



Managing Oil Revenue in Ghana - Controlling Spending is the Key

GSSP

Xinshen Diao and Clemens Breisinger

With an average growth rate of 5 percent and a reduction of poverty by one-half over the past two decades, Ghana is a recent success story and a rising star in African development. Yet the country remains dependent on relatively few external sources of income and its external debt has started to rise again (IMF 2008¹). The recent discovery of offshore oil is seen by many as an important new source of income, and an opportunity to overcome persisting structural weaknesses in exports and the economy as a whole, and raise Ghana's prospects of becoming a frontrunner in African development.

At the same time, it is well known that the big upward leap in foreign currency receipts that would result from oil sales could very likely cause a major appreciation of the real exchange rate, i.e. an increase in the inflation-adjusted purchasing power of the Ghanaian currency, the cedi. This would encourage imports and benefit domestic consumers (mainly those in the urban areas who buy more imported goods) and some industrial and service sectors (such as construction and high quality hotels which use imported materials). But it would discourage exports by making traditional exports such as cocoa less profitable. An appreciation of the real exchange rate would also discourage the promotion of nontraditional exports such as processed cocoa and tropic fruit products and import-substitutions such as poultry and other livestock products and many manufacturing products. Increases in wage rates and real estate prices as oil revenues are spent in the domestic economy will also pull resources away from the tradable sectors to nontradables such as housing

and construction. This will lead to difficulties for Ghana in diversifying its agricultural and broad economic structure and achieving industrialization. Clearly, careful management of oil revenue will be a new and important challenge for the government.

Booms in oil and other mineral resources have been often associated with negative economic and social development outcomes in many African countries (the so-called "Dutch Disease" effect). However, there are also examples of countries which, at a similar development stage as Ghana, discovered oil and successfully transformed their economies. Indonesia is one such country. Even for Indonesia, there were lessons of poorly managed its oil revenue at the early stage but adopted a self-restraint model later and saw development success. Which way will Ghana go?

In fact, Ghana may already be experiencing "Dutch Disease" with recent rapid growth in foreign inflows (Harberger, 2009): imports have grown from 60 percent of GDP in 2005 to 80 percent in 2008 (IMF 2009) and the most rapid growing sectors are construction and services in the recent years. This brief summarizes IFPRI analysis on the possible effects of additional foreign inflows from oil revenue on Ghana's economy, particularly on the agricultural export sector, in which cocoa is the dominant commodity.

The methodology we apply for this assessment is an intertemporal general equilibrium model with five economic sectors including export agriculture, domestically oriented agriculture, mining, other tradable nonagriculture and nontradable nonagriculture (Diao and Breisinger, 2010). We assess the impact of oil revenue received by the government by considering two oil management options: (a) spending all petrodollars as fast as they

¹ The IMF estimates that public debt will rise to more than 50 percent of GDP in 2009, and other sources' estimations are even higher, about 65 percent (EIU 2009).

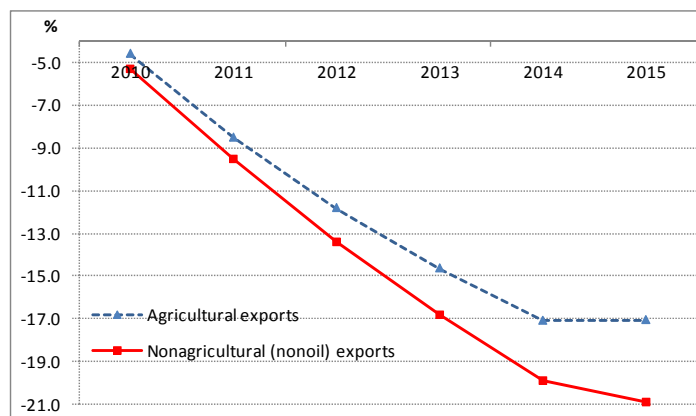
come in, and (b) spending 50 percent of current oil revenue and to save the other 50 percent into an oil fund that invests in riskless foreign assets.²

The main findings of this analysis are summarized below:

1. Fast oil spending will hurt nonoil exports

According to Osei and Domfe (2008), size of total oil revenue is expected to be equivalent to 25 percent of GDP and government oil revenue at about 10 percent of total government revenue by 2015. With such oil revenue inflows, Ghana's nonoil exports will be negatively affected if the government spends its oil revenue as fast as it comes in. In 2015 the level of nonagricultural exports, including mineral and manufacturing products and export services (measured in fixed international prices), will be 21 percent lower than in a situation without oil revenue inflows, while the agricultural exports will decrease by 17 percent in the same year (figure 1).

Figure 1: Declines in Non-Oil Exports due to Oil Revenue Inflows (compared with a situation without oil)



Source: Simulations using the intertemporal general equilibrium model.

Two inter-linked factors contribute to these negative effects on nonoil exports. First is the relative price effect. Government spending of oil revenue usually concentrates on products and services produced domestically, which attracts more resources into the nontradable sectors (such as construction and services) and causes production of tradable sectors (such as manufacturing and nontraditional agricultural exports) to fall. Second is the real exchange rate effect. Inflows of petrodollars will cause the real exchange rate to appreciate, which makes nonoil exports to become less profitable, including exports of cocoa and other traditional exports. The nonoil export sectors--with already-decreased production, must further reduce exports and increase their supply to the domestic markets.

2. Output of nonoil tradable sectors in the economy declines

Under the same scenario, the size of Ghana's tradable sectors such as cocoa and other agricultural export products, mineral and manufacturing products, and export services will fall, driven by increased internal demand, and resources will move into nontradables such as construction and services. The share of tradable industry and services in GDP will decline by 4 percentage points and the share of export agriculture in GDP will decline by 1.5 percentage points in 2015, compared to a situation without such oil revenue. The oil revenue will further enforce the trend of recent years: instead of becoming more export-oriented with a more diversified trade structure, the Ghanaian economy will become more nontradable-dominant, with almost 70 percent of agricultural and nonagricultural production (including services) produced primarily for the domestic market, an increase in the size of nontradables in the economy by 6 percentage points in 2015.

3. Oil revenue will cause losses in nonoil GDP growth

Slowed down exports and a nontradable-dominant economic structure also have implications for growth. Growth rate in oil-included GDP will jump to double digits in the first few years as the amount of oil extracted increases annually. But this high GDP growth is somewhat mis-leading, as total oil

² According to Osei and Domfe (2008), the Ghanaian government will share 38.2 percent of total oil revenue and the rest will be owned by the foreign oil extraction companies. Given that oil is found offshore and will be fully extracted by the foreign companies using highly capacity-intensive technology, we assume that revenue owned by the foreign companies will not be spent either on Ghana's imported goods or in Ghana's domestic market.

revenue is counted as part of GDP, while only one third of such revenue goes to Ghana's government and the rest goes to foreign companies. On the other hand, the growth rate in the nonoil GDP will fall during the same period. In 2015 and 2020 slowed nonoil GDP growth causes nonoil GDP to be \$US400 and \$US600 million less, respectively, than in a situation without oil revenue inflows, and the cumulative loss will be \$US4.2-4.4 billion in the years between 2010 and 2020.

4. Oil revenue spending must be slow and carefully targeted

For smart use of oil revenues, Ghana should create an oil fund to slow government oil spending, and use oil revenue to finance productivity-enhancing public investment. Public investment can mitigate the negative effects of oil revenue spending but must be carefully targeted to be effective and efficient. Investment in infrastructure, for example, can improve productivity for the broad economy in the medium to long run, but it is unlikely to improve agricultural productivity unless these investments also target rural areas. Public spending also needs to include productivity-enhancing investments at the sector level, such as improving the entire value chain of some agricultural products from production to final markets, and at the regional level, through strong rural-urban linkages and improving market entry conditions for small enterprises, particularly in rural areas and small and medium urban towns. However, if the oil revenues are spent too quickly, the investments are unlikely to be effective, even if such spending is on public investment, and the negative effect of oil spending still dominates.

In conclusion, managing the size of oil revenue spending is the key. Slow spending on targeted productivity-enhancing investments is a practical option to avoid the negative consequences of oil revenue on Ghana's economy. Careful macro-economic management, including policies to limit domestic inflation, is also required. As shown by the development success in Indonesia, accelerating growth and structural transformation in the economy are determined by policies that can stimulate growth in tradable nonoil sectors. Oil revenue can contribute to such development when self-restraint model in management of oil has been adopted.

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For further information:

Shashi Kolavalli, Senior Research Fellow and Program Coordinator
GSSP – IFPRI

Postal Address: c/o IWMI, PMB CT 112, Cantonments, Accra, Ghana

Local Address: Martin Odei Block, CSIR Campus, Airport Residential Area

Tel: +233-(0)-21-780716 • Fax: +233-(0)-21-784752

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