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Can oil-led growth and structural change go hand in hand in Ghana?

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Abstract

Unlike in Asia, the manufacturing sector has not (yet) become a driver of structural change in Africa. One common explanation is that the natural resource-focus of many African economies leads to Dutch disease effects. To test this argument for the case of newly found oil in Ghana we develop a multi-sector intertemporal general equilibrium model with endogenous savings and investment behavior. Results show that in addition to the well-known short-term Dutch disease effects, long-term structural effects can indeed impede Asian-style economic transformation in Ghana (and other resource rich countries). We also demonstrate how oil wealth may go hand in hand with structural change in the future.
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1. Introduction

In the literature on economic development, the 'convergence hypothesis' implies that poor countries should be growing at a faster rate than richer countries, given the fulfillment of certain conditions relating to savings behavior, technology and population growth. While this hypothesis has generally held over the past thirty to forty years for those developing countries, in which the

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manufacturing sector has developed and served as a driver in structural transformation, growth performance has often been disappointing in resource rich developing countries. The pioneering study by Sachs and Warner (1995) shows that resource rich countries grew on average about one percentage point less during 1970–89. Moreover, the adverse effects of resource abundance on economic growth still hold if country-specific geographical and climate factors are taken into account (Sachs & Warner, 2001). Their findings suggest that resource abundance blocks countries from the growth benefits coming from structural change, a common phenomenon in successful development.

Among resource rich countries in Africa, the typical example of "resource curse" is perhaps Nigeria, the largest oil exporting country in Africa (Sala-i-Martin & Subramanian, 2003). After oil has been found in the 1960s, oil revenues per capita in Nigeria increased tenfold until 2000, while per capita GDP did not grow during the same period.[1] At the other end of the spectrum in Africa is Botswana, which has shown remarkable growth performances despite its rich endowment with diamonds. Outside of Africa, other countries with large extractive sectors that managed to escape from the resource curse are Norway, Malaysia, Indonesia and Chile (Frankel, 2010; Gelb & Grasmann, 2010).

Several observers have offered explanations for the natural resource curse, the most popular being de-industrialization caused by an appreciation of the real exchange rate, also called Dutch disease.[2] Dutch disease effects can permanently damage a country's development prospects, for example when these effects lead to the extinction of export-oriented sectors. Industries that have been pushed out of the market often find it difficult to re-capture market shares even after the resource rents have dried up and the real exchange rate returned to a lower level. This is because foreign competitors are likely becoming more competitive over time by adopting new technologies, which often renders the costs (in terms of human and physical capital) of re-entering the market prohibitively high. A second explanation has been associated with the volatility of world commodity prices, which may harm exports and production (El Anshasy & Bradley, 2011). Gelb and Grasmann (2010) note that even by the standards of volatile commodity prices, oil prices are exceptionally uncertain and oil exporters have typically not succeeded in smoothing these extreme price cycles. Collier and Venables (2011) summarize research on the impact of large terms of trade gains and losses on developing countries and find asymmetric adjustment, where favorable shocks do not have significant effects on growth, while adverse shocks reduce output.

In addition to price-related factors, it has also been argued that resource wealth can lead to unsustainable government policies (e.g., Ross, 1999) and corruption, rent seeking and even armed conflict (Auty, 2001; Collier & Hoeffler, 2004; Van der Ploeg, 2011). But whether price or non-price factors play the dominant role in the development of resource-based economies is still controversial.

If the appreciation of the real exchange rate is the dominating issue, the government has many policy options – both at the macro- and the meso-level – to reduce the threat of Dutch disease (Frankel, 2010). At the macro level, the government may reduce domestic absorption either through restrictive fiscal and monetary policies or through sterilization of resource revenues;

[1] More recently, economic reforms have put Nigeria back on track toward achieving its full economic potential. Nigerian GDP at purchasing power parity more than doubled from $170.7 billion in 2005 to $374.3 billion in 2010. Correspondingly, the GDP per capita almost doubled from $1200 per person in 2005 to an estimated $2078 per person in 2011. See EIU (2012).

[2] The phenomenon was first observed in The Netherlands with the export of natural gas found in Slochteren in 1959 and the accompanying relative decline of Dutch manufacturing.

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