



WIDER Working Paper 2017/185

Oil discovery and macroeconomic management

The recent Ghanaian experience

Mahamudu Bawumia¹ and Håvard Halland²

November 2017

Abstract: This paper analyses the evolution of fiscal and monetary variables in Ghana, from the discovery of oil in 2007 through to 2014. It documents the deterioration of fiscal and monetary discipline over this period, which resulted in a rebound of debt, a deterioration of the external balance, and a decrease in public investment. The paper goes on to analyse the potential causes of this deterioration, including the political economy context, and the fiscal and monetary institutional framework. The suggested causes include the politics of Ghana's dominant two-party system. Finally, the paper discusses what Ghana could have done differently to avoid the various damaging effects associated with the oil discovery. It does not aim to provide specific fiscal policy recommendations for Ghana, but rather to give an empirical account of Ghana's experience that may be useful for other countries that discover oil.

Keywords: Ghana, macroeconomic policy, oil, fiscal consolidation

¹Central University, Accra, Ghana; ² World Bank Group, Washington, DC, USA, corresponding author: hhalland@worldbank.org. This study is reproduced with World Bank permission within the UNU-WIDER project on 'Extractives for development (E4D)', which is part of a larger research project on 'Macro-economic management (M-EM)'.

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Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9256-411-7 <https://doi.org/10.35188/UNU-WIDER/2017/411-7>

Typescript prepared by Merl Storr.

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Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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1 Introduction

Much of the extensive literature on the ‘resource curse’ phenomenon suggests a negative correlation between national resource endowments and economic growth (Sachs and Warner 1995, 2001), although some studies have attributed this relationship to endogeneity (Brunnschweiler 2007; Brunnschweiler and Bulte 2008), or have obtained different results by expanding Sachs and Warner’s regression. The literature subsequent to Sachs and Warner has concentrated on identifying the mechanisms through which natural resource wealth impacts on growth. By this line of reasoning, natural resource abundance leads to some phenomenon that in turn affects growth (Alexeev and Conrad 2009). The channels through which the so-called curse is transmitted include: real exchange rate appreciation, which leads to a contraction of the non-resource export sector or ‘Dutch disease’ (Corden and Neary 1982); rent-seeking and corruption, which drag down growth (Ades and Di Tella 1999; Mehlum et al. 2006a, 2006b); large swings in commodity prices that result in macroeconomic instability (van der Ploeg and Poelhekke 2010); the interaction of resource rents and government consumption (Atkinson and Hamilton 2003); volatility of discretionary government expenditure (Bleaney and Halland 2014); armed conflict to control resources (Collier and Hoeffler 2004); volatility of commodity prices (Blattman et al. 2007); and anticipation of better times (van der Ploeg 2011).¹

Given the availability of disaggregated fiscal and monetary data, Ghana provides a unique opportunity to consider the resource curse hypothesis from a case study perspective. The case of Ghana provides limited support for some versions of this hypothesis, but ultimately tells a simpler story of insufficient fiscal and monetary discipline resulting from challenges to policymaking. Crucially—and contrary to, for example, Botswana—Ghana was not able to manage expectations sufficiently after oil was discovered. Its experience is in that sense consistent with van der Ploeg’s (2011) ‘anticipation of better times’ hypothesis. It is also consistent with Atkinson and Hamilton (2003), who conclude that the combination of natural resource rents and high government consumption provides an explanation for the curse, and with Collier and Hoeffler (2009), who argue that the combination of rents from the extractive industries and open democratic systems is associated with slower growth unless there are enough checks and balances. Ghana’s large increase in sovereign debt after the discovery of oil reflects the concerns of Mansoorian (1991), who suggests that an abundance of natural resources may encourage countries to assume unsustainable levels of debt.

In Ghana, tightly fought elections in 2008 and 2012, in the context of expected or newly available oil revenues, generated a situation where electoral promises trumped the need to manage expectations, generating spending pressures that ultimately could not be contained. Institutional weakness, which in the resource curse literature is most often referred to by aggregated indexes of institutional quality, took on very precise forms in Ghana. Specifically, nominal fiscal rules and central bank independence were not sufficiently supported by political consensus or by strong legal and other institutional underpinnings, and apparently nor was the integrity of the stabilization and savings funds. Procedures for forecasting oil revenues were not isolated against political upward pressure on the estimates (unlike, for example, in Chile (Solimano and Guajardo 2017)).

Ghana’s story is also not primarily one of reduced growth resulting from externally generated causes such as Dutch disease (if foreign exchange is not sufficiently sterilized) and oil revenue volatility, although the precipitous fall in oil prices that started in 2014 has generated additional

¹ Excellent surveys of the resource curse literature include van der Ploeg (2011) and Frankel (2010).

problems. But it does correspond well with arguments from the political economy of macroeconomics, surveyed by Persson and Tabellini (2000). A fundamental insight from this literature is that, in economic terms, the implicit discount rate used by politicians may exceed the rate of interest by the probability of the politicians being removed from office. Hence if a political faction expects to be expelled from office in the near future, it will extract oil or minerals much faster than is socially optimal and will also borrow against future oil revenues (van der Ploeg 2011).

Bleaney and Halland (2016) do not find evidence that natural resource wealth in general promotes fiscal indiscipline. Nor do they find evidence that new resource exporters, on average, exhibit less fiscal discipline. In fact, their results indicate that fuel exporters tend to have a better general government fiscal balance. However, their econometric model, based on the most disaggregated fiscal data currently available for econometric analysis, does not explain the performance of some outliers such as Ghana and Mongolia. In that sense, this case study of Ghana complements and extends what can be learned about the resource curse from econometric analysis.

Until around 2012, Ghana was one of the stars of the ‘Africa rising’ story, the toast of the international development community, and a benchmark for other African countries in the areas of democracy and development. In particular:

- Ghana’s gross domestic product (GDP) more than quadrupled in nominal terms between 2001 and 2008, shifting its World Bank categorization from that of a heavily indebted poor country (HIPC) to that of a lower-middle-income country.
- Ghana received HIPC relief from the International Monetary Fund (IMF), World Bank, and bilateral donors to the tune of US\$4.2 billion after reaching the HIPC completion point in 2004. Ghana established a track record of macroeconomic stability and fiscal discipline prior to the discovery of oil. To some extent, this discipline was externally imposed, since to obtain HIPC debt relief Ghana needed to adhere to the IMF’s programme.
- Ghana benefited from the experiences of countries such as Nigeria, and in fact put together a framework to avoid the oil curse. The Petroleum Revenue Management Act (PRMA) 2011 (Act 815, Republic of Ghana 2011) lays down the key parameters for the accounting and collecting of petroleum revenues due to the government of Ghana. It establishes limits on the amounts of revenue that shall be directed into the annual budget and into savings. It provides for the operation and management of savings, and ensures that savings will be prudently managed. In addition, the law provides clear oversight, auditing, transparency, and reporting mechanisms to safeguard the management of petroleum revenues.
- Ghana has a good record of democratic governance, with a free press, rule of law, and reasonably strong institutions.

Therefore one would have expected Ghana to be on the list of sub-Saharan African countries able to avoid the natural resource curse. However, even before oil production began in 2011, and increasingly thereafter, Ghana found itself embroiled in all the problems of the curse. In August 2014 it requested a bailout from the IMF.

Section 2 of this paper provides an introduction to the Ghanaian context before oil was discovered. Section 3 provides the context of the policy choices faced by the government at the time oil was discovered and the legal framework put in place to manage oil revenues. Sections 4 and 5 examine the deterioration of public finances and the large accumulation of debt following the discovery of oil. Section 6 analyses the decline in capital expenditure following Ghana’s oil discovery. Section

7 examines the dramatic increase in central bank financing of government, and Section 8 analyses the deterioration in Ghana's external payments position. Section 9 examines Ghana's declining economic growth following the oil discovery, while section 10 examines the possible increase in corruption post-oil discovery. Section 11 places the developments in Ghana in the context of the political system and in particular the specific context of narrowly won elections. Section 12 asks the question 'What could Ghana have done differently?' and section 13 concludes.

2 The years before the discovery

To place Ghana's story in context, it is important to examine the state of the Ghanaian economy in the years leading up to the discovery of oil.

During the pre-liberalization era (1960–83), the government-led development strategy (involving socialist policies: controls, etc.) led eventually and inexorably to declines in growth and per capita incomes, deterioration in other macro variables, a decline in the share of industry (from nearly 20 per cent of GDP in 1965 to 6.2 per cent by 1982), a government expenditure decline (from 17.1 per cent of GDP in 1965 to 3.3 per cent by 1982), and a fall in central government revenues (from 20 per cent of GDP in 1970 to five per cent by 1982) (Fosu 2009). In addition, during this period Ghana implemented an import substitution industrialization policy which aimed to reduce the economy's dependence on import trade. State-owned enterprises in various sectors of the economy were established, ranging from agricultural to manufacturing industries. This was not sustainable, however, due to continual political instabilities, low levels of factor productivity, and gross economic mismanagement. The country for most periods during this era also experienced poor performance in major macroeconomic indicators, including the exchange rate and the trade balance. Although the country recorded a trade surplus for the years 1967 to 1969, this was not sustainable, and by 1971 it experienced one of its largest trade deficits. The economic imbalances that characterized the economy during the pre-liberalization era were among the many reasons that Ghana opted eventually for financial assistance from the multilateral institutions, the World Bank and the IMF.

This precipitated the launch of the Economic Recovery Programme (ERP) in 1983 and the related Structural Adjustment Programme (SAP) in 1986. This was structured on the basis of a liberalization policy regime with the aim of addressing major economic imbalances experienced in the country. The ERP included the liberalization of the foreign exchange and other markets in order to halt the downward economic spiral, whilst the SAP was mainly designed to correct structural imbalances. The main objectives of the reforms were to create incentives for production, increase income through market-friendly policies, minimize the interventionist role of government, and stem the economic inefficiencies in the system, including corruption. The outcomes were generally positive. Ghana experienced very significant improvements in major economic indicators in the post-liberalization era. Among these can be mentioned higher GDP growth, human development improvements including a drastic reduction of poverty from 51.1 per cent in 1991–92 to 20 per cent in 2005–06, a rise in capital formation, a drastic fall in the rate of inflation, a rise in economic freedom, and a drastic fall in the stock of external debt.

However, an excessive fiscal expansion in the run-up to the December 2000 presidential and parliamentary elections tipped the Ghanaian economy into a new vicious cycle of intense inflation and currency depreciation, and this coincided with a sharp deterioration in the commodity terms of trade. In the short span of one year, ending in December 2000, the cedi (the national currency) virtually collapsed, losing 50 per cent of its value relative to the US dollar. The country's gross

international reserves were so depleted that they could not cover even one month's imports, and external payments arrears started building up.

Against this background, peaceful democratic elections in 2000 resulted in a change in government from the ruling National Democratic Congress (NDC) to the New Patriotic Party (NPP). John Agyekum Kufuor was elected president. This was a landmark election, being the first change of government achieved through the ballot box. A military government was replaced by an elected one in the culmination of a democratization process that had begun in 1992. The immediate focus of the new government was to restore macroeconomic stability. The term of the Kufuor government also coincided, from 2001 to 2006, with adherence to an IMF programme that was required to obtain HIPC debt relief. In a sense, Ghana during this period was operating under a quasi-fiscal rule. This involved a major shift in macroeconomic policy, from a stance of considerable fiscal relaxation and monetary accommodation, to one of fiscal stringency and monetary discipline.

A major pillar of this macroeconomic stabilization process was old-fashioned fiscal consolidation. The central government budget was cast in a medium-term framework right from the start, and public finances were set on a fiscal consolidation course to cut the budget deficit and stabilize domestic public debt. This called for robust revenue mobilization (to increase the flexibility of the revenue base and reduce fiscal vulnerability) and prudent spending. For example, the 2003 fiscal programme set a target of zero net domestic financing of the public-sector borrowing requirement for 2003.

The government's fiscal policy strategy from 2001 focused on debt reduction, with the aim that the private sector would have access to enough financial resources to increase economic activity (IMF 2004). Under the Multilateral Debt Relief Initiative (MDRI), Ghana's debt relief was estimated at US\$4.2 billion in nominal terms. After the enhanced HIPC initiative was implemented in 2004 and Ghana qualified for the MDRI,² Ghana's external debt decreased significantly, from 156.3 per cent of GDP in 2000 to only 17.2 per cent of GDP by 2006 (Table 1).

Monetary policy at this time was underpinned by the adoption of an inflation-targeting framework, with the central bank taking advantage of the statutory independence that parliament had enshrined in the Bank of Ghana Act (BOG 2002).

This new fiscal and monetary policy framework caused a decline in inflation and inflationary expectations and strengthened Ghana's external payments position. Headline inflation declined from 40.5 per cent in 2000 to 12.7 per cent by 2007 (Table 1), and between 2001 and 2007 (except for a deficit of US\$10.5 million recorded in 2004) the overall balance of payments was in surplus. Gross international reserves increased from US\$233 million (less than one month of import cover) in 2000 to US\$2.84 billion (approximately three months of import cover) by 2007.

² The MDRI provided 100 per cent relief on eligible debt from three multilateral institutions to a group of low-income countries to help them meet their Millennium Development Goal of halving poverty by 2015.

Table 1: Ghana, selected economic indicators, 2000–08

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--|-------|-------|-------|---------|---------|---------|---------|---------|---------|
| Annual percentage change unless otherwise stated | | | | | | | | | |
| Real GDP | 3.7 | 4.2 | 4.5 | 5.2 | 5.7 | 5.8 | 6.4 | 6.3 | 7.3 |
| Inflation | 40.5 | 21.3 | 15.2 | 23.6 | 16.4 | 13.9 | 10.9 | 12.7 | 18 |
| Broad money | 46.5 | 41.4 | 50.0 | 35.8 | 25.9 | 14.3 | 39.1 | 36.3 | 37.0 |
| Reserve money | 52.6 | 31.3 | 42.6 | 28.2 | 18.5 | 11.2 | 32.3 | 30.6 | 34.1 |
| Ex-rate depreciation | 49.8 | 3.7 | 13.2 | 17.3 | 2.2 | 0.9 | 1.1 | 4.8 | 20.1 |
| 91-day T-bill | 38.0 | 27.0 | 26.6 | 19.6 | 17.1 | 11.8 | 9.6 | 10.6 | 24.7 |
| BOG prime rate | 27.0 | 27.0 | 24.5 | 21.5 | 18.5 | 15.5 | 12.5 | 13.5 | 17.0 |
| Gross reserves (US\$m) | 233.4 | 364.8 | 640.4 | 1,425.6 | 1,732.4 | 1,894.9 | 2,269.8 | 2,836.7 | 2,036.0 |
| Months of imports | 0.84 | 1.2 | 2.2 | 3.2 | 3.3 | 3.5 | 3.0 | 2.7 | 1.8 |
| Overall balance (US\$m) | -116 | 8.6 | 39.8 | 558.3 | -10.5 | 84.3 | 415.1 | 413.1 | -940 |
| Crude oil (US\$ per barrel) | 25.93 | 25.5 | 29.9 | 29.5 | 41.7 | 56.8 | 58.1 | 94.1 | 98.5 |
| NPLs % | 11.86 | 19.6 | 22.7 | 18.3 | 16.1 | 13.0 | 7.9 | 6.9 | 7.6 |
| External debt (US\$m) | 6,021 | 6,025 | 6,131 | 7,548 | 6,447 | 6,347 | 2,172 | 3,590 | 3,871 |
| Debt services/exports | 28.1 | 16.4 | 10.1 | 4.9 | 7.2 | 7.7 | 4.5 | 4.6 | 4.3 |
| As percentage of GDP | | | | | | | | | |
| Budget deficit | 8.6 | 7.7 | 4.9 | 3.2 | 3.2 | 2.0 | 4.8 | 4.9 | 6. |
| External debt | 156.3 | 115.9 | 105.9 | 101.0 | 73.1 | 59.6 | 17.2 | 24.9 | 27 |
| Debt services | 14.1 | 5.9 | 3.5 | 1.7 | 2.2 | 2.0 | 1.3 | 1.3 | 0.4 |
| External debt services (US\$m) | 544.8 | 306.6 | 204 | 126 | 194.9 | 215.2 | 166.7 | 192.5 | 52.2 |
| Current account balance | 10.16 | 10.7 | 4.3 | 1.3 | 9.7 | 12.6 | 13.1 | 16.1 | 24.2 |

Note: BOG = Bank of Ghana; NPLs =non-performing loans; T-bill = treasury bill.

Source: Data from Bank of Ghana.

Ghana's overall debt profile also improved significantly: the debt burden after the adjustments was well within the sustainability threshold, in sharp contrast to the country's previous HIPC status. Thanks to the HIPC relief, Ghana's external debt declined from US\$6.02 billion in 2000 to US\$3.59 billion by 2007. Furthermore, the proportion of exports used to service Ghana's debts declined from 28.1 per cent in 2000 to only 4.6 per cent by 2007 (Table 1).

After the cedi depreciated by some 50 per cent against the US dollar in 2000, relative exchange rate stability was restored in 2001, when the depreciation was just 3.7 per cent. This was followed by 13.2 per cent and 17.3 per cent nominal depreciation in 2002 and 2003 respectively, 2.2 per cent in 2004, 0.9 per cent in 2005, 1.1 per cent in 2006, and 4.8 per cent in 2007 (anchored by declining inflation expectations). Between 2004 and 2007 the cedi depreciated by an average of 2.25 per cent annually against the dollar (Table 1). This contrasted with the cedi's historical instability and its 50 per cent depreciation in 2000.

3 The discovery of oil

In June and August 2007, in the midst of a global food and oil crisis, the UK-based firm Tullow Oil, and its US partners Kosmos Energy and Anadarko Petroleum, announced two significant oil discoveries off Ghana's coast. The initial yield estimate was for about 1.8 billion barrels of recoverable reserves. With oil production projected to begin in 2010, the Ghanaian government was optimistic that this discovery would have a significantly positive effect on the economy and reduce Ghana's reliance on oil imports. There was a sense among government officials and the population that Ghana had hit the jackpot. Ghana would be freed from the clutches of donors and international financial institutions to pursue a more independent, growth-based development agenda. With an election on the horizon for 2008, the incumbent NPP government was eager to maximize the political benefit of the oil discovery, and in the process arguably did not manage expectations sufficiently (unlike countries such as Botswana—see Acemoglu et al. (2003)). Some initial reports conveyed the impression that Ghana's reserves were comparable in size to those of Nigeria and Angola (Modern Ghana 2007b).

However, affected soon afterwards by increased domestic government spending and the global oil and food crisis, Ghana's economic environment took a turn for the worse as early as 2007–08. The government then faced the choice of fiscal contraction, full cost recovery for utilities, postponement of some already committed expenditures, or continued fiscal expansion. Government factions argued that as the world was heading towards a recession, Ghana needed to adopt counter-cyclical policies, and therefore aggregate demand needed to be increased in the interim. It was argued that public finances could then be balanced when the crisis was over, and when the oil would start flowing in 2010 expectedly.

For a government facing an imminent election in 2008, this was a persuasive argument. There was a sense that some reduction in the price trends (of oil in particular) and the forthcoming oil revenues would soon abate Ghana's economic difficulties (Bawumia 2010). The natural resource discovery gave a false sense of greater fiscal space than was the case. Therefore, in an election year, the government did not bite the bullet to allow full cost recovery in petroleum and electricity prices.

The expansionary fiscal policy of 2007–08 had predictable consequences, and the economy suffered a setback: inflation increased from 10.9 per cent at the end of 2006 to 18.1 per cent at the end of 2008, and the exchange rate depreciated by 20.1 per cent in 2008 compared with only 1.1 per cent in 2006. The budget deficit increased from 4.8 per cent of GDP in 2006 to 6.5 per cent

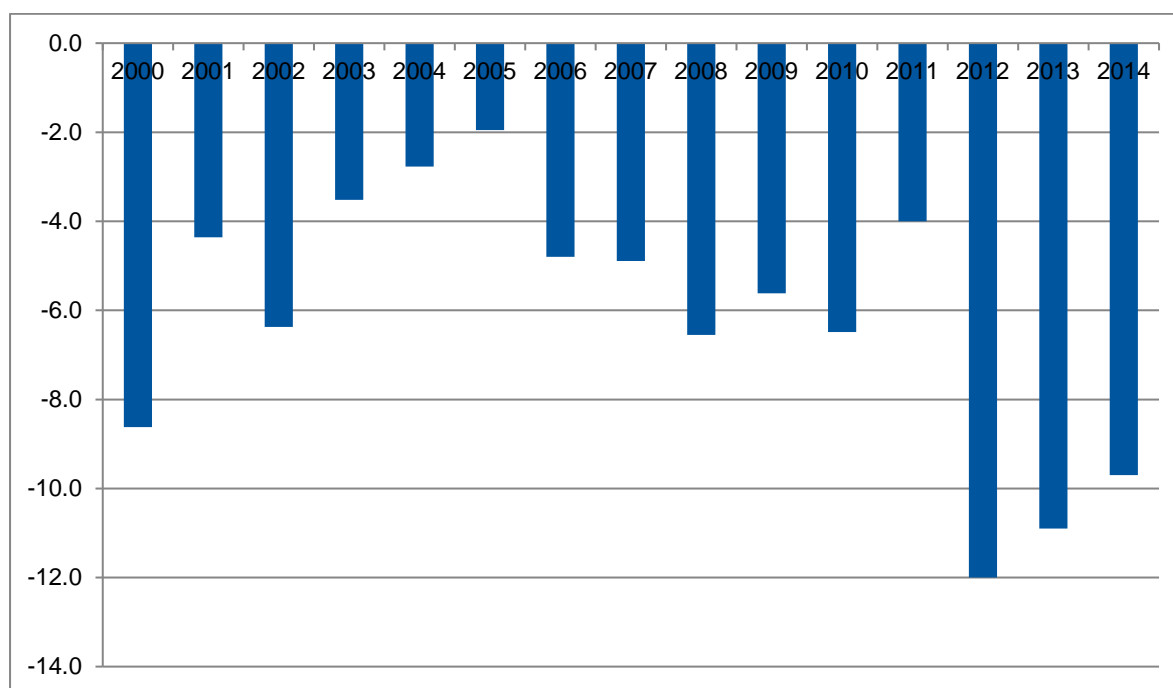
of GDP by 2008. Gross international reserves declined from US\$2.27 billion (three months of import cover) in 2006 to US\$2.04 billion (1.8 months of import cover) in 2008 (Table 1). Thus the beginnings of the natural resource curse were evident in Ghana long before the first drop of oil was produced.

Nevertheless, the government of Ghana expressed determination to make sure that Ghana’s oil resources would be managed well so as to avoid the dreaded curse (Amoako-Tuffour and Ghanney 2013). The government convened stakeholders to chart the way forward and to learn what pitfalls to avoid and which best practices to follow from the diverse experiences of countries such as Nigeria and Norway. To underpin good governance in the oil sector, and based on these discussions, public consultations, and best practices across oil-producing countries, Ghana passed both the PRMA and the Petroleum Commission Act in 2011.

4 The deterioration of public finances

Notwithstanding all the efforts to avoid the oil curse, Ghana’s public finances began to deteriorate following the oil discovery in 2007. As Figure 1 indicates, public finances were generally sound from 2001 to 2007. The fiscal deficit as a percentage of GDP declined from 8.6 per cent in 2000 to only two per cent by 2005. It subsequently increased to 6.5 per cent of GDP in 2008, as the government increased expenditure in that election year in anticipation of oil revenues. Following the onset of oil production in 2010, the fiscal deficit narrowed—but only temporarily—to four per cent of GDP in 2011.

Figure 1: Fiscal deficit as percentage of GDP, 2000–14



Source: Data from Ministry of Finance and Economic Planning, Ghana.

The 2008 elections brought a change of government, from the NPP to the NDC. Notwithstanding this change, increased pre-election spending also occurred ahead of the 2012 elections, as it had in

2008. Ghana signed on to a further IMF programme in 2009 for the period 2009–12.³ The programme restored macroeconomic stability, with inflation, the fiscal deficit, the exchange rate, and real GDP growth generally moving in the direction of stability. The IMF programme ended in mid-2012, and notwithstanding the progress that had been made, and with an election approaching, the authorities decided not to renew it.

As the 2012 presidential and parliamentary elections drew closer, the incumbent NDC government dramatically increased expenditures relative to 2011–14 revenues. While government tax revenue averaged approximately 18.9 per cent of GDP between 2011 and 2014, government expenditures increased from 20.1 per cent of GDP in 2011 to no less than 34.5 per cent in 2012—before declining to 28.2 per cent at the end of 2014 (IMF 2014). In the 2012 election year, Ghana’s budget deficit reached GH¢8.7 billion, and amounted to some 11.6 per cent of GDP. This was the highest-recorded budget deficit in Ghana’s history.

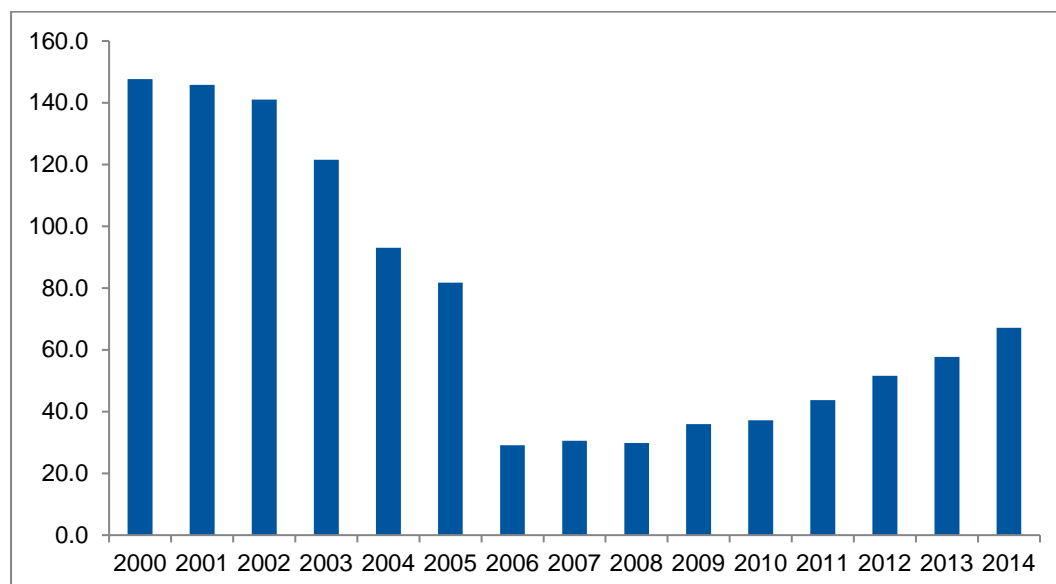
To make matters worse, the bulk of the increase in government expenditure between 2011 and 2014 (94 per cent) was in the area of recurrent expenditure (mainly wages and interest payments). At the end of 2008 the government wage bill amounted to GH¢1.98 billion, representing 46 per cent of total tax revenue. However, following the implementation of the single-spine salary system, which was devised under the NPP government and implemented by the NDC government after the 2008 elections, compensation to public-sector workers increased to 72.3 per cent of tax revenue by the end of December 2012 (Government of Ghana 2013). This fiscal stance resulted in double-digit fiscal deficits of 11.6 per cent and 10.9 per cent of GDP in 2012 and 2013 respectively, and a provisional 9.5 per cent of GDP in 2014 (Figure 1). This was the first time in independent Ghana’s history that the country had double-digit fiscal deficits two years in a row. The deterioration of public finances resulted in the government being cash-strapped and unable to meet some of its obligations on statutory payments (for example, for health, education, and local government) as well as some non-statutory payments.

5 Rising public debt levels

As was noted above, the debt relief that Ghana obtained under the HIPC initiative, and the accompanying fiscal policy stance, had reduced the country’s debt burden significantly. By the end of 2008, Ghana’s total public debt stood at GH¢9.5 billion (some 30 per cent of GDP). With the onset of oil production, however, the public debt stock rose dramatically to GH¢76.1 billion (67.1 per cent of GDP) by the end of 2014 (Figure 2).

³ This was a Poverty Reduction and Growth Facility arrangement that built on Ghana’s second Poverty Reduction Strategy. The main goal of the programme was to eliminate Ghana’s large fiscal imbalances by 2011 and put in place strengthened institutions for public financial management. It was intended to restore macroeconomic stability and eliminate the most pressing obstacle to continued strong growth and poverty reduction. At the same time, the facility’s fiscal consolidation strand was to create the necessary room for manoeuvre, so that when oil revenues came on stream in 2011, they could be dedicated to new growth-promoting and poverty-reducing investments that would benefit future generations, rather than being diverted to unproductive recurrent spending (IMF 2009).

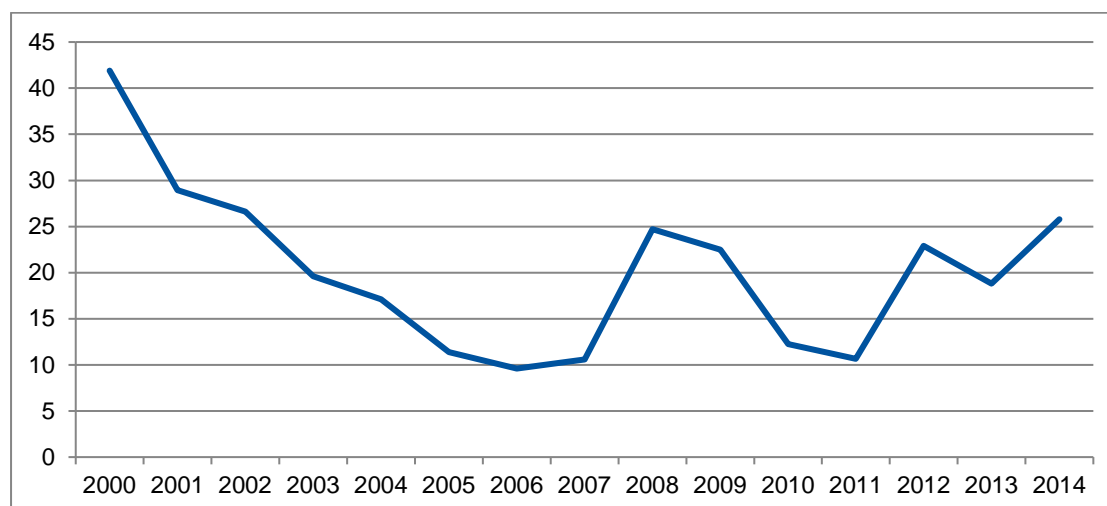
Figure 2: Total debt as percentage of GDP, 2000–14



Source: Data from Ministry of Finance and Economic Planning, Ghana.

Such large-scale borrowing—made possible by the large expected oil revenues—had the effect of crowding out the private sector, which was increasingly unable to borrow to finance its growth. Risk-free treasury bill rates of 10.6 per cent in 2007—when the oil discovery was made—rose to around 25 per cent ahead of the 2008 elections, before dipping and returning yet again to around 25 per cent by 2014. Bank lending rates, at approximately 30 per cent in 2014, were also on the rise due to increasing public debt. Figure 3 shows that the 91-day treasury bill rate, which had steadily declined prior to the oil discovery, moved thereafter into a more volatile upward trend.

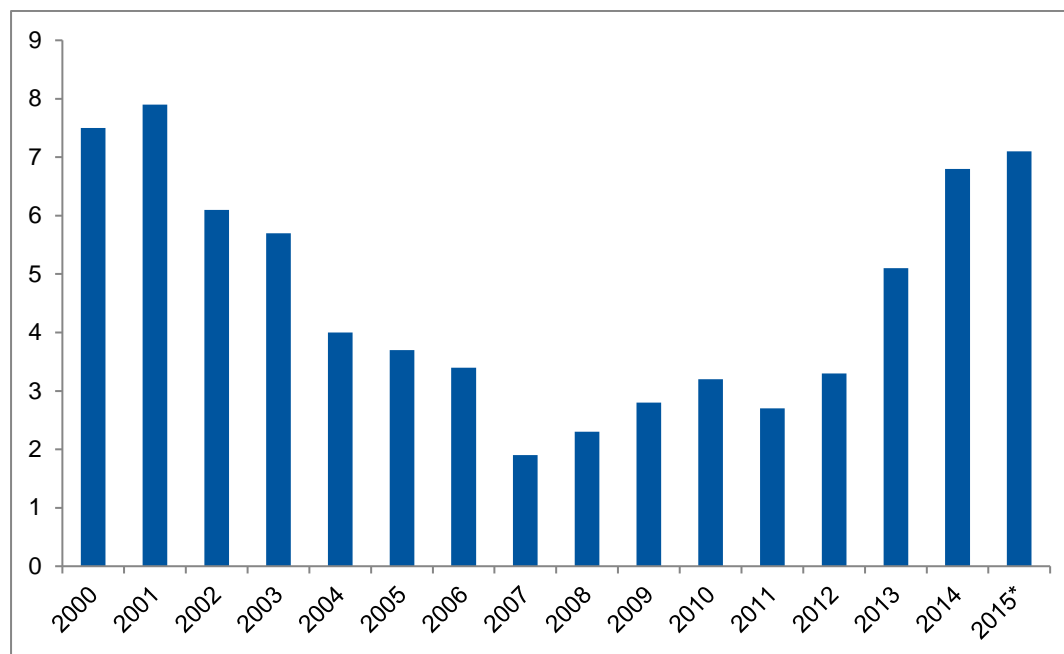
Figure 3: 91-day treasury bill rate, 2000–14



Source: Data from Bank of Ghana.

The interest burden of this increased and high public debt stock was considerable. In 2015 interest payments alone amounted to GH¢9.5 billion (compared with a total debt stock of GH¢9.5 billion in 2008). Interest payments as a percentage of GDP increased from 2.8 per cent in 2008 to 7.1 per cent in 2015 (Figure 4).

Figure 4: Interest payments as percentage of GDP, 2000–15



Note: * Figure for 2015 is projected.

Source: Data from Ministry of Finance and Economic Planning.

This high interest burden, combined with a rising wage bill, left Ghana’s government with very little money for other critical areas. To put this in perspective, the government of Ghana’s 2015 budget allocations (excluding internally generated funds and donor contributions) to the following ministries were:

- Ministry of Food and Agriculture GH¢61.0 million
- Ministry of Water Resources and Housing GH¢198.7 million
- Ministry of Transport GH¢180.3 million
- Ministry of Roads and Highways GH¢333.0 million
- Ministry of Trade and Industry GH¢2 million
- Ministry of Fisheries GH¢31.5 million
- Ministry of Health GH¢44.5 million
- Ministry of Education GH¢101 million

The total sum allocated to these eight key ministries in 2015 amounted to about GHC952 million, whereas interest payments on Ghana's public debt stock in the same year were GHC9.5 billion—that is, 10 times the combined allocations to these critical ministries.

The country's 2015 interest payments were expected to amount to approximately six times its projected oil revenues for 2015.⁴ The interest cost of the debt is therefore depriving key sectors of critical resources. This situation is reminiscent of Ghana's situation before the HIPC debt relief, when the debt burden had reduced critical fiscal space that could have enhanced capital and social expenditure.

At 67 per cent of GDP, by 2015 Ghana's debt stock had crossed the critical 60 per cent level, which is of particular concern in developing countries with limited access to capital flows. In fact, Ghana's debt by then was right back on the unsustainable track that had led to its HIPC relief.

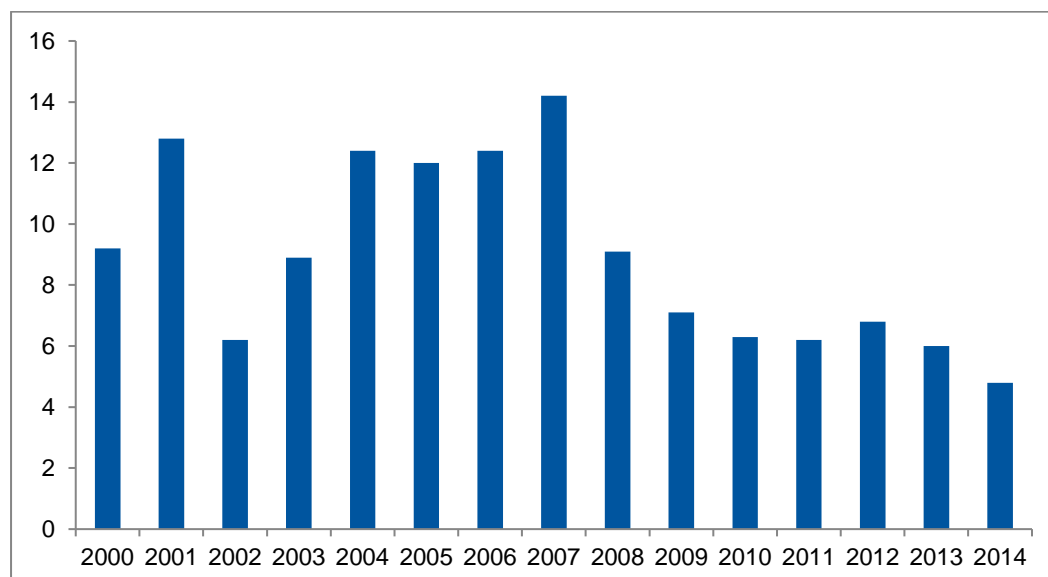
How could Ghana have so misjudged its capacity to borrow so soon after obtaining HIPC relief? Apart from the oil discovery heightening expectations about ability to pay, it should also be noted that Ghana's GDP was rebased in 2010. This resulted in statistically increasing Ghana's GDP by 60 per cent from 2007. With the rebasing of GDP, the debt-to-GDP ratios looked very satisfactory on the surface. What policymakers may have overlooked was the fact that the GDP was rebased without an attendant increase in foreign exchange liquidity. In this situation, taking comfort from an apparently low debt-to-GDP ratio was potentially very misleading.

6 Declining capital expenditure

According to Hartwick's rule (Hamilton and Hartwick 2005), resource-rich countries, in order to maintain wealth and build strong foundations for economic growth, should offset the depletion of their natural resources by commensurate levels of investment in produced capital—primarily infrastructure and human capital. But in the case of Ghana, notwithstanding the new oil revenues and the massive increase in the debt stock, capital expenditure as a percentage of GDP has actually been in decline since 2007. From an average of 12 per cent of GDP between 2004 and 2008, with the lowest level over this period being 9.1 per cent in the 2008 election year, capital expenditure declined to 4.8 per cent by 2014 (Figure 5). This means that before the oil discovery Ghana was spending a much higher proportion of its income on capital investment than it has been since the oil discovery. This decline in infrastructure investment runs counter to what one would expect, and to what one would recommend if the oil revenues were prudently invested.

⁴ Revised projection of oil revenues based on an oil price of US\$52.8 per barrel. These numbers are based on information available when this paper was drafted in 2016.

Figure 5: Capital expenditure as percentage of GDP, 2000–14



Source: Data from Ministry of Finance and Economic Planning, Ghana.

In accordance with Section 21(5) of the 2011 PRMA, four priority expenditures were approved by parliament in the annual budget funding amount (ABFA): (i) expenditure and amortization of loans for oil and gas infrastructure, (ii) roads and other infrastructure, (iii) agricultural modernization, and (iv) capacity building (including oil and gas). Table 2 shows the allocations to these areas for the 2012 budget year.

Table 2: Annual budget allocations to four priority areas, 2012

| Priority areas | GHC millions |
|--|---------------|
| Expenditure and amortization of loans for oil and gas infrastructure | 100.00 |
| Roads and other infrastructure | 232.41 |
| Agricultural modernization | 72.47 |
| Capacity building | 111.95 |
| Total | 516.83 |

Source: Government of Ghana Budget 2013.

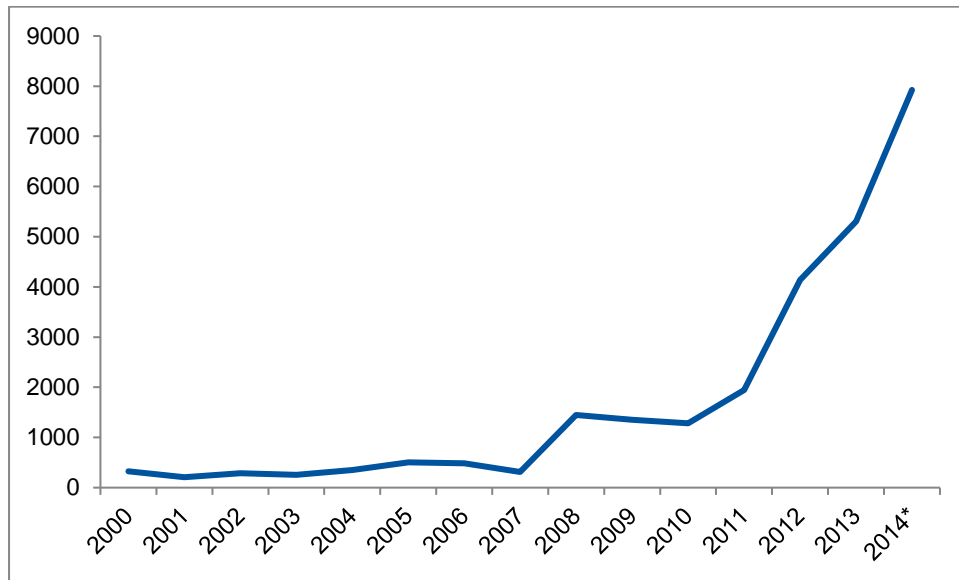
Even though on paper the oil revenue allocation is skewed towards infrastructure, the overall decline in capital spending means that the total allocation to infrastructure is likely to have declined.

7 Loose monetary policy

The Bank of Ghana is responsible for maintaining price and exchange rate stability in Ghana. To achieve this, in 2002 the bank adopted an inflation-targeting monetary policy framework, in the context of a market-determined exchange rate regime. Disciplined adherence to such a framework is important for success. In particular, the framework can easily unravel if the central bank becomes a primary source of financing for government fiscal deficits over time. Excessive fiscal expansion creates problems in many developing countries: it tends to be largely monetized, and the resulting excess injection of liquidity results in inflation and exchange rate depreciation. This has certainly been Ghana's experience since oil was discovered. Specifically, there has been a dramatic increase in the central bank's financing of the government (through the printing of money), in addition to an increase in borrowing to finance the fiscal deficit. Central bank financing (net claims on government) increased from GHC1.4 billion in 2008 to GHC10.6 billion by August 2014—a 640

per cent increase (Figure 6). As a result, inflation rose sharply ahead of the 2008 elections, and then from 8.5 per cent in 2010 to 17 per cent by the end of 2014 (Figure 7).

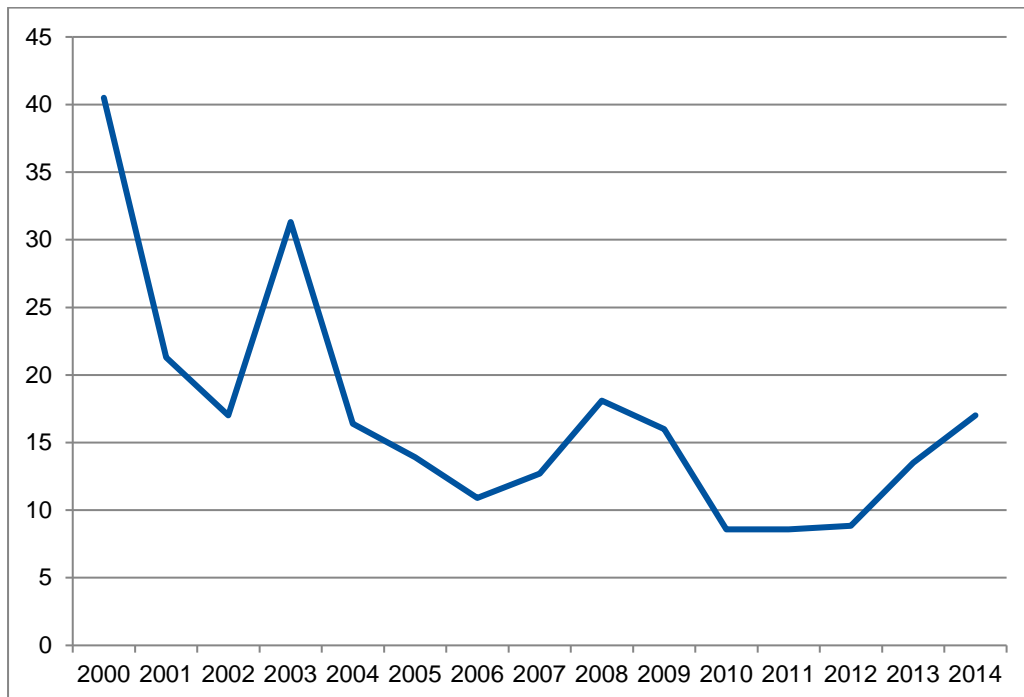
Figure 6: Bank of Ghana's financing of government, 2007 to mid-2014



Note: * Figure for 2014 is a projection.

Source: Data from Bank of Ghana.

Figure 7: Consumer price inflation (per cent), 2000 to mid-2014

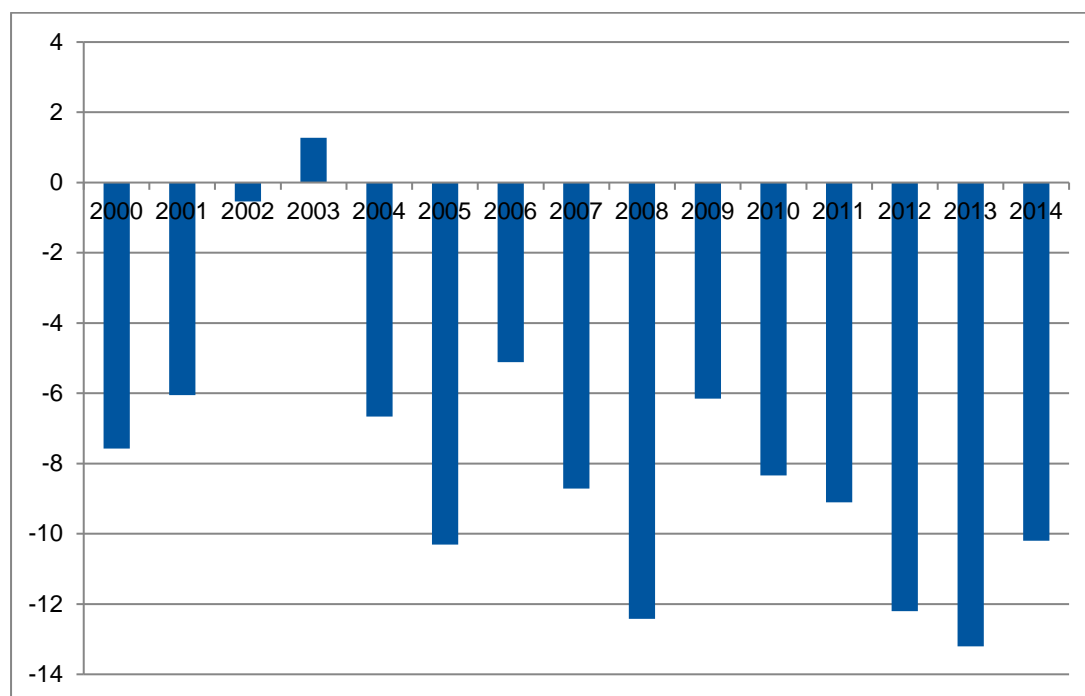


Source: Data from Bank of Ghana.

8 A deteriorating external payments position

Ghana's external payments position has also deteriorated since oil was discovered, amid a growing current account deficit and fragile foreign exchange reserves. The current account of the balance of payments deteriorated ahead of the 2008 elections, before recovering and then steadily deteriorating again over the next four years (IMF 2014): it was US\$2.77 billion (8.3 per cent of GDP) in 2010, rose to US\$4.92 billion (12.2 per cent of GDP) in 2012 and then again to US\$5.84 billion (13.2 per cent of GDP) in 2013, before declining to US\$3.6 billion (10.2 per cent of GDP) in 2014 (Figure 8).

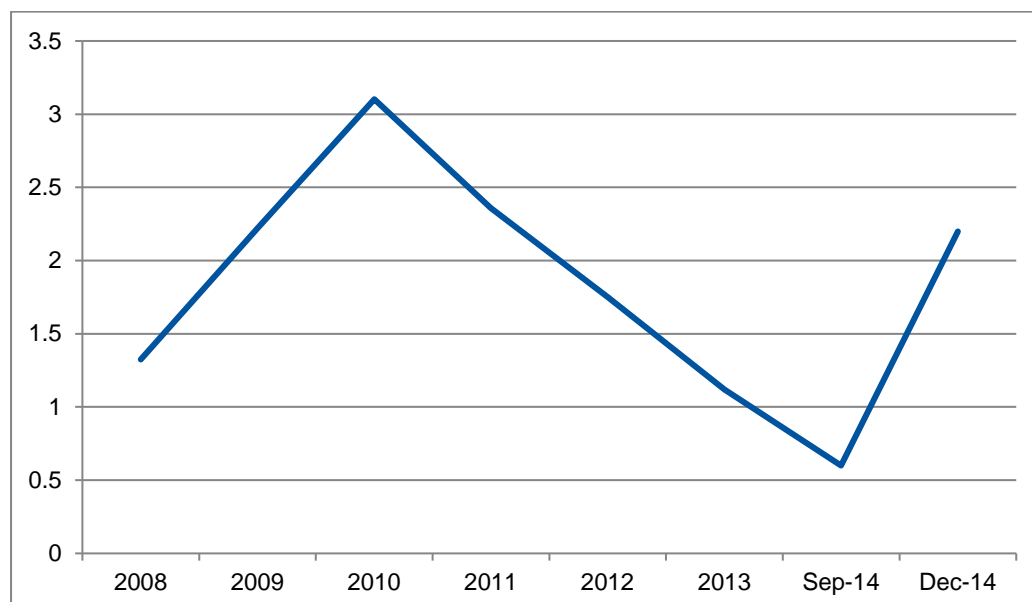
Figure 8: Current account deficit as percentage of GDP, 2000—14



Source: Data from Bank of Ghana.

The period 2012–14 was the first time in Ghana's history that the current account registered a double-digit deficit three years in a row, which significantly affected the country's foreign exchange reserves. Specifically, Ghana's net international reserves declined from a peak of US\$4.4 billion in 2011 (equivalent to 3.1 months of import cover) to a low of US\$950 million in September 2014 (approximately 0.6 months of import cover) (Figure 9).

Figure 9: Net international reserves as equivalent to months of import cover, 2008–14



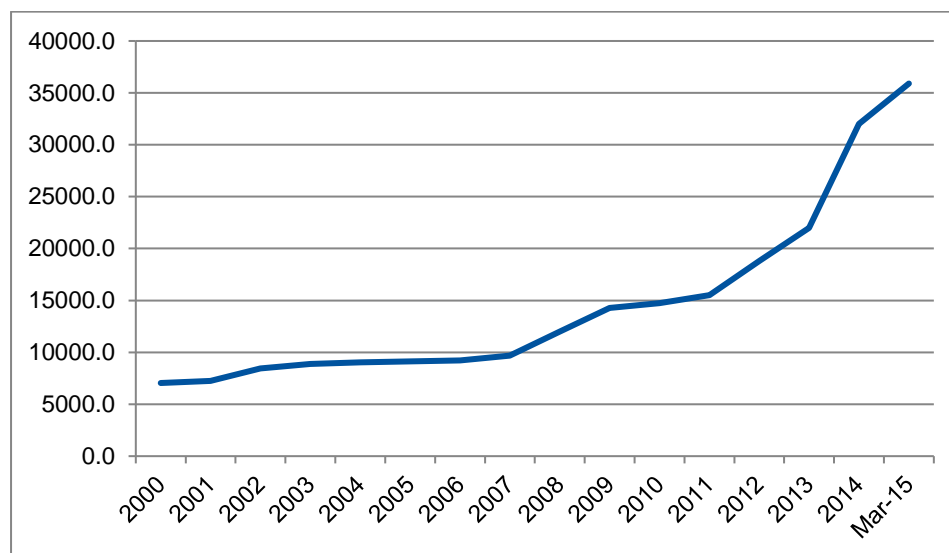
Source: Data from Bank of Ghana.

A significant and related policy action was Ghana’s issuance of a US\$1 billion sovereign bond in October 2014.⁵ This had the stated objective of investing in infrastructure. However, given the precarious position of the country’s foreign exchange reserves, the sovereign bond proceeds—supported by proceeds from an annual US\$1.7 billion cocoa-syndicated loan, which Ghana borrows annually to purchase cocoa—were instead used to shore up foreign exchange reserves (BOG 2014). Whereas Ghana’s net international reserves amounted to some US\$950 million in September 2014, these measures helped boost net international reserves to US\$3.2 billion (2.2 months of import cover) by the end of the year.

In response to the deterioration in Ghana’s external payments position, the exchange rate of the Ghanaian cedi also depreciated sharply following the onset of oil production and in line with the government’s expansionary fiscal and monetary policy stance. In 2014 the cedi depreciated by some 31 per cent against the US dollar. The depreciation continued with a loss of 11 per cent in the first quarter of 2015 (Figure 10).

⁵ See Cbonds (no date) for some history of sovereign bonds in Ghana.

Figure 10: Exchange rate, cedi to US dollar, 2000 to early 2015



Source: Data from Bank of Ghana.

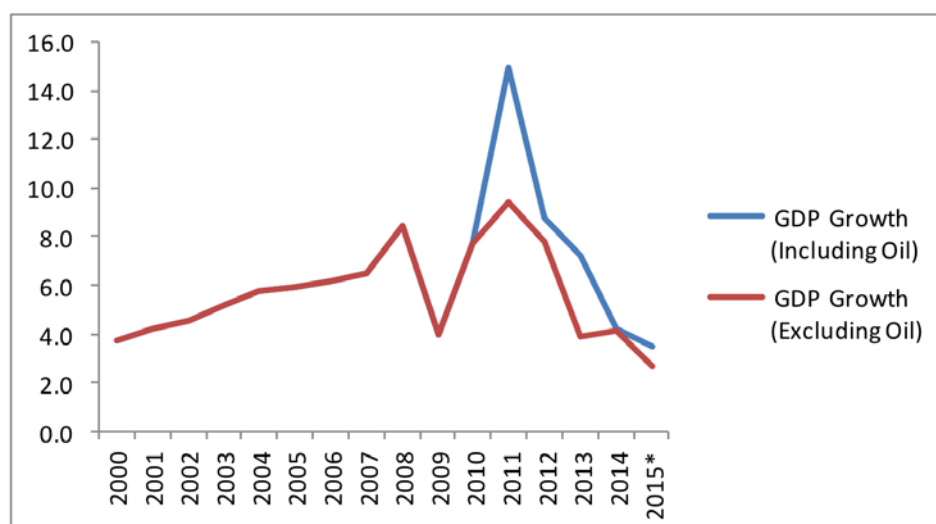
9 Declining real GDP growth

While the discovery of oil initially boosted economic growth, real GDP growth in Ghana— notwithstanding the onset of oil production—has declined significantly since 2011. Data from the Ghana Statistical Service (Government of Ghana 2011) show that real GDP growth increased from 8.4 per cent (without oil) in 2008 to 15 per cent in 2011 (when it ranked among the highest in the world). Since 2011, however, real GDP growth (including oil) has slowed down—to 7.9 per cent in 2012, and then to around 4.2 per cent in 2014 (Figure 11). The 2015 budget projected further declining growth—to 3.5 per cent, at a revised oil price of US\$52.8 per barrel.⁶ Non-oil GDP growth has similarly declined from 9.4 per cent in 2011. The actual growth rate in 2015, at just under four per cent, was only marginally higher than in the year 2000, and less than half the rate achieved in 2008 without oil.

The decline in real GDP growth can be attributed to a number of factors including (i) the increase in current expenditure at the expense of capital expenditure, (ii) the greater fragility of both the private sector (partly due to a reliance on public contracts that could not be honoured given the need for adjustment post-elections) and the financial sector (given the accumulation of arrears and related non-performing loans), (iii) an increasing debt burden that has reduced critical fiscal space, and (iv) reduced macroeconomic policy credibility affecting investment decisions.

⁶ The initial budget projection was based on a price of US\$99.3 per barrel.

Figure 11: Real GDP growth (per cent), 2000–15



Note: * The rate for 2015 is projected.

Source: Data from Ghana Statistical Service.

10 Corruption, post-discovery

An important strand of the relevant literature attributes the natural resource curse to the political and social factors at play in a given country (Rosser 2006; Schrank 2004; Snyder and Bhavnani 2005; van der Ploeg 2011). Such factors include, in particular, corruption and rent-seeking (Acemoglu et al. 2004; Isham et al. 2002, 2005; Leite and Weidmann 1999; Sala-i-Martin and Subramanian 2003).

The basic argument is that natural resources create ‘rents’, and political elites compete for their control. According to this line of thinking, natural resource wealth provides incentives for administrations to stay in power at any cost—by bribing voters, supporting patronage-based and unproductive investments, encouraging a shift from productive entrepreneurial activity to unproductive rent-seeking, weakening institutions, and resisting efforts to further accountability, transparency, and modernization. Corruption imposes a fiscal burden on the economy through the waste of resources that could otherwise have been more productively spent or saved.

In the case of Ghana, there are some indications that corruption may have been on the rise since the discovery of oil. The Afrobarometer Survey conducted in 2014 by the Ghana Centre for Democratic Development (CDD 2014) found that public perceptions of corruption had significantly increased, and there was a similar perception of an increase in corruption in the run-up to the 2008 elections under the NPP government (CDD 2008). According to the 2014 survey, three quarters (75 per cent) of respondents said corruption had increased over the previous year.

11 Ghana’s political system in the context of oil

Ghana practises what has been described as a hybrid system of governance. The president is chosen directly by the people (unlike in the parliamentary system), and is head of government and head of state with full executive powers. But unlike the system operating in the United States, for example, the president can appoint members of parliament to the executive branch—even while

they continue to function as legislators. Indeed, the Fourth Republican Constitution, under which Ghana operates, makes it mandatory for the president to select a majority of ministers from parliament.

The fact that the president is mandated to choose members of parliament as ministers—and that, as in the case of all previous sitting presidents, these legislators are likely to be members of the president's political party—means that power is significantly skewed towards the executive branch of the government. The executive branch also plays a large part in judicial duties. Not only is the executive responsible for framing and presenting all bills sent to parliament, but the president wields the power to appoint justices to the High Court and Appeals Court (acting on the advice of the Judicial Council) as well as Supreme Court, and to appoint the chief justice (in consultation with the Council of State and with prior approval of parliament). In practice, therefore, Ghana's political system is a presidential one (Banful 2011).

Ghana is a multiparty democracy, but of the 23 political parties registered in 2014, very few are active across the nation. The strongest, most vibrant parties are the NDC, the NPP, the Convention People's Party, the People's National Convention, and the Progressive People's Party. Of these, all but the latter have had at least one member in parliament since 1996. That said, the relative dominance of the NDC and NPP in various general elections since 1992 has turned Ghana's democracy into a virtual two-party system.

All general elections since that year have been closely contested between the two parties. Only a small margin (in terms of percentages and sometimes actual numbers) separates the two. The NDC won the presidential elections and a majority of parliamentary seats in the 1992, 1996, 2008, and 2012 general elections, while the NPP won the presidential elections and a majority of parliamentary seats in the 2000 and 2004 general elections.

In the 2000 presidential elections, none of the candidates of the two parties was able to secure the required 50 per cent plus one vote to be elected president. The election therefore went into a run-off, with NPP candidate John Agyekum Kufuor securing 56.9 per cent of the votes to be elected president. In the 2004 presidential elections, he secured 52.5 per cent of the votes to defeat John Atta Mills of the NDC, who received 44.6 per cent of the votes.

The 2008 election saw Mills defeat Nana Akufo-Addo of the NPP by the narrowest of margins—41,000 votes (of about 12 million registered voters and nine million actual votes)—in a run-off poll conducted after both candidates failed to secure the required votes in the first round. Mills received 50.2 per cent of the votes and Akufo-Addo received 49.8 per cent. This was the closest election in Ghana's history, and the first to follow the discovery of oil. It speaks to the functioning of Ghana's democracy that the incumbent government was defeated by the opposition, even if by the narrowest of margins.

The 2012 election was also fiercely fought: the NDC's John Dramani Mahama received 50.7 per cent of the votes, while NPP candidate Nana Akufo-Addo received 47.7 per cent (the candidates of five other parties and an independent shared the remaining 1.6 per cent).

Such close margins indicate that political support for Ghana's two main parties is more or less evenly divided across the electorate. In this context, and for a four-year political term, the pressure on any government to deliver is high. A loss of the support of even a small number of voters can turn the next election. When oil was discovered in 2007, the incumbent NPP government raised public expectations to a high pitch in the run-up to the 2008 elections (Modern Ghana 2007a). President John Agyekum Kufuor declared, 'It is a great time to be Ghanaian' (Abissath 2008). As discussed above, the main economic indicators deteriorated sharply ahead of both the 2008 and

2012 elections: the first time while the NPP was in government, the second time while the NDC was the incumbent party. Consistent with the political business cycle literature, incumbent governments in Ghana have generally expanded fiscal policy in election years. In a joint review of public expenditure, Republic of Ghana et al. (2011) found that in election years (1992, 1996, 2000, 2004, and 2008) the fiscal deficit (on a cash basis) as a percentage of GDP was 1.5 per cent higher than the year before. The 2012 fiscal outcome following the oil discovery therefore cannot be wholly attributed to the oil discovery, even though the oil discovery may have amplified the political business cycle given additional financing possibilities.

Much of the literature on the political economy of resource booms predicts that the first government to enjoy resource rents will do all it can to remain in power. In the case of Ghana, this drive may be further facilitated by a skew in political power towards the executive branch, with the parliament and judiciary arguably playing subsidiary roles. Ghana's experience may therefore support some researchers' hypothesis that presidential systems are more prone to this sort of tendency than parliamentary systems (Andersen and Aslaksen 2008; Persson and Tabellini 2003).

12 What could Ghana have done differently?

The objective of this paper is not to provide policy recommendations for Ghana, but rather to make available an empirical account of Ghana's experience to other recent or upcoming oil and mineral producers. In that context, it is useful to briefly discuss what Ghana might have done differently.

12.1 Anchoring fiscal discipline

While the discovery of oil provided Ghana with the fiscal space to increase its borrowing, there was clear and present danger amid a lack of actual value. In the case of Ghana, plans for how the loans were to be spent—and the transparency of their terms—were arguably insufficient. In sum, institutional mechanisms were insufficient to check unsustainable fiscal expansion. Would fiscal rules of the type employed in Chile and discussed by Solimano and Guajardo (2017) help in such a context?

12.2 Fiscal rules and budget institutions

Fiscal rules commit governments, usually by legislation, to numerical targets—most often budgetary aggregates pertaining to debts, deficits, expenditures, and revenues. The aim is to tie the hands of the fiscal authorities in a bid to achieve greater fiscal discipline. (Fiscal *guidelines*, on the other hand, are not backed by legislation.) Research on the effectiveness of fiscal rules does not indicate that fiscal discipline follows in a straight line. Ossowski and Halland (2016) note that fiscal rules seem to work best in countries with:

- a prior commitment to fiscal discipline
- strong institutions
- political commitment and consensus
- policy credibility

- strong public financial management capacity
- fiscal transparency
- robust monitoring

It is therefore possible that a country lacking fiscal rules but possessing a commitment to fiscal discipline and good institutions will outperform a country with well-designed fiscal rules but with less commitment to fiscal discipline, less political consensus, and weaker institutions.

Chile provides a good example of the success of fiscal rules amid dependence on resource revenues (Frankel 2011). Here, the structural budget balance is targeted to allow some cyclical flexibility. The medium-term equilibrium price of copper and the output gap are decided on by two non-partisan expert panels. The Chilean mechanisms are discussed in greater detail in Solimano and Guajardo (2017).

What is clear from the literature is that political economy considerations are critical to the success—or otherwise—of fiscal rules in resource-rich countries. For many low-income countries, infrastructure needs are high, as is the demand for public-sector wages. Governments facing elections may attempt to respond to these two demands by embarking on infrastructure projects without conducting value-for-money audits, and also by increasing public-sector wages (Gelb 1986; Medas and Zakharova 2009). Under these circumstances, electoral imperatives may trump any fiscal rule.

Similarly, it is very difficult for politicians in low-income countries that have just discovered a resource to make an argument to increase savings and pursue some sort of intertemporal optimization, as argued in a paper by van der Ploeg and Venables (2017). This is especially the case when elections are hard fought and close in margin.

The application of fiscal rules in Ghana is new territory: the history of the country's fiscal management is one of fiscal indiscipline interspersed with short periods of fiscal discipline. As discussed above, the period between 2001 and 2006, for example, was one of sustained fiscal consolidation under an IMF programme. In a sense, Ghana was operating under an externally imposed and monitored quasi-fiscal rule, given that it needed to adhere to the IMF's programme to obtain HIPC relief. But in a cost-benefit analysis, even a fiscal rule enshrined in law might lose out to the promise of electoral victory. Judging from successive administrations' very poor observance of the 2002 Bank of Ghana Act and the 2011 PRMA, fiscal rules by themselves are not sufficient to guarantee fiscal discipline.⁷ What is needed is a commitment to—and a consensus on—fiscal discipline across the political divide, policy credibility, and a building up of strong public financial management capacity. With these requirements in place, a fiscal responsibility law might work.

12.3 Anchoring monetary discipline

In Ghana, fiscal dominance following oil discovery and production was also accommodated by the central bank. Central bank financing of the fiscal deficit increased fourfold between 2007 and 2008 (in the run-up to the 2008 elections), and subsequently increased sixfold between 2008 and

⁷ A detailed account of how Ghana's PRMA has been breached one way or another can be found in NRG (2015).

2014. In the context of an inflation-targeting framework, such an increase in liquidity was bound to compromise the central bank's ability to maintain price and exchange rate stability.

12.4 The Bank of Ghana Act and central bank independence

The case for central bank independence is largely based on the argument that central banks need to be protected from political interference to deliver on the goal of price stability (Alesina and Summers 1993; Bade and Parkin 1982; Parkin 1987). Yet some research (including in developing countries) indicates mixed economic performance even where central banks are independent (Berger et al. 2001; Eijffinger and de Haan 1996; Klomp and de Haan 2007).

In the case of Ghana, following a prolonged bout of macroeconomic instability, the 2002 Bank of Ghana Act was passed with the intention of insulating the central bank from political interference and fiscal dominance. The Act was a landmark piece of legislation that established the independence of the Bank of Ghana. Section 3(1) of the Act specifies that 'the primary objective of the Bank is to maintain stability in the general level of prices.' The Act further states that '(2) without prejudice to subsection (1) the Bank shall support the general economic policy of government and promote economic growth and effective operation of banking and credit systems in the country, *independent of instructions from the Government or any other authority*' (BOG 2002, emphasis added). This provision makes the Bank of Ghana, on paper at least, one of the most independent central banks in the world (Ayensu 2007).

This historic Act gives operational independence to the Bank of Ghana and specifies, among other provisions, that:

- The primary objective of the central bank is to maintain price stability 'independent of instructions from Government or any other authority'. This has refocused the central bank's role on the major task of inflation control, and away from the developmental activities that characterized the bank's past operations.
- The Monetary Policy Committee is responsible for formulating monetary policy, which should bring transparency to the central bank's operations and its communications with the public.
- Government borrowing from the central bank in any year will be limited to 10 per cent of its current year's revenue.

To achieve its primary objective of maintaining price stability under the Bank of Ghana Act, the Bank of Ghana formally adopted an inflation-targeting monetary policy framework in 2002. In this context, the central bank should be able to choose instruments independent of political pressure. In addition, the absence of fiscal dominance implies that the central bank should have minimal responsibility for financing government deficits, or generally that fiscal policy does not dictate monetary policy. Thus most legal frameworks in inflation-targeting countries tend to limit or even prohibit central bank financing of government borrowing. Instead, countries working within such frameworks have sought to maintain strong fiscal discipline and/or developed deep financial markets with the capacity to absorb the public sector's borrowing requirement. In this context, fiscal reforms to maintain a broad revenue base, and thus reduce the need for seigniorage revenue,⁸ become crucial (Tuladhar 2005).

⁸ Seigniorage is the difference between the face value of money (i.e. coins or notes) and its production cost.

So why is it that central bank financing has grown so dramatically since the oil discovery, and why has the 2002 Bank of Ghana Act not been able to restrain this increase in central bank financing? The answer most likely lies in the inability of the central bank to withstand pressure from the government. There are no sanctions for breaches of the Act. Also, under the Act, the Bank of Ghana does not report to parliament. Furthermore, the ceiling on lending to the government is based on the government's estimate of revenue collection in the current year, which provides an incentive for an upward bias in revenue estimates. Instead, such legislation might have set a ceiling on the bank's lending to the government that is based on the government's actual revenue collection in the previous year.

The experience of Ghana shows that while monetary policy matters, fiscal policy matters even more. Ghana's monetary policy framework could not withstand sustained pressure from the fiscal authorities in 2000, 2008, and 2012—all election years. It is clear that governments must commit to fiscal discipline beyond the electoral cycle. In the context of Ghana's most recent (April 2015) IMF programme, the central bank will be required to reduce its financing to the government to five per cent in 2015 and zero in the 2016 election year (IMF 2015). The conditions necessary for fiscal rules to be effective are probably the same as those necessary for central bank independence: policy credibility, fiscal discipline, political commitment, and political consensus, among others.

The manner in which the central bank has exercised its role has also encouraged fiscal dominance. An amendment of the Bank of Ghana Act to strictly limit central bank financing of the government might have helped. Consistent with the inflation-targeting framework, a zero-financing limit (on a continual basis) would have helped to anchor both monetary and fiscal discipline.

12.5 Transparency

To enhance transparency in the management of natural resources, Ghana joined the Extractive Industries Transparency Initiative (EITI) in 2003 with a focus on revenue transparency. Ghana became compliant with EITI in 2011. Ghana also set up the Public Interest Accountability Committee (PIAC) in 2011 under Section 51 of the 2011 Petroleum Revenue Management Act (Act 815). The role of PIAC is to conduct independent assessment and monitor the utilization of oil revenues to ensure accountability by government.

How much have PIAC and EITI contributed to enhancing transparency in the management of Ghana's oil resources? The Institute of Economic Affairs Ghana, a leading public policy think tank, has developed the Petroleum Transparency and Accountability Index Project, an index to monitor transparency and accountability in the oil sector since 2011. The index focuses on four key areas: revenue transparency, expenditure transparency, contract transparency, and the Ghana Petroleum Funds. The 2015 report found that steady progress had been made with regard to the transparency of revenue, expenditure and the Ghana Petroleum Funds. Contract transparency showed the least improvement, lacking public disclosure of contracts and the associated process (IEA 2015)

The biggest project thus far undertaken in the oil and gas sector is the Atuabo gas project of the Ghana National Gas Company (GNGC). This US\$850 million investment, which is financed with a loan from the China Development Bank, has been collateralized with Ghana's oil revenues. In addition, public funds of US\$140 million have been used to capitalize the GNGC (ACEP 2014a). In spite of this, parliament has had no role in the approval of the investment programme of the GNGC, whereas the Ghana National Petroleum Company, the national oil company, must have its investment programme approved by parliament (ACEP 2014a). This state of affairs creates

room for possible fiscal indiscipline, as contracts of this nature evade value-for-money audits and other scrutiny.

Furthermore, contracts for prospecting or exploration rights in Ghana's oil and gas sector are issued through an administrative process, rather than through competitive tendering. Ghana also does not have any mandatory contract disclosure provisions, and therefore details of oil contracts that do not come before parliament can only be disclosed by a ministerial directive.

Notwithstanding Ghana's compliance with EITI, civil society organizations have called for increased disclosure of information on beneficial ownership in mineral and oil contracts. (EITI encourages participating countries to disclose such vital information, but does not make this mandatory.) Furthermore, there have been claims that the oversight responsibility of PIAC may have been curtailed, with the record over the last two years indicating that PIAC has had difficulties in carrying out its mandated activities, partly because of underfunding. According to Adam (2014), in 2014 PIAC received only 14 per cent of its proposed budget.

12.6 Strengthening the law on the management of oil revenues

Ghana's PRMA includes the following provisions, among others:

- Up to 70 per cent of expected revenue from petroleum operations may be utilized in any financial year.
- The excess revenue after the budgetary allocation must be paid into the Petroleum Holding Fund.
- At least 70 per cent of the excess revenue, after budgetary allocation, must be transferred into the Petroleum Stabilization Fund (a fund to sustain public expenditure capacity during periods of unanticipated petroleum revenue shortfalls).
- The balance is paid into the Heritage Fund (an endowment fund to support development for future generations when petroleum reserves have been depleted).
- The oil revenues due to the budget can be used as collateral for loans for the first 10 years of oil production.

But in the face of dwindling foreign exchange reserves, the Petroleum Stabilization Fund was drawn down even well before oil prices fell and there was any actual shortfall in petroleum revenues. As the funds transferred to the Stabilization Fund increased in 2012 and 2013, the government—trying to create more room for expenditure, and using a provision (Section 23) of the 2011 PRMA—set a cap on the amount to be transferred into the Stabilization Fund. The cap was set at US\$250 million at a time in 2013 when the balance on the account stood at US\$426 million. This provided fiscal space to spend the excess amount of US\$176 million. Civil society organizations have argued that the withdrawal of funds from the Stabilization Fund was illegal, since this was not made public and was first brought to the attention of the public by a whistleblower (ACEP 2014b).

The lesson from Ghana's experience thus far is that while stabilization and savings funds can help smooth spending, they can certainly not prevent slippages. In the case of Ghana's PRMA, this is compounded by the fact that collateralization of future oil revenues was allowed for the first 10 years, thereby undermining the initial objective to limit excessive spending permitted by oil discoveries.

12.7 Forecasting government oil revenues

The literature contains persuasive evidence that official forecasts of revenues during resource booms tend to be overly optimistic (Forni and Momigliano 2004; Frankel 2011; Jonung and Larch 2006). This is arguably the case in Ghana.

According to Adam (2014), Ghana's 2011 PRMA as designed gives an incentive to governments (that want to spend) to project higher revenues than are likely realizable, because 70 per cent of the projected benchmark oil revenue is allocated to the budget. In 2011 the government projected that it would receive GHC1.2 billion from oil, including corporate taxes of about GHC600 million. The total amount actually earned, however, came down to GHC667 million, representing a shortfall of GHC583 million. The benchmark revenue for 2012 was over GHC1 billion,⁹ but the amount actually received came down to GHC562.4 million. The government forecasted oil revenues from corporate taxes of GHC600 million for 2011 and GHC384.1 million for 2012, although these corporate tax revenues were arguably unlikely to materialize (Adam 2014). This is because the Jubilee partners¹⁰ are entitled to capital cost recovery under the 1987 Petroleum Income Tax Law (PNDC Law 188). There was nevertheless an overprojection of these revenues, perhaps motivated by the provisions of the 2011 PRMA, by which the proportion of the oil revenues that accrues to the budget (ABFA) is based on projected benchmark oil revenues. In the meantime, the projected revenues were spent in advance by using additional government borrowing.

In the 2015 government budget presented to parliament in November 2014, oil revenues were estimated at GHC4.2 billion (3.1 per cent of GDP) based on an oil price of US\$99.3 per barrel, when global oil prices at the time were actually close to US\$50 per barrel. This estimate followed the 2011 PRMA Act provision of using the seven-year moving average price. It was argued that the use of the US\$99.3 price was dictated by the PRMA legislation (and this over-optimistic forecast was used to programme 70 per cent of the projected revenue as part of the 2015 budget), although that implied a revenue shortfall of GHC2.7 billion (two per cent of GDP). Prudence would have dictated that, despite the law, no budgeted expenditures be made in relation to unrealizable revenues.

The government later, at the prompting of the IMF (in the context of negotiations for an IMF bailout), presented a revised oil revenue estimate of GHC1.5 billion (1.1 per cent of GDP) using the price of US\$52.8 per barrel, even though the original budget was approved by parliament in January 2015.¹¹

To enhance safeguards against fiscal indiscipline, adequate legislation and methodologies for revenue forecasting are imperative. Frankel (2011) has recommended, following Chile's example, that resource-rich countries consider establishing independent non-partisan expert panels to forecast resource revenues for the budget and the extent to which prices (of oil, in the case of Ghana) deviate from their long-run averages.

⁹ Based on a projected oil price of US\$90 per barrel.

¹⁰ Tullow, Kosmos, Anadarko, and Sabre, which are currently producing Ghana's oil from the Jubilee Field (offshore).

¹¹ Statement to parliament on 'Implications of the Fall in Crude Oil Prices on the Budget' submitted by the Minister of Finance and Economic Planning, 12 March 2015.

13 Conclusions

The discovery of oil in Ghana in 2007 raised public expectations quickly and substantially. For many, oil appeared to be the long-awaited solution to Ghana's developmental challenges. This hope was reflected in the 2008 and 2012 election campaigns, which saw political parties promise much in the areas of education, infrastructure, and health, among others. Many of these promises were made with an eye on forthcoming oil revenues. Fiscal discipline was given low priority, as parties focused on winning the elections.

As a consequence, the public finances deteriorated, debt returned to unsustainable levels, current account deficits ballooned, foreign exchange reserves dwindled, the exchange rate depreciated rapidly, interest rates rose, inflation rose, and real GDP growth declined. These are the hallmarks of a resource curse. Ghana's experience suggests that symptoms of the resource curse that have dimmed its prospects since the discovery of oil could have been avoided in the presence of:

- a broad-based political commitment to fiscal and monetary discipline
- strong institutions, including the ability to uphold relevant fiscal and monetary legislation
- strong public financial management capacity
- transparency in the management of oil resources
- alignment of expenditure with realizable revenues in the context of independent oil revenue forecasts

The case of Ghana may not fit smoothly into the classic resource curse narrative because several of the usual transmission channels—such as an appreciation of the real exchange rate and the volatility of commodity prices, or armed conflict—are missing. Nevertheless, as discussed in the introduction to this paper, the Ghanaian story in part reflects the insights provided by the literature on the political economy of development, and more specifically the political economy of the resource curse. The immediate cause of the lack of fiscal and monetary discipline in Ghana can be found in policy decisions.

Importantly, Ghana's story allows us to move beyond vague notions of 'institutional quality', measured by aggregate indexes, when considering the resource curse and how to address it. The Ghanaian experience confirms that there are *specific* institutional checks and balances that must be upheld if a country is to avoid the resource curse. From a fiscal and monetary perspective, these include early management of expectations, a broad-based political commitment to fiscal discipline as opposed to a reliance on fiscal rules, full and real (as opposed to nominal) independence of the central bank, as well as the establishment of means to isolate from political pressures any sovereign wealth fund and the government entity responsible for oil revenue projections. Ultimately, these factors are likely to be critical in determining whether the discovery of natural resources will adversely affect economic growth or not. In the case of Ghana, they were key factors in the regrettable shift from boom to gloom just four years after the discovery of oil.

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