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Let the Good Times Roll? Raising Tax Revenues from the Extractive Sector in Sub-Saharan Africa During the Commodity Price Boom

Martin Stürmer

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Martin Stürmer is an economist and political scientist (Institut d'Etudes Politiques de Paris, Free University of Berlin). He works as a research fellow at the Institute for International Economics at the University of Bonn, where he is also studying for his PhD. His current research focuses on emerging economies and the long-term development of mineral commodity markets. He has a long record in this field, including work for the Earth Institute at Columbia University, New York, the Federal Institute for Geosciences and Natural Resources, the OECD and the German Development Institute.

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E-mail: martin.stuermer@uni-bonn.de

© Deutsches Institut für Entwicklungspolitik gGmbH
Tulpenfeld 6, 53113 Bonn
☎ +49 (0)228 94927-0
☎ +49 (0)228 94927-130
E-Mail: die@die-gdi.de
<http://www.die-gdi.de>

Abstract

High mineral and energy commodity prices shook world commodity markets from 2003 to 2008. Taking three case study countries as examples, this paper shows that sub-Saharan African countries collected only relatively low tax revenues from the extractive sector, unlike such classical mining countries as Australia.

Corruption and patronage in the granting of concessions and in tax administration cause low implicit tax rates. Poor conditions impede investments in downstream processing industries and additional production. As a consequence, sales revenues and hence the tax base are relatively lower than in Australia, for example.

We present estimates of potential tax revenues for the three case study countries and for sub-Saharan Africa as a whole. Applying Australia's implicit tax rate to sub-Saharan Africa's sales revenues, tax revenues in sub-Saharan Africa could have been equivalent to 35 per cent of official development assistance (ODA) from 2003 to 2008. Finally, we suggest some policy options for resource-rich countries and donor countries that may enable tax revenues to be acquired from the extractive sector in the long term.

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Abbreviations

DR Congo	Democratic Republic of Congo
EITI	Extractive Industries Transparency Initiative
IASB	International Accounting Standard Board
IFRS	International financial reporting standards
ITR	Implicit tax rate
km ²	Square kilometre
KPCS	Kimberley Process
ODA	Net official development assistance and official aid received
ODI	Overseas Development Institute
PGMs	Platinum group metals
PwC	PricewaterhouseCoopers AG
PWYP	Publish What You Pay
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNSTAT	United Nations Statistics Division
USA	United States of America

Summary

High prices of mineral and energy commodities shook world commodity markets from 2003 to 2008. Sub-Saharan Africa generally failed to seize the opportunity of collecting significant amounts of tax revenues from the extractive sector during this commodity boom, unlike such classical mining countries as Australia.

The extractive sector in sub-Saharan countries experienced strong sales revenues, and there were high inflows of direct investments into the sector. At the same time, the data from three case study countries indicates that even relatively stable countries like Zambia, Namibia and Ghana profited no more than moderately from tax revenues during the commodity boom. Compared to Australia, the three case study countries achieved lower implicit tax rates and lower sales revenues per km².

The first reason for low tax revenues is corruption in the granting of concessions and in tax administration. The underlying phenomena of rent-seeking and patronage cause poor tax collection and a lack of skill in negotiations on concessions, thus leading to low implicit tax rates (ITRs).¹

The second reason is the poor state of investment conditions in most sub-Saharan African countries, which impedes investment in the extractive sector and downstream processing industry. This causes relatively low sales revenues and so a low tax base.

The potential for tax revenues is much higher. Applying Australia's implicit tax rate to sub-Saharan Africa's sales revenues, tax revenues in sub-Saharan Africa could have been equivalent to about 35 per cent of official development assistance (ODA) during the period from 2003 to 2008. If Australia's implicit tax rate and sales revenues per km² are applied, tax revenues of sub-Saharan African countries could have reached 83 per cent of ODA.

The extractive sector in most countries consists of a small number of firms generating high sales revenues. On the one hand, this makes the sector highly vulnerable to corruption. On the other hand, improving the tax administration for this small number of firms can lead to substantial increases in tax revenues.

The political will of the government concerned to reform the tax administration is essential if tax revenues are to be increased. The political economy of corruption and the incentives for agents must be analysed for a country-specific reform.

Resource-rich sub-Saharan African countries could set up autonomous administrative units to grant licences and collect taxes in the extractive sector. To ensure freedom from patronage and to improve skills, they could employ international consultants in these units in the short run. In the long run, governments could train new local staff in close cooperation with international consultancies and implement strong anti-corruption measures. Finally, they could change national laws to make the granting of licences transparent, to stop secret tax deals and to oblige extractive industry companies to make their payments public.

1 ITRs are essentially ratios that measure aggregate revenue from one or more taxes (here: corporate income taxes from the extractive sector and royalties) as a percentage of some aggregate tax base (here: sales revenues from minerals and fuels). ITRs are sometimes referred to as average or effective tax rates.

Donor countries and international development agencies could make the data required for the Extractive Industries Transparency Initiative (EITI) reports mandatory for their annual country assessments. They could support resource-rich countries with funds for independent technical assistance and strengthen their cooperation on capacity-building in geological know-how and tax administration. Where tax revenues in countries with a flourishing extractive industry continue to be low, donor countries could rethink their engagement and possibly redirect it elsewhere. Finally, donor countries could lobby for changes in international accounting standards to attain the disclosure of payments by the extractive industry to the government on a country-by-country basis. They could require that national legislation ensure these standards are met by companies and subsidiaries listed on the national stock exchange.

As theoretical and empirical research on tax administration in the extractive sector is far from conclusive, the study and these recommendations serve only as a starting point for further research and discussion.

1 Introduction

High prices of mineral and energy commodities shook world commodity markets from 2003 to 2008. China's rise triggered enormous growth of demand while global supply was low owing to a lack of investment in the previous decade. As a consequence, prices of mineral and energy commodities rose by several hundred per cent and turned the terms of trade in favour of commodity-exporting countries.²

Riding on this wave, such classical producers of minerals and fossil fuels as Australia, Canada and Saudi-Arabia benefited from the situation, generating high revenues from royalties, corporate income taxes and other charges on the extractive sector. Some countries even managed to build up considerable sovereign wealth funds.

Sub-Saharan African countries also hoped to seize the opportunities presented by this commodity boom. According to the United Nations Conference on Trade and Development (UNCTAD), "*the potentially most important direct contribution from mineral extraction is the rise in host-country income, much of which takes the form of government revenue*" (UNCTAD 2007). The extractive sector could provide these countries with the opportunity to raise domestic funds to finance such public goods as infrastructure, education and basic health and so trigger further economic development. The international development community has therefore placed such initiatives as the Extractive Industries Transparency Initiative (EITI) high on the development agenda.³

This paper assesses the extent to which sub-Saharan African countries have seized the opportunity of raising tax revenues from the extractive sector, explains the main difficulties in generating tax revenues from the extractive sector and draws some initial conclusions for development policy.

The findings for three case study countries show that it is likely that, compared to classical mining and quarrying countries, such as Australia, sub-Saharan African countries generally failed to take advantage of the commodity boom.

If sub-Saharan African countries had achieved the same implicit tax rates and sales revenues per km² as such classical mining countries as Australia, their tax revenues from the extractive sector could have been significantly higher. It will be argued that it is important to look at the tax base, and especially sales revenues, and the implicit tax rate if tax revenues are to be effectively collected in the long run.

This paper focuses on tax revenues from the extractive sector. The extractive sector is defined as all entities engaged in exploring for and discovering mineral, oil and natural gas deposits, developing them and extracting the minerals, oil and natural gas. As the value chain is often complex, it may also include a first processing stage. Tax revenue from the extractive industry means income available to the government from royalties, corporate taxes and taxes on windfall profits. Not included, owing to a lack of data, are other taxes

2 The title of this working paper draws on a PricewaterhouseCoopers (PwC) publication on the extractive sector in 2006 entitled "Let the good times roll".

3 See for example the Monterrey Consensus (UN 2002) and the Doha Declaration on Financing for Development (UN 2008).

and charges, such as payroll tax, and dividend payments to the government due to its free share of the stock of the various mining companies. Royalties and corporate income taxes are nevertheless the two most important contributors of government revenue from the extractive sector.

This paper does not refer to the spending side, such as effective forms of revenue management or broader economically beneficial effects, such as employment. It also goes beyond the scope of this paper to assess the damage done by the extractive sector to the environment and to the livelihoods of local communities. This includes the lack of land for farming, soil and water contamination, air pollution, deforestation, forced resettlements, physical damage to dwellings and an unsafe living environment. Nor is any account taken of small-scale and artisanal mining. The overall contribution made or damage done by the extractive sector to the sustainable development of a mineral- and fuel-producing country cannot therefore be assessed.

The data presented in this paper are based on the best available sources, such as the World Bank, the United Nations (UN) and national statistics. Nevertheless, it should be noted that sales revenue data are often inconsistent and flawed owing to inadequate data collection, smuggling and fraud. It is also difficult to obtain comparable data on tax revenues from the extractive sector. Tax codes and accounting standards differ from one country to another and are highly complex. Corporate income taxes paid by mining firms are often published separately from those of companies outside the extractive sector. Many special tax agreements between firms and governments are not published at all. Overall, the data presented are more in the nature of orders of magnitude and should be viewed with caution. All the data in this report are given in current US dollars unless otherwise stated.

As it is especially difficult to obtain tax data from the extractive sector for sub-Saharan Africa as a whole, we present them only for three case study countries, namely Ghana, Namibia and Zambia. Unfortunately, only limited data are available on such less stable countries as the DR Congo and Sierra Leone. It has therefore been decided not to concentrate on the extreme cases, but rather to cover countries which are representative of the situation in the average African country and are neither examples of outstanding governance of the extractive sector, such as Botswana, or worst cases, such as the DR Congo and Sierra Leone. At the same time, the choice of case study countries covers a broad range of mineral products. We have chosen Australia to be the classical mining country for comparison with sub-Saharan African countries. Like most of the latter, Australia produces very little oil and exports most of its mining and quarrying products (see ABARE 2009, 6–7).

The paper begins by looking at the export revenues of and foreign direct investment inflows into the extractive sector. It then assesses the tax revenues obtained from the extractive sector in three case study countries and compares them with the equivalent figures for Australia. Estimates of potential tax revenues are presented. It is explained why it is so difficult for countries to obtain tax revenues from the extractive sector, and some policy options are presented.

2. A booming extractive sector, but low tax revenues

The commodity boom in the last few years has triggered an enormous rise in the sales revenues of the extractive sector and extensive foreign direct investment in sub-Saharan African countries. In the same period, tax revenues from the extractive sector have been quite modest in our three case study countries.

The following reviews sales revenues, foreign direct investment, tax revenues and implicit tax rates (ITRs) in sub-Saharan Africa (where possible) and the three case study countries during the commodity boom from 2003 to 2008. These figures are compared with those for Australia. The disaggregated data and their sources can be found in the annex.

Export revenues are used instead of sales revenues from mineral and energy production in sub-Saharan Africa, Zambia and Ghana where data on sales revenues are not published. As these countries export almost their entire mineral and fuel production, export revenues serve as a reliable and comparable substitute for sales revenues.

Publicly available data on tax revenue differ widely. This paper presents at least the revenues from corporate income taxes, windfall taxes (where applicable) and royalties, the most important taxes for the extractive industry in each case study country.

ITRs are essentially ratios that measure aggregate revenue from one or more taxes (here: corporate income taxes paid by the extractive sector and royalties) as a percentage of some aggregate tax base (here: sales revenues from minerals and fuels). ITRs are sometimes referred to as an average or effective tax rate (see also OECD 2001).

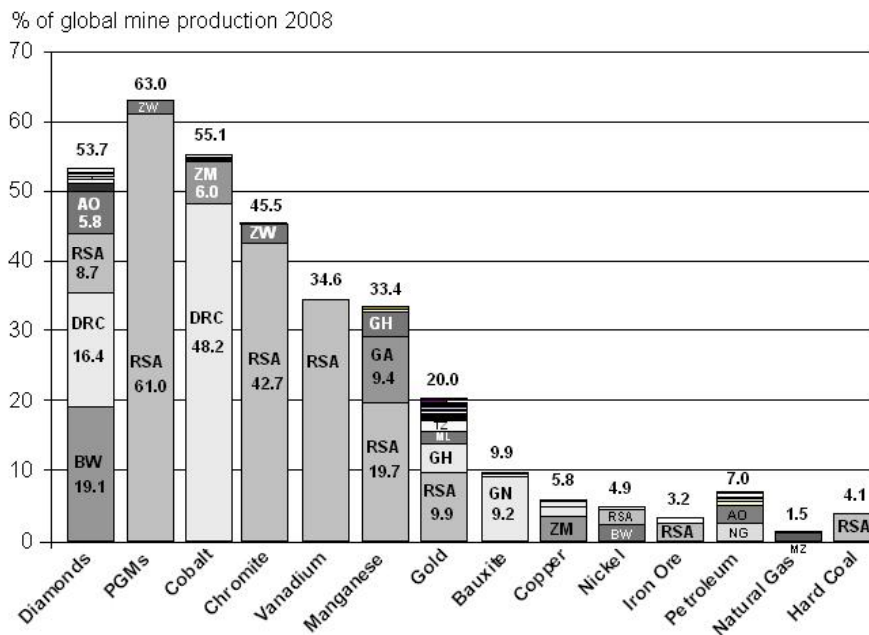
2.1 Sub-Saharan Africa

After agriculture, the extractive sector is the most important economic sector in most sub-Saharan African countries. Exports of mineral products and fuels account for up to 38 per cent of total exports in sub-Saharan Africa (UNSTAT 2010; World Bank 2010). As Figure 1 shows, sub-Saharan African countries are major producers especially of platinum group metals (PGMs), cobalt, chromites, gold and other minerals. Fuels have played a minor, but growing, role in recent years.

Figure 2 shows that export revenues from mineral and energy commodities have increased in line with the prices of metals and fuels. During the commodity boom from 2003 to 2008, annual export revenues almost tripled to US\$ 139 billion in 2008. In total, sub-Saharan African countries exported minerals and fuels with a total value of US\$ 482 billion from 2003 to 2008 (UNSTAT 2010; World Bank 2010). Sub-Saharan Africa produced an average of US\$ 3312 worth of minerals and fuels per km² per year.

Foreign direct investment in sub-Saharan African countries increased fourfold from 2003 to 2008, totalling US\$ 199 billion in that period (UNCTAD 2009; see Figure 3). Unfortunately, the only data available concern the extractive sector's share of cross-border mergers and acquisitions (M&As), which account for about 50 per cent of foreign direct investment in developing countries (see UNCTAD 2007, xv). Figure 3 shows that the extractive sector accounted for about 45 per cent of sales in cross-border M&As.

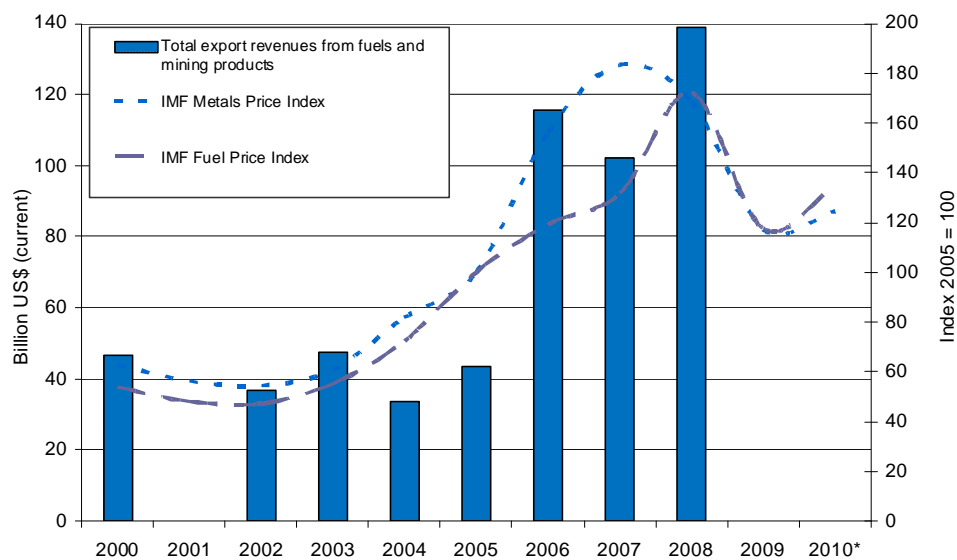
Figure 1: Production of mineral and energy commodities in sub-Saharan African countries as a share of global mine production in 2008



Source: Buchholz / Stürmer (s. a.)

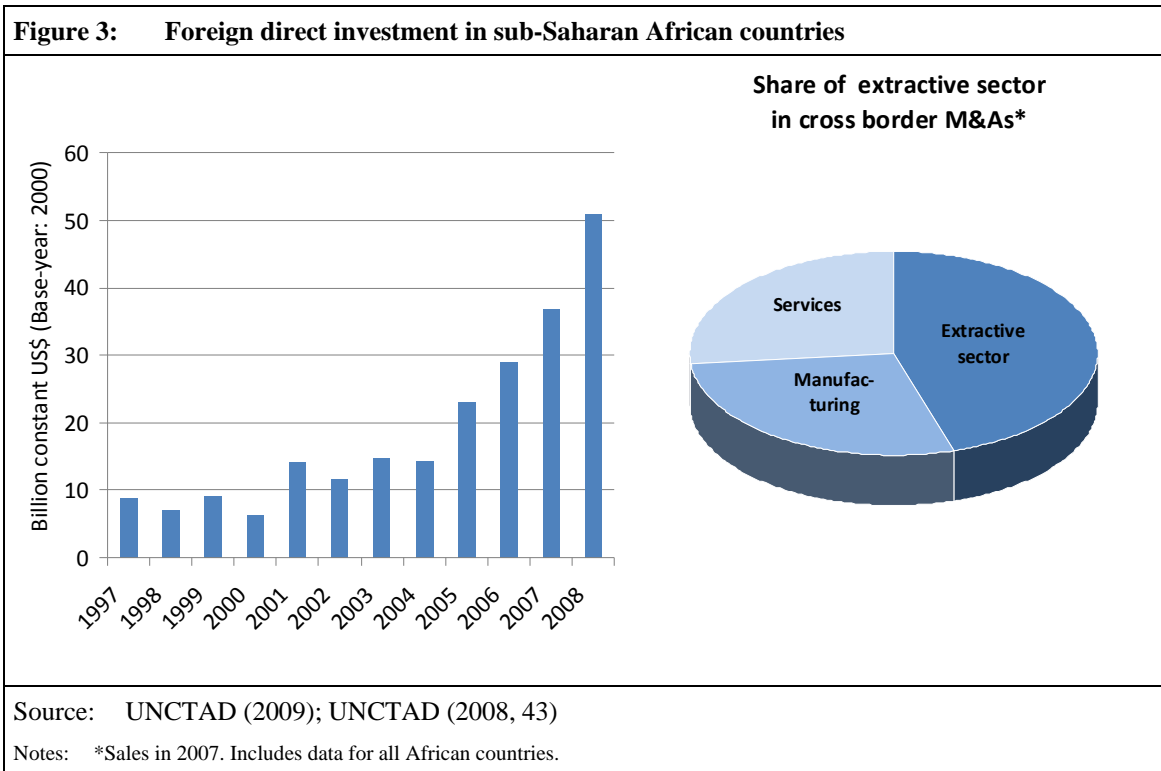
Notes: AO = Angola, RSA = Republic of South Africa, DRC = Democratic Republic of Congo, BW = Botswana, ZW = Zimbabwe, GH = Ghana, GA = Gabon, TZ = Tanzania, ZM = Zambia, ML = Mali, NG = Nigeria, MZ = Mozambique

Figure 2: Total annual export revenues from mineral and energy commodities for 38 countries in sub-Saharan Africa and metal (dotted line) and fuel (broken line) commodity price indices (2005 = 100) (current US\$)



Source: UNSTAT (2010); IMF (2009)

Furthermore, UNCTAD reports that a large share of total FDI inflows took the form of greenfield prospecting for new reserves and expansion projects for existing mines. Overall, the extractive sector has been the most important sector for foreign direct investment in sub-Saharan Africa in recent years, even though FDI inflows have been largely concentrated in a few natural-resource-rich countries (see UNCTAD 2007, 36–38; UNCTAD 2009, 45).



2.2 Zambia

Zambia’s copper and cobalt industry sold minerals to the value of over US\$ 13 billion and benefited from nearly US\$ 4 billion of foreign direct investment in the period from 2003 to 2008. Annual sales revenues average US\$ 3000 per km².

During the same period, the government raised tax revenues of about US\$ 393 million from the extractive sector. However, from 2003 to 2006 in particular annual tax revenues were quite low. In 2005, for example, the country’s mining industry sold minerals for over US\$ 1.17 billion, but collected only US\$ 11 million in tax. The average ITR for the extractive sector from 2003 to 2008 was below 2 per cent.

2.3 Namibia

Sales of minerals, especially diamonds, were worth about US\$ 9.4 billion, and foreign direct investment totalled US\$ 2.6 billion in the period 2003-2008. Annual sales averaged US\$ 1910 per km² during this time.

Tax revenues totalled about US\$ 893 million. Most came from diamond mining. Other companies mining zinc, copper, uranium, lead and fluorspar did not pay any royalties from 2003 to 2006. Corporate income tax from these mining companies was also very low during this period. This is astonishing as Namibia is also the world's fourth largest exporter of uranium. In 2005, for example, its export revenues from uranium oxide and other minerals totalled over US\$ 500 million. According to the Chamber of Mines of Namibia (2008, 89), however, the companies exporting these minerals paid no royalties and only US\$ 140,000 in corporate taxes. The average ITR from 2003 to 2008 based on export revenues was 9 per cent, which is as high as the ITR of Australia's mining sector.

2.4 Ghana

Ghana, a traditional gold-mining country, exported minerals and fuels worth US\$ 7.7 billion and attracted over US\$ 4 billion of foreign direct investment inflows from 2003 to 2008. Annual sales revenues averaged US\$ 5401 per km², only slightly lower than the sales revenues per km² of Australia's mining sector.

In contrast, tax revenues totalled only US\$ 426 million from 2003 to 2008. The average ITR in that period was 5 per cent. The available EITI reports show that many companies did not pay any corporate income taxes or ground rate taxes in 2004 and 2005 (Ghana Ministry of Finance and Economic Planning, 2007 and 2008; see also Chapter 5.3.3).

2.5 Australia

Sales revenues from Australia's extractive sector totalled US\$ 360 billion from 2003 to 2008. Of this, the mining sector accounted for US\$ 260 billion and the oil and gas sector for nearly US\$ 100 billion. On average, Australia produced minerals and fuels worth over US\$ 7877 per km² every year during the commodity boom. Australia was thus able to achieve more than twice the sales revenues per km² of the sub-Saharan African countries.

Total tax revenues amounted to more than US\$ 53 billion from 2003 to 2008. Australia achieved an average annual ITR of 9 per cent in the mining sector and 20 per cent in the oil and gas sector in that period. For the extractive sector as a whole the ITR was 17 per cent. A report by PricewaterhouseCoopers (PwC), the consulting firm, indicates that Australia is even at the lower end of ITRs for the extractive sector when compared to such countries as Canada and South Africa (PwC 2008, 5).

Overall, the data show that even relatively stable sub-Saharan African countries benefited no more than moderately from tax revenues during the commodity boom. They reveal strong export revenues from the extractive sector and high inflows of foreign direct investment, whereas tax revenues were modest, especially in Zambia and Ghana. Compared to such classical mining and quarrying countries as Australia, the three case study countries examined achieved lower tax revenues owing to lower implicit tax rates (except Namibia) and lower sales revenues per km².

3. Potential tax revenues

First to be examined here are the potential tax revenues of sub-Saharan Africa and our case study countries if they achieved the same ITR as Australia.⁴

The findings show that sub-Saharan African countries could have obtained tax revenues from the extractive sector of over US\$ 70 billion in the period 2003-2008 if they had had the same ITR as Australia. This would have been the equivalent of about 35 per cent of ODA to these countries.

Ghana could have collected tax revenues of US\$ 735 million in the period 2003-2008, equivalent to about 10 per cent of its ODA. Namibia could have raised government revenues of US\$ 870 million (nearly 90 per cent of ODA), and Zambia nearly US\$ 1.4 billion (about 21 per cent of ODA) from 2003 to 2008.⁵

The potential tax revenues of sub-Saharan African countries if they had achieved similar sales revenues per km² of land surface and similar ITRs to those of Australia have also been calculated.

Sub-Saharan Africa countries could have made over US\$ 1.1 trillion in sales revenues from minerals and fuels in the period 2003-2008. The potential export revenues for Ghana, Namibia and Zambia were US\$ 8.2 billion, US\$ 28 billion and US\$ 26 billion, respectively.

If we now apply Australia's ITR to these potential sales revenues, total tax revenues from the extractive sector in sub-Saharan Africa could have been US\$ 168 billion from 2003 to 2008. This is more than 80 per cent of cumulative ODA. For Ghana, Namibia and Zambia the total potential tax revenues could have been US\$ 900 million (11 per cent of ODA), US\$ 2.8 billion (280 per cent of ODA) and US\$ 2.5 billion (37 per cent of ODA), respectively.

This approach certainly produces no more than a rule-of-thumb figure. First, it is unlikely that African countries would be competitive with the same ITR as Australia's. They provide less in the way of such public goods as trained staff, infrastructure, a secure environment, etc. than classical mining countries. But, as is argued later, if these countries provided a better business environment, they could also levy higher taxes. It is also probable that enterprises pay high charges for operating in sub-Saharan African countries, but that those payments end up in the pockets of politicians and administrators.

Furthermore, the data in this paper are based on official sales and export statistics. It is likely that these data underestimate the value of the minerals and fuels sold owing to the underdeclaration of the value of exports. (see Chapter 5.3) whereas they should be relatively correct in Australia's case. The data here may therefore even underestimate the potential tax revenues of sub-Saharan African countries.

4 The following data are based on the author's calculations, unless otherwise stated.

5 As the three case study countries are largely non-oil producing countries, we have only applied Australia's ITR from the mining sector. Ghana will produce considerable amounts of oil in the years ahead, but this is not included in our data.

4. The challenge of collecting tax revenues from the extractive sector

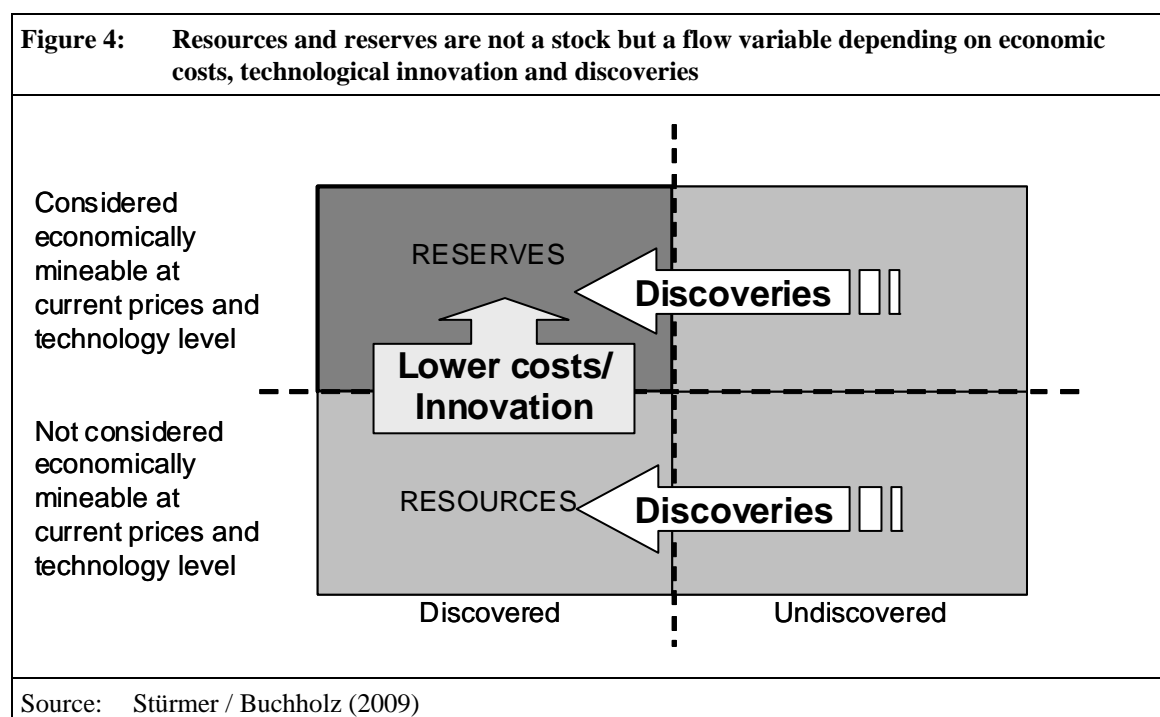
Two key factors drive tax revenues from the extractive sector: the implicit tax rate and the value of sales revenues.

Sales revenues, which represent the value of the production of minerals and fuels, form an important part of the tax base. They depend on the level of production and the value added, which are a function of geological and investment conditions.⁶ These factors are discussed in subsections 5.1 and 5.2. The implicit tax rate is a result of the tax administration and collection. We analyse these factors in the subsection 5.3.

4.1 Geology

Geological conditions determine investment in the extractive sector and the generation of sales revenues. Most sub-Saharan African countries are well endowed with mineral resources, but there is a lack of proper public geological surveys.

A country's geological endowment is commonly defined in terms of its reserves and resources. Unlike intuition, reserves and resources do not fully define a country's geological potential. Reserves are defined as the known mineral deposits that can be mined economically with today's technology. Resources are mineral deposits of intrinsic economic interest in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.



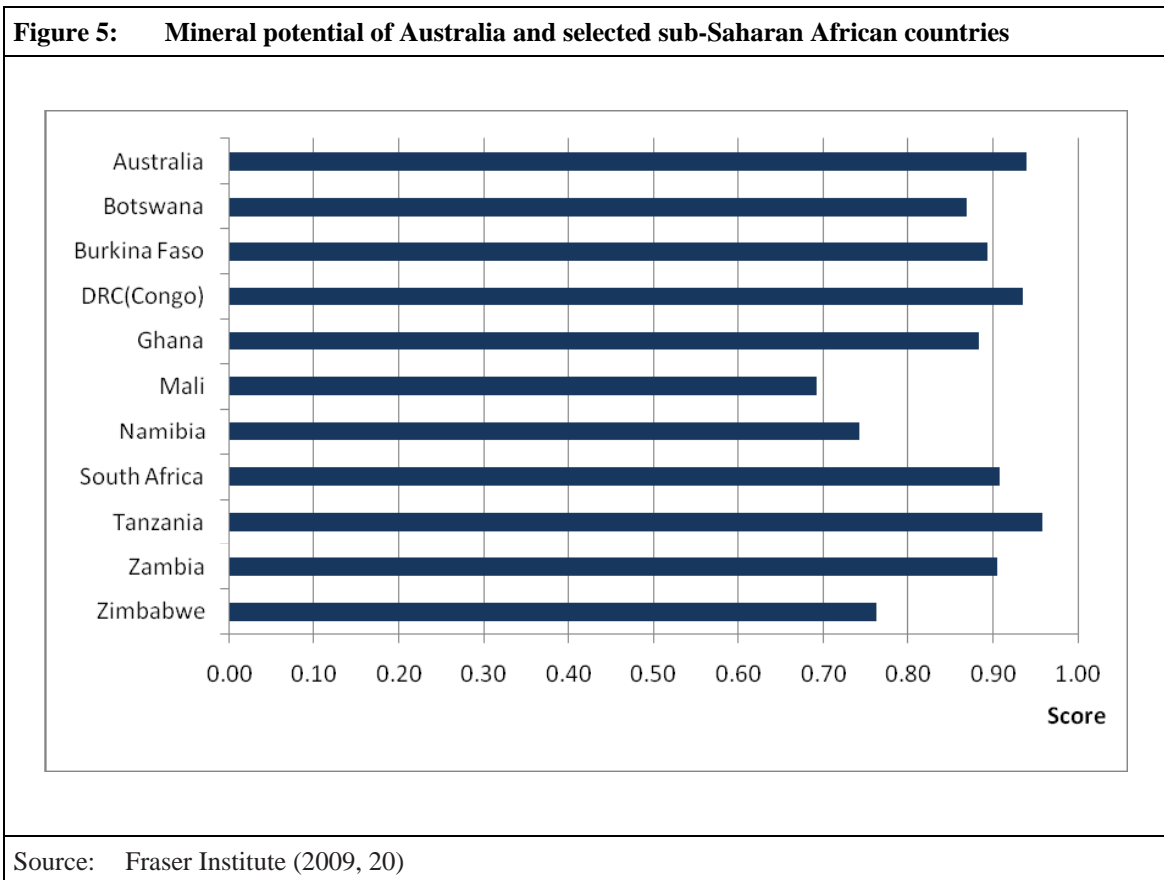
⁶ World market prices also have a major influence on sales revenues. As prices move in strong cycles, revenue management is a key challenge for resource-rich sub-Saharan African countries. This important aspect is unfortunately beyond the scope of this paper.

Hence reserves and resources are flow variables rather than stock variables. production costs, technological progress and exploration are their major determinants. Rising world market prices or technological progress cause reserves and resources to grow. It is therefore reasonable to assume that geological deposits are far richer than official reserve and resource statistics imply.

Africa has undergone far less geological exploration than classical mining countries. From 1991 to 2007, Canada attracted an average of US\$ 55 of exploration investment per square kilometre, whereas the corresponding figure for Africa was US\$ 16 per square kilometre (Stürmer / Buchholz 2009, 16). Even advanced sub-Saharan African countries have not been entirely explored using modern methods.

The Fraser Institute conducts an annual survey of metal mining and exploration companies to assess how mineral endowments and public policy factors affect exploration investment in 65 countries. According to this survey of executives and exploration managers in mining and mining consultant companies operating around the world, most sub-Saharan African countries come close to Australia in terms of mineral potential (see Figure 5).

Geological surveys in sub-Saharan African countries are often poorly equipped and lack the resources to undertake exploration. It is mostly private mining companies which explore for new deposits. As this activity is very costly and risky, their main motive is to extend production or to replace reserves that have already been mined. Basic geological data covering the whole country are mostly lacking or inadequate.



As a consequence, governments often have to rely entirely on mineral deposit data provided by companies. In many cases, they even lack the equipment and knowledge to check the information they receive. This puts governments in a poor bargaining position in negotiations concerning new concessions. It also makes it virtually impossible for them to check tax statements, since it is difficult to verify information, for example, on reasonable production costs without having a detailed knowledge of the underlying geology of a project.

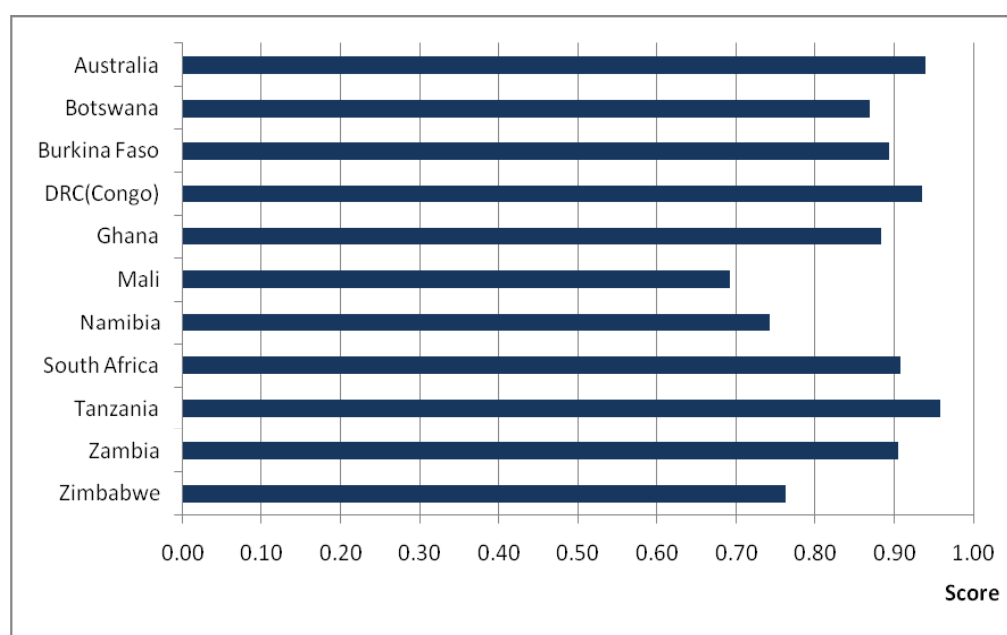
Overall, sub-Saharan Africa is already one of the world's most important producers of some minerals. It has important reserves of minerals and fuels. At the same time, it can be assumed that Africa's geology is far richer than statistics of reserves and resources reveal and sales revenues like those in Australia may be feasible in the long run.

4.2 Investment conditions

Investment in the extractive sector and value-adding processing industries is highly capital-intensive and is effected over long time horizons. The assessment of risk plays a major role in investment decisions. Sound and stable public administration, political stability and infrastructure are therefore essential if investment is to increase and hence a necessary condition for generating tax revenues from the extractive sector in the long run.

The Fraser Institute's policy potential index (see Figure 6) measures the effects of government policies on investment. It includes, for example, uncertainty over the administration, interpretation and enforcement of existing regulations, regulatory duplication and inconsistencies, taxation, infrastructure, political stability and security.

Figure 6: Attractiveness of government policies and regulations for the extractive sector in Australia and selected sub-Saharan African countries



Source: Fraser Institute (2009, 10)

While Botswana even outperforms Australia, our case study countries Ghana, Namibia, and Zambia rank in the middle of the countries evaluated. The DR Congo and Zimbabwe are the least attractive countries for investment. This shows that, despite high geological potentials in most sub-Saharan African countries, their attractiveness for investment by the extractive industry and relevant processing industry varies widely. This also helps to explain why most sub-Saharan African countries achieve lower sales revenues per km² than such classical mining countries as Australia.

Table 1: Long-term foreign-currency sovereign credit ratings of Australia and selected sub-Saharan African countries

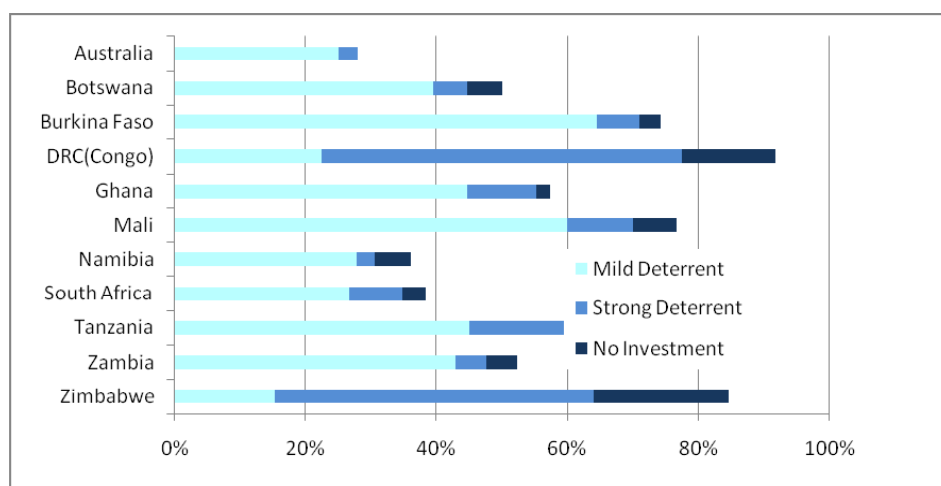
Country	Standard & Poor's Rating	Date	Moody's Rating	Date	Fitch Rating	Date
Australia	AAA	Nov 2005	AAA	Jan 2009	AA+	Feb 2003
Benin	B	Dec 2007			B	Sep 2004
Botswana	A	Dec 2009	A2	Mar 2009		
Burkina Faso	B	Aug 2008				
Cameroon	B	Feb 2007			B	Mar 2007
Cape Verde					B+	Jun 2009
Gabon	BB-	Nov 2007			BB-	Oct 2007
Gambia					CCC	Dec 2005
Ghana	B+	Mar 2009			B+	Mar 2009
Kenya	B	Aug 2008			B+	Jan 2009
Lesotho					BB-	Sep 2006
Madagascar	B-	Mar 2009				
Malawi					B-	Mar 2007
Mali	B	Nov 2005			B-	Apr 2004
Mauritius			Baa2	Dez 2007		
Mozambique	B+	Dec 2007			B	Jul 2003
Namibia					BBB-	Dec 2005
Nigeria	B+	Aug 2009			BB-	May 2008
Senegal	B+	Dec 2009				
Seychelles	CCC	Aug 2008				
South Africa	BBB+	Nov 2008	A3	Jul 2009	BBB+	Nov 2008
Uganda	B+	Dec 2008			B	Aug 2009

Source: Standard&Poor's (2010); Fitch (2010); Moody's (2010)

Another important investment condition is the credit rating of a country. As the government has the authority to seize foreign-exchange earnings, impose exchange restrictions, fix exchange rates and even expropriate private assets, the credit rating of a country typically serves as a baseline for evaluating the economic environment surrounding investment possibilities and as a benchmark for risk evaluation by investors (Ratha / De / Mohapatra 2007, 1). Good ratings therefore mean that borrowing costs less; bad ratings mean high premiums and therefore more costly financing of investment projects. As Table 1 shows, Botswana is the leading sub-Saharan African country, with A and A2 ratings. Ghana and Namibia rank in the middle of the evaluation group. There is no rating for Zambia or for countries like the DRC and Zimbabwe. Thus there is still much room for improvement of the credit ratings of most sub-Saharan African countries.

Infrastructure is also an important investment condition, since the extractive industry relies heavily on transport and electricity. Most mineral commodities and semi-finished products require such bulk transport facilities as railways, roads, inland waterways and harbours. Many African countries currently lack the infrastructure needed for the expansion of the extractive sector and related processing industry. For example, the shortage of electricity makes the establishment of new mines in Zambia and Ghana difficult. The whole infrastructure of roads, railways and harbours often has to be built before mining can begin. Although prices have been high and geological conditions promising, these problems have delayed many projects and hampered the establishment of a processing industry.

Figure 7: Infrastructure as a deterrent to investment in the extractive sector in Australia and selected sub-Saharan African countries



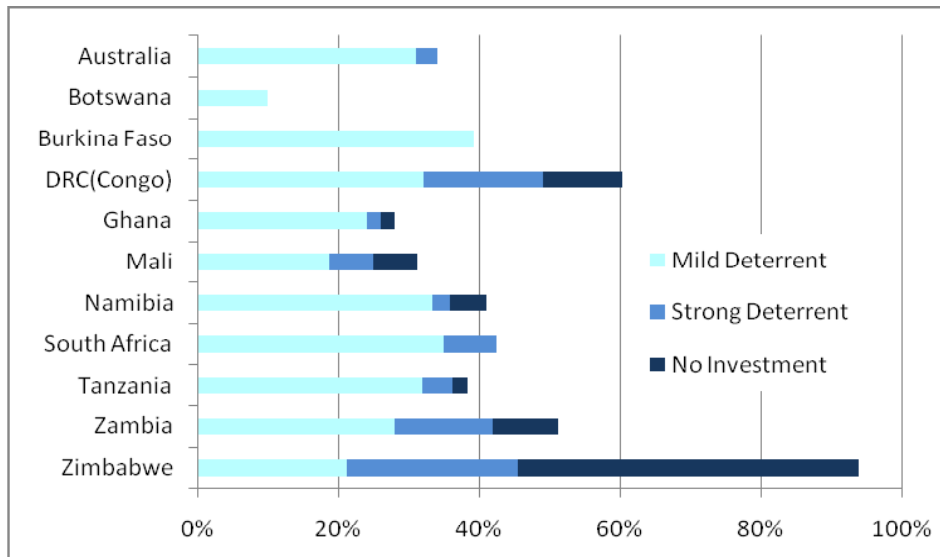
Source: Fraser Institute (2009, 76)

Figure 7 shows that poor infrastructure is seen far less as a deterrent to investment in Australia than in Ghana, Namibia and Zambia. Even Botswana lags behind Australia in this index.

The tax regime is a further major investment condition. The Fraser Index shows that a stable and reliable tax system is important for companies. Especially when combined with falling world market prices, rapid changes in the tax system may chase away potential investors. A stable tax system is also a necessary condition for high implicit tax rates, since it lowers the overall project risk from a business perspective.

According to the Fraser Index (see Table 8), 28 per cent of mining managers see the tax system in Ghana as a deterrent to investment or would not pursue investment because of this factor. The corresponding figure for Namibia is 41 per cent and for Zambia 51 per cent. Such countries as the DR Congo and Zimbabwe fare much worse. Surprisingly, Australia ranks behind Botswana and Ghana, with 31 per cent of managers considering its tax regime to be a deterrent to investment (Fraser Institute 2009, 71).

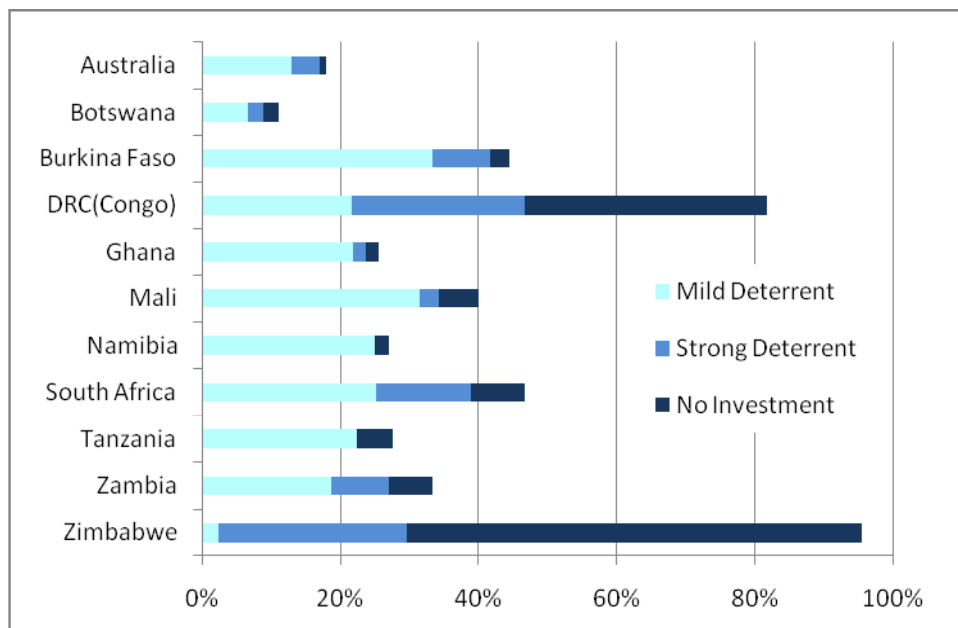
Figure 8: Taxation regime as a deterrent to investment in the extractive sector in Australia and selected sub-Saharan African countries



Source: Fraser Institute (2009, 70)

Note: Includes personal, corporate, payroll and other taxes, and complexity of tax compliance

Figure 9: Uncertainty concerning the administration, interpretation and enforcement of existing regulations as a deterrent to investment in the extractive sector in Australia and selected sub-Saharan African countries



Source: Fraser Institute (2009, 64)

Uncertainty concerning the enforcement of regulations in the extractive sector is a major obstacle to new investment, as Figure 9 shows. Botswana is again in front of Australia, but Ghana, Namibia and Zambia are left far behind. However, Zimbabwe and the DRC again do worse than the three case study countries.

4.3 Tax policy and administration

The implicit tax rate depends on the tax policy and administration applicable to the extractive sector. As we have seen, the implicit tax rates of the three case study countries have been quite low compared with Australia's.

The main underlying problem is corruption, which is usually defined as the “*misuse of public or entrusted authority for personal gain*” (Svensson 2005, 20). This means that politicians and tax officials take kickbacks and bribes for reducing the tax burden on certain companies or embezzle tax payments. Resources accumulated by corruption are either used for private purposes or redistributed to clientelist networks, a phenomenon known as patronage.⁷

According to the World Bank's International Finance Corporation, “*bribes are common in EI [extractive industries]*” (IFC 2003, 30). As regards the bribing of officials, the oil and gas sector and the mining sector rank 3rd and 5th among 19 industrial sectors in the Bribe Payers Index (TI 2008, 11).

The following begins by describing the key features of mining taxation. It will then be considered how corruption and a lack of capacity make the collection of taxes difficult.

4.3.1 Key features of the taxing of the extractive sector

The extractive sector has a few special features which make a separate tax system usual. These features include the size and timescale of investments, high sector-specific risks and the instability of world market prices. Mineral rights usually belong to the state, and taxes are the price paid for exploiting these public assets (Andrews-Speed 2000, 1.5–1.6). Mining tax regimes differ in the specific combination of taxes, in tax rates and in definitions of the tax base. A further key characteristic is the degree of discretion that politicians and officials have in granting tax exemptions or other special provisions.

Most countries choose a combination of different taxes and charges to generate revenues from the extractive sector. Common taxes are royalties, windfall profit tax, corporate income tax and concession charges. Some governments also receive revenue by participating in the extractive sector.

Royalties

Royalties have historically been the most common instrument for taxing the extractive sector and are widely used. Royalties tax the fiscal dues on the basis of either the volume (“unit” royalty) or the value (“ad valorem” royalty) of production or exports. There are

⁷ For a formal study of patronage and the resource curse see Robinson / Torvik / Verdier (2006).

many different approaches to the precise calculation of “ad valorem” royalties, since the definition of value varies.

Royalties have the advantage of being relatively easy to assess and apply even though calculation can become complicated if the value is adjusted to omit the cost of transport, handling, etc. (Otto et al. 2006, 52). They also ensure a relatively stable revenue stream to the government, since production and sales normally vary much less than profits (Radetzki 2008, 201).

For producers, royalties constitute additional costs that have to be paid irrespective of profit levels. They can wipe out the entire profit or even result in a loss when world prices and therefore pre-tax profits are low. Very high royalties are therefore a major deterrent to investment, especially in the case of minerals from low-quality resource endowments and of minerals whose world market prices are highly cyclical. Royalties increase the economic cut-off rate of a mine and so reduce the economic life of a project (see Tordo 2007, 37–38; Otto et al. 2006, 51–52; Radetzki 2008, 201–202).

Corporate income taxes

Corporate income tax is based on profits, i.e. it is due only when annual revenues exceed some measure of costs and allowances. Key variables of corporate income tax are the specification of allowable costs, the definition of taxable income and the rate applied. In its proportional formulation (a fixed tax rate), corporate income tax is relatively regressive, since the burden it imposes in percentage terms remains the same at different levels of profitability.

In general, corporate income tax avoids the problem associated with royalties of companies having to pay taxes even though they make losses. For governments, corporate income tax is much more difficult to compute because profits have to be assessed. Furthermore, the yield from corporate income tax fluctuates far more than the yield from royalties since profits fluctuate far more than the volume of output or sales. This is especially true when a progressive rate is applied (see Tordo 2007, 39; Otto et al. 2006, 52–54; Radetzki 2008, 202).

Windfall profit taxes

Windfall profit taxes cream off an above-normal supposed level of profit by taxing gross revenues. As a rule, the tax is levied only when a certain threshold, such as a given world market price, is reached. Some countries also apply a progressive tax regime, using stepped tax rates linked to world market prices. Zambia is, at present, the only country in sub-Saharan Africa that levies a windfall tax under its mining legislation, and that only since April 2008.

Government participation

Another means of extraction, which has not been included in the data presented here, is government participation free of charge or on concessional terms. The government acquires a carried interest and pays for its share out of future earnings from the project, or it demands a minority equity share free of charge at the time of the original investment deci-

sion (known as free carried interest) (see Tordo 2007, 43; Radetzki 2008, 203–204). Dividends from government participation do not, however, play an important role in government revenues. In the fiscal year 2007/2008, for example, the Namibian government received little more than US\$ 1 million in dividends from its 50 per cent stake in Namdeb, a large diamond mining company, and a 3 per cent stake in the Rössing uranium mine. This is far less than 1 per cent of government revenues from the extractive sector (Chamber of Mines of Namibia 2008, 77).

Various other taxes and charges add to the tax revenues from the extractive sector. They include concession charges, duties on imported equipment, payroll taxes, value added taxes and environmental taxes.

The tax regime needs to strike a balance between adequate tax revenues for the government and a reasonable level of taxation that still attracts private investment. The strong price cycles in mineral commodity markets and the long-term investment cycles in the extractive sector make striking this balance especially challenging.

The final feature of the tax regime is the degree of discretion that politicians and officials enjoy in granting tax exemptions and other special provisions. In most countries the tax regime is codified in mining or tax legislation. Nevertheless, many sub-Saharan African states grant the executive, such as the president or ministers, the possibility of concluding special tax agreements with companies, especially when licences and concessions are negotiated. These agreements are typically disclosed and override statutory law. Special tax agreements are common in the sub-Saharan African extractive sector.

4.3.2 Awarding licences and negotiating concessions

In countries with pronounced ministerial discretion when it comes to taxing the extractive sector, the individual design of the tax regime is one of the subjects discussed in negotiations between companies and governments on licences and concessions. The process of awarding licences and concessions is therefore a major determinant of the implicit tax rate, since the rules of the game are defined at this initial stage. There is a high risk of corruption and of problems of asymmetric information in negotiations on licences and concessions.

Some form of licence is the most common form of agreement in the extractive sector, although the name of the arrangement varies from one country to another. A licence is the revocable permission granted by a country's regulatory body to operate a concession (Kolstad / Soreide 2009, 221).

A concession is a legal arrangement for the extraction of minerals and fuels for a determined period.⁸ The tax regime may form part of the concession agreement or it may be defined in a separate tax agreement with the individual company. The legal details of such agreements may include accounting definitions, depreciation and amortisation rules, provisions on state participation, royalty structures and calculation methods, depletion allow-

⁸ For more information on these legal aspects see Rasband et al. (2005).

ances, reimbursement of prior exploration expenses, work commitments, tax rates and exemptions from customs duties (Otto et al., 2006 249).

As these negotiations on concessions and the agreements reached are confidential and often subject to no parliamentary or public control, the risk of bribes being offered in exchange for favourable tax treatment is high. Furthermore, government officials often lack information about the value of the resource, the cost of extraction and other factors, making it impossible for them to check the information provided by the company and causing asymmetry of information at the negotiations. These factors may lead to a low implicit tax rate.

Zambia, for example, negotiated a number of “development agreements” when it privatised its copper sector in the late 1990s. This was done at a time of historically low world copper prices, declining copper production and an unsustainable debt burden. The “development agreements” included a reduction in the corporate tax rate from 35 to 25 per cent, exemption from customs duty, the reduction of the mineral royalty from 2.0 to 0.6 per cent, exemption from excise duty on electricity, an increase in the period over which losses could be carried forward and exemption from withholding tax on interest, dividends, royalties and management fees (Di John 2008, 44–45). As a consequence, government revenues in the past few years have been fairly low, even though copper prices have reached record levels.

After these agreements had been concluded, the then President, Frederick Chiluba, was found guilty of corruption by the High Court in London in 2007 (BBC 2007). The former head of the state-owned Zambia Consolidated Copper Mines and a local businessman were jailed in 2008 for corruption (The Independent 2008). A World Bank report also referred to “grave irregularities” in the sale of the mines (Reuters 2008), and the IMF has advised Zambia to renegotiate these agreements to provide a “quick and substantial boost” (IMF 2008, 16) to the fiscal contributions of the extractive sector.

Ghana also demonstrates the problems posed by the intransparent and politicised awarding of concessions. US and Ghanaian authorities are investigating corruption allegations against a Texas oil company, Kosmos, and its Ghanaian partner company, EO. According to the Financial Times, EO is owned by two former supporters of former President Kufuor. EO initiated the deal with Kosmos to gain control of a promising oil block in exchange for a 3.5 per cent stake. This stake could be worth US\$ 200 million by now. Ghanaian officials suspect that EO used its access to top officials in the former government to take possession of the offshore oil block and to win more favourable tax terms. According to a senior Ghanaian official, Kosmos’s financing of EO’s costs was “*widely regarded in the industry as unusual,*” especially as the terms of Kosmos’s deal with the government and state oil group were “*more favourable [to Kosmos] than from any other agreement*” (Financial Times 2010). Kosmos negotiated a favourable royalty rate of 5 per cent, which is at the lower end of the 4 to 12.5 % range set in the tax law for oil and gas production (Hackman 2009, 5–6). Another report points out that these corruption allegations should be seen from the perspective of the new Ghanaian government’s efforts to damage the old government’s reputation while at the same time putting pressure on Kosmos to sell its stake in the Jubilee Field to the Ghanaian state-run oil company on favourable terms (Washington Post 2010).

4.3.3 Tax collection

A further key problem is the enforcement of existing tax regimes. The magnitude of resource revenues gives rise to strong incentives to embezzle revenues by government officials and to poor tax compliance.

Most sub-Saharan African tax authorities lack the skills needed to audit the complex accounts of mining companies. Statements on depreciation and the carrying forward of losses from other concessions cannot be adequately checked. Companies may misreport the volume of minerals and fuels extracted. While international mining companies engage high-profile lawyers, the local administration is often unable to check their tax statements owing to a lack of knowledge of geology and mining operations. Posts in tax and other relevant departments are often distributed not in accordance with meritocratic principles but on the basis of kinship or other relationships of social reciprocity, since they provide numerous opportunities for corruption. Thus patronage also undermines the skill levels and the integrity of institutions (see Fjeldstad 2009).

Tanzania's Commissioner for Minerals states: *"We have no capacity to look at their books. [The companies] can write the books so that third world countries cannot regulate. Even the contracts are difficult. I think the mining companies exploit our weaknesses in law and capacity"* (Lambrechts 2009, 44). In a report on Sierra Leone by the National Advocacy Coalition On Extractives a former senior civil servant in a government department concerned with mining said: *"It's very difficult to tell if they are making profits because you have to go by what the companies say. But it is easy to raise operating costs to a fictional level. You can also inflate local costs. What's lacking in Sierra Leone is the ability to monitor and regulate this. You can also easily bribe the mines management officer. It's quite possible for the system to be abused"* (National Advocacy Coalition On Extractives 2009, 7). An additional problem is the lack of uniformity in the pricing of minerals, which leads to variations in the calculation of royalty payments. This problem of mis-invoicing means that companies either can underdeclare the value of their exports or overstate the prices of their imports (of equipment, etc.) in their tax returns. According to Lambrechts, mis-invoicing is a common practice, especially in trade among associates of multinational corporations (Lambrechts 2009 43). A report by Global Financial Integrity, a project of the US-based Centre for International Policy, estimates that between 2002 and 2006 an average of US\$ 10 billion left Africa every year as a result of trade mis-invoicing (Kar / Cartwright-Smith 2008 16). Lambrechts suggests that this is likely to be a huge underestimation, given the lack of trade data in Africa and given that this figure does not include trade invoices between subsidiaries of the same parent group of companies (Lambrechts 2009, 43).

The EITI reports on Ghana for 2004 and 2005 contain good examples of inadequate tax administration.⁹

First, they reveal huge discrepancies between tax receipts and dividends reported by the government and those reported by the companies (Ghana Ministry of Finance and Economics 2007, 16; Ghana Ministry of Finance and Economic Planning 2008, 26).

⁹ Reports for later years have not yet been published.

Second, only a minority of companies paid corporate income tax. Owing to favourable rules on capital allowances, such as the accelerated depreciation of buildings and plants, the carrying forward of losses for up to five years and other deductible expenses, they did not need to pay corporate income tax. The EITI report calls for these rules to be reviewed if corporate tax is to form a significant portion of total tax payable (Ghana Ministry of Finance and Economic Planning 2008, 15; Ghana Ministry of Finance and Economic Planning 2007, 20 and 30–31). The reports also find that mineral royalty payments were treated as part of sales costs and therefore as an allowable expense. This has also helped to reduce corporate income tax payments, although it is in contravention of the Internal Revenue Act (Ghana Ministry of Finance and Economic Planning 2008, 26; Ghana Ministry of Finance and Economic Planning 2007, 31).

Third, all companies paid only the minimum 3 per cent royalty in both years. The rate of royalties varies in Ghana between 3 and 12 per cent depending on companies' operational ratios. According to the reports, the Internal Revenue Service has no records of the computation of mining companies' operational ratios and reconciliations. Nor have any independent checks been made of the assays/refinery results provided by mining companies. These assays form the basis of the payment of mineral royalties (Ghana Ministry of Finance and Economic Planning 2008, 24; Ghana Ministry of Finance and Economic Planning 2007, 28). This means that it is not possible to determine whether or not this low rate of royalties was really appropriate or to check statements by companies.

Fourth, there were significant problems with the uniform pricing of minerals. Ground taxes were not paid at all (Ghana Ministry of Finance and Economic Planning 2008, 13+14).

Finally, only one of nine major mining companies has submitted its Company Assessment Form with statements. This is astonishing, as seven of these companies play an active part in the Ghanaian EITI initiative individually and through their participation in the multi-stakeholder group (Akabzaa / Amidu 2009, 28).

Overall, the inability of governments to enforce regulations and s because of mis-invoicing, incorrect tax statements and related corruption makes it difficult for them to collect taxes effectively.

5. The political economy of reforming the tax administration of the extractive sector

Reforming the tax administration of the extractive sector basically consists of improving the institutional environment and changing incentives so as to overcome rent-seeking and patronage. In general, public financial reform is regarded as a long-term and highly political process. There is consensus among development experts that a reform of public financial management takes 15 to 25 years (Leiderer / Wolff 2007, 9). Referring to public-sector reform generally, the World Bank's Independent Evaluation Group (2008, xiv) concludes that the *“knowledge of outcomes is imperfect, because of measurement problems and the long lag between the start of reforms and seeing their full effects”*.

The political constraints on public financial reform are due to the fact that key players benefit from existing dysfunctional institutions. Political elites have largely shaped the existing institutions to gain more control over resource rents (Ross 2001). It is unlikely that government officials would support or implement reforms that improved democratic accountability and reduced their take (Kolstad / Soreide 2009, 218). Political elites do not want to undermine their ability to use resource rents discretionally to foster clientelist ties with support groups. Public employees fear losing the opportunity for receiving bribes.

There is also risk of a “partial reform equilibrium” (Hellman 2003, 204). Van de Walle describes experience in African countries of political elites having instrumentalised and unevenly implemented reforms such that these reforms “would provide them with new kinds of rents, as well as with discretion over the evolution of rents within the economy” (Van de Walle 2001, 159). Kolstad and Soreide (2009, 217–218) even warn that the EITI could increase patronage and reduce government accountability. The EITI provides for the creation of a multi-stakeholder national steering committee to oversee the process. As the government appoints this committee, it could become another arena for patronage politics. For example, Ghana’s committee consists of fifteen government officials, one representative of the Chamber of Mines and two representatives of a local civil society organisation.

The political economy of reform differs widely from country to country owing to differences in institutions, the initial level of rent-seeking, ethnic fractionalisation and the type of commodity involved. Baland and Francois (2000) show that, where corruption is widespread when resource extraction begins, the rent-seeking effect may be more negative. According to Hodler (2006), ethnic fractionalisation exacerbates rent-seeking as resource rents cause groups to compete more fiercely to appropriate rents. The type of commodity also influences rent-seeking. “Point source resources,” such as petroleum and geographically highly concentrated mineral deposits, appear to have a stronger positive correlation with corruption than less concentrated resources, such as agricultural commodities (e.g. Leite / Weidmann 1999). Others distinguish between high- and low-value commodities (Petermann / Guzman / Tilton 2007). The technical characteristics of extracting a resource also change the setting. For example, it may be less difficult to steal and smuggle the easily mined alluvial diamonds of Sierra Leone than diamonds found in the sea off Namibia, the mining of which requires more advanced equipment and organisation (Torvic 2007).

Kolstad and Soreide (2009, 225) therefore conclude that, to target corruption in the resource sector, a thorough understanding of key local structural features, and the incentives of agents, is needed. The World Bank’s Independent Evaluation Group comes to the conclusion that public-sector reform needs strong country ownership, reforms tailored to specific countries and a realistic time-frame. Leiderer and Wolff (2007, 9) point out that, as public-sector reforms are an endogenous process with political and institutional determinants, they basically have to be initiated, effectively implemented and overseen by developing countries. The role of donor countries can only be to provide incentives, to support the formulation of effective reform strategies in a dialogue and to support implementation financially and technically.

6. Policy options

The following considers some of the policy options open to resource-rich countries and donor countries for acquiring tax revenues from the extractive sector. The focus will be on proposals relating to the tax administration and system. It is important to bear in mind that there is no “one-size-fits-all recipe” because institutions and incentives differ from one country to another.

6.1 Resource-rich sub-Saharan African countries

1. Setting up autonomous units for the administration of the extractive sector. The government could set up one unit for negotiating licences and another for collecting taxes. Both units should seek to focus solely on the handful of companies involved in the extractive sector and could be separated from the Ministry of Mines and the Ministry of Finance, respectively. They could be set up in close cooperation with international consultancies and international development agencies.

2. Employing international consultants in the short term. To ensure a clear break from patronage, the staff of these two autonomous units might consist mainly of international consultants and expatriate advisors. They would thus contribute to effective change by building integrity and professionalism in the organisation. They would also provide skills in the granting of licences and the raising of taxes and increase the government’s bargaining power vis-à-vis companies.

3. Promoting capacity-building and anti-corruption measures in the long term. The number of local staff in these two units could be increased carefully and gradually. The tasks of the international consultants could include the transparent recruitment and training of new local staff. In general, international consults should work closely with local staff to enable the latter accumulate skills. Employment and promotion could be based on meritocratic principles. There should be close scrutiny to prevent corruption and strong incentives to uncover illegal practices. Posts should be rotated from time to time.

4. Introducing an independent monitoring system. A special unit in an independent national accounting office could check the work of the two administrative units. A medium-term reform of the judicial system might enforce anti-corruption laws and ensure severe punishment for corruption.

5. Accountable and transparent granting of licences. A database containing information on tender participants, prices, the selection criteria, etc. could make the tendering process more transparent. Freedom of information bills could provide for citizens to have broad access to information.

6. Stopping the practice of secret and individually negotiable tax deals. Tax deals and tax receipts from the extractive industry could be opened up to public and parliamentary scrutiny. All mining tax rates and tax allowances could be legislated for in substantive law and merely confirmed in the extracting licences.

7. Passing national laws to enhance tax disclosure. Countries could require all extractive industry companies, including the subsidiaries of multinational companies incorpo-

rated in their jurisdictions by law, to report profits, expenditures, taxes, fees and community grants paid in each financial year on a national basis (Lambrechts 2009, 59–60).

6.2 Donor countries and international development agencies

1. Making voluntary transparency initiatives mandatory. The EITI and related initiatives provide a useful stimulus for the improvement of transparency in the extractive sector, but they are voluntary. The EITI embraces 35 countries, three of which have so far completed the validation process and gained the status of “compliant country”. The others are still in the process of validation or have signaled their intent to implement the EITI (July 2010). Donor countries and international development agencies could make the data required by EITI reports mandatory for their annual assessments and international data reports.

2. Rethinking ODA and other financial support in the case of sustained non-cooperation. Donor countries and international development agencies might rethink their strategies in countries with a flourishing extractive industry, but notoriously low tax revenues. They should offer support for the reform of the tax administration of the extractive sector. Where a lack of political will is persistently shown, donor countries could question their engagement and eventually reallocate it to other countries (see von Haldenwang / Krause 2009).

3. Providing funds for independent technical assistance. Bilateral donors and international development organisations could scale up their financial assistance to improve the granting of licences, the capacity to monitor and audit the accounts of extractive companies and to review their tax regimes and administration. African governments could use this finance to purchase legal and other technical assistance from any service provider of their choice (see Lambrechts 2009, 60).

4. Capacity-building in the areas of geological know-how and tax administration. Donor countries and international development organisations could support national geological surveys and mining inspectorates to ensure that accessible basic geological, mining and mineral market data are adequate. Sub-Saharan African and donor countries could cooperate closely in the training of geologists, mining engineers, mineral economists and tax administrators. Frequent student and employee exchanges between higher education and tax administration institutions would support this undertaking.

5. Scaling up the EITI++ initiative. The World Bank and donor countries could further reinforce what was once known as the “EITI++” initiative. The aim of this initiative is to provide training and advice to improve the quality of contracts, monitoring operations and the collection of taxes and royalties. As China and India have become major players in Africa’s extractive sector, it is important for them to be closely involved in this initiative.

6. Passing national laws to enhance tax disclosure of nationally listed companies. National governments could enact laws requiring companies listed on national stock exchanges and their subsidiaries to publish their payments to foreign governments for the development of oil, gas and mineral reserves. In July 2010, for example, the USA enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act, which includes a pro-

vision requiring oil, gas and mining companies registered with the US Securities and Exchange Commission to publish their payments to foreign countries and to the US government.

7. Enhancing international tax disclosure by companies. Donor countries could lobby the International Accounting Standards Board (IASB)¹⁰ for an amendment to international accounting standards applicable in the extractive industries requiring them to report on their profits, expenditures, taxes, fees and community grants paid each financial year on a country-by-country basis (Lambrechts 2009, 60). Such a systemic reform would enable the public and governments to track tax payments, since most companies are subsidiaries of transnational corporations incorporated in western countries and listed on international stock exchanges.

The IASB has already established a project team for the extractive industry. In its latest discussion paper on this issue, the project team gives an initial assessment of the costs and benefits of a proposal from the Publish What You Pay (PWYP) campaign. It comes to the conclusion that further study is required before it can be concluded whether the country-by-country disclosure of payments to governments is justifiable on cost-benefit grounds (IASB 2009, 140–159).¹¹ In May 2010 further consultations on the issue were being held at the IASB.

10 The IASB is responsible for the development and publication of international financial reporting standards (IFRSs). It is part of the IASC Foundation, an independent, not-for-profit private-sector organisation working in the public interest, whose principal objective is to develop a single set of high-quality, understandable, enforceable and globally accepted international financial reporting standards. Thus its main aim is to determine the extent to which the disclosure of information is useful to capital providers on the basis of a cost-benefit analysis (IASB 2009, 143–144).

11 The IASB planned to publish the discussion paper prepared by the project team, together with a request for views, in the first quarter of 2010. After publication of the request for views, the Board was to make a decision on adding the project to its active agenda. In this case, an exposure draft would take at least 18 months to develop, and a final international financial reporting standard would take at least another 12 months to develop (IASB 2010).

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A n n e x

Table 2: Data Sub-Saharan Africa									
	Unit	2003	2004	2005	2006	2007	2008	Sum or Average 2003 – 2008	
Sales revenues of the extractive sector*	Mio. US\$	47,600	33,593	43,678	225,801	102,022	139,047	481,742	
Sales revenues of the extractive sector per km ² **	US\$	1,964	1,386	1,802	4,777	4,208	5,736	3,312	
Potential tax revenues 1 (applying Australia's implicit tax rates)	Mio. US\$	6,769	3,954	5,793	18,555	15,359	21,485	71,916	
Potential sales revenues (applying Australia's ratio of sales revenues per km ²)	Mio. US\$	105,786	122,235	147,697	184,459	236,356	349,1956	1,145,729	
Potential tax revenues 2 (applying Australia's implicit tax rate on potential sales revenues)	Mio. US\$	15,042	14,388	19,588	29,556	35,583	53,959	168,117	
Net official development assistance and official aid received***	Mio. US\$	24,839	26,414	32,798	40,582	35,745	40,090	200,468	
Source: * United Nations Statistics Division, 2010, United Nation Commodity Trade Statistics database UN comtrade. Download from http://comtrade.un.org/on06.01.2010 . Notes: Sales revenues assumed to equal export revenues of the extractive sector, including the following commodity codes (SITC Rev. 3.): 27, 281, 283, 284, 285, 286, 287, 289, 32, 33, 34, 661, 662, 667, 672, 673, 68, 97. Includes the following countries: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Rep., Chad, Congo, Côte d'Ivoire, Dem. Rep. of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Togo, Uganda, United Rep. of Tanzania, Zambia, Zimbabwe. ** Source on land surface: World bank, 2010 Key Development Data and Statistics. Download from http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html on 07.01.2010. *** World Bank, 2010, World Development Indicators. Download from http://ddp-ext.worldbank.org/ext/DDPQ/member.do?method=getMembers&userid=1&queryId=135 on 06.06.2010.									

Table 3: Data Zambia

	Unit	2003	2004	2005	2006	2007	2008	Sum or Average 2003 – 2008
Sales revenues of the extractive sector*	Mio. US\$	690	786	1,170	3,095	3,628	4,124	13,493
Sales revenues of the extractive sector per square km ² **	US\$	917	1,044	1,555	4,112	4,821	5,480	2,988
Mining taxes***	Mio. US\$	2	0.8	11	50	169	161	393
Implicit tax rates	%	0.3	0.1	0.9	1.6	4.7	3.9	1.9
Potential tax revenues 1 (applying Australia's annual implicit tax rates)****	Mio. US\$	52	39	73	348	403	493	1,408
Potential sales revenues (applying Australia's ratio of sales revenues per km ²)*****	Mio. US\$	2,247	2,724	3,220	4,083	5,415	8,372	26,060
Potential tax revenues 2 (applying Australia's implicit tax rate on potential sales revenues)*****	Mio. US\$	170	134	200	460	602	1,000	2,565
Net official development assistance and official aid received*****	Mio. US\$	755	1,127	1,165	1,426	1,044	1,085	6,603

Source: * United Nations Statistics Division, 2010, United Nation Commodity Trade Statistics database. UN comtrade. Download from <http://comtrade.un.org/> on 06.01.2010.

Notes: Sales revenues assumed to equal export revenues of the extractive sector, including the following commodity codes (SITC Rev. 3.): 27, 281, 283, 284, 285, 286, 287, 289, 32, 33, 34, 661, 662, 667, 672, 673, 68, 97. Note: Zambia has not exported oil or gas.

** Source on land surface: World Bank, 2010, Key Development Data and Statistics. Download from <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1390200~pagePK:64133175~theSitePK:239419,00.html> on 07.01.2010.

*** 2003: IMF, 2006, Zambia. Selected Issues and statistical appendix. Download from <http://www.imf.org/external/pubs/ft/scr/2006/cr06118.pdf> on 22.12.2009, p. 58. 2006-2008: IMF, 2009, Zambia: First and Second Reviews of the Three-Year Arrangement Under the Poverty Reduction and Growth Facility, Request for Waivers of Nonobservance of Performance Criteria, and Augmentation of Access—Staff Report; Press Release on the Executive Board Discussion; and Statement by the Executive Director of Zambia. Download from <http://www.imf.org/external/pubs/ft/scr/2009/cr09188.pdf> on 22.12.2009, p.16. Notes: 2002-2004: including customs, withholding taxes, royalties and income tax; 2008: IMF estimate.

**** As Zambia has not produced any oil or gas, we apply Australia's implicit tax rates and sales revenues per km² for the mining sector.

***** World Bank, 2010, World Development Indicators. Download from <http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=135> on 06.06.2010.

Table 4: Data Namibia									
	Unit	2003	2004	2005	2006	2007	2008	Sum or Average 2003 – 2008	
Sales revenues of the extractive sector*	Mio. US\$	684	1,116	1,289	1,845	2,204	2,308	9,446	
Sales revenues of the extractive sector per km ² **	US\$	829	1,353	1,564	2,239	2,674	2,800	1,910	
Corporate income tax – Diamond mining***	Mio. US\$	23	47	31	53	31	61	247	
Royalties – Diamond mining***	Mio. US\$	40	60	63	71	85	55	375	
Corporate income tax – Other mining***	Mio. US\$	0.4	1.2	0.1	52	111	90	254	
Royalties – Other mining ***	Mio. US\$					6	11	17	
Total tax revenues***	Mio. US\$	63	109	95	175	233	218	893	
Implicit tax rates	%	9	10	7	10	11	9	9	
Potential tax revenues 1 (applying Australia's annual implicit tax rates)****	Mio. US\$	21	60	65	206	241	277	870	
Potential sales revenues (applying Australia's ratio of sales revenues per km ²)	Mio. US\$	2,461	2,983	3,526	4,472	5,931	9,169	28,543	
Potential tax revenues 2 (applying Australia's implicit tax rate on potential sales revenues)*****	Mio. US\$	186	147	219	503	659	1,096	2,810	
Net official development assistance and official aid received*****	Mio. US\$	146	173	114	145	205	207	991	
<p>Source: * Chamber of Mines of Namibia, 2010, Annual Review 2008-2009. Download from http://www.chamberofmines.org.na/uploads/media/Chamber_of_Mines_Annual_Review_2009.pdf on 06.06.2010. pp. 80-1.</p> <p>Note: Namibia has not produced any oil or gas. With the exception of 2003, Chamber of Mines of Namibia data nearly similar to data from UN. Note: Fiscal Year from 1 April – 31 March.</p> <p>** Source on land surface: World Bank, 2010, Key Development Data and Statistics. Download from http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,contentMDK:20535285~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419.00.html on 07.01.2010.</p> <p>*** Chamber of Mines of Namibia, 2008, Annual Review 2007-2008. Download from http://www.chamberofmines.org.na/uploads/media/Chamber_of_Mines_Annual_Review_2008.pdf on 21.12.2009. pp. 88-9; Notes: Fiscal Year from 1 April – 31 March.</p> <p>**** Note: As Namibia has not produced any oil and gas, we have applied Australia's implicit tax rates and sales revenues per km² for the mining sector.</p> <p>***** World Bank, 2010, World Development Indicators. Download from http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=135 on 06.06.2010.</p>									

Table 5: Data Ghana										
	Unit	2003	2004	2005	2006	2007	2008	Sum or Average 2003 – 2008		
Sales revenues of the extractive sector**	Mio. US\$	906	932	1,075	1,233	1,589	1,994	7,728		
Sales revenues of the extractive sector per km ² **	US\$	3,798	3,909	4,506	5,169	6,664	8,359	5,401		
Corporate tax from mining***	Mio. US\$	10	15	32	45	51	69	221		
Mineral royalties***	Mio. US\$	22	24	26	34	44	55	205		
Total tax revenues	Mio. US\$	32	39	58	79	94	124	426		
Implicit tax rates	%	3	4	5	6	6	6	5		
Potential tax revenues 1 (applying Australia's implicit tax rates)****	Mio. US\$	68	46	67	139	177	238	735		
Potential sales revenues (applying Australia's ratio of sales revenues per km ²)	Mio. US\$	712	863	1,020	1,294	1,716	2,653	8,258		
Potential tax revenues 2 (applying Australia's implicit tax rate on potential sales revenues)****	Mio. US\$	54	42	63	146	191	317	813		
Net official development assistance and official aid received*****	Mio. US\$	968	1,403	1,147	1,176	1,151	1,293	7,139		
Source: * United Nations Statistics Division, 2010, United Nation Commodity Trade Statistics database UN comtrade. Download from http://comtrade.un.org/ on 06.01.2010.										
Notes: Sales revenues assumed to equal export revenues of the extractive sector, including the following commodity codes (SITC Rev. 3.): 27, 281, 283, 284, 285, 286, 287, 289, 32, 33, 34, 661, 662, 667, 672, 673, 68, 97; Ghana has not produced significant amounts of oil and gas.										
** Source on land surface: World Bank, 2010, Key Development Data and Statistics. Download from http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html on 07.01.2010.										
*** Ghana Chamber of Mines, 2009, Factoid 2008. Download from http://www.ghanachamberofmines.org/documents/FACTOID%2008III.doc on 22.12.2009.										
**** As Ghana has not produced significant amounts of oil and gas, we apply Australia's implicit tax rates and sales revenues per square km for the mining sector.										
***** World Bank, 2010, World Development Indicators. Download from http://dp-ext.worldbank.org/ext/DDPQ/member.do?method=getMembers&userid=1&queryId=135 on 06.06.2010.										

Table 6: Data Australia

	Unit	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Sum or Average 2002/03 – 2007/08
Sales revenues of the extractive sector*	Mio. US\$	33,566	38,785	46,865	58,530	74,996	110,801		363,543
Sales revenues of the extractive sector per km ² **	US\$	4,364	5,042	6,093	7,609	9,750	14,405		7,877
Total tax revenues from the extractive sector	Mio. US\$	4,773	4,565	6,215	9,378	11,290	17,121		53,344
Implicit tax rates of the extractive sector	%	14	12	13	16	15	15		14
Mining sector:***									
Sales revenues	Mio. US\$	22,968	27,837	32,906	41,731	55,342	85,564		266,347
Corporate taxes	Mio. US\$	948	444	912	3,803	5,142	6,878	8,060	18,128
Mineral royalties, etc.	Mio. US\$	789	926	1,128	2,403	3,021	3,346	5,641	11,613
Total tax revenues	Mio. US\$	1,737	1,370	2,041	4,698	6,150	10,224	13,701	26,220
Implicit tax rates of the mining sector	%	8	5	6	11	11	12		9
Oil sector:****									
Operating revenues	Mio. US\$	10,598	10,948	13,958	16,798	19,655	25,237	22,597	97,196
Resource rent tax	Mio. US\$	1,017	934	1,270	1,152	1,398	1,756	2,178	9,724
Production excise and royalties	Mio. US\$	836	853	1,136	1,216	1,409	1,913	1,899	9,444
Company tax	Mio. US\$	1,183	1,409	1,768	2,313	2,334	3,228	4,646	19,168
Total tax revenues	Mio. US\$	3,036	3,195	4,175	4,680	5,141	6,897	8,723	34,814
Implicit tax rates of the oil sector	%	29	29	30	28	26	27	31	28

Source: * Minerals Council of Australia, 2009, Minerals Industry Survey Reports. Download from http://www.minerals.org.au/information_centre/minerals_industry_survey_report/publications2/ on 17.12.09. Australian Petroleum Production Exploration Association Limited, 2009, APPEA Financial Survey Results. Download from http://www.appea.com.au/content/pdfs_docs_xls/Statistics/historical_summary_2006-07_xls.pdf.

Note: Consists of the operating revenues of the mining sector and operating revenues of the oil industry.

** Source on land surface: World bank, 2010, Key Development Data and Statistics. Download from <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html> on 07.01.2010.

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**** Australian Petroleum Production Exploration Association, 2010, Industry Financial Survey Results 1987/88-2008/09. Download from http://www.appea.com.au/images/stories/Statistics/Financial_Survey_2008-09_Results_Final.xls on 05.06.2010. Note: Includes resource rent tax, production excise, royalties & fees and company tax.

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