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The Role of the Extractive Sector in Ghana's Comparatively Low Public Sector Revenue Mobilization

The Role of the Extractive Sector in Ghana's Comparatively Low Public Sector Revenue Mobilization

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Abstract

The government of Ghana has implemented extensive tax and non-tax policy and administration reforms over the years. Starting from 1983, these reforms have largely been carried out under the auspices of the IMF and the World Bank. However, using a sample of 35 countries in the developing world, we find in this paper that, relative to GDP, Ghana's total public sector revenue has performed very poorly, compared with those of its peers, confirming findings of other studies. The government of Ghana has often blamed the country's poor revenue performance on the difficulty in taxing the large informal sector, the generous tax exemption system, and the weak real property taxation. However, credible estimates of untapped revenues from the informal sector and the tax exemption system fall far short of the identified gaps in the total revenue to GDP ratios between Ghana and its peers. Additionally, we show in this paper that the country's weak real property taxation is not a major cause of the gaps. After analyzing the government of Ghana's (1) revenue from the entire extractive sector and comparing it with those of a sample of 21 economies in the developing world, and (2) revenues from the oil and mining subsectors and comparing them with the government of Nigeria's revenue from the oil subsector and the government of Botswana's revenue from the mining subsector respectively as case studies, we find the following: (a) the government of Ghana's revenues from the extractive sector are extremely low, compared with those of its peers, and (b) the extractive sector is the main source of the country's comparatively poor total revenue performance, which has led to the large gaps between Ghana and the peer countries in terms of total revenue to GDP ratio. Therefore, to be able to raise its total revenue to GDP ratio to the level of the peer countries and thus significantly cut down the rate of borrowing, reduce the huge debt service cost and create a sizable fiscal space to fund developmental projects, Ghana needs to sharply increase its revenue generation from the extractive sector to match the peer countries. We have provided a number of recommendations as to how this can be achieved, after identifying the main causes of the incredibly poor performance of the country's extractive sector revenue.

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1.0 Introduction

Governments play critical roles in economic growth and development of their respective economies. This is not only in terms of the protection of property rights and maintenance of order, which creates the congenial atmosphere for smooth interactions among economic agents, but also in terms of the provision of social and economic infrastructure, which provides incentives and the enabling environment for entrepreneurs and other private actors to flourish. Additionally, to stimulate growth and development, governments often offer financial inducements and subsidies to private sector actors, particularly entrepreneurs. Governments also play the important role of reducing income inequality and fighting poverty. The ability of governments to play these important growth and developmental roles effectively depends upon their ability to mobilize adequate revenue (without damaging the private sector). Therefore, the failure of a government in its revenue mobilization efforts leads to low growth and development of the country concerned, which results in socio-economic deprivation and entrenched poverty.

Conscious of these, the government of Ghana has long sought to mobilize adequate revenue. This has been done through a series of tax and non-tax policy and administration reforms, particularly starting from 1983, which have largely been led by the IMF and the World Bank. Although studies have found that the reforms have led to significant growth in government revenue (see, for instance, Bekoe, Danquah and Senahey (2016) and Kusi (1998)), measured as a share of GDP, Ghana's public sector revenue has performed very poorly relative to most other countries in the developing world. For example, in a study published in October 2017, the Institute for Fiscal Studies found that, on average, Ghana's domestic revenue as a ratio of GDP from 2012 to 2015 was significantly lower than the sub-Saharan Africa average in the same period. Similarly, in a joint publication in 2019, the Organization for Economic Cooperation and Development (OECD), the African Union Commission (AUC) and the African Tax Administration Forum (ATAF) found that in 2017 Ghana's tax revenue to GDP ratio was substantially lower than the average for 26 African countries. In fact, relative to the average for Latin America and the Caribbean (LAC), Ghana's tax revenue to GDP ratio was found to be even much lower.

Given the high-powered tax and non-tax policy and administration reforms pointed out above, the comparatively poor performance of Ghana's public sector revenue is very surprising and intriguing. The question, therefore, is, what is the main source of this poor revenue performance? The government of Ghana often cites the large informal sector, which has proven difficult to tax, and the country's generous tax exemption system as being the main sources of the problem.

On the difficulty of the informal sector taxation, the fact is that Ghana's case is not unique, since most developing economies face a similar challenge. What is even more significant is that most of the economic actors in the informal sector earn small incomes, which, in many cases, are believed to be below the taxable threshold. IMF (2011), for example, argues that "informality is extensive in developing countries – perhaps 40 percent of GDP on average, up to 60 percent in many. But this is arguably not in itself the problem: micro traders may be 'informal,' for instance, but are also likely to have income and sales well below any reasonable tax threshold…" For these reasons, the revenue generating potential of the informal sector is inherently very weak, and cannot therefore explain the substantial revenue gap between Ghana and most of its comparator countries. In fact, using regression analyses, Danquah and Osei-Asibey (2016) estimate that the uncaptured revenue in Ghana's informal sector stands at GH₵227.8 million per annum, which represented as little as 0.7% of total revenue or 0.1% of GDP in 2016. On tax exemptions, however, government revenue lost is estimated to be

much larger. In the memorandum attached to the 2019 Exemption Bill submitted to Parliament by the Akufo-Addo government, the total amount of tax exemptions in the form of import duty, import value added tax, import National Health Insurance Levy and domestic value added tax was estimated at GH₵4.66 billion in 2018, representing 1.6% of GDP. While this is quite significant, it is still substantially smaller than revenue gaps between Ghana and its comparator countries, as Section 3 of this paper reveals. So, again, what is the main source of the comparatively poor performance of Ghana's public sector revenue?

A number of researchers and commentators have argued that the various extractive sector agreements signed between the government of Ghana and the multinational corporations are skewed in favor of the multinational corporations, which negatively affects government revenue generation capacity of the sector. For instance, with regard to the mining sector, Ayee et al. (2011) argue that *"a current problem is that the generous concessions granted in the past cannot be altered even when the conditions in which they were signed change substantially or unexpectedly ex-post. Royalties and tax concessions often are frozen by an investor-friendly stabilization clause for a set period of time. Higher prices will not necessarily imply a proportional increase in the state revenues to mineral-rich developing countries. Ghana's government has accepted its contractual commitment to the stabilization clauses and has not renegotiated the deals."* And with respect to the oil sector, Ackah and Kankam (2014), for example, find that the Ghanaian oil sector fiscal regime is not optimal, after comparing Ghana's petroleum fiscal regime with six other African countries in a study, using the discounted cash flow method. These imply that Ghana's extractive sector is poorly positioned in terms of government revenue generation. Yet, no study has sought to ascertain how much Ghana's entire extractive sector may be lacking in actual revenue generation when compared with peer countries.

This paper therefore aims to fill the gap by ascertaining (1) how much Ghana earns from its extractive resources compared with other countries, (2) whether the extractive sector is the main source of the comparatively poor performance of Ghana's public sector revenue or not, and (3) how the sector can be repositioned to improve its revenue generating capacity so as to help speed up the country's growth and development process in order to improve the living standards of Ghanaians. The rest of the paper is therefore organized as follows. Section 2 presents a general overview of the importance of the extractive sector to public sector revenue mobilization and economic growth and development. Section 3 reviews public sector revenue reforms and comparative performance. Section 4 carries out comparative analyses of Ghana's extractive sector contribution to public sector revenue. Section 5 discusses the specific causes of the shortfall in the country's extractive sector contribution to public sector revenue. Section 6 provides policy recommendations, while Section 7 concludes the paper.

2.0 A General Overview of the Importance of the Extractive Sector to Economic Growth and Development and Government Revenue Generation

2.1 Importance of the Extractive Sector to Economic Growth and Development

Extractive resource endowments, when appropriately managed, are one of the major sources of economic growth and development. It is well known that countries like Norway, Chile, the United Arab Emirates, Qatar, Saudi Arabia, Botswana, Trinidad and Tobago, and many others have achieved rapid economic growth and high income levels mostly through the exploitation and export of extractive resources. In fact, well-managed natural resource endowment has been found to be one of two main routes (the other being industrialization) to economic

prosperity in modern times (See Felipe et al. (2014)). This is because "the extractive sector is characterized by exceptional profits—and substantial rents, defined as the difference between production costs (including 'normal' profits) and revenue from sales" (Ossowski and Halland, 2016).

Interestingly, even the industrialization route to economic prosperity of many nations was itself based on extractive resources, since it was revenues from the extraction of these resources that were used to fund the industrialization process. For instance, referencing van der Ploeg (2011) and writing for the World Bank, Ossowski and Halland (2016) argue: *"Natural resources have played a fundamental role in the growth of several industrialized economies, including Germany and the United Kingdom, where coal and iron ore deposits were a precondition for the Industrial Revolution. The United States was the world's leading mineral economy from the mid-nineteenth to the mid-twentieth century and in the same period became the world's leader in manufacturing."*

Nevertheless, the abundance of extractive resources in a country does not guarantee that the country will be able to achieve rapid economic growth and development or prosperity. McKinsey Global Institute (2013) expresses this as follows: "The windfall from natural resources represents a large opportunity for developing countries, but there is no guarantee they will be able to seize it and achieve sustainable, broad-based prosperity using resources as a platform." In fact, after avoiding resource management pitfalls, such as over-borrowing in anticipation of revenues from the extractive sector, leading to substantial debt service cost and thus fiscal distress, neglect of the other sectors of the economy due to overreliance on the extractive sector, etc., which can undermine the growth potential of resource-endowed economies, the extent to which countries can use their natural resource endowments to achieve accelerated growth and development depends upon their ability to capture sizable proportions of revenues from the sector.

2.2 Government Revenue Generation from the Extractive Sector

In the past, due to the requirement of large capital outlays, advanced technology and high degree of expertise, most resource-endowed countries in the developing world relied mostly on international extractive companies (IECs) for resource exploration and production because these companies had the technology, expertise and the required financial resources. Governments of these countries usually signed concession agreements with the IECs. The agreements normally gave the IECs control over the oil or mining fields. In exchange, the IECs paid royalties and corporate income taxes to the host governments. Revenues from these royalties and income taxes were so small that these countries were unable to achieve any meaningful development from the extraction of their extractive resources. Therefore, as time passed by, many of these governments disliked the terms of the concession agreements and began to renegotiate the terms for greater benefits in what Vernon (1971) called 'obsolescing bargain' of the state. "Eventually, however, there was little incentive to rely on contracts with IOCs [international oil companies] at all. Governments perceived they could reap greater resource rents and gain more technological know-how by creating state-owned companies to replace the IOCs" (Robinson, 2009). According to the World Bank (2011), during the 1960s, 32 expropriations of foreign mining companies were made, and during the period from 1970 to 1976, as many as 48 expropriations were made. In 1968, the Organization of the Petroleum Exporting Countries (OPEC) issued a declaration encouraging member countries to develop their own petroleum resources directly. The declaration further advised that if member countries chose to enter into contracts with the IOCs, then the contracts should at least include

the right to future revisions. In the 1970s, a number of forced equity participation and outright nationalizations in OPEC member countries occurred. “The development of the oil industry in OPEC states was part of a wider, global trend towards national emancipation in a post-colonial world” (Tordo et. al, 2011). There is no doubt that the present high income status of many of the OPEC member states such as Qatar, Saudi Arabia, United Arab Emirates, Kuwait, etc., is because these countries are able to now reap considerable amounts of revenue (about 70% or more of total government revenues) from their extractive resource endowments, due to the shift to active state involvement in the extraction of their extractive resources. For example, according to World Development Indicators of the World Bank, Gross National Income (GNI) per capita on purchasing power parity (PPP) basis of Saudi Arabia, United Arab Emirates and Qatar stood at $49,520, $70,430 and $91,670 in 2019 respectively. In fact, United Arab Emirates and Qatar’s GNI per capita (PPP) in 2019 were significantly larger than those of major industrialized economies like United Kingdom, Germany and United States, whose GNI per capita (PPP) stood at $47,880, $57,810 and $66,080 in 2019 respectively.

It is important to point out that the extractive sector is different from the other sectors of the economy. The reason is that for the other sectors, productive resources are mostly privately owned, which implies that incomes that accrue to the employment of these resources are privately earned. Therefore, governments rely on imposition of taxes (compulsory transfers of portions of the value of privately-earned incomes, -acquired commodities or -held properties to the government) for the purpose of revenue mobilization from these sectors. However, for the extractive sector, the resource endowments beneath the soil or offshore are not privately owned, but are rather held in trust by the government for the collective benefit of the people – they are publicly endowed resources. This implies that, in principle, net revenues (revenues less costs, including normal return to capital), called economic rent, generated from the extraction of these resources belong to the government for public benefit. It therefore does not make any rational sense for a government to adopt what is called ‘extractive resource taxation’ as a means of mobilizing revenue from the extractive sector. This is because, irrespective of the rate applied, by using taxation, the government is implicitly treating the extractive resources as privately owned, and the net revenues or rents from their extraction as privately earned, just like the other sectors[1]. This is unreasonable. By extension, if a government employs royalty/tax approach to mobilizing revenue from the extractive sector through concession arrangements, it implies that the government has unceremoniously transferred the ownership of the extractive resources to private entities at the price of the royalty rate, which is normally a very small percentage of the value of the extracted resources (usually below 10%). It is difficult to understand why any government interested in the development of their country would transfer the ownership of these lucrative resources at such a low price -- a poor bargain indeed.

Because of the unreasonableness of the royalty/tax approach to government revenue generation from the extractive sector, and the poor economic bargain it normally entails from the perspective of the government, many governments of developing countries that cannot afford to exploit their own extractive resources for maximum benefit (or do not want to do so because of the risk involved) rely on production sharing agreements (PSAs). PSA was first employed by Indonesia in 1966 as the oil exploitation contract with the international oil companies (IOCs). This was done because the government of Indonesia wanted to continue to retain the ownership of the produced petroleum, since the royalty/tax method implies the loss of ownership by the government of the produced petroleum, as pointed out above.

[1] Viewed differently, if the government still believes that it owns the extractive resources, then the application of tax amounts to the government taxing only a portion of its own net revenues and giving the rest to entities that have not earned them, if even such entities were involved in the extraction of the resources.

Currently, PSA is among the most common types of contractual arrangements for petroleum exploration and development. Kirsten Bindemann (1999) explains that under a PSA the state *"engages a foreign oil company (FOC) as a contractor to provide technical and financial services for exploration and development operations. The state is traditionally represented by the government or one of its agencies such as the national oil company (NOC). The FOC acquires an entitlement to a stipulated share of the oil produced as a reward for the risk taken and services rendered. The state, however, remains the owner of the petroleum produced subject only to the contractor's entitlement to its share of production. The government or its NOC usually has the option to participate in different aspects of the exploration and development process. In addition, PSAs frequently provide for the establishment of a joint committee where both parties are represented and which monitors the operations."* Clearly, unlike royalty/tax approach to government revenue generation from the extractive sector, PSA is quite reasonable. It can also be easily designed to achieve fairness between the government and private extractive companies, both local and foreign.

Although PSAs are commonly used with regard to petroleum production, countries such as Russia and Philippines apply it to the mining subsector. In Africa, a few countries have taken steps or expressed their desire to switch to PSA for mineral extraction. For instance, in Senegal, a newly passed mining code, which came into effect in November 2016, makes room for the use of production sharing agreement for mining. Also, Uganda's Minister for Energy and Mineral Development, Irene Muloni, was reported by Uganda Radio Network in September 2018 to have said that the introduction of PSA was one of the reforms being discussed for inclusion in the Ugandan mining law, which was under review.

3.0 Review of Ghana's Public Sector Revenue Reforms and Performance

3.1 Revenue Policy and Administration Reforms Under the Various Administrations Since the 1960s[2]

The government of Ghana began to experience revenue mobilization difficulties right after independence in 1957. This was because revenue from tax on cocoa exports, which accounted for about 30% of total government revenue from 1955-1975 (Frimpong-Ansah, 1992), fell sharply due to a collapse of the export price of cocoa. Price of cocoa, which stood at £G450 per ton in 1954, declined to £G177 per ton in 1961, and to a paltry £G85 per ton in 1965. Therefore, during the first decade after independence, the government relied heavily on increases in both direct and indirect taxes, the drawing down of the country's reserves (which stood at £G80 million or about US$220 million in 1962), and borrowing to help fund its developmental programs.

3.1.1 The National Liberation Council and the Busia Administrations, 1966-71

Although it pursued fiscal austerity policies by adopting measures aimed at reducing the growth of expenditure under the auspices of the IMF and the World Bank, the NLC government, which ran the affairs of the country from 1966 to 1969, pursued tax-reduction policies. For instance, in the 1967-68 financial year, the government reduced rates of indirect

[2] Readers may skip this Subsection 3.1 and jump to Subsection 3.2 (Page 21), if they are less interested in the details of revenue policy and administration reforms in Ghana, which are supposed to impact revenue performance.

taxes, including import duties, excise duties, sales tax, and export duties, on a wide range of goods (see Page 15 of the 1967-68 Financial Statement of the Government of Ghana). In fact, in the 1968-69 financial year, sales tax was even abolished in respects of items like matches, asbestos sheets and pipes, hurricane lamps and grass mats. Purchase tax on ordinary cars and commercial vehicles were also reduced during the financial year. Agricultural enterprises were completely exempted from the payment of income tax in the 1969-70 financial year. The estate duty was abolished by repealing the Estate Duty Act. Also, withholding tax was abolished within 3 years, reducing it from 20% to 12.5% in the 1967-68 financial year, from 12.5% to 7.5% in the 1968-69 financial year, and finally abolishing it in the 1969-70 Financial Year. The NLC government argued that the tax decreases were needed to encourage domestic production and help consumers cope with the prevailing economic conditions. However, seeing that the tax reduction policy was having a toll on government revenue, taxes on some commodities were increased in the 1968-69 and 1969-70 financial years, mostly on temporary basis, according to the government. These taxes included purchase tax on luxury cars, income tax on mining enterprises, custom duties on machinery and wheat, and duties on imported TV sets, containers, electrodes, bolts, nuts and screws. The increase in duties on the last-mentioned group of items was declared as what was needed to "give protection to our local manufacturers to save them from unfair and crippling competition…" (Page 5, 1968-69 Budget Analysis and Salient Points).

When it took over office in September 1969, the Busia government, which pursued similar economic policies[3] to those of the NLC, noticed the poor revenue performance. For instance, in the 1970-71 Budget, the Busia government argued that *"import duties which used to provide a much larger and more stable source of budgetary revenue than cocoa duties has recently tendered to fall behind, even in absolute terms as a source of budgetary revenue. In 1965 Government was able to collect 107 million new cedis on import duties. In the past financial year the yield of this tax was just around 70 million new cedis: in other words, as much as one-third less than five years ago."* Yet, unwilling to increase the rates of import duties, the Busia government imposed temporary import surcharges, which were instituted to, according to the government, divert into government's revenue a portion of the monopolistic profits that were being enjoyed by those importers who were fortunate enough to obtain import licenses (Page 45, The Budget 1970-71). Special development levies were also imposed on imported rice, sugar and cement to help fund the local production of these items. However, additional tax concessions were given. For instance, in August 1971, the Busia government passed Removal of Articles (Exemptions) Act, 1971 (Act 377) to "permit Ghanaians returning home after a minimum stay of 12 months overseas to bring into Ghana one personal car without paying any duty and purchase tax" (Page 4, 1974-75 Budget Proposal). Commercial vehicle license was also reduced by 50%.

3.1.2 The National Redemption Council/Supreme Military Council Administrations, 1972-79

When the National Redemption Council (NRC), which became the Supreme Military Council (SMC) in October 1975, came to power in January 1972, it introduced a number of tax reforms aimed at raising more revenue to fund its overarching policy of Self-Reliance. In its maiden budget statement in the 1972-73 financial year, the NRC restructured the import tariff system

[3] After all, Mr. J.H. Mensah who served as an economic advisor to the NLC was appointed as the Finance Minister in Busia's PP government. Also, 3 members of the NLC remained to serve as members of a presidential commission for about one year under the Busia government before a president was elected.

by placing imported commodities into 3 categories. Category 1 included food items, agricultural machinery, implements, seeds, spare parts, fertilizers, and other agricultural inputs. Category 2 included raw materials, chemicals, pharmaceuticals, and building materials for low cost housing. Category 3 included finished goods and machinery. According to the NRC, the categorization was aimed to “encourage locally-produced articles and to ensure that those who demand [imported] finished goods and machinery will pay higher tariffs” (Page 18, 1972-73 Budget Statement). The government further argued that the restructuring would enable it to control imports effectively as a means of containing the balance of payment difficulties. In the same year, rent tax was introduced by the NRC through the passage of Taxation of Rent Decree (NRCD 204), taxing rent income from 5% to 30% on progressive basis, after allowing ₵408 as an annual tax-free threshold. In 1974, the Decree was amended (NRCD 282), increasing the annual tax-free threshold to ₵648 (Tipple, 1988). Also, in the 1973-74 financial year, the NRC government merged duties and sales taxes on imports into one single import duty to “narrow down the range of these taxes and to create a viable platform for tax administration so as to reduce the incidence of tax evasion”. Another reform the NRC introduced in the same financial year was that it amended the Removal of Article (Exemptions) Act, 1971 (Act 377). The amendment made the beneficiaries pay a duty of 10% (but no purchase tax) on one car per family for cars with cubic capacity (c. c.) not exceeding 1700. For cars with c.c. exceeding 1700, the usual rate of duty and purchase tax were made applicable. The reason for the amendment, according to the NRC, was that Ghanaian residents were using the names of their relatives overseas to import cars, while Ghanaian students overseas had begun to trade in cars, taking undue advantage of the Act. The government also passed Cocoa Duty Decree (NRCD 265) in 1974, making all cocoa sold by the Ghana Cocoa Marketing Board for delivery to a purchaser in Ghana chargeable with duty. Furthermore, to avoid revenue leakage, Tax Collection (Receipts, etc.) Decree (NRCD 349) was passed in 1975, requiring that “any person who collects, in the first instance, on behalf of the Republic, any tax or duty payable under any enactment shall not, for the purposes of that enactment, use any receipts or invoices, except those printed and produced by the Ghana Publishing Corporation, in that behalf, and purchased from the Central Revenue Department, or Customs and Excise Department as the case may be.”

In the 1975-76 Financial Year, company income tax was made to apply on progressive basis, while capital gains tax, which had been cancelled, was re-introduced. In 1976, the Supreme Military Council (SMC) passed Hotels and Restaurants (Taxation) Decree, requiring, among other things, customers of hotels and restaurants to pay 10% rate of tax on the value of food they were served with. Customers of hotels and restaurants managed by the government were exempted from the payment of the tax. The Taxation of Rent Decree was again amended in 1977 through the Rent Tax Decree (SMCD 115, 1977), increasing the rates of tax on most of the tax brackets and raising the maximum tax rate from 30% to 65%, even though the minimum taxable threshold was raised further to ₵2,000. In addition to these reform initiatives, the NRC/SMC government increased many taxes as part of the annual budgets. These included gold export levy; excise duties on beer, spirits, cigarette, mineral water, etc.; import duties on 88 items; and others. It is important to point out that in spite of its penchant for tax increases, the NRC/SMC government also pursued some tax reduction/abolishment policies. For instance, in its maiden budget in the 1972-73 financial year, the government abolished the excess profit tax because, according to the government, “it mitigates against exports”. It also amended the Entertainment Act, 1962 (Act 150) to encourage sports by, for instance, removing the tax on boxing tournaments. Also, to mitigate against economic hardships and encourage domestic production in the later part of its administration, some taxes were reduced. As examples, in the 1976-77 financial year, the duty on locally assembled (CKD) cars was reduced from 50% to 30%, while the duty on imported completely built-up (CBU)

cars was reduced from 50% to 40%. Also, in the 1977-78 and 1978-79 financial years, purchase tax rates on all types of cars were reduced in order to reduce the cost of transportation. Personal and company income taxes were also made marginally favorable.

When President Hilla Limann was sworn into office in September 1979 (after the less than 4 months administration of the Armed Forces Revolutionary Council (AFRC)), the fiscal situation of the country was very poor. In the Budget Proposal for 1979-80, the Limann government argued that "the dominant feature of the domestic financial policy since 1972 has been the successive increases in the budget deficits of Government. … The main problem with government finances is that revenue collection has not kept pace with the increases in expenditure and the rate of inflation" (Page 7). In fact, according to the government, there was a "near incompressibility of expenditures, especially recurrent expenditure" (Page 9, Budget Proposal for 1981-82). Therefore, like the NRC/SMC, the Limann government resorted to the policy of tax and fee/charge increases in order to correct the fiscal imbalance. This occurred despite recognizing, for instance, that it was generally agreed that the country's income tax rates were comparatively higher than those obtaining in similar developing countries to Ghana, and that it was the wish of most Ghanaians that the rates ought to be reduced (Page 16, Budget Proposal for 1981-82). The government argued that the income tax rate could not be meaningfully reduced because revenue expectations had not been able to "match rising annual government expenditures". In fact, a number of tax concessions and exemptions that had been offered by the previous administrations were dropped by the Limann administration. For instance, the government cancelled what it called ad-hoc exemptions granted to individuals and organizations, arguing that there were abuses, which caused substantial revenue loss. Also, Section 2 of the Hotels and Restaurants (Taxation) Decree, 1976, which exempted customers of hotels and restaurants managed by the government from the payment of the 10% tax on food, was repealed. Moreover, the following items were removed from the exemptions table for sales tax: (a) machinery, apparatus, appliances and parts (except for mining and agriculture); (b) packaging materials or containers; (c) corned beef in airtight containers; and (d) ivory and wood carvings with or without the use of machinery.

3.1.4 The Provisional National Defense Council Administration, 1982-92

When the Provisional National Defense Council (PNDC) Administration led by Jerry John Rawlings took over power on December 31, 1981 through a coup d'état, it was overwhelmed by the country's fiscal and economic difficulties. The government therefore requested financial assistance from the IMF and the World Bank. These multilateral institutions required the government to implement a program of reform, called the Economic Recovery Program (ERP), as a condition for their support. The ERP, which was broadly aimed to "(a) shift relative prices in favor of production, particularly for exports; (b) restore fiscal and monetary discipline; (c) initiate rehabilitation of the country's productive base and its economic and social infrastructure; and (d) restore incentives for private savings and investment" (World Bank, 1989), was launched in 1983.

The main objective of fiscal policy of the ERP was to reduce the budget deficit to help fight inflation and to ensure increased allocation of fiscal resources away from recurrent expenditure to capital expenditure in order to improve the growth potential of the economy. The revenue mobilization component of the fiscal policy was aimed at "maximizing revenue collection through systematic enlargement of the tax base and the tax net, and the application

of rational and flexible pricing policy" (Page 17, The PNDC Budget Statement and Economic Policy for 1984). According to the World Bank, given the dominance of the public sector in resource use, the ERP called for the reform of taxation to reduce distortions associated with the protectionist policies of the past. Starting from 1987, the focus shifted from economic recovery to a more lasting structural adjustment – Structural Adjustment Program (SAP). In the first phase of the structural adjustment, Structural Adjustment Program I (SAP I), which started from 1987, revenue mobilization reforms continued. The goal of government revenue mobilization for SAP I was to increase the ratio of budgetary revenues, which had increased from 5% of GDP in 1983 to 14% of GDP in 1986, to 17% of GDP in 1989, while reforming the tax system to promote efficiency and equity (World Bank, 1987). Tax administration, through the strengthening of management and personnel and rationalizing the legal and administrative system, supplemented direct revenue raising measures. According to the World Bank (1987), measures that were already underway or were to be implemented as part of SAP I in the area of tax reform included: (1) Completion of the reform of personal income tax by further increasing exemptions, lowering rates, and taxing cash allowances; (ii) reform of the company income tax, which was not providing appropriate incentives to the productive sectors; (iii) the development of the sales tax as a major source of revenue by extending its base, increasing the standard rate (which compensated for the elimination of smaller excise duties) and the introduction of higher luxury rates; and (iv) enhanced taxation of petroleum, which was to bring petroleum prices progressively closer to those in neighboring countries.

In the second phase of the structural adjustment, Structural Adjustment Program II or SAP II, the overarching goal of tax policy and administration reforms was to ensure a substantial improvement in the collection of non-cocoa tax revenues, since government revenue from cocoa was expected to significantly reduce over the medium term due to the declining international price of cocoa at the time. "The impetus for reform in the tax policy and administration system, therefore, derives from the need to put in place broad-based sources of revenue while improving incentives for private savings and investment, and encouraging the efficient allocation of resources" (World Bank, 1989). According to the World Bank (1989), the strategy for meeting this objective would involve: (i) expanding the role of consumption taxes; (ii) reducing the level and variations of protection afforded by import taxes; (iii) reforming direct taxes to enhance equity, improve incentives, and broaden the tax base; and (iv) strengthening tax administration. Specific policy measures were devised to tackle each of these four strategies. For instance, to strengthen tax administration, management information system was to be computerized, with the introduction of a unique taxpayer identification number as an important first step. Procedures to facilitate filing of returns and payment of arrears were also to be developed, with a particular focus on the self-employed. Assessment, collection, and auditing procedures were also to undergo further revisions to encourage greater voluntary compliance. And to increase confidence in the fairness of the system, a Tax Court and Tax Appeals Tribunal were to be established.

3.1.5 Rawlings-Led NDC Administration under the Fourth Republic, 1993-2000

Due to the huge fiscal deficit that emerged in the transition year of 1992, the Rawlings-led NDC government decided to close the large fiscal gap by accelerating revenue growth without reining in expenditure because of growth concerns.
Even though the government increased taxes on petroleum products and revised up road, bridge and ferry tolls in 1993, it was recognized that these were not sufficient to close the fiscal gap. Consequently, the government decided to accelerate the implementation of the state-owned enterprise divestiture program as a means of generating additional revenue.

Thus, even though the divestiture program had been designed as part of the Structural Adjustment Program (SAP) since 1988, conforming to the 'Washington Consensus' of stabilize, liberalize and privatize, the government, which had hitherto been lukewarm about the divestiture policy, now saw accelerated divestiture of state-owned enterprises as a means of generating more revenue to close the large fiscal gap that emerged in 1992 while at the same time fulfilling the conditions of the SAP. To this end, the government established a legal framework for divestiture in 1993 by passing Divestiture of State Interest Law. This formalized the work of the Divestiture Implementation Committee (DIC), which had been set up in 1988. The DIC "immediately undertook responsibilities for communicating government policies and consulting interested bodies on divestiture, formulating criteria for selection of enterprises to be divested, developing and implementing divestiture procedures, and evaluating the effects of all divestitures" (IMF, 2000). The new framework for divestiture made use of a wider range of instruments and modalities for the divestiture program, which, in addition to outright sale, included share offerings, joint ventures, liquidation, leasing, and the use of local and international stock exchanges.

Another important feature of the new divestiture framework was that, unlike before, it included the placement of profitable and high-quality enterprises such as the Ashanti Goldfields Corporation (AGC), Standard Chartered Bank, the National Investment Bank, Pioneer Tobacco Company, and others on the divestiture list. In fact, the Ashanti Goldfields Corporation (AGC), in which the government had 55% equity interest, was the most profitable gold mining company in Ghana (World Bank, 1988) and was becoming even more vibrant at the time it was being put up for divestiture. The Corporation was pursuing a cost-cutting program through capital-intensive operations and reduction in labor cost. It was also pursuing an expansion program to the tune of more than US$340 million, with AGC funding more than US$200 million from its own coffers, while US$140 million was being funded by the International Finance Corporation (La Verle Berry, 1994). It had "planned to raise output from a projected 670,000 fine ounces of gold for 1992 [from about 250,000 as at 1988] to more than 1 million fine ounces a year in 1995. … In early 1991, the corporation announced the discovery of new reserves estimated at more than 8 million ounces, in addition to its known reserves of 22.3 million ounces" (ibid).

According to the Divestiture Implementation Committee, ten state-owned enterprises were divested in 1993. Four of them were divested through sale of assets, three were through sale of shares, and the remaining three were through liquidation.

In 1994, the government increased taxes on a wide range of items. Also, to boost non-tax revenue, a number of user fees, charges and licensing fees were sharply revised upwards. To reduce revenue leakage through wrongful description, misclassification and collusion between importers and custom officials, the discretionary powers of custom officials were reduced by narrowing the spread between duty rates. Two additional pre-shipment inspection companies were introduced to help assess the proper value and quantity of imports. Additionally, the government introduced specific duties to be paid whenever the declared import price fell below the Customs, Excise and Preventive Service (CEPS) Commissioner's established value. With the introduction of this rule, specific duty was imposed on sixteen goods that were consistently being undervalued for custom purposes. The government also intensified the divestiture program in 1994 by divesting part or all of its interests in 49 enterprises, including Ashanti Goldfields Corporation (AGC), GIHOC Paints Company Limited, Ghana Agro-Food Company, Accra Breweries and Standard Charted Bank. On the divestiture of the Ashanti Goldfields Corporation, the government floated the shares on the London and Accra stock exchanges and raised US$350 million from both stock exchanges,

thereby changing the ownership structure of AGC. The government's ownership was reduced from 55% to only 29% after the share floatation in 1994.

Between 1995 and 2001, the government implemented a series of programs called the Enhanced Structural Adjustment Facility (ESAF)-supported programs still under the auspices of the IMF and the World Bank: 1995-97, 1998-2000 and 1999-2001 ESAF-supported programs.

Under the 1995-97 ESAF-supported program, the main objectives of revenue mobilization reforms were to restructure taxes to remove disincentives to private initiatives and other distortions in the pattern of resource allocation and to strengthen tax administration. Therefore, reliance on direct taxes was to be reduced in favor of expenditure-based taxation in order to minimize, according to the program, distortions to investment, labor and savings decisions, and to promote incentives for private investment. To achieve these, the program's strategic measures included the introduction of value added tax (VAT) to replace the sales tax, and increase in the VAT/sales tax rate from 15% to 17.5%. The program also called for increase in petroleum retail prices, as well as the introduction of a minimum import duty of 10% on one half of zero-rated and exempted items. Additionally, the program called for the conversion of specific excise to ad valorem rates and the implementation of less distortionary means of taxing the cocoa sector.

As part of the implementation of these strategic measures, the government imposed VAT at the rate of 17.5% starting from March 1995 to replace the sales tax, entertainment duty, hotels and restaurant tax, betting tax and advertising tax. However, the VAT was repealed, thereby re-instating the sales tax regime just after three and a half months of the implementation of the VAT. This was because of public opposition expressed through demonstrations and riots, which resulted in a number of deaths. The government also broadened the tax base on import duties in 1995 by imposing a 10% import duty on about 50% of the zero-rated and exempted goods. It is important to point out that, as required by the ESAF-supported programs, the implementation of the divestiture program saw a sharp acceleration starting from 1995. In 1996, the government imposed 15% penalty on companies that failed to deduct employee payroll taxes and those that deducted the payroll taxes but failed to pay them to the Commissioner of Internal Revenue. According to the government, this served as a means of discouraging such companies from doing so. The government also introduced petroleum pricing formula in 1996, which, in addition to taxes, made petroleum prices explicitly dependent on crude oil and refining costs, depreciation rate of the cedi, and a set profit margin for the oil marketing companies. Consequently, changes in any of these variables necessitated changes in the ex-pump prices. The introduction of the petroleum pricing formula formed part of the petroleum sector deregulation, which was an important strategic objective of the 1995-97 ESAF-supported program. Revenue measures adopted by the government in 1997 included an extension of the service tax to include a broad range of professional services beginning in May; an expansion of tax withholding authority of revenue agencies; a systematic review of customs collections against inspection certificates; and the removal of unjustified exemptions, following a major review of tax and customs exemptions.

The revenue mobilization reform objectives of the 1998-2000 ESAF-supported program (annually arranged) were similar to those of the 1995-97 one. On strategy, however, the 1998-2000 annually arranged ESAF-supported program called for the establishment of a central revenue authority, parliamentary approval before discretionary tax and customs exemptions could be granted, a re-introduction of VAT, simplification of the tax system, and the

conversion of specific excise taxes to ad valorem rates, etc. The implementation of the 1998-2000 annually arranged ESAF-supported program was halted in the first half of 1999 because the IMF Board of Directors decided to discontinue all annually-arranged ESAF programs. A new program, the 1999-2001 ESAF-Supported Program, was therefore approved for Ghana on May 3, 1999. The objectives and strategies of revenue mobilization reforms under the 1999-2001 ESAF-supported program largely remained the same as the terminated one.

To implement these program requirements, the government passed the Revenue Agencies (Governing) Board Act, 1998 (Act 558). The Act established a central governing body in place of the existing governing boards of Internal Revenue Service (IRS), Customs, Exercise and Preventive Service (CEPS) and Value Added Tax (VAT) so as to improve revenue administration through better coordination and supervision of the activities of the three revenue agencies. However, in spite of the passage of the law in 1998, the Board was constituted in 2001. Thus, the government fell short of the program's requirement that a Central Revenue Authority (CRA) should be established. The reason for the delay was that some experts argued that certain constitutional provisions preserved the existing revenue agencies as separate entities. The government also reintroduced the Value Added Tax (VAT) in December 1998 after passing the VAT law in February 1998. Unlike 1995 when its introduction was botched, the introduction of VAT in 1998 was successful because the government had learnt lessons from the experience in 1995. Unlike in 1995 when the VAT rate was pegged at 17.5%, the rate was set at 10% in 1998. Additionally, the government took time to extensively educate the public about the VAT before reintroducing it. To facilitate the implementation of the VAT, the government assigned tax payer identification numbers to VAT eligible registrants. Again in 1998, the Internal Revenue Service introduced a pilot scheme to test the self-assessment system on a number of large taxpayers. In 1999, the VAT Service was asked to strengthen its effort to enforce compliance with requirements for VAT invoicing and return filing through the application of penalties, automatic assessments of liabilities, and prosecution of non-payers. In 2000, the government increased the VAT rate from 10% to 12.5%

3.1.6 Kufuor-Led NPP Administration under the Fourth Republic, 2001-08

When the Kufuor-led NPP Government took over office, it opted for the Enhanced HIPC Initiative to seek debt forgiveness. Again, the government sought Poverty Reduction and Growth Facilities (PRGF) from the Bretton Woods Institutions. A conditionality under both the HIPC and PRGF was the preparation and implementation of Poverty Reduction Strategy Papers (PRSPs), prepared in a participatory process (that is, with the participation of the donor community and civil society organizations). The administration therefore prepared and implemented the Ghana Poverty Reduction Strategy (GPRS 1), 2003-2005 and Growth and Poverty Reduction Strategy (GPRS II), 2006-2009. The underlying objective of GPRS I and II on revenue mobilization was to increase revenues not by increasing taxes but by instituting measures that would widen the tax base and improve efficiency in revenue administration. This involved the minimization of revenue leakages; reduction of the incidence of tax avoidance; the strengthening of the capacity of revenue collecting institutions (including District Assemblies); and ensuring cost recovery pricing. It is important to point out that the government pursued a policy of tax increases in 2001 and 2002 but provided tax reliefs starting from 2004.

The Kufuor government implemented the following reform measures in pursuance of the above strategic objectives. First, the government, through Customs, Exercise and Preventive Service (CEPS), began the implementation of an automation program to enhance clearance of goods and boost revenue collection. This took off at the Kotoka International Airport in November 2002. Second, to ensure effective monitoring of collection and payment of non-tax revenue into the consolidated fund, a Non-Tax Revenue Unit was established in the Ministry of Finance and Economic Planning in 2002. Third, to enhance tax payer identification, information sharing and risk profiling, the government also passed Taxpayer Identification Number (TIN) law in 2002. Fourth, to simplify disbursement of donor aid, procedures and practices, improve the predictability of the size of the resource envelope, do away with the need for matching funds, and improve the timing of aid disbursement, the government and its development partners (DPs) introduced the Multi-Donor Budgetary Support (MDBS) initiative in 2002. Fifth, to improve tax administration and collection, the government launched Large Taxpayer Unit (LTU) in 2003. Sixth, to ensure efficiency in tax collection, the automation of the Internal Revenue Service (IRS) operations began in 2006 on a pilot basis by installing the Tanzania version of ITAX software. Also, in September 2006, the automation of the operations of the transit regime was launched on a trial basis. This was to ensure that cargo that enters in transit through Ghana duly leaves the country for specified destinations in order to stop the diversion of transit goods into the Ghanaian market without paying the required taxes. Seventh, to ensure that tax policies are properly formulated in Ghana, the government established Tax Policy Unit (TPU) in the Ministry of Finance and Economic Planning (MOFEP) in 2006. The TPU began a review of the country's exemption regime in 2007 to reduce the scope and to eliminate abuses in the administration and application of tax exemptions. Eighth, to enhance revenue collection by facilitating the verification for duty, a vehicle valuation database in the Ghana Customs Management System (GCMS) was designed and tested by the Ghana Community Network (GCNet) in 2007. Training of staff on the module was carried out. Ninth, to enhance tax administration and collection, a Transaction Advisor was appointed in 2007 to commence full computerization of Internal Revenue Service (IRS) operations. Also, Valuation Office was established at the CEPS Head Office to facilitate the introduction of Electronic Transaction Price Database (ETPD) to ensure that appropriate values are assigned to commodities for tax purposes. Tenth, to get around the difficulties associated with assessing the value added tax (VAT) in the informal sector, the VAT Service began to implement in 2007 a 3% Flat Rate Scheme (FRS) in the informal sector. Eleventh, to encourage the collection of non-tax revenue by MDAs by ensuring that the MDAs are able to meet their operational expenses before transfers are made from the Ministry of Finance and Economic Planning, the government passed MDAs Retention of Funds Act 2007 (Act 735). Twelfth, to ensure a more effective means of taxing mobile phone usage, the government abolished import duty and import VAT on all mobile phones imported into the country and imposed a specific exercise duty per minute of airtime use. To do this, the government passed the Communications Service Tax (CST) Act (Act 754) in 2008. Thirteenth, to reduce revenue leakage and increase lodgment of non-tax revenue, the Ministry of Finance and Economic Planning through the Non-tax Revenue Unit began an on-site banking program in 2008, starting with 15 MDAs and 7 banks in March 2008.

3.1.8 Mills-Led NDC Administration under the Fourth Republic, 2009-12

When President John Evans Atta Mills was sworn into office in January 2009 after winning the December 2008 presidential elections on the ticket of the National Democratic Congress

(NDC), the Ghanaian economy was experiencing macroeconomic instability. This was mainly due to a large fiscal overrun the country had experienced in 2008. "Even though the previous government announced in 2007 that it had weaned Ghana from financial support of the Bretton Woods Institutions, to help address the macroeconomic instability, the new government approached the IMF for a three-year arrangement under the Extended Credit Facility (ECF)" (Boakye, 2018). Being in its last year of implementation, GPRS II served as the anchor strategy document for the ECF. From 2010 to 2013, however, the ECF was anchored on a new medium-term strategic document the Mills administration prepared, the Ghana Shared Growth and Development Agenda, 2010-2013 (GSGDA I). The main strategic objectives of GSGDA I on revenue mobilization were: (i) minimization of revenue leakages in all collecting agencies; (ii) institution of tax reforms with emphasis on indirect taxes and enhancing tax incentives; (iii) pursuance of the revenue agencies modernization program; and (iv) ensuring transparent, efficient and effective oil and gas revenue management (Page 20, GSGDA I, Vol. 1).

Revenue policy and administration reforms implemented by the Mills administration in pursuance of the above strategic objectives included the following: (1) Modernization of tax administration by passing the Ghana Revenue Authority Act 2009, Act 791, and thus establishing the Ghana Revenue Authority (GRA). This new tax administrative body centralized the management of the then three separately managed tax revenue agencies: the VAT Service, the Internal Revenue Service, and the Customs, Excise and Preventive Service. As part of the modernization process, and serving as one of the structural benchmarks of the Extended Credit Facility (ECF), the VAT Service and the Internal Revenue Service were integrated to create Domestic Tax Revenue Division (DTRD) starting from 2011; (2) In March 2010, the government fixed the mining and mineral royalty rate, which ranged from 3 to 6%, at 5% to, according to the government, strengthen revenue collection from the mining sector; (3) In 2011, the government began to segment the taxpayer base by establishing offices for different tax payer groups. By the end of 2013, the segmentation process had been completed with the establishment of 15 Medium Taxpayer Offices (MTOs) and 51 Small Taxpayer Offices (STOs), in addition to the existing Large Taxpayer Office (LTO) (page 181, 2014 Budget Statement); (4) Also in 2011, as part of its efforts to streamline and minimize tax exemption, the government removed the authority of the Ghana Investment Promotion Council to grant tax exemptions, except when approved by the Minister of Finance. In the same year, tax exemptions for real estate developers were also "limited to projects which provide affordable housing in partnership with the Ministry of Water Resources" (Government of Ghana, May 2011); (5) The government passed the Petroleum Revenue Management Act, Act 815 in 2011 to provide the framework for the collection, allocation and management of petroleum revenue, which came on board in December 2010 after the country had discovered oil in commercial quantity in 2007; and (6) In 2012, changes were made to mining taxation. The government explained this in the June 2012 Memorandum of Economic and Financial Policies (MEFP), submitted to the IMF, as follows: "The corporate tax for mining was increased from 25 to 35 percent and a uniform regime for capital allowances was established, including an annual allowance of 20 percent for five years for mining … A windfall profit tax has been developed with IMF technical assistance and will be submitted to Parliament by end-June 2012." Also, as part of the changes, OECD guidelines for transfer pricing were adopted and new regulations to govern ring-fencing of projects in mining were prepared in 2012, according to the government.

3.1.8 Mahama-Led NDC Administration under the Fourth Republic, 2013-16

Having taken office in January 2013, the Mahama government prepared and implemented the Ghana Shared Growth and Development Agenda, 2014-2017 (GSGDA II). The GSGDA II, which also served as the anchor strategic document for a second Extended Credit Facility arrangement agreed with the IMF, had the following strategic objectives on revenue mobilization: (i) elimination of revenue collection leakages; (ii) simplification and streamlining of existing tax code; (iii) strengthening of tax revenue administration for effective tax enforcement and compliance; (iv) widening of the tax net and exploring opportunities for new revenue mobilization sources; (v) strengthening of mobilization and management of non-tax revenue; and (vi) diversification of sources of external resource mobilization, including the Diaspora (Page 36, GSGDA II, Vol. I).

The revenue policy and administration reform measures implemented by the Mahama government in pursuance of the strategic objectives included the following: (1) The government introduced a tax administration software in 2013, called Total Revenue Integrated Processing System (STRIPS), as a means of automating the Domestic Tax Revenue Division's processes and providing management information for decision making. The purpose was to improve efficiency in the operations of the Division; (2) In 2013, the government passed the Excise Tax Stamp Act (Act 873), requiring excise stamps to be affixed on selected goods to make it easy for the collection of excise tax on them. However, active implementation of this Act began in 2018; (3) In 2014, the government imposed a Special Petroleum Tax of 17.5% to, according to the government, bring Ghana's petroleum taxes more in line with international practice (Government of Ghana's Memorandum of Economic and Financial Policies, August 2015); (4) In January 2015, the government began to implement VAT on fee-based financial services and a 5% flat rate on real estate. The imposition of VAT on fee-based financial services formed part of the VAT reforms included in the VAT bill submitted to Parliament as far back as May 2011, which was resubmitted in June 2012 "after incorporating substantive comments from the IMF's Legal Department" (Government of Ghana Memorandum of Economic and Financial Policies, June 2012). According to the 2014 Budget Statement, the VAT bill was finally approved by Parliament in November 2013. It is important to point out that, considering them as nuisance taxes, the Akufo-Addo government removed these taxes when it took over power in 2017; (5) As part of the process to eliminate tax exemptions, which served as a structural benchmark of the ECF, the government took steps in 2015 to reduce the exemptions on corporate income tax for the free-trade zone companies by increasing their corporate income tax from 8% to 15% for those exporting outside the domestic market, and from 8% to 25% for those operating in the domestic market, after the expiration of their 10-year tax holidays; (6) In January 2016, Income Tax Act 2015 (Act 896) came into effect. According to the government, the new Act introduced "several new measures to simplify the existing tax regime, improve tax compliance and reduce the cost of tax compliance. It expanded the residents' income taxation from modified worldwide to a full worldwide basis" (Government of Ghana, September 2016); (7) The Mahama government also passed the Revenue Administration Act (RAA) in 2016, Act 915. Among other things, this Act listed many transactions and services that cannot be accessed in Ghana without a Tax Identification Number (TIN); (8) In February 2016, the government of Ghana began a full implementation of the Economic Community of West African States (ECOWAS) Common External Tariff (CET). The CET had come into effect on January 1, 2015, following the approval by the authority of Heads of States and Governments of ECOWAS states.

3.1.9 Akufo-Addo-Led NPP Administration under the Fourth Republic, 2017-20

Because the second ECF arrangement had been scheduled to end in April 2018, when the Akufo-Addo government took office in January 2017, it had to continue its implementation. In August 2017, the IMF approved a request from the new government for a one-year extension of the arrangement, thus extending its implementation to April 2019, despite the fact that President Akufo-Addo had given an assurance in a press conference in July 2017 that the ECF would not be extended.

An important objective of the Akufo-Addo government on revenue mobilization, which it heavily campaigned on during the 2016 general elections, was to shift emphasis from 'taxation to production' by reducing taxes generally and eliminating what the government termed as 'nuisance taxes' the Mahama government had imposed. In the Medium-term National Development Policy Framework, AN AGENDA FOR JOBS: CREATING PROSPERITY AND EQUAL OPPORTUNITY FOR ALL (FIRST STEP), 2018-2021, prepared by the new government, the strategic objectives of revenue mobilization were to: (i) strengthen revenue institutions and administration; (ii) review the tax exemptions regime; (iii) pursue full implementation of the Excise Tax Stamp Act 2013 (Act 873); (iv) review existing legislation and all administrative instructions regarding non-tax revenue/internally generated funds (NTR/IGF) to develop an IGF policy; and (v) diversify sources of resource mobilization.

In pursuance of these objectives, the Akufo-Addo government implemented the following revenue policy and administration reform measures: (1) In June 2017, the government passed four amendment bills to abolish some taxes and review downwards others. The bills were: Customs and Excise (Petroleum Taxes and the Petroleum Related Levies (Repeal)) Bill, Income Tax (Amendment) Bill, Special Petroleum Tax (Amendment) Bill, and Special Import (Amendment) Bill. The taxes that were abolished by the passed Acts included the 1 percent Special Import Levy, 17.5 percent VAT/NHIL on financial services, 17.5 percent VAT/NHIL on selected imported medicines that were not produced locally, 17.5 percent VAT/NHIL on domestic airline tickets, 5 percent VAT/NHIL on real estate sales, excise duty on petroleum, duty on the importation of spare parts, levies imposed on 'kayayei' by local authorities, and tax on capital gains from publicly held securities approved by the Securities and Exchange Commission (SEC) as listed on the Ghana Stock Exchange. The following taxes and levies were reviewed downwards by the amendments: (a) The Special petroleum tax rate -- from 17.5 percent to 15 percent, and (b) National electrification scheme levy – from 5 percent to 3 percent. The amendments also replaced the 17.5 percent VAT/NHIL rate for small traders with a 3 percent flat rate, while tax credits and other incentives for businesses that hire young graduates were also provided. Additionally, the amendments required steps to be taken to remove import duties on raw materials and machinery for production within the context of the ECOWAS Common External Tariff (CET) Protocol (Association of Ghana Industries, 2017); (2) In 2018, the government passed the Taxation (Use of Fiscal Electronic Device) Act (Act 966) to ensure real-time monitoring of VAT. The government also fully implemented, in 2018, the paperless port clearing system and Cargo Tracking Notes (CTN) to increase efficiency and compliance at the ports (PwC, 2019); (3) Again, in 2018, Cabinet approved a package of tax incentives for the companies involved in the One-District-One Factory (1D1F) initiative in order to enhance their competitiveness (ibid) (4) In 2019, the government submitted a bill on tax exemptions to Parliament with the objective of "streamlining the tax exemption regime and reducing abuse" (2020 Budget Statement, Page 114). The submission of the bill represented the culmination of work on tax exemptions/expenditure that started since the Mills administration as part of the requirements of the ECF arrangement. The work included an assessment of tax expenditure for the period 2008-2015, which was finalized in 2015 by the

Tax Expenditure Committee (TEC) set up at the Ministry of Finance (Government of Ghana Memorandum of Economic and Financial Policies, 2015); (5) To curb smuggling and support local textiles manufacture, the government zero-rated VAT on sales of locally manufactured textiles to make them more affordable; (6) To improve efficiency in tax administration, the government expanded the system for online Tax Identification Number (TIN) registration, introduced the Integrated Tax Application and Preparation System Application (iTAPS) for e-filing by individual tax payers, and redeployed Integrated Management System for Customs in 2019; (7) In 2020, the government introduced an electronic customs clearance system, called the Integrated Customs Management System (ICUMS), for all customs clearance procedures. ICUMS, which was initially called Universal Pass (UNIPASS) and which is operated by Ghana Link Services Limited, replaced a single window platform for processing trade transactions and customs clearances operated by the Ghana Community Network Limited (GCNet). According to the government, ICUMS has the advantage of automating all clearance processes of the ports and eliminating multiplicity of vendors, thereby ensuring efficiency and greater customs revenue generation.

3.2 An Assessment of the Performance of Ghana's Total Revenue Relative to Other Developing Economies

We saw from the discussion in Subsection 3.1 that the government of Ghana's tax and non-tax revenue policy and administration have seen extensive reforms, especially starting from 1983. To what extent have these reforms translated into actual revenue performance?

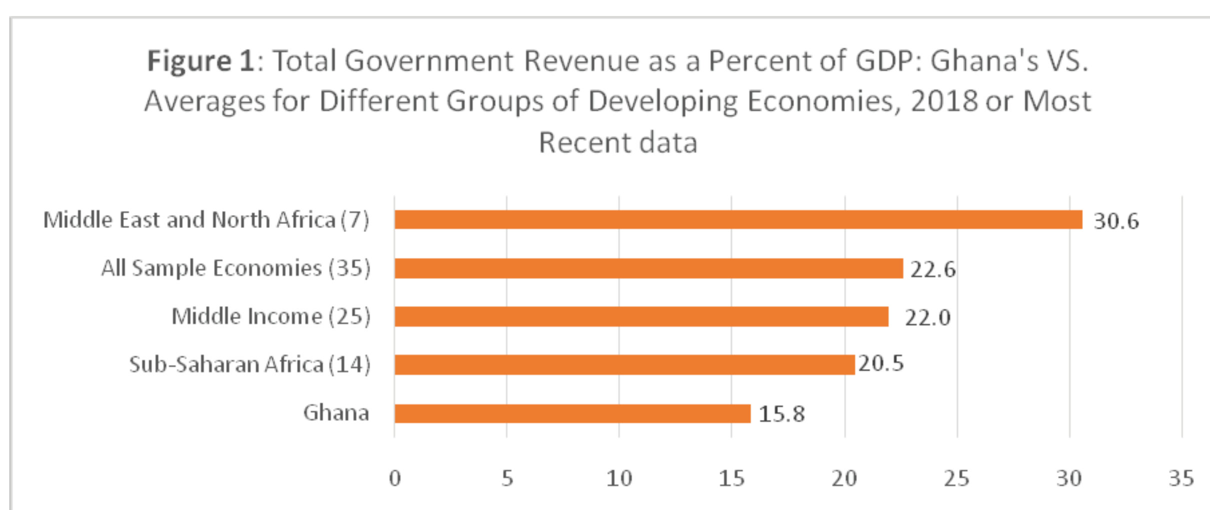
In this subsection, we briefly review the performance of the government of Ghana's revenue by comparing it with those of 34 other developing economies, using data from the International Financial Statistics of the IMF (See Appendix 1 for the list of countries and their raw data). Even though data availability largely determined the selection of the developing economies, the sample is quite representative, as it covers all the regions of the developing world. For a better understanding, we have grouped the sample economies under: (1) All sample economies -- 35 in number; (2) Middle-income economies -- 25 in number; (3) Sub-Saharan African economies -- 14 in number; and (4) Middle East and North African economies -- 7 in number.

Table 1 and Figure 1 show how Ghana's total government revenue (including grants) as a ratio of GDP compares with averages for the different country groups in the sample.

Table 1: Total Government Revenue as a Ratio of GDP, 2018 or Most Recent Data (Ghana's VS Averages for Different Developing Country Groups)

Country/Country Group	*Total Government Revenue as a Ratio of GDP (%)*	*Gap between Ghana's and Group Average (% Points)*
Ghana	15.8	--
Sub-Saharan Africa (14)	20.5	-4.7
Middle Income (25)	22.0	-6.2
Middle east and North Africa (17)	30.6	-14.8
All Developing Economies(35)	22.6	-6.8

***Sources of Data**: Sources of Data: International Financial Statistics of the IMF (Revenue Data); World Development Indicators of the World Bank (GDP Data)*



We can see from the table and figure that, on average, Ghana's total government revenue as a ratio of GDP has substantially underperformed the averages for all the developing country groups, confirming the findings in other studies. While Ghana's total government revenue as a ratio of GDP stands at only 15.8%, averages for all the developing, middle-income and sub-Saharan African economies in the sample stand at 22.6%, 22.0% and 20.5% respectively. Indeed, the average for the Middle-East and North African economies stands at as high as 30.6%. Therefore, as shown in the third column of Table 1, the gaps between Ghana's total government revenue ratio and averages for the sub-Saharan African and middle-income economies, for example, stand at 4.7 and 6.2 percentage points respectively. For the Middle East and North African economies, the gap is as large as 14.8 percentage points.

In fact, of the 35 developing economies in the sample, Ghana's total government revenue ratio ranks 32nd as Table 2 shows, implying that Ghana's total revenue ratio is larger than only 3 economies among the 35 economies. Also, of the 25 middle income and 14 sub-Saharan African economies in the sample, Ghana ranks 23rd and 13th respectively.

Table 2: Ghana's Rank among the Sample Groups in Terms of Total Government Revenue as a Percent of GDP (Rank based on the Largeness of the Ratio)

Economy Group	*Number of Economies in the Group*	*Ghana's Rank*
Middle Income	25	23rd
Sub-Saharan Africa	14	13th
All Economies in the Sample	35	32nd

Sources of Data: *International Financial Statistics of the IMF (Revenue Data); World Development Indicators of the World Bank (GDP Data)*

3.3 Are the Total Revenue Gaps Due to Low Real Property Taxation in Ghana?

We just saw from the previous subsection that Ghana's total revenue ratio is among the lowest in the developing world despite carrying out comprehensive tax and non-tax policy and administration reforms over the years, particularly since 1983. We also explained in the introduction that the government of Ghana's attributions of its poor revenue mobilization to the difficulty in taxing the informal sector and the country's generous tax exemption system are largely inaccurate. This is because we pointed out that credible estimates, including by the government itself, of untapped revenues from these sources fall far short of the revenue gaps between Ghana and its peers.

For the past two to three years, featuring prominently in the 2020 Mid-year Budget Statement, the government has proposed to improve its revenue mobilization from real property taxation. This is because, according to the government, it generates too small an amount of revenue from real property tax. The question is, is the total revenue gap between Ghana and its peer countries the result of low revenue mobilization from real property tax in Ghana?

To answer this question, let us consider Table 3. This table shows average revenue from real property tax as a ratio of GDP for 13 African economies. To show the likely upper limit for Ghana, average revenue from real property tax for 6 non-African upper middle and high income developing economies have also been shown. We can see from the table that real property taxation generates quite small amounts of revenue relative to GDP in developing economies. Average for the 6 upper middle and high income developing economies stands at only 0.39% of GDP. For the 13 African economies, the average is as low as 0.21% of GDP. These are very small ratios compared to the gaps between Ghana and the developing economy groups in terms of total revenue to GDP ratio as established in the previous subsection.

Table 3: Average Revenue from Real Property Tax as a Ratio of GDP for Different Economy Groups

Country Group	*Real Property Tax as a Ratio of GDP (%)*
African Economies (13)	0.21
Upper Middle-income and High Income Developing Economies (6)	0.39

Sources of Data*: International Financial Statistics of the IMF (Revenue Data); World Development Indicators of the World Bank (GDP Data)*

Therefore, although data on government revenue from real property tax in Ghana are not publicly available, irrespective of how small they are, we can conclude that revenue from real property tax does not significantly explain the substantially large total revenue gaps between Ghana and its peers in the developing world. Differently put, even if Ghana is able to improve its property tax mobilization to catch up with the average for its peers in the developing world, it will be nowhere close to filling the total revenue gaps.

4.0 Performance Assessment of the Government of Ghana's Revenue from the Extractive Sector – Comparative Analyses

4.1 The Extractive Sector Contribution to Government Revenue, 2016-18

Before we carry out the comparative analyses in the next subsections, let us first discuss the extractive sector contribution to government revenue in Ghana in recent years. To begin with, it is important to point out that the extractive sector is critical to government revenue mobilization in developing economies. In fact, compared to other sectors, the extractive sector contributes a far bigger share of total government revenue in most developing economies than any other sector relative to their shares of GDP. This is because:

1. The extractive sector is characterized by huge economic rents, as pointed out in Section 2;

2. Net revenues from the extraction of extractive resources belongs to the government, since these resources are publicly endowed.

3. At the initial stage of economic development, privately earned incomes are not large enough to enable the government to generate sizeable revenues from the taxation of these incomes from the other sectors. Therefore, governments of developing economies largely depend on revenues from the publicly endowed extractive resources to fund their development. After all, it is fairer for the government to mostly depend on the resources it is endowed with for revenue mobilization purposes rather than on what poor citizens have privately earned.

For these reasons, any government of a developing economy that is unable to generate sizeable revenue from its extractive resource endowments is bound to struggle in terms of revenue generation.

Table 4 shows the contribution of the extractive sector to government revenue in Ghana from 2016 to 2018. In 2016, government revenue from the extractive sector amounted to GH₵3,055.5 million. This increased to GH₵4,821.0 million in 2017, and in 2018 it increased further to GH₵7,320.8 million.

To understand this in the right perspective, let us shift our attention to columns 3 and 4 of the table. We can see from these columns that Ghana's extractive sector contribution to total government revenue outperformed its contribution to GDP. In 2016, while the extractive sector contributed 8.5% to GDP, it contributed 9.1% to total government revenue. In 2017, while the extractive sector contributed 10.9% to GDP, it contributed 11.6% to total government revenue. And in 2018, while the sector contributed 13.6% to GDP, it contributed as much as 15.4% to total government revenue. The last column of the table re-emphasizes this point. We can see from this column that government revenue from the extractive sector as a share of the sector's value added stood at 18.2%, 18.6% and 19.3% in 2016, 2017 and 2018 respectively. However, though not shown in the table, total government revenue as a share of total GDP in 2016, 2017 and 2018 stood at only 15.7%, 15.8% and 15.8% respectively.

Table 4: The Extractive Sector Contribution to Government Revenue in Ghana, 2016-2018

Year	*Government Revenue from the Extractive Sector* (GH₵million)*	*The Extractive Sector Contribution to GDP (%)*	*The Extractive Sector Contribution to Total Government Revenue (%)*	*Government Extractive Revenue as a Share of Extractive Value Added (%)*
2016	3,055.5	8.5	9.1	18.2
2017	4,821.0	10.9	11.6	18.6
2018	7,320.8	13.6	15.4	19.3

** PAYE, withholding taxes and VAT paid by the extractive companies to the government on behalf of others in the sector are included in the government's revenue from the extractive sector.*
Sources of Data: *Ghana EITI, Minerals Commission, Ghana Revenue Authority, Ghana Statistical Service and Ministry of Finance*

4.2 The Comparative Assessments

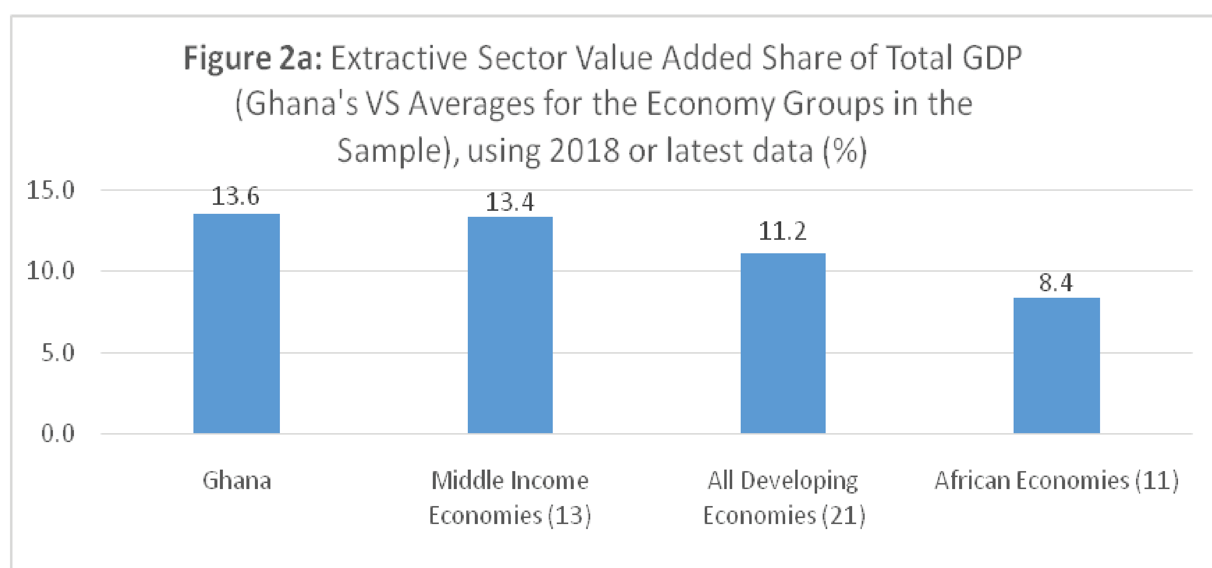
The critical question now is, how does Ghana's extractive sector contribution to government revenue compare with other countries in the developing world? Answering this question will enable us to ascertain whether (and to what extent) the total revenue gap between Ghana and the other developing country groups, particularly its peer sub-Saharan African and middle income countries, established in Section 3, is explained by revenue generation gap from the extractive sector. We do this by comparing the country's extractive sector contribution to government revenue with those of (1) different developing economy groups at the total extractive sector level, and (2) two African economies (which are also middle income economies) at the subsector levels -- oil & gas and mining subsectors.

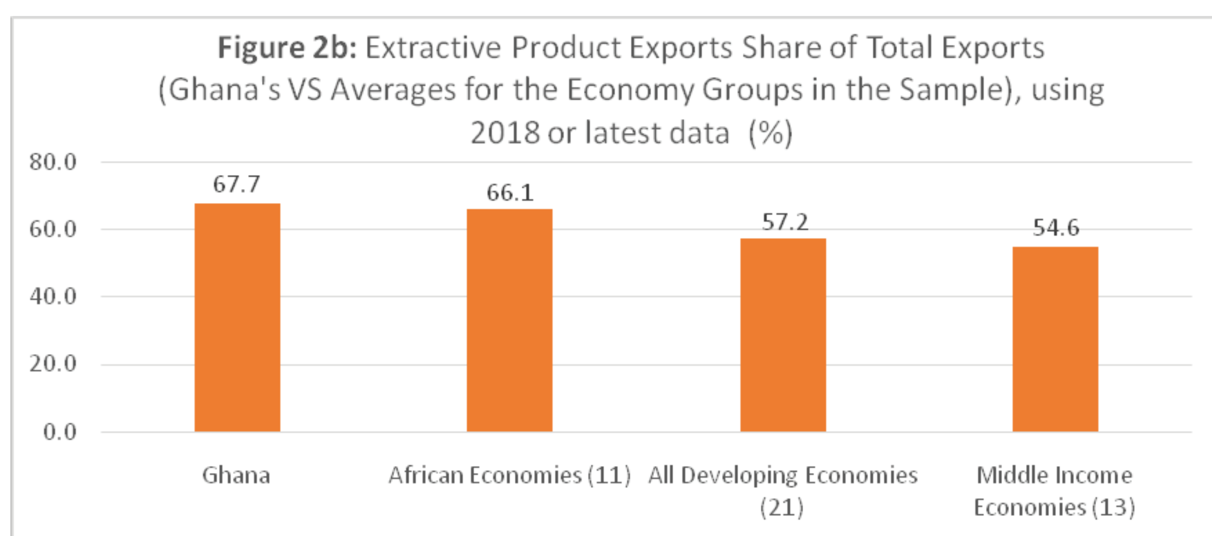
4.2.1 Comparison with Developing Economy Groups

The main difficulty in carrying out this kind of task is availability of data. This is because cross-country data on extractive sector revenues are difficult to lay hands on, since even multilateral organizations like the World Bank and the IMF, which provide comprehensive databases of economic variables, do not have data on extractive sector revenues. However, the good news is that the Extractive Industries Transparency Initiative (EITI), which has been established to promote the open and accountable management of oil, gas and mineral resources, has created an online repository of data on extractive sector variables, including government revenue from the sector. In fact, in 2014, the International Monetary Fund (IMF) announced that it was collaborating with the EITI to help improve the consistency of the Initiative's data on government revenues from the extractive sector in line with the Fund's Government Finance Statistics Manual 2014 (GFSM 2014), which, according to the Fund, is the internationally accepted standard for compiling fiscal statistics. However, since many countries have not signed on to the EITI, the Initiative's repository does not include extractive data on many countries. Moreover, since many of the countries that have signed on to the Initiative

issue their publications only in their national languages (which may thus not be in English), it is difficult to access some of the data in the publications. Nonetheless, we have been able to put together data on 21 developing economies across all regions of the developing world for our analysis. Appendix 3 shows the list of economies and their raw data. Of these, 11 are sub-Saharan African while 13 are middle income economies.

Before we proceed, let us first see how big Ghana's extractive sector is compared with those of other countries in the developing world. We use the extractive sector value added as a share of total GDP and export of extractive products as a share of total exports as two different measures of the size of the extractive sector in relative terms. Figures 2a and 2b show Ghana's ratios and the averages for the developing country groups (See Appendix 3 for the raw data).





We can see from Figure 2a that while average extractive sector value added shares of GDP of sub-Saharan African, middle income and all the developing economies in the sample stand at 8.4%, 13.4% and 11.2% respectively, Ghana's extractive sector value added share of GDP is as high as 13.6%, which is thus bigger than any of the group averages. In terms of exports of extractive products as a share of total exports, we can see from Figure 2b that Ghana's ratio, which stands at 67.7%, is also bigger than any of the group averages.

We can therefore conclude that the size of Ghana's extractive sector is quite big relative to the other economies in the developing world. This implies that Ghana's extractive sector is big enough to attract the attention of the government of Ghana to position the sector for strong revenue generation as other developing economies do. Thus, given its size, Ghana's extractive sector revenue generation is expected to be not less than the average for its peers in the developing world in relative terms.

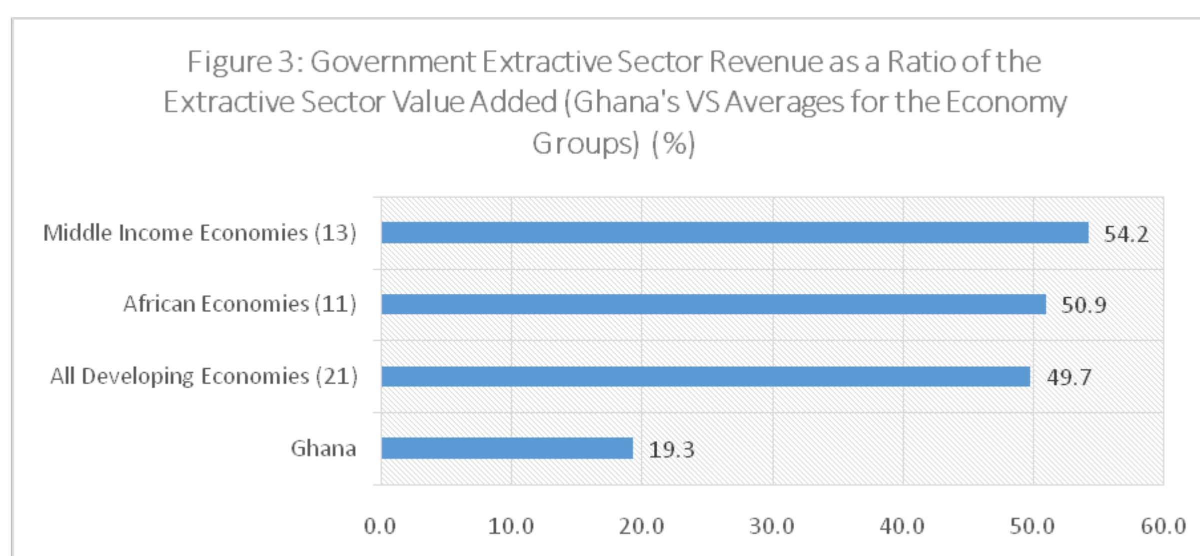
Yet, as Table 5 and Figure 3 show, government revenue from Ghana's extractive sector relative to the size of the sector is way below the average for its peer countries in the developing world. Ghana's government revenue from the extractive sector as a share of the sector's value added stands at only 19.3%.

Table 5: Government of Ghana's Revenue Generation from the Extractive Sector Compared with Averages for Developing Economy Groups.

Economy/Economy Group	*Government Extractive Revenue as a Share of Extractive Value Added (%)*	*Gap between Ghana and the Group Average (% points)**
Ghana	19.3	--
African Economies (11)	50.9	-31.6
Middle Income Economies (13)	54.2	-34.9
All Developing Economies in the Sample (21)	49.7	-30.4

***Sources of Data**: The Extractive Industries Transparency Initiative (Countries' summary data sheets and reports); UNdata (Value added by industries); World Bank (WDI); World Integrated Trade Statistics; IMF's Article IV Reports on Botswana; etc.*

**Note that these gaps are not in terms of total GDP but in terms of the extractive sector value added.*



However, the averages for all the developing and African economies in the sample stand at 49.7% and 50.9% respectively. For the middle income economies, the average is as high as 54.2%.

In fact, we can see from Appendix 3 that of the 21 listed developing economies in the sample, Ghana's ratio is the lowest. Clearly, the government of Ghana falls far short of its potential in terms of revenue generation from the extractive sector.

4.2.2 Assessment by the Subsectors: Comparison with Nigeria and Botswana

In the previous subsection, we comparatively assessed how large government of Ghana's revenue from the extractive sector is without separating oil (and gas) from mining. Because the performance of revenue from the oil subsector may be different from the mining subsector, the previous approach does not provide us with the full picture. Also, in line with the source data, revenues paid to the governments by the oil and mining companies on behalf of third parties – pay as you earn (PAYE), Value Added Tax (VAT) and Withholding Tax (WHT) – were not excluded from the governments' extractive sector revenues used for the above analysis. By including those revenues, we cannot know the true proportions of the total values of the extractive production or gross revenues the governments received. We therefore assess in this subsection the performance of the government of Ghana's revenue from the oil and mining subsectors separately. We do this by comparing Ghana with two of its African peers as case studies: Nigeria and Botswana. Except otherwise stated, the receipts from the extractive companies on behalf of third parties are not treated as part of government revenue from oil and mining production.

Before we proceed, however, let us first consider basic facts about oil and mineral production in Ghana, Nigeria and Botswana. Table 6 presents these facts. We can see from the table that both oil and mineral production are quite large in Ghana in proportionate terms. In 2018, the value of oil production accounted for 40.2% of the total value of production of these two commodities, while the value of mineral production accounted for 59.8%. However, in Nigeria, the value of mineral production was very tiny compared with that of oil. In 2018, the value of oil production constituted 99.7% while that of mineral production constituted only 0.3% of the total production value of the two commodities in Nigeria. Botswana does not produce oil. Therefore, in 2018, production of minerals constituted 100% of the total value of production of the two commodities. Interestingly, while the absolute value of oil production in Nigeria is bigger than that in Ghana (and of course in Botswana), the absolute value of minerals production in Ghana is bigger than that in Nigeria and Botswana[4].

[4] However, Botswana's total extractive sector value added as a share of GDP is the biggest among the three countries. Ghana's ratio is also bigger than that of Nigeria. For instance, in 2018, the share of total extractive sector in GDP of Botswana and Ghana stood at 18.0% and 13.6% respectively. Nigeria's share stood at only 9.2% in 2017.

Table 6: Basic Facts about Oil* and Mineral Production in Ghana, Nigeria and Botswana, Using 2018 Data

	Oil*	Minerals	Total
Ghana			
Value of Production (US$' million)	4,485.87	6,669.47	11,115.34
Share of Total (%)	40.2	59.8	100
Nigeria			
Value of Production (US$' million)	54,482.59	147.30	54,629.89
Share of Total (%)	99.7	0.3	100
Botswana			
Value of Production (US$' million)	0.0	4,015.31	4,015.31
Share of Total (%)	0.0	100	100

**Oil* here stands for oil and gas.*
Note: Conversion exchange rates in 2018 are as follows: cedi/dollar = 4.585325; Naira/dollar = 305.7901; and Pula/dollar = 10.3475.
***Sources of Data**: 2017 EITI reports of Ghana and Nigeria; the Kimberly Process and other sources (for Botswana). The exchange rate data are from World Development Indicators of the World Bank.*

Owing to the relative sizes of these production values, we compare the performance of the government of Ghana's revenue from oil with that of the government of Nigeria, and from minerals with that of the government of Botswana.

4.2.2.1 The Performance of Ghana's Revenue from Oil Production Compared with Nigeria's, 2015-18

We assess the performance of the government of Ghana's revenue from oil from 2015 to 2018 by relating the revenue to the value of oil (and gas) production. This will enable us to understand how much Ghana earned from oil in proportionate terms. For comparative purpose, we do the same for the government of Nigeria. It should be pointed out that oil revenue here includes revenues received by all government units. As said earlier, revenues collected by the oil companies and paid to the government on behalf of third parties, in the forms of pay as you earn (PAYE), value added tax (VAT) and withholding tax (WHT), are not included. Table 7 presents the results of the analysis.

We can see from the table that Ghana government revenue from oil increased from US$401.5 million in 2015 to US$549.3 million in 2017, after declining to US$257.2 million in 2016. In 2018, it increased further to US$986.8 million. Therefore, from 2015 to 2018, revenues from oil to all government units, excluding the third-party receipts, averaged US$548.7 million. As a share of the value of oil production, government oil revenue declined from 18% in 2015 to

16.0% in 2017 before increasing to 22.0% in 2018. Therefore, revenue from oil to all government units in Ghana from 2015 to 2018 as ratios of the values of oil production during the period averaged 17.9%.

The question is, how large is this average ratio in comparative terms? We can see from the lower part of Table 7, which presents revenue figures (also excluding the third-party receipts) of the Nigerian government, that Ghana's average ratio of 17.9% is comparatively very small. This is because, from 2015 to 2018, the Nigerian government's revenues from oil averaged as high as 51.6% of the values of oil production in Nigeria during the period.

Table 7: Government Revenue from Oil* as a Ratio of the Value of Oil Production, 2015-18 (Ghana's VS Nigeria's)

Year	*Value of Oil* Production (US$)*	*Government Revenue from Oil** (US$)*	*Government Revenue as a Ratio of Value of Production (%)*
Ghana			
2015	2,229,177,932	401,521,599	18.0
2016	1,655,856,636	257,219,128	15.5
2017	3,430,284,183	549,272,026	16.0
2018	4,485,950,460	986,805,728	22.0
Average	**2,950,296,701**	**548,704,620**	**17.9**
Nigeria			
2015	45,548,302,499	24,791,173,000	54.4
2016	32,503,256,112	15,685,597,587	48.3
2017	42,424,689,200	19,824,632,996	46.7
2018	54,482,588,448	31,117,402,000	57.1
Average	**43,739,709,065**	**22,854,701,396**	**51.6**

*Oil here refers to both oil and gas. For both countries, the values of production were calculated using total quantities produced in the country (for oil and gas) and the realized selling price by the government.
**Includes all monies directly paid to all government units in the oil sector but excludes pay as you earn (PAYE), VAT and withholding tax (WHT) paid to the government by the oil companies on behalf of third parties.
***Sources of Data**: Ghana and Nigeria EITI, Ministry of Finance of Ghana, Nigeria National Petroleum Corporation*

Thus, Ghana earned far less than Nigeria not only because it produces oil in lesser quantities but also because, sadly, the government of Ghana's earnings from its oil production is far less in proportionate terms. Why is this so? In Section 5 of this paper, we shall provide explanations for this.

It is important to note that despite the relatively low international price of oil since the second half of 2014, average cost of producing oil in Ghana (in terms of both development and production costs) has been much lower than the price of oil. We can see from Table 8 below that from 2015 to 2018, average cost of producing oil from the Jubilee and Tweneboa Enyenra Ntomme (TEN) Oil Fields[5] in Ghana stood at US$16.52 per barrel. This compares favorably with average cost of producing oil in Nigeria, which currently stands at US$23 per barrel, according to the Nigerian National Petroleum Corporation (NNPC). However, the average international price of oil (using the Brent Crude price) stood at US$55.40 during the same period. Therefore, relative to the international price of oil, the average markup and gross profit margin ratios for Ghana's oil during the period stood at as high as 235.4% and 70.2% respectively. These are quite large ratios in spite of the decline in oil prices since the second half of 2014. Therefore, the oil business remains a highly profitable venture in Ghana, implying that cost considerations should not be the reason for the government of Ghana to settle for such a low share of the oil revenue in comparative terms.

Table 8: Average Total Cost of Producing Oil from the Jubilee and Tweneboa Enyenra Ntomme (TEN) Oil Fields, 2015-2018

Year	*Jubilee Prod. Quantity (BBLS)*	*TEN Prod. Quantity (BBLS)*	*Total Quantity (Jub. and TEN) (BBLS)*	*Total Cost (Jub. and TEN) (US$)*	*Average Total Cost (US$)*	*Price of Oil** (US$)*
2015	37,411,661	--	37,411,661	410,469,308	10.97	52.40
2016	26,981,640	5,316,140*	32,297,780	699,364,792*	21.65	44.05
2017	32,749,975	20,462,577	53,212,552	896,007,496	16.84	54.40
2018	28,461,755	23,557,361	52,019,116	865,211,057	16.63	71.07
				Average (US$)	**16.52**	**55.40**
				Mark-up Ratio (%)		**235.4**
				Gross Profit Margin (%)		**70.2**

*Cost of producing the 5.3 million barrels of oil from the TEN field in 2016 is not available from our sources. We, however, assumed here that the average cost of producing oil from the field in 2016 is the same as the 2017 figure -- US$19.38.
**Representing the average annual price of the Brent Crude
Sources of Data: *PIAC and GHEITI Annual Reports (Note: GNPC is the main source of their data.).*

4.2.2.2 Ghana's revenue from Mineral Production Compared with Botswana's

We assess the performance of the government of Ghana's revenue from mineral production from 2015 to 2018 by also relating the revenue to the values of minerals produced. For comparative purpose, we do the same for the government of Botswana. Again, revenues collected by the mining companies and paid to the government on behalf of third parties are

[5] Sankofa was not included in the calculation of the average cost per barrel because (1) It started its full-year operations in 2018, and more important (2) its production of large non-associated gas makes relating its total cost of production to the barrels of oil it produces problematic.

not included. However, to make the government of Ghana's revenue from the mining sector directly comparable to that of the government of Botswana, withholding taxes have not been excluded from the revenues[6]. Tables 9a and 9b present the results.

We can see from Table 9a that the government of Ghana's revenue from mineral production increased from US$267.0 million in 2015 to US$461.7 million in 2018. We can see from the last column of the table that as a share of the value of mineral production in the country, the government of Ghana's revenue from mining stood at only 6.2% in 2015 and marginally increased to 6.9% in 2018. In fact, from 2015 to 2018, the government of Ghana's revenue from mining averaged only 6.5% of the values of mineral produced in the country during the period. These are extremely small ratios, implying that the government revenue performance from the mining subsector is even much poorer than that from the oil subsector, which was found above to have performed poorly.

Table 9a: Government of Ghana's Revenue from Minerals as a Ratio of the Value of Mineral Production, 2015-2018

Year	*Value of Minerals Production (US$)*	*Government Revenue from Minerals (US$)*	*Government Revenue as a Share of Value of Production (%)*
2015	4,304,148,570	267,029,373	6.2
2016	5,574,870,000	338,626,780	6.1
2017	6,176,370,000	413,669,614	6.7
2018	6,669,470,000	461,696,847	6.9
Average	**5,681,214,643**	**370,255,653**	**6.5**

***Sources of Data**: GRA, GHEITI, MoF (NTU)*
Note: The average shares of values of the main minerals produced in Ghana in 2015-2018 were: Gold (96.5%), Manganese (2.7%), Bauxite (0.7%) and Diamond (0.1%).

In fact, in absolute dollar terms, what the government of Ghana received as revenue from mining in 2015-2018 was smaller than what it received as revenue from oil production, even though the average value of mineral production in Ghana in 2015-2018 was almost double the average value of oil production during the period. Specifically, while the government of Ghana received an average amount of US$548.7 million in oil revenue out of an average value of US$2.95 billion in oil production in 2015-2018, the government received an average amount of only US$370.26 million in mineral revenue out of an average value of US$5.68 billion in mineral production during the same period.

One may, perhaps, argue that cost structures in mining and oil industries are different and for that matter the cross-sector comparison we have just done in the previous paragraph is less appropriate. Indeed, compared with revenues earned by the government of Botswana from the same mining subsector, the performance of the government of Ghana's revenue from the mining subsector is still unbelievably poor. We can see from Table 9b that, on average, the government of Botswana earned as high as 51.8% of the value of minerals produced in

[6] However, pay as you earn (PAYE) and VAT have been excluded.

Botswana from 2015-2018, which completely dwarfs the 6.5% average ratio received by the government of Ghana from Ghana's mining subsector. In fact, while Ghana received an average amount of only US$370.3 million in mineral revenue out of average mineral production of US$5.68 billion from 2015 to 2018, Botswana received as much as US$1.87 billion in mineral revenue out of average mineral production of only US$3.60 billion during the period. Differently put, even though, on average, the value of minerals produced in Ghana represented as high as 157.7% of the value of minerals produced in Botswana in 2015-2018, the government of Ghana's mineral revenue represented only 19.9% of the mineral revenue of the government of Botswana during the period. This, indeed, is unbelievable.

Table 9b: Government of Botswana's Revenue from Minerals as a Ratio of the Value of Mineral Production, 2015-2018

Year	*Value of Minerals Production (US$)*	*Government Revenue from Minerals (US$)*	*Government Revenue as a Share of Value of Production*
2015	3,472,139,017	2,122,576,314	61.1
2016	3,288,851,214	1,330,678,095	40.5
2017	3,634,063,524	2,174,4438,270	59.8
2018	4,015,309,261	1,833,477,135	45.7
Average	**3,602,590,754**	**1,865,292,44**	**51.8**

Sources of Data: *The Kimberly Process, US Geological Survey (USGSS), ceicdata.com, knoema.com,*
IMF (Article IV consultations on Botswana, Prim. Com. Prices), etc.
Note: The average shares of values of the minerals produced in Botswana in 2015-2018 were: Diamond (88.0%); Coal (4.6%); Nickel (2.5%); soda ash (2.2%); copper (1.5%); gold (1.1%), and Cobalt (0.1%).

Are the costs of extracting minerals in Ghana so high that there is limited rent, which has resulted in the low revenue ratio received by the government of Ghana? Or, is the size of rent from mineral extraction in Ghana so small that what the government of Ghana received as revenue is quite high relative to the rent? Perhaps, these are the kinds of questions running through the minds of readers at this point.

It is important to first point out that in calculating mineral rents (like other resource rents), the opportunity cost of investment (normal profit) is treated as part of the total cost of production. Therefore, as argued in Section 2 of this paper, the entire mineral rents should be for the government. In fact, this is a common understanding. For instance, Keith Jefferis (2016) argues: *"In principle, the 'appropriate share' of the resource rent that should flow to the government through the fiscal regime should be close to **100 percent**. The point about resource rent is that it is the return to the extraction of a mineral over and above the cost to the investor, including return on capital and an allowance for risk. Hence, even if all the resource rent is taxed away, there should be no disincentive to the investor." Also, in a paper published in 2012, the Fiscal Affairs Department of the IMF writes: "Rents -- the excess of revenues over all costs of production, including those of discovery and development, as well as the normal return to capital – are an especially*

*attractive tax base as they can, in principle, be taxed at up to **100 percent** without making the activity privately unprofitable."*

So, how large is total mineral rents in Ghana, and what proportion of the total mineral rents does the government of Ghana receive as revenue? According to data from the World Bank, total mineral rents is quite large in Ghana. Table 10 presents the mineral rents that accrued to mineral production in Ghana from 2015 to 2018.

Table 10: Government of Ghana's Revenue from Minerals as a Ratio of Mineral Rents in Ghana, 2015-2018

Year	*Mineral Rents (US$)*	*Government Revenue from Minerals (US$)*	*Government Revenue as a Share of Mineral Rents (%)*
2015	3,186,242,054.1	267,029,373	8.4
2016	3,569,200,015.4	338,626,780	9.5
2017	3,661,321,177.3	413,669,614	11.3
2018	3,705,868,266.0	461,696,847	12.5
Average	**3,530,657,878**	**370,225,653**	**10.4**

***Sources of Data**: World Bank (WDI), GRA, GHEITI, MoF (NTU)*

We can see from the table that mineral rents from mineral production in Ghana increased from US$3.19 billion in 2015 to US$3.71 billion in 2018. The average amount of mineral rents stood at **US$3.53** billion during the period[7]. Given that the average value of minerals produced in the country stood at US$5.68 billion in 2015-2018 as we saw in Table 10 above, the average amount of mineral rents represented **62.1%** of the average value of minerals produced in the country during the period. Because the government of Ghana earned in revenue from mineral production an average amount of US$370.26 million in 2015-2018, it means that the government of Ghana earned only an average of **10.4%** of the total amount of mineral rents during the period. Again, this is unbelievable.

Comparatively, what proportion of mineral rents does the government of Botswana receive as revenue from Botswana's mining sector? Because the Word Bank's data on mineral rents do not cover diamond, the main product of Botswana's mining sector, the Bank's mineral rents data on Botswana cannot be used for our analysis. However, in a study published in 2016 and sponsored by the World Bank and the government of Botswana, Keith Jefferis of Econsult Botswana finds that mineral revenues received by the government of Botswana averaged as high as **95%** of the country's mineral rents, thus also completely dwarfing the **10.4%** of the mineral rents received by the government of Ghana as revenue from the mining subsector.

To further understand how small the average mineral revenue received by the government of Ghana in 2015-2018 was, compared with the average mineral revenue received by the

[7] Note that manganese and diamond, which together constituted an average of 2.8% of the total value of minerals produced in Ghana from 2015 to 2018, are not included by the World Bank in the calculation of mineral rents. Therefore, these mineral rents figures can be said to be marginally smaller than they would have been if these two minerals were included in the calculation of the mineral rents. Therefore, the calculated ratios of mineral rents received as revenue by the government of Ghana in Table 10 can also be said to be marginally larger than they would have been if these minerals were included in the calculation of the rents.

government of Botswana during the same period, let us look at how comparatively big the mineral rents generated in Ghana during the period were from the following perspective: while the value of mineral ***production*** in Botswana from 2015 to 2018 totaled US$14.41 billion, the value of mineral ***rents*** alone in Ghana totaled US$14.12 billion during the same period. Therefore, the value of mineral rents generated in Ghana in 2015-2018 alone represented 98.0% of the entire value of mineral production in Botswana during the period. Yet, as we saw earlier, the government of Ghana received an average mineral revenue of only ***US$370.26 million*** in 2015-2018 while the average mineral revenue received by the government of Botswana during the same period stood at ***US$1.87 billion***.

Indeed, these revenue numbers from Ghana's extractive sector are mind-bogglingly small. How can the government of Ghana settle for such unbelievably low amounts of revenues from the extractive sector? How can the government continue to laments about inadequate revenue when so much is given away to private investors from publicly endowed resources it holds in trust?

4.3 To What Extent Would the Identified Total Revenue Gaps Close If Ghana's Extractive Sector Revenue Ratios Matched those of Its Peers?

We answer the above question by finding out the additional revenues that would have been received by the government of Ghana if (a) the entire extractive sector revenue ratio of the government of Ghana had been equal to the middle income average, and (b) if the oil and mining subsectors' revenue ratios had been equal to the averages for Nigeria and Botswana respectively. For brevity, we limit the calculations to 2018.

(a)

Additional Revenue the Government of Ghana Would Have Received from the Entire Extractive Sector if It Had Obtained the Middle-Income Average Ratio in 2018

Recall from Table 6 that the gap between the government of Ghana's extractive sector revenue as a share of extractive value added and the middle-income average is:

19.3% - 54.2% = **-34.9%**

In 2018, the Extractive Sector Value Added in Ghana was: GH₵37,999,000,000 or US$8,289,089,792 (Note: According to GSS, the average Cedi to Dollar Exchange Rate in 2018 was 4.585325)

Therefore, the additional revenue that would have been received from the extractive sector in 2018 is:

(0.349) x GH₵37,999,000,000 = **GH₵13,261,651,000** or **US$2,892,194,337**

As a share of 2018 GDP (GH₵300,956,000,000), the additional revenue that would have been received in 2018 is:

(13,261,651,000/300,596,000,000) x 100 = **4.4%**

(b)

Additional Revenues Ghana Would Have Received from Oil and Mining Subsectors in 2018 if it Had Obtained Nigeria's and Botswana's Average Earning Ratios Respectively

To begin with, it is important to understand that because Nigeria and Botswana are two good performers among African and middle-income economies regarding revenue generation in the extractive sector, their extractive sector average revenue ratios can be seen as upper benchmarks for Ghana. Note that in line with Subsections 4.2.2.1 and 4.2.2.2, the differential ratios here are applied to the values of production and not to value added.

*(i) Additional **Oil** Revenue Ghana Would Have Received in 2018 if Its Ratio Had Matched Nigeria's Average*

The gap between the government of Ghana's 2018 oil subsector revenue ratio and the average for the Nigerian government from Table 7 is:

22.0% - 51.6% = - 29.6%

In 2018, the value of Ghana's oil (and gas) production was:

US$4,485,950,460 or GHȻ20,569,540,793

Therefore, the ***additional*** oil revenue that would have been received in 2018 is:

(0.296) x US$4,485,950,460 = ***US$1,327,841,336 or GHȻ6,088,584,075***

(ii) *Additional Mineral Revenue Ghana Would Have Received in 2018 if Its Ratio Had Matched Botswana's Average*

The gap between the government of Ghana's 2018 mining subsector revenue ratio and the average for the government of Botswana in 2015-2018 from Table 9a and 9b is:

6.9% - 51.8% = - 44.9%

In 2018, the value of Ghana's minerals production was:

US$6,669,470,000 or GHȻ30,581,687,528

Therefore, the ***additional*** minerals revenue that would have been received in 2018 is:

(0.449) x US$6,669,470,000 = ***US$2,994,592,030 or GHȻ13,731,177,670***

Total Additional Extractive Sector Revenue from (i) and (ii)

US$1,327,841,336 + US$2,994,592,030 = ***US$4,322,433,366***

OR

GHȻ6,088,584,075 + GHȻ13,731,177,670 = ***GHȻ19,819,761,745***

Thus, in 2018, if the government of Ghana had received the same revenue ratio in the oil subsector as the 2015-2018 average for the government of Nigeria, and in the mining

subsector as the 2015-2018 average for the government of Botswana, Ghana would have received **GH₵19.82 billion,** equivalent to **US$4.32 billion**, in additional revenue from the oil and mining subsectors.

As a ratio of 2018 GDP (GH₵300,596,000,000), the additional revenue Ghana would have received from both the oil and mining subsectors if its revenue ratios from these subsectors had matched Nigeria's and Botswana's would have been:

(19,819,761,745/300,596,000,000) x 100 = **6.6% of GDP**

Some Remarks:

a) Ghana Extractive Industry Transparency Initiative (GHEITI) reports that the government of Ghana received GH₵7.32 billion (including PAYE, VAT, WHT and NHIS) from the extractive sector in 2018. However, excluding these third-party revenues, the Initiative reports that the government received GH₵5.73 billion from the sector. Therefore, the additional revenue of GH₵19.82 billion that the government of Ghana could have received had the country earned the same ratio in 2018 as the average ratios for Nigeria and Botswana is 270.8% of what the country actually received (including the third-party receipts) during the year. However, excluding the third-party receipts, the additional revenue that could have been received is 345.9% of what was actually received from the sector.

b) The additional revenue of US$4.32 billion or GH₵19.82 billion that the government of Ghana would have received from the extractive sector had the country earned the same ratio in 2018 as the average ratios for Nigeria and Botswana represents as much as 41.6% of the GH₵47.64 billion the government of Ghana actually raised during the year. Also, had the government of Ghana received these additional revenues, its total revenue in 2018 would have been GH₵67.46 billion, representing 22.4% of GDP, instead of the GH₵47.64 billion, representing 15.8%, it actually received in 2018.

c) In Table 1 under Section 3, we showed that total revenue gaps between Ghana and the African economies and between Ghana and the middle-income economies were respectively -4.7% and -6.2% of GDP. We just saw from the above calculations that if the government of Ghana's revenue earnings ratio in the entire extractive sector had matched the middle-income average, it would have generated additional revenue of 4.4% of GDP in 2018. Also, if Ghana's revenue earnings ratios in the oil and mining subsectors had matched the averages for Nigeria and Botswana respectively, then Ghana would have earned additional 6.6% of GDP in 2018. These imply that matching the middle-income economies' average earning ratio in the extractive sector would have covered, on average, about 94% and 71% of the total revenue gaps between Ghana and its African and middle-income peers respectively. However, if the government of Ghana had earned average revenue ratios as those of the government of Botswana in the mining subsector and the government of Nigeria in the oil subsector, the additional revenue that would have been received would have more than covered, on average, the total revenue gaps between Ghana and its African and middle-income peers.

d) Even though we limited the calculations above to only 2018, it is important to note that calculations for the other years show that Ghana would have earned an

average amount of US$3.57 billion annually from 2015 to 2018, if the country's revenue ratios in the oil and mining subsectors had matched the averages for Nigeria and Botswana respectively. Therefore, during the 4-year period, the additional revenue that would have been earned from the two subsectors is US$14.28 billion.

We therefore conclude that Ghana's incredibly poor extractive sector revenue generation, as clearly demonstrated above, is the main source of the country's low public sector revenue mobilization in comparative terms

5.0 Causes of the Large Shortfall in Ghana's Extractive Sector Contribution to Public Sector Revenue

What are the main causes of Ghana's comparatively poor revenue generation from the extractive sector?

Before we provide answers to this question, let us first have a firm understanding about the following practical issues regarding government revenue generation from the extractive sector:

As already stated, extractive rents (net revenues) accruing to the extraction of extractive resources are supposed to go to the government. Yet, despite the argument that, in principle, its fiscal instruments can be mathematically structured to achieve the same results like those of any other arrangement in terms of government revenue generation, concession normally results in the government receiving only a small part of the rents in practice because of the following reasons:

a) After receiving royalty payments, the government normally relies on corporate income tax on the extractive companies' declared profits. Yet, practically, under concessions, the corporate income tax rate is usually only a few percentage points above the rate applied in other sectors where economic resources are fully privately owned. Even though a government may employ rent taxes to get additional revenues when profits exceed certain thresholds, there is the challenge of information asymmetry. This is because under concessions, the extractive companies (foreign or local) tend to have free rein and complete control over their operational and productive activities because the title to the extractive resources gets transferred after the concession right is granted to the company. Thus, the concession turns the publicly endowed extractive resources over to the companies at the price of the usually paltry royalty rate. Therefore, it is out of place for a government to try to monitor or supervise the day-to-day operational and financial activities of the extractive companies under concessionary arrangements. For these reasons, the government finds it difficult to know the true financial positions or profitability of the companies. In fact, it is a common understanding that extractive companies under concessionary arrangements employ all sorts of devices to conceal production and profits due to the absence of active monitoring and supervision from the side of the government. As a consequence, the rent tax (and even the regular corporate income tax) becomes less meaningful, if not worthless. The Fiscal Affairs Department of the IMF (2012) describes this phenomenon as follows:

"Several obstacles to full taxation of rents arise. Asymmetric information means that host governments (as principal) generally need to forego some rents [in Ghana's case, the biggest portion of the rents, as we saw above] in order to provide appropriate incentives for better-informed producers (their agents). Practical difficulties arise in accurately observing revenues and costs, and from tax avoidance devices."

b) It is also unusual to place restrictions on the extractive companies' costs and expenses, such as interest and administrative/overhead costs, under concessions because of the transfer of rights after the concession is granted.

For these reasons, declared profits for tax purposes by companies holding concession rights are usually small in practice. Simply put, under concessionary arrangements, governments tend to receive limited amounts of revenue in practice.

However, assuming costs of extraction to be the same, when a government avoids concessions and extracts these resources itself, it then enjoys the entire rent from these lucrative resources.

Even when a government decides to avoid the risks associated with direct extraction and uses production sharing agreements (PSAs), it can overcome many of the practical weaknesses associated with concession. This is because:

i) Under PSAs, the government is able to exercise an appreciable degree of control over the operations of the extractive company, called the contractor, thereby overcoming, to a large extent, the information asymmetry problem. This is usually done through the establishment of a management committee, which supervises the operational and productive activities of the extractive company/contractor. The government is able to do this because, under PSAs, it maintains the ownership rights over the extractive resources before, during and even after they are extracted until the production sharing takes place and the contractor receives their share of the products. The management committee approves annual work plans and budgets of the contractor. It is normally composed of representatives of both the government and the contractor(s).

ii) After portions of the products are used for cost recovery, which is normally not allowed to exceed certain thresholds out of the total production in a given year, the government usually takes the bigger share (typically between 60% and 85%) of the remaining products (called profit oil in the oil industry).

iii) Royalties and corporate income tax, which are the two main income generating instruments under concessions, also apply under PSAs. Royalties are normally deducted first before the contractor's costs are deducted, while corporate income tax is applied on any profit accruing to the extractive company after receiving its share of the products. PSAs also usually allow for additional rent tax when the contractor's profit increases beyond certain thresholds due to higher prices.

iv) Restrictions are also normally placed, in part or in whole, on certain expenses such as interest/financing costs and certain overhead costs, particularly those related to corporate headquarters, from being counted as part of the cost, so as to ensure maximum benefit to the government.

For these practical reasons, governments normally receive much more revenue from the extraction of their extractive resource endowments under PSAs than under concessions. For instance, according Professor Hassan Z. Harraz, Professor of Economic Geology, Tanta University, Egypt, before corporate income tax is applied, a typical product entitlement for extractive companies/host governments under concession is as high as 90%/as low as 10%. However, under PSAs, before the application of corporate income tax, a typical product entitlement to extractive companies/host governments is 50-60%/40-50%.

It is important to point out that even under concessionary arrangements, governments are able to receive appreciable amounts of revenue from the extractive sector if they get actively involved through large participation interests under joint venture arrangements. These offer governments the opportunity to get actively involved in the operational and management processes, thereby circumventing the problem of information asymmetry. Also, with these active involvements, governments are able to take in greater share of the extractive rents, beyond the royalty and corporate income tax, through shares of dividends (in the case of profit-sharing joint venture arrangements) or product entitlements (in the case of product-sharing joint venture arrangements).

With this background in mind, we provide answers to the question raised above as follows.

The main causes of the government of Ghana's comparatively low revenue generation from the country's oil and mining subsectors are: (1) the government of Ghana over-relies on the use of fiscal instruments (royalties and corporate income tax) under concessionary arrangements, with very limited direct involvement in terms of participating interests, and (2) production sharing agreements, which are able to help overcome many of the practical problems associated with concessionary arrangements as explained above, are not used in the country.

To substantiate these statements, and following the previous section, we will compare (A) Ghana to Nigeria (with regard to the oil subsector); and (B) Ghana to Botswana (with regard to the mining subsector).

A) The Oil Subsector:

In Ghana's oil subsector, "all licenses are governed by a concession-based fiscal regime" (GHEITI, 2019). For the three currently operating fields, Jubilee, Tweneboa Enyenra Ntomme (TEN), and Sankofa-Gye Nyame (SNG), corporate income tax rate is 35%. Royalty rate of 5% is charged on gross production for Jubilee and TEN. For SGN, the royalty rate is 7.5%. Rent taxes also apply if rates of return (ROR) after the application of corporate income tax exceed certain thresholds. As stated above, the main problem is that the government of Ghana's carried and participation interests in the oil subsector joint ventures are too small.

As Table 11 shows, the ownership interests held by GNPC in the name of Ghana in the current oil joint ventures range from only 13.64% in the Jubilee field to 20% in the Sankofa field, with the simple average of the shares standing at only **16.2%**. The international oil companies (IOCs) in Ghana therefore hold as high as **83.8%** as the average ownership interests in the oil joint ventures.

Table 11: Ownership Interests Held by GNPC and the IOCs in the Current Oil Joint Ventures in Ghana

	Joint Venture 1 (Jubilee Field)	*Joint Venture 2 (TEN Field)*	*Joint Venture 3 (Sankofa Field)*	*Simple Average of Share*
	Operator: Tullow	*Operator: Tullow*	*Operator: Eni*	
GNPC's Inter. (%)	13.64	15.00	20.00	**16.2**
IOC's Inter. (%)	86.36	85	80.00	**83.8**
of which				
Tullow Oil (%)	35.48	47.18	--	
Kosmos (%)	24.06	17.00	--	
Anadarko (%)	24.08		--	
Petrol SA (%)	2.73	3.82	--	
Eni (%)	--	--	44.44	
Vito (%)	--	--	35.56	
Total (GNPC plus IOCs) (%)	100	100	100	**100**

***Sources of Data**: Monica Skaten, April 2018*

Indeed, the ownership interests in oil production held by GNPC are way below international standards. National oil companies (NOCs) control around 75 percent of world's oil production (Tordo et al., 2011). The role played by the size of ownership interests held by an oil-endowed nation in revenue generation, particularly under concessionary arrangements, cannot be overemphasized. The reason is that, as said earlier, royalties, corporate income tax and other sources of revenue (charges and fees) are usually small.

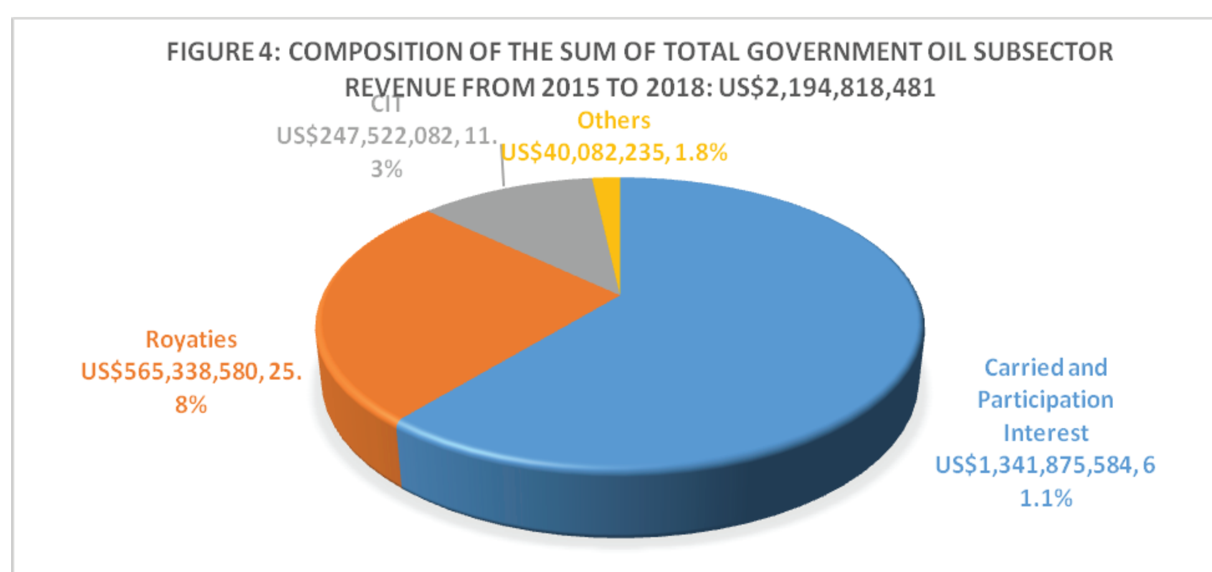
We can see from Table 12 and Figure 4 that the sum of total government revenue from the oil subsector from 2015 to 2018 amounts to US$2.19 billion. Of this, US$1.34 billion, representing as high as 61.1%, came from the country's small carried and participation interests (CPI), averaging 16.2%. Let us, therefore, imagine how much Ghana would have earned if its ownership interests in the oil joint ventures had matched the international average of 75% for national oil companies.

What is also striking from Table 12 and Figure 4 is that, from 2015-2018, the corporate income tax of 35% with the additionally scheduled rent taxes fetched the country as little as US$247.5 million, representing only 11.3% of the total, which is even less than half of what the little royalty rate of 5% fetched the country during the period.

Table 12: Sources of Government of Ghana's Total Oil Revenue, 2015 -2018

Year	*CPI (US$)*	*Royalty (US$)*	*CIT (US$)*	*Others* (US$)*	*Total Gov. Oil Rev. (US$)*
2015	270,083,797	104,762,476	20,410,832	6,264,494	401,521,599
2016	158,859,643	58,230,750	29,546,823	10,581,912	257,219,128
2017	364,597,263	136,707,469	36,957,622	11,009,672	549,272,026
2018	548,334,881	265,637,884	160,606,805	12,226,157	986,805,728
SUM	1,314,875,584	565,338,580	247,522,082	440,082,235	**2,194,818,481**

***Sources of Data**: MoF Petroleum Reports, GHEITI Annual Reports*
**Other revenues include surface rental received by the central government. It also includes receipts like production permit, training obligation, exploration and development fees, data license fees, EPA processing and permit fees, etc. received by other government units.*



This revenue from corporate income tax is against the backdrop of the fact that, as Table 13 shows, the total value of oil and gas lifted by the IOCs (excluding government of Ghana's lifting for royalties and carried and participation interests) from 2015 to 2018 amounted to as high as **US$9.51 billion**. Therefore, revenue from corporate income tax represents as little as **2.6%** of the total value of oil and gas lifted by the IOCs during the period. Clearly, without large ownership stakes in Ghana's oil joint ventures, the country cannot benefit much from its oil endowments, as the little royalty rate and corporate income tax with its associated rent taxes cannot be relied upon for revenue generation.

Table 13: Values of Oil and Gas Lifting by the International Oil Companies (IOCs) in Ghana, 2015-2018

Year	*Value of Oil Lifting (US$)*	*Value of gas Lifting (US$)*	*Value of Oil & Gas Lifting (US$)*
2015	1,745,593,987	73,916,185	1,819,512,187
2016	1,170,454,456	57,033,872	1,227,488,328
2017	2,571,230,908	94,759,028	2,665,989,936
2018	3,714,861,959	85,141,569	3,800,003,528
	Total IOCs Oil & Gas Lifting in 2015-2018:		**9,512,993,979**

Sources of Data*: GHEITI Annual Reports, MoF Petroleum Reports*
Note: The average realized price by the government of Ghana in each year was used for the calculation of the IOCs lifting values.

The question now is, how different is Nigeria's oil rights and contracting system, which makes the government of Nigeria receive such a large ratio as oil revenue compared to what the government of Ghana receives?

The government of Nigeria uses both concessions and production sharing contracts (PSCs) as the two main types of petroleum agreement[8]. Royalty rate under the concessionary arrangements ranges from 20% for onshore production to 16.67% for off-shore production beyond 100 meters of water depth. And for the PSCs, royalty rate ranges from 16.57% for up to 200 meters of water depth to 0% for areas exceeding 1,000 meters of water depth. Petroleum profit tax (paid in lieu of corporate income tax) rate of 85% is applied on net profits of firms operating under concessions. However, for the first five years (newcomers), the petroleum profit tax rate is 65%. For the PSCs, petroleum profit tax rate is 50% (Ernst and Young, 2019). Indeed, in addition to the use of PSCs, the main reason why Nigeria generates such a high rate of revenue from the oil subsector compared with Ghana is that the Nigerian National Petroleum Corporation (NNPC) has controlling interests in the oil joint ventures (JVs) with international oil companies (IOCs) operating under the concessionary arrangements. As Table 14 shows, the ownership interests held by the Nigerian National Petroleum Corporation in the name of the government and people of Nigeria in the 6 main oil joint ventures range from 55% to 60%, with the simple average of the interests standing at as high as 59.2%. In fact, compared with the ownership stake of 83.79% in the oil joint ventures held in Ghana, the IOCs in Nigeria together hold an average ownership stake of only 40.80%.

It is important to point out that the JVs and PSCs respectively delivered 44.6% and 41.3% of the total quantity of barrels of oil produced in Nigeria in 2017 and 2018.

[8] There are also Service Contracts, Sole Risks and oil produced from Marginal Fields. Together, these three arrangements produced 14.2% of the total barrels of oil produced in Nigeria in 2017 and 2018.

Table 14: Ownership Shares Held by the Nigerian National Petroleum Corporation (NNPC) and International Oil Companies (IOCs) in the Major Petroleum Joint Ventures in Nigeria

	Joint Venture 1 *Operator: Shell*	Joint Venture 2 *Operator: Chevron*	Joint Venture 3 *Operator: Mobil*	Joint Venture 4 *Operator: Agip*	Joint Venture 5 *Operator: Total*	Joint Venture 6 *Operator: Texaco*	Simple Average of Share
NNPC's Share (%)	55	60	60	60	60	60	**59.2**
IOC's Share (%)	45	40	40	40	40	40	**40.8**
Total Share(%)	100	100	100	100	100	100	**100**

Source of Data: *NNPC*

B)The Mining Subsector:

In Ghana's mining subsector, the fiscal system is also concessionary. Company income tax (CIT) is 35%. Nevertheless, for those mining companies with special agreements, the CIT rates differ. Mineral royalty is set at 5% of gross market value of mineral sale. However, as an incentive, royalties for some mining companies have been stratified. For instance, as an incentive for its mine redevelopment, the royalty rate for AngloGold Ashanti Obuasi mine has been stratified based on the price of gold as follows: up to US$1,300, 3%; US$1,300 to US$1,449.99, 3.5%; US$1,750 to US$1,999.99, 4.5%; and US$2,000 and above, 5%. There is also withholding tax on interest, dividend, royalty, and management services of 8%, 8%, 10% and 15% respectively. Withholding tax of 3% is also levied on small-scale miners.

Comparatively, in Botswana, royalty rates are as follows: diamonds, 10%; precious metals (gold, platinum, etc.), 5%; and all other minerals, 3%. With the exception of diamond whose corporate income tax (CIT) rate is negotiable, corporate income tax rate for all other minerals is variable, using this formula: Annual tax rate = 70-(1,500/X), where X is the profitability ratio, defined as taxable income as a percentage of gross income, multiplied by 100. However, mining CIT cannot go below 22%, which is Botswana's standard CIT rate. Withholding tax rate applicable to dividends paid in the mining sector is 7.5%. It is important to note that, applying the above formula, profitability ratio has to be as high as 42.86% before the applicable mining CIT rate in Botswana will be approximately equal to Ghana's mining CIT rate of 35%.

We can see from the above two paragraphs that, with the exception of Botswana's royalty rate on diamond, which is double Ghana's uniform royalty rate of 5%, the mining fiscal regime in Botswana is not so intrinsically superior to Ghana's to warrant such a huge difference in mining revenue ratios for the two countries as we saw in Section 4.

Indeed, what makes the system of revenue generation from the mining subsector in Ghana fundamentally different from Botswana's, thereby causing the huge difference in government revenue generation from the subsector as we saw in Section 4, is that government participation in the mining subsector is comparatively too small in Ghana. This is because, with the exception of Ghana Bauxite Company Limited, whose contribution to the value of mineral production in Ghana is miniscule and in which it holds 20% equity interest, the

government of Ghana only retains a non-contributing equity interest of 10% in the various mining companies[9]. For Newmont Golden Ridge Limited and Newmont Ghana Gold Limited, the government retains a 10% interest in net cash flows. The government of Ghana holds as little as 0.01% equity interest in the global operations of AngloGold Ashanti Limited with no equity interest in the company's local operations (GHEITI, December 2019).

In contrast, the government of Botswana has huge ownership interests in the country's mining sector. It holds 50% interest in Debswana, a company jointly owned with De Beers on profit sharing basis. According to Debswana, it is the world's leading diamond producer by value and the largest private sector employer in Botswana. The government of Botswana also holds another 15% equity interest in De Beers, its diamond producing partner. In fact, the government of Botswana's ownership interest is not limited to diamond mining alone. According to the country's Ministry of Minerals, the government of Botswana's mining investments are as follows:

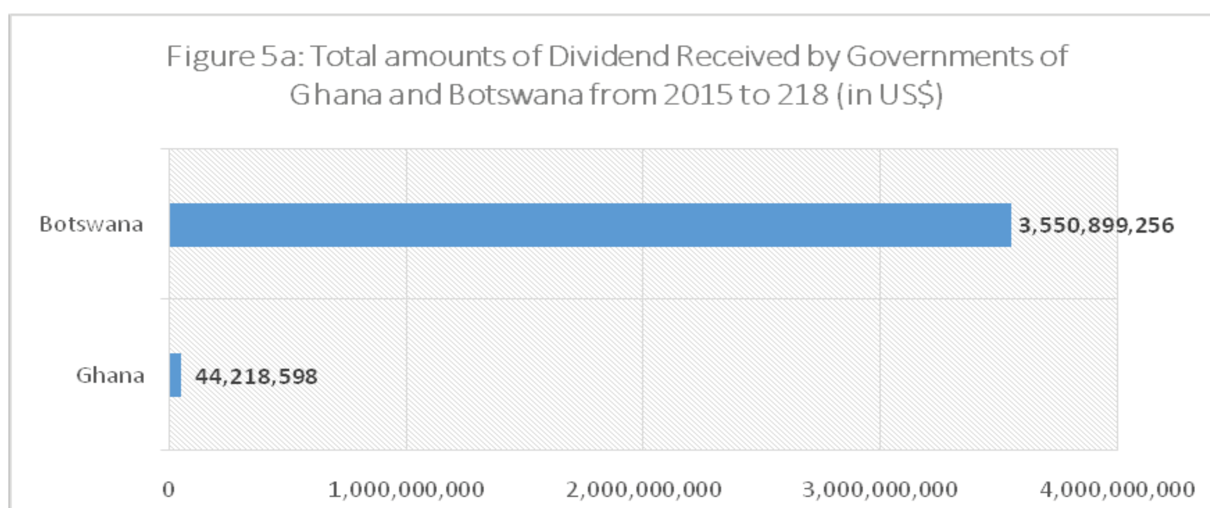
i) 50% interest in Debswana, jointly owned with De Beers
ii) 50% interest in Botash (soda ash producer)
iii) 15% interest in Tati Nickel Mining
iv) 15% interest in De Beers
v) 94% interest in BCL Limited (copper-nickel mine)
vi) 50% interest in Diamond Trading Company Botswana
vii) 80.8% indirect beneficiary shareholding in Morupule Colliery (a subsidiary of Debswana)

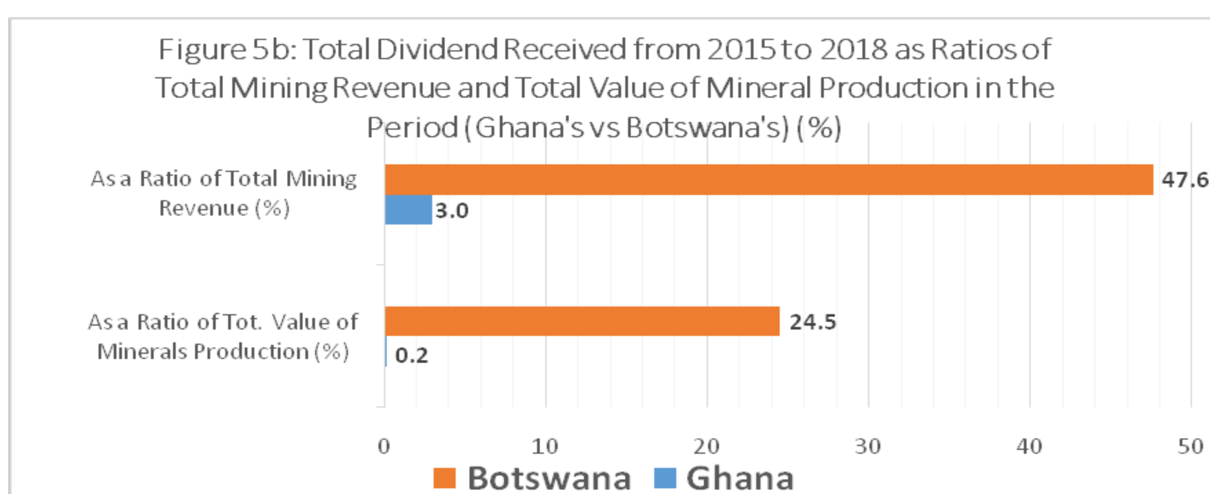
The lack of significant ownership interest in Ghana's mining subsector has caused the government to leave the sector to be controlled by the private mining companies. Consequently, in addition to the inability of the government of Ghana to know the true financial positions of the companies for tax and royalty purposes, making these revenues comparatively small in Ghana[10], the government of Ghana is also unable to enjoy any significant share of the mineral rents through dividends. Therefore, while dividend is the biggest source of mining revenue to the government of Botswana, it is negligible in Ghana. Figures 5a and 5b demonstrate the comparative sizes of dividend as sources of mining revenue in Ghana and Botswana.

Despite Ghana generating an average amount of US$3.53 billion in mineral rents from 2015 to 2018, according to data from the World Bank, which is equivalent to 98% of the average value of all minerals produced in Botswana in 2015-2018 as we stated in Section 4, we can see from Figure 5a that the government of Ghana received a total amount of only US$44.22 million as dividend from 2015 to 2018. As Figure 5b shows, this amount represents only 3.0% of the total amount of government mineral revenues and as little as 0.2% of the total value of minerals produced in Ghana during the period. In contrast, Botswana earned as large as US$3.55 billion in dividend from 2015 to 2018. This represents as high as 47.6% of the total government mineral revenue and 24.5% of the total value of all minerals produced in Botswana in the period.

[8] Such as Adamus Resource Limited, Golden Star Wassa Limited, Golden Star Bogoso Prestea Limited, Gold Fields Ghana Limited, Abosso Goldfields Limited, Chirano Gold Mines Limited, Ghana Manganese Company Limited and Perseus Mining (Ghana) Limited.

[10] From 2015 to 2018, the government of Ghana received total amounts of US$618.97 million and US$784.59 million in royalties and corporate income tax respectively. However, despite the value of minerals produced in Botswana from 2015 to 2018 representing only 63.4% of the value of minerals produced in Ghana during the same period, the government of Botswana received as large as US$1.54 billion and US$2.37 billion in royalties and corporate income tax respectively during the period.





Why are the State's Interests in the Extractive Sector Firms so Little in Ghana?

The question now is, what factors have caused the government of Ghana's interests in the extractive sector firms in Ghana to be so small, which has led to such incredibly low amounts of revenue to the government from the sector as we saw above? The following are the main factors:

I) *Overreaching Liberalization/Privatization*

After Ghana's independence, it was believed that the state needed to play active roles in all sectors of the economy to boost economic growth and development. This led to the establishment of numerous state-owned enterprises (SOEs) in all sectors of the economy. There were as many as 350 state-owned enterprises as at 1988 (World Bank, 2005). However, because of the market and economic restrictions that had been instituted by the various governments, which had negatively affected the performance of most aspects of the Ghanaian economy, many of these enterprises performed very poorly, thereby placing a huge burden on government finances. Therefore, as part of the liberalization and structural reform programs implemented under the auspices of the IMF and the World Bank starting from 1983, the government of Ghana began to implement Public Enterprise Reforms (PER) Program starting from 1988. Among other things, the reforms aimed, according to the World Bank (2005), at improving the management and performance in priority SOEs and reducing the

burden of the sector on Government through divestiture/privatization (World Bank, 1987). As stated in Section 3 of this paper, even though the privatization had a slow start because the government of Ghana showed little enthusiasm for it initially, it was intensified in the 1990s. "To help the government accelerate its implementation, the World Bank approved for Ghana Private Sector Adjustment Credit (PSAC) in the amount of US$70 million on July 25, 1995. Also, on June 11, 1996, the Bank approved for Ghana US$25.15 million under the Bank's Public Enterprise and Privatization Technical Assistance Project to enable the government to handle increasingly sophisticated privatization transactions" (Boakye, 2018). By the end of 2003, for instance, there were as many as 335 SOEs diversified through sale of assets, sale of shares, joint venture, lease, or liquidation, according to the Divestiture Implementation Committee.

In addition to the extension of the privatization program to cover state-owned extractive firms, including joint ventures like the profitable and vibrant Ashanti Goldfields Corporation (AGC) discussed in Section 3, the program was promoted "as a core element of the Government's plan to promote private sector development" (World Bank, 2005). This has discouraged the government of Ghana from getting actively involved in the sector, which has been a significant factor causing such a small ownership stake by the government in the sector.

While the broader economic liberalization program and the discouragement of the government from getting actively involved in many of the other sectors of the economy may be a good thing to do, discouraging the government from getting actively involved in the extractive sector and thus making private companies take control of the extractive resources through licensing or concession is not the right thing to do. This is not only because it constitutes a breach of trust as the extractive resources are public endowments held in trust by the government, but it has also resulted in the government not being able to generate enough revenue from the resources for the development of the country as we saw earlier.

Even though in a few developed nations extractive resources are allowed to be controlled by private companies and the rents therefrom largely retained by these companies, this should not be replicated in developing economies like Ghana. This is because in those developed nations, the private companies are usually domestic ones. Therefore, the rents generated from the extractive resources largely stay in the country, which indirectly contribute to the development of these countries, despite the rents not getting into the coffers of the government. However, following the liberalization and privatization, it is the foreign-owned companies that have gained most access to these resources in Ghana. These foreign companies therefore send the rents back to their countries of origin, thereby leaving Ghana perpetually short of revenue for development, since only a small part of the rents get into the hands of the government. Writing in 2014 in a paper entitled "Africa: New Opportunities, Old Impediments", Professor Paul Collier of Oxford University describes this as follows:

> *"Africa's biggest economic opportunity remains the exploitation of its natural resources. Indeed, as I noted above, the new discoveries make this a far bigger opportunity than it has ever been. Yet, harnessing resource exploitation for future development requires a more active role for government than other development paths such as industrialization or the commercialization of agriculture. … A few resource-rich OECD countries, notably the USA and Australia, have largely left the rents with companies, but there is key difference that makes this strategy inappropriate for Africa. In the USA and Australia the rents accruing to companies and then distributed to shareholders who are predominantly citizens, or are captured by skilled workers who are also citizens. In Africa, both the shareholders and the skilled workers are overwhelmingly foreign" (Paul Collier, 2014).*

II) *The Desire to Attract Foreign Investors to Ghana*

Starting from the 1990s, removal of the state's active involvement in the economy, including the extractive sector, has been promoted as the necessary means to encourage foreign investment into the country and strengthen the private sector. For instance, in a report issued in April 1995 about the Private Sector Adjustment Credit for Ghana, the World Bank wrote as follows:

> *"The relatively easy placing of the shares of Ashanti Goldfields Corporation (AGC) and the seven companies listed on the Ghana Stock Exchange with international fund managers abroad suggests that a reversal of Ghana's earlier image as anti-foreign investment is under way. Indeed, Ghana is now starting to be viewed as having good investment potential. Fund managers from respectable international investment firms have bought shares in Ghanaian companies. The new perception about government support for the private sector is also evident in inflows of private foreign investment in mining and more recently in the agro-processing sector."*

The government of Ghana's acceptance of this line of argument, due to its long desire to attract foreign investment into the country, has been a major cause of its limited ownership interests in the extractive sector. It should, however, be understood that foreign investment is a means to an end and not an end in itself. In fact, the usefulness of foreign investment in the extractive sector rests in its ability to help the country generate more revenue to fund its development, beyond the revenue that would be generated in the absence of the foreign investment. Yet, there is evidence to show that foreign investment in the extractive sector as part of the divestiture program rather led to a reduction in government revenues from the divested extractive firms, thereby making the country worse off after such divestitures. For example, according to data from Taylor (2006), total financial benefit to the government of Ghana from AGC, the biggest and most profitable/vibrant mining firm in Ghana at the time, averaged £17.5 million in the two-year period preceding its divestiture, 1992-1993. However, after the divestiture of AGC in the mid-1990s, total financial benefit to the government decreased, on average, to only £10.5 million in the two-year period (2002-2003) preceding its merger with AngloGold of South Africa in 2004, and thus before it became part of the Johannesburg-based company. This is against the backdrop of the fact that AGC's production of gold more than doubled from an average of 712,350 ounces in 1992-1993 to as high as an average of 1,612,370 ounces in 2002-2003. This clearly shows that the privatization of AGC made the government of Ghana worse off in terms of revenue, despite the sharp increase in production. In fact, Taylor (2006) reports that total direct financial benefit to the government of Ghana from AGC as a share of the firm's gross revenue decreased from as high as 55% in 1974 and more than 40% in 1984 to only 2% in 1997 and 1998. Is this the benefit from foreign investment the country was promised before the divestiture?

III) *Fear of Mismanagement*

The poor performance of many of the state-owned mining firms, like many of the other state-owned enterprises (SOEs), in the period before the liberalization and adjustment programs has put some fear in the minds of some Ghanaians, including some political leaders, that active involvement by the state in the extractive sector would lead to mismanagement, which has contributed to the little involvement of the government in the sector.

Fear of mismanagement is a real general concern because of the patron-client relationships that characterize political administration in Ghana (see, for instance, Booth et al (2005)). Managers of government establishments are appointed by ruling governments not because

the appointees are the best people to do the job but because they belong to the ruling parties. The appointees then see themselves as clients who are needed to do the wishes of those who appointed them, their patrons, and not necessarily to do the right thing for the state. Because of these relationships, mismanagement by the appointees is usually interpreted by the people to involve the patrons who appointed them. Therefore, appointees who engage in improper managerial conducts are usually shielded from prosecution and are thus not publicly held responsible for their actions, which serves as an incentive for the mismanagement of the establishments. This is a general problem, whose solutions should be sought.

However, it is important to understand that the poor performance of many of the state-owned mining firms before the liberalization and adjustment programs did not happen because there is something fundamentally wrong with the management of state-controlled extractive firms in Ghana. What affected the performance of the state-owned/state-controlled mining firms at the time, like all other firms, including even privately-owned firms in all sectors of the economy, was the prevailing macroeconomic environment, which had been stifled by the widespread market and economic restrictions, including price, credit and exchange restrictions. These caused shortage of foreign exchange and spare parts, and dislodged the economic incentive system, which is needed to lubricate the machinery of economic activities, thereby affecting the operations of the state-controlled mining firms. Indeed, the reversal of the decline in mineral production, in response to the liberalization and market reform programs before the privatization program, bears testimony to this fact. For example, gold production in Ghana, which was then dominated by state-controlled firms and which had decreased from 851,090 ounces in 1965 to only 285,291 ounces in 1983, almost tripled to 846,269 ounces in 1991 before the privatization of the mines began. Also, the increased profitability and vibrancy of the Ashanti Goldfields Corporation (AGC), a joint venture between the Government of Ghana (55%) and Lonrho (45%), after the market reforms and before its divestiture, provides further evidence for this argument. In fact, the positive effect the liberalization (the removal of the market and economic restrictions) was going to have on the mining sector (as well as the cocoa sector), despite the state dominance of the sector at the time, was foreseen by the World Bank as far back as 1983, and thus before the privatization program began. In a report to the Bank's executive directors, the President of International Development Agency (IDA) of the Bank argued as follows:

> *"If the Government [of Ghana] is able to maintain a more realistic structure of price and costs and a viable exchange rate, restrain growth in public consumption, improve public revenue performance, reduce the inflationary tendencies associated with large public sector deficits, and make a concerted drive to expand production and exports, particularly of cocoa and minerals, through more appropriate price incentives, support services, and more assured supply of necessary inputs, it should be feasible to achieve rates of real growth in excess of 4% a year (or one percent per capita) after 1985/86."*

IV) *Risk Aversion*

Aversion to risk (likelihood of loss) is a major reason why the government of Ghana has readily accepted to rely mostly on the 10% free carried interests in the country's mining and oil companies (for SGN, the government has 15% free carried interest). As stated earlier, the government's paid interests in the three operating oil fields range from only 3.64% to 5%.

Table 15: Accrued Oil* and Mineral Rents in Ghana from 2011 to 2018

Year	*Oil Rents (US$)*	*Mineral Rents (US$)*	*Oil and Mineral Rents (US$)*
2011	2,089,458,125	3,047,175,092	5,136,633,217
2012	2,075,138,349	3,501,892,484	5,577,030,833
2013	2,350,540,668	4,288,569,163	6,639,109,831
2014	2,109,582,863	3,768,514,688	5,878,097,551
2015	688,042,371	3,186,242,054	3,874,284,425
2016	589,149,963	3,569,200,015	4,158,349,979
2017	1,744,436,820	3,661,321,177	5,405,757,997
2018	3,027,862,831	3,705,868,266	6,733,731,097
Total	**14,674,211,990**	**28,728,782,939**	**43,402,994,929**
As a ratio of Total Prod. Value	**59%**	**60%**	**60%**

**Again, Oil refers to both oil and gas.*
***Sources of Data**: 1) World Bank (World Development Indicators) – for oil and mining rents*
2) GHEITI – for values of oil and mining production.

There is no justification for the government of Ghana to be risk-averse to the extent of having such limited investments in the country's extractive sector. The reason is that the exceptional nature of economic rents (revenues minus costs, including normal return to capital) associated with the extractive sector the world over is well known, and Ghana's extractive sector is not an exception. As Table 15 shows, from 2011 to 2018, rents that accrued to oil production in Ghana totaled US$14.67 billion, representing 59% of the total value of oil produced during the period. Also, rents that accrued to mineral production in Ghana from 2011 to 2018 totaled US$28.73 billion, representing 60% of the total value of minerals produced during the period. Therefore, rents that accrued to both oil and mineral production in Ghana totaled as large as US$43.40 billion from 2011 to 2018, representing 60% of the total value of both oil and minerals produced during the period. These are clearly very huge amounts of economic rents, which should attract investments from the government of Ghana, since, as we saw earlier, lack of active involvement in the sector is one of the main reasons why the government of Ghana receives very small portions of the rents as revenues, even though, in principle, all the rents are supposed to have served as revenues to the government[11].

This is not to say that there are no risks associated with the extraction of oil and mineral resources in Ghana. The point is that we can see from these historical data (which are what are widely used for risk assessment in practice) that the country's extractive sector rents have consistently been large, which suggests that the country's extractive sector risks are not too

[11] From 2015 to 2018, the government of Ghana's revenue from both the oil and mining subsectors represented only 18.2% of the total rents that accrued to the two subsectors (36.3% and 10.4% for the oil and mining subsectors respectively). This implies that having covered all their costs of production and their normal returns to investment, investors in Ghana's extractive sector additionally retained as large as 81.8% of the rents generated. As pointed out in Section 4, the government of Botswana's extractive sector revenue is estimated to represent as high as 95% of the total rents that are generated from that country's extractive sector. Also, oil revenue received by the government of Nigeria in 2017-2018 represented 86.4% of the rents accrued to oil production in Nigeria in that period.

large in relative terms, and should therefore not discourage the government of Ghana from substantially investing in the sector for greater revenue generation. Indeed, this is a common feature of extractive sectors of most developing countries, which has fed into the decisions by governments of many of these countries, including governments of Botswana and Nigeria, to significantly invest in the sector, thereby enabling them to enjoy such high ratios of revenues from the sector as we saw earlier. Clearly, foreign investors also draw similar conclusions from risk-return assessments they conduct, which causes them to invest in the extractive sectors of Ghana and other developing economies. Why can't the government of Ghana follow suit?

6.0 Policy Recomendations

We have shown in this paper that the performance of Ghana's public sector revenue is very poor compared with those of peer countries in the developing world. This is a major cause of the country's profuse borrowing, leading to the high level of indebtedness and debt service costs, despite receiving considerable amounts of debt reliefs under the HIPC initiative in the mid-2000s. In fact, in 2018, Ghana was the third country with the highest ratio of revenue spent on interest repayment (not including amortization) among 118 countries in the world with data on this variable in the World Bank's database of World Development Indicators. Ghana spent as high as 33.21% of its total revenue and grants on interest payment in 2018[12]. As if this was not scary enough, Ghana's ratio increased to 37.04% in 2019, and in the 2020 revised budget, it sharply increased to 48.95%. Revenues that are currently generated in the country are not even sufficient to service the country's debt and pay salaries of public sector employees.

We have provided convincing evidence in this paper to show that the extractive sector is the main source of the country's poor public sector revenue performance. Therefore, to be able to ensure improved revenue mobilization, help close the country's fiscal gap, significantly cut down the rate of borrowing, substantially decrease debt service costs and provide some fiscal space to fund the country's development, revenue generation from the country's extra ctive sector should urgently and drastically improve. Like the governments of Nigeria and Botswana, the government of Ghana should aim at receiving not less than 50% of the values of oil and minerals produced in the country as revenues. This will enable the government of Ghana to capture at least 80% of the oil and mineral rents generated in the country. Although this is less than 100% of the rents, it would be much better than the current 18.2% of the total extractive sector rents the government of Ghana receives as revenue from the sector.

To achieve these, we recommend that the government should do the following:

I. *Purchase Controlling Interests in the Ghanaian Operations of the Large-Scale Mining Companies:*

The government of Ghana should, as a matter of urgency, purchase controlling interests of not less than 55% in the Ghanaian operations of all the large-scale mining companies. This should not be done in terms of mere equity holdings. Rather, the large-scale mining companies' operations in Ghana should be turned into joint venture arrangements between the government of Ghana and the foreign investors, either in terms of profit sharing or preferably production sharing. This will enable the government of Ghana get actively involved in the management of these companies, thereby getting around the problem of information asymmetry. As we saw with the case of Botswana, this will not only enable the government of Ghana have greater shares of dividend, but it will also lead to substantial increases in the other

[12] Lebanon had the highest ratio in 2018 with 49.98% of its total revenue spent on interest payment, followed by Sri Lanka with a ratio of 44.10%. As a matter of comparison, Botswana spent as little as 1.62% of its total revenue on interest payment in 2018, largely because of its ability to generate substantial amounts of revenue from its extractive sector.

sources of revenues (royalties and corporate income tax).

II. Increase the Paid and Participation Interests in All the Ghanaian Operations of the Oil Companies in order to increase Ghana's interests to at least 55%:

The government should increase Ghana's paid and participating interests in the existing oil joint ventures by purchasing additional interest so that the country's interest in each joint venture increases to at least 55%, while maintaining the production sharing arrangements. To reflect the new ownership structure, the government's representatives in the management committees overseeing the operations of the joint ventures should increase.

III. Renegotiate with the Oil and Mining Companies:

To implement points I and II above, the government of Ghana has to renegotiate with the oil and mining companies before effecting these proposed changes. The government should treat the renegotiation with the urgency and seriousness it deserves, given the poor state of the country's finances. Ghana cannot continue to depend on borrowing, as it is simply not sustainable. The government should therefore not be intimidated by possible dragging of feet by the oil and mining companies.

Admittedly, unilateral cancellations of the existing oil and mining contractual agreements will be interpreted as breaches of trust on the part of the government of Ghana, which is why we are calling for renegotiations with the companies involved. However, what is worse than unilateral cancellations of the contracts is continuous implementation of agreements that are skewed in favor of companies extracting resource endowments of the poor while repatriating the lion's share of the accrued rents to rich nations, even though, in principle, the rents are supposed to be entirely for the government. This should not be allowed to continue to stand, since it contradicts basic human values and the principle of fairness. Therefore, the government of Ghana should not mind unilaterally cancelling these contracts and thus nationalizing the assets of these companies while paying fair compensation to the foreign investors, if they choose not to enter into renegotiations or unnecessarily drag their feet.

IV. Aim at Having Fully State-Owned Firms Operating in the Oil and Mining subsectors:

The government of Ghana stands to receive the entire net financial benefits from the extraction of oil and mineral resources in Ghana if these resources are fully extracted by state-owned oil and mining firms. This is because in addition to the government itself enjoying the normal return to investment, no part of the rents accruing to oil and mineral production in this case can be captured by anyone else (recall that oil and mineral rents in Ghana amounted to US$43.4 billion from 2011 to 2018). As was pointed out in Section 2, this is what the Gulf States like Saudi Arabia and Qatar have been doing, using Saudi Arabian Oil Company (Saudi Aramco) and Qatar Petroleum respectively. Indeed, this approach has enabled these countries to receive huge revenues from their extractive sectors to fund their economic development, making them have very high levels of per-capita incomes as cited in that Section. The government of Ghana should therefore aim at having fully state-owned firms extracting oil and mineral resources.

Nevertheless, to be able to achieve the benefits envisioned, the state-owned oil and mining firms would have to be completely depoliticized, and granted full operational independence. Yet, strong funding, supervision, monitoring and strategic guidance by the executive branch of the government would be essential. Also, biting incentive mechanisms, which fruitfully

reward successful managers and punish reckless and corrupt managers, should be instituted and made to work. Indeed, Ghana's general problem of mismanagement of state-owned establishments by government appointees has to be confronted head on and addressed, before the country can make meaningful and long-lasting economic strides. The country cannot permanently run away from this problem by leaving the country's extractive sector in the hands of foreign investors. As we have seen in this paper, the price, in terms of lost revenues to the state, the country has been paying in this regard has been incredibly enormous.

In line with the recommendations discussed in the above two paragraphs, we recommend that GNPC should be strengthened and strategically supported by the government to take the leading role in oil exploration and production in the country. The executive branch of the government should get actively involved in shaping the vision and direction of GNPC, even though the Corporation should continue to have operational independence, including in matters relating to staff hiring and promotion decisions, product pricing, etc. Given the importance of the petroleum sector and the prospects it holds for national development when properly managed, GNPC's budgets and investment plans should be treated as strategic national documents, which need strong presidential/cabinet input and direction, even though the president/cabinet should be guided by technical advice from GNPC itself. Therefore, these documents should first be thoroughly discussed and approved by Cabinet before they go to Parliament for final approval. Also, funding for GNPC should be linked to the strategic goal of making the Corporation dominate the oil sector in Ghana within the framework of a well-designed strategic investment plan. Therefore, the earmarking system used to fund GNPC out of the oil revenue should be discontinued, leaving only the portion that is sufficient for the corporation to meet its basic or day-to-day operational needs. In fact, funding for GNPC should not be limited to the use of the oil money. Cabinet, through the Ministry of Finance, should not shy away from raising large amounts of funds from other sources to fund GNPC's operational and investment activities.

V. Treat Investment in the Oil and Mining Subsectors as if they are Investments in Infrastructure:

To be able to fund the recommended investments in the oil and mining subsectors as discussed under the above three points, the government should treat these investments in a similar way it treats investments in infrastructure. Therefore, the government should follow the same steps it uses to raise funds for infrastructure investments. In fact, since investments in the extractive sector will lead to higher levels of revenue for further development, including infrastructure development, God willing, the government can even decide to scale back its currently planned investments in infrastructure and redirect such funds to the oil and mining subsectors so that more money could be generated in the future for accelerated infrastructure and other developments.

VI. Use Production Sharing Agreements (PSA) for New Oil and Mining Contracts When Funds are Unavailable:

As explained in Section 5, production sharing agreements (PSAs) are able to deliver to governments appreciable amounts of revenues from the extractive sector in practice because of (1) their ability to overcome, to a large extent, the problem of information asymmetry through the establishment of joint management committees (JMCs), and (2) their ability to exclude some costs, including interest costs and overhead costs that are not directly related to production and development. The government of Ghana should therefore use PSAs for new oil

and mining operations, in case funds cannot be secured for new joint venture arrangements in which the government has controlling interests.

VII Turn All Small-Scale Mining Operations in Ghana into a Gross Production Sharing Scheme:

Data show that government revenue from small-scale miners is comparatively very small. Yet, from 2015 to 2018, small-scale miners produced 5.72 million ounces of gold valued at US$7.29 billion, representing 33.3% of the total value of gold produced in Ghana during the period. Given that mineral resources are collective endowments, a few individual Ghanaians should not be allowed to unduly benefit from them at the expense of the majority. The government should therefore establish a production sharing scheme for the small-scale miners, using a ratio of, say, 50% for the government and 50% for the miners, or 40% for the government and 60% for the miners. Because of the high degree of informality that characterizes the operations of these miners, the production sharing should be in terms of gross production as opposed to the regular net production that deducts development and production costs. Yet, efforts should be made to understand a typical cost structure of the small-scale miners before the actual gross sharing ratio is decided. To ensure an effective implementation of this policy, a management committee, comprising of representatives of the government and of, say, the Ghana National Association of Small-scale Miners (GNASSM) should be put in place to monitor, supervise and track government's share of the minerals produced by the small-scale miners in the scheme.

VIII Secure Collective Political Backing for these Recommended Policies before Implementation in Order to Ensure Policy Continuity:

The above recommended policies should be pursued with a national focus, and should thus be devoid of partisanship. Indeed, the need to sharply increase revenue generation from the extractive sector through these recommended solutions should be seen as a national fiscal rescue mission, due to the poor fiscal state of the country. Therefore, there is the need for collective commitment to the proposed policies by all the political parties before beginning their implementation. This will ensure policy continuity, contrary to the current practice whereby new governments discontinue the implementation of policies began by previous ones, thereby wasting national resources and undermining the country's development.

7.0 Conclusion

We studied in this paper the role of the extractive sector in Ghana's comparatively low public sector revenue mobilization. Having discussed the importance of the sector to economic development in general and government revenue mobilization in particular, we reviewed the public sector revenue reforms pursued by the various governments since independence. This was to help us understand the depth of tax and non-tax policy reforms that have been carried out over the years and their sufficiency or otherwise. We found that the tax and non-tax policy and administration reforms, which have largely been led by the Breton Woods Institutions starting from 1983, have been quite comprehensive. We then analyzed the performance of Ghana's public sector revenue relative to those of its pears in the developing world. We found that despite the comprehensive tax and non-tax policy and administration reforms, Ghana's public sector revenue has performed very poorly compared to the peers, since there are substantially large gaps between Ghana's total revenue as a ratio of GDP and averages for different developing country groups, including averages for sub-Saharan African and middle income countries in the sample.

Having shown in the introduction to this paper that the difficulty in taxing the country's large informal sector and the country's generous tax exemption system are not the main sources of the country's poor total revenue performance, we set out to ascertain if real property taxation is the main source of the large revenue gaps between Ghana and its peers, given that the government has been complaining about the weakness of real property taxation in the past few years. We again found that real property taxation cannot explain, in any significant way, the identified total revenue gaps between Ghana and its peers.

We then assessed the comparative performance of Ghana's revenue generation from the extractive sector and whether it is the main source of the country's poor total revenue performance relative to its peers. We carried out the assessment by first comparing Ghana's revenue from the entire extractive sector with those of a group of 21 developing economies. We found that there are substantially large gaps between the government of Ghana's extractive sector revenue as a share of the extractive sector value added and averages for different groups of the developing economies. We, indeed, found that of the 21 developing economies in the sample, Ghana's ratio is the lowest.

Because we entertained the possibility that the performance of the country's revenue generation from the oil subsector may be different from the mining subsector, we decided to compare Ghana's revenue generation from the oil sector with that of Nigeria and from the mining subsector with that of Botswana as case studies. We found that from 2015 to 2018, while the government of Nigeria received an average of 51.6% of the total value of oil and gas produced in Nigeria as oil revenue, the government of Ghana received only 17.9% of the total value of oil and gas produced in Ghana as oil revenue. And, from 2015 to 2018, while the government of Botswana received 51.8% of the total value of minerals produced in Botswana as revenue, the government of Ghana unbelievably received an average of only 6.5% of the total value of minerals produced in Ghana as mineral revenue. In fact, from 2015 to 2018, while the average value of minerals produced in Ghana stood at US$5.68 billion, the average value of minerals produced in Botswana during the period stood at only US$3.60 billion, thus representing only 63.3% of the total value of minerals produced in Ghana. Indeed, mineral rents alone (value of mineral production less costs, including normal return to investment) that accrued to mineral production in Ghana during the period averaged US$3.53 billion, thus representing as high as 98% of the average value of mineral produced in Botswana. Yet, while the government of Botswana received an average amount of US$1.87 billion as mineral revenue in 2015-2018, the government of Ghana incredibly received an average amount of only US$370.26 million as mineral revenue in the same period.

After carrying out some basic computations, we found clearly that the comparatively poor revenue generation from Ghana's extractive sector is the main cause of the substantially large gaps between Ghana and its peers in terms of total revenue as a ratio of GDP.

We found that the main causes of Ghana's very poor revenue generation from the country's oil and mining subsectors are that (1) the government of Ghana over-relies on the use of fiscal instruments (royalties and corporate income tax) under concessionary arrangements, with very limited participating interests, and (2) production sharing agreements, which are able to help overcome many of the practical difficulties associated with concessionary arrangements, are not used in the country. We also found that (i) overreaching liberalization/privatization, (ii) the desire to attract foreign investors into Ghana, (iii) fear of mismanagement, and (iv) aversion to risk on the part of the government, are the main causes of the government of Ghana's unwillingness to get actively involved in the extractive sector, leading to the unbelievably small government revenue from the sector.

Based on these findings, we have recommended that the government of Ghana should aim at receiving not less than 50% of the values of oil and minerals produced in the country as revenues. This would significantly increase total revenue of the government, thereby minimizing the country's sharp rate of borrowing, which has significantly contributed to the high rate of debt build-ups and large debt service costs, eroding the country's fiscal space and enormously limiting the country's ability to spend on developmental projects. To achieve the 50% revenue ratio, we have recommended that the government should (1) purchase controlling interests in the Ghanaian operations of the large-scale mining companies (at least 55%); (2) increase the paid and participation interests in all the Ghanaian operations of the oil companies in order to increase Ghana's interests to at least 55%; (3) renegotiate with the oil and mining companies to fulfil recommendations 1 and 2; (4) aim at having fully state-owned firms operating in the oil and mining subsectors (5) treat investment in the oil and mining subsectors as if they are investments in infrastructure, as a means of raising funds for investments in the extractive sector; (6) use production sharing agreements (PSAs) for new oil and mining contracts when funds are unavailable for joint venture arrangements in which the government has controlling interests; (7) turn all the small-scale mining operations into a gross production sharing scheme (GPSS); and (8) secure collective political backing for these recommended policies before implementation, in order to ensure policy continuity.

Appendices

Appendix 1: Sample Developing Economies with their Total Revenues as Percent of GDP

Developing Economy	Tot. Revenue/GDP	Year of Data
Angola	15.6	2016
Armenia	22.7	2018
Benin	17.8	2013
Botswana	29.6	2018
Burkina Faso	21.7	2018
Dominican Rep.	14.2	2018
Egypt, Arab Rep of	21.8	2015
El Salvador	19.1	2018
Ghana	**15.8**	**2018**
Guatemala	10.8	2015
Honduras	20.2	2018
Iraq	39.6	2018
Jordan	25.2	2015
Kazakhstan	18.7	2018
Kenya	18.6	2017
Kuwait	43.9	2015
Liberia	16.6	2017
Malawi	19.5	2018
Malaysia	18.6	2015
Mauritius	21.6	2018
Mexico	16.1	2018
Mongolia	25.6	2015
Morocco	26.2	2018
Namibia	28.6	2018
Peru	19.3	2013
Philippines	16.3	2018
Rwanda	20.7	2017
Saudi Arabia	30.3	2018
Senegal	17.8	2018
South Africa	26.8	2017
Trinidad and Tobago	31.2	2015
Turkey	31.1	2017
Uganda	16.4	2018
Ukraine	25.8	2018
United Arab Emirates	27.2	2018

**Sources of Data*: *Sources of Data: IMF (International Financial Statistics) for the revenue data; World Bank (World Development Indicators) for the GDP data.*

Appendix 2: Samples of African and Upper Middle/High Income Developing Economies and their Real Property Taxes as Ratios of GDP

Economy	***Real Property Tax as a Ratio of GDP (%)***
African Economy	
Burkina Faso	0.02
Cameroon	0.02
Cote D'Ivoire	0.38
Egypt, Arab Rep of	0.03
Kenya	0.01
Mali	0.02
Mauritius	0.05
Morocco	0.72
Niger	0.05
Rwanda	0.02
South Africa	1.26
Togo	0.15
Tunisia	0.01
Average	***0.21***
Upper Middle/High Income Developing Economy	
Argentina	0.42
Brazil	0.60
Chile	0.68
Mexico	0.18
Thailand	0.25
Turkey	0.22
Average	***0.39***

Sources of Data: *OECD (Detailed Revenue Data by Country)*

Appendix 3: A Sample of 21 Developing Economies with their Government Extractive Sector Revenues as Shares of the Sector's Value Added and Other Ratios

Developing Economy	Year of Data	Extractive Sector Value Added as a Ratio of Tot. GDP (%)	Extractive Products Exports as a Ratio of Total Exports (%)	Gov. Revenue from the Extractive Sector as a Ratio of the Sector's Value Added (%)
Armenia (M)	2017	3.2	26.8	49.7
Azerbaijan (M)	2016	26.5	77.5	60.4
Botswana (M, A)	2017	19.1	92.3	72.0
Burkina Faso (L, A)	2016	9.1	58.7	31.4
Cameroon (M, A)	2016	3.3	23.8	77.5
Chad (L, A)	2016	8.6	49.8	68.9
Ghana (M, A)	2018	13.6	67.7	19.3
Indonesia (M)	2014	9.8	0.1	44.7
Iraq (M)	2016	29.8	99.8	85.8
Kazakhstan (M)	2017	18.6	71.8	39.4
Mali (L, A)	2016	5.5	60.8	49.5
Mongolia (M)	2017	25.8	79.6	34.3
Niger (L, A)	2016	9.5	83.4	42.4
Nigeria (M, A)	2016	5.4	90.5	81.6
Philippines (M)	2016	0.8	2.5	24.1
Senegal (L, A)	2017	1.9	35.5	55.7
Sierra Leone (L, A)	2016	2.7	91.6	25.4
Tajikistan (L)	2016	5.5	34.2	35.1
Trinidad and Tobago (H)	2016	18.8	78.2	31.3
Ukraine (M)	2016	5.5	4.7	79.7
Zambia (M, A)	2016	13.2	72.8	36.1

**This 2016 ratio for Nigeria, calculated using GDP data at current prices from the National Bureau of Statistics of Nigeria, is the lowest since 1983. Average for the previous five years (including 2016) is 10.3% of GDP.*

Note: *A, L, M and H imply African, Low, Middle and High income economies respectively.*

Sources of Data*: EITI Summary data sheets and Reports by the various countries for the years shown in column 2. However, the data were cross-checked with data from other sources where possible. The data for Botswana came from UNdata (Value added by industries) and IMF Article IV publications on Botswana.*

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