in December 2010, important pieces of legislation such as the Petroleum Revenue Management Act (Act 815) and the Petroleum Commission Act (Act 821) were not enacted until 2011. Oil contracts that were negotiated after the 2007 find were signed under the Petroleum (Exploration and Production) Law 1984 (PNDC Law 84) which was outdated by the time oil production started. The replacement Petroleum (Exploration and Production) Act (Act 919) was not enacted until 2016.

As owners of the resource, it is fair to conclude that Ghanaians are not deriving the maximum benefits from their petroleum resource. Rather than giving 90% of the value of the resource to foreigners, IEA believes that Ghana should leverage its ownership to demand better terms. Specifically, Ghana should make use of service contracts through which foreign oil companies would be paid for extracting the oil for us. In this regard, much can be learned from Norway which began oil production in 1969/70 and has done very well in terms of the management of its resources.

POLICY RECOMMENDATIONS

Three key policy recommendations emerge from this analysis:

1. As a matter of urgency, government should make the necessary investments required to facilitate onshore processing of oil and gas. This will enhance the developmental impacts of petroleum in terms of job creation and backward and forward linkages with other sectors.

2. The government should also invest in human capital in this area to promote significant local participation.

3. There is a strong case for re-negotiating all oil contracts.

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