JUNE 2021



COVID-19 Response and Recovery Mobilizing financial resources for development

DA-COVID-19 project led by Debt and Development Finance Branch, Division on Globalization and Development Strategies (DDFB/DGDS)





Domestic Revenue Mobilization for Sustainable Development in Africa: An analytical framework on direct tax policy for African countries

> Macroeconomic Analysis Section Macroeconomics and Governance Division Economic Commission for Africa Addis Ababa

This document has not been formally edited and does not necessarily represent the views of the UN, UNCTAD, ECA, ESCAP or ECLAC



About the COVID-19 Response and Recovery project

This paper is an output from the project "Response and Recovery: Mobilising financial resources for development in the time of COVID-19", which is co-ordinated by the Debt and Development Finance Branch of UNCTAD and jointly implemented with ECA, ECLAC and ESCAP. This project is one of the five UN Development Account short-term projects launched in May 2020 in response to the COVID-19 crisis.

The project aims to enable low-income and middle-income developing countries (LICs and MICs) from Africa, Asia-Pacific, and Latin America and the Caribbean to diagnose their macro-financial, fiscal, external financial and debt fragilities in the global context, and design appropriate and innovative policy responses to the COVID-19 pandemic leading toward recoveries aligned with the achievement of the Sustainable Development Goals (SDGs).

Abstract

Domestic resource mobilization has received great focus among developing countries due to role it plays in financing development objectives with minimal reliance on foreign aid. The significance of domestic revenue mobilization has been emphasized in the pursuit of development goals as set out in the Agenda 2030 for Sustainable Development and in the African Union's Agenda 2063. The achievement of these development goals hinges on Africa's ability to mobilize sufficient, predictable and timely financial resources. To this end, several reforms have been undertaken to enhance revenue mobilization which has seen the ratio of tax revenues to GDP (excluding natural resource taxes and social contributions) rise steadily from an estimate of 11 percent in the early 2000s to around 16.8 percent in 2018. However, these achievements are likely to be dampened by the effects of COVID-19 which saw many countries adopt some fiscal measures to cushion their economies against the effects of COVID-19. Leading to a contraction in economic activities hence reducing Africa's domestic tax and non-tax revenues due to reduction in tax bases thus reducing tax-to-GDP ratios, as governments reduce taxes in an effort to ensure a resilient economic recovery among countries.

This calls for policy makers are expected to reconsider the policy options which can enhance revenue mobilization. The objective of this paper is therefore to develop an analytical framework which could aid researchers and policy makers in their analysis of a country's direct tax system with the objective of identifying potential revenue mobilization opportunities and challenges to enhance domestic resource mobilization. The ensuing recommendations from such a policy analysis exercise could be adopted into tax policy resolutions and possibly adopted into law by member States.

Acknowledgements

The analytical framework document was produced by the Macroeconomic Analysis Section of the Macroeconomics and Governance Division of ECA, under the overall guidance of the Director of the Division, Batholomew Armah. The team was led by Hopestone Kayiska Chavula and the core team included Christine Awiti, Jean-Paul Boketsu Bofili and Amandine Nyakumuryango. The background paper for the report was commissioned from Jane Muguchu an expert on taxation policy issues.

Contents

List	of Abbreviations and Acronyms	1
EXE	CUTIVE SUMMARY	2
I	INTRODUCTION	4
	1.1 Background	4
	1.1.1 Objectives of the paper	4
	1.1.2 Situation Analysis of the potential implications of Covid-19 pandemic on domes resource mobilization	<i>tic</i> 5
	1.1.3 The trend of the key Macro-economic variables across the sampled countries	8
II	LITERATURE REVIEW	.13
	2.1 Haig-Simons Concept of Income	.14
	2.2 A review of the selected countries' direct tax policy key distinctive features	.14
	2.2.1 Review of Personal Income tax distinctive features	.15
	2.2.2 Review of Corporate Income Tax distinctive features	.15
	2.2.3 Review of withholding income tax distinctive features	.16
	2.2.4 Review of the Thin Capitalization rules	.16
	2.2.5 Review of the Tax Treaties	.16
	2.3 Empirical literature on challenges undermining direct tax revenue mobilization	.17
	2.4 Some case studies on tax policy reforms towards enhancing revenue mobilization	.19
	2.5 Analysis of tax structure in African countries	.22
	2.5.1 Case study 1: Estimating Personal income Tax Gap in the South Africa	.22
	2.5.2 Case Study 2: Estimation of the average taxable capacity of the sampled sub- Saharan African countries	.30
III	ANALYTICAL FRAMEWORK	.30
	3.1 Approach to the assessment of direct taxation systems	.30
	3.1.1 Personal income tax (PIT)	.31
	3.1.2 Corporate income tax (CIT)	.33
	3.1.3 Natural Resource Tax	.34
	3.2 Analytical tools and techniques	.36
	3.2.1 Estimation of Taxable Capacity and Tax Effort	.36
	3.2.1.1 Model Specification for the Traditional Regression Approach	.37
	3.2.1.2 Model Specification for the Stochastic Frontier Approach	.37
	3.2.2 Tax Analysis and Revenue Forecasting	.38
	3.2.2.1 Tax Analysis	.38
	3.2.2.2 Approaches to Tax Revenue Forecasting	.39

	3.2.3. Та	ax Gap Analysis	.42
	3.2.3.1 N	Aicro-simulation model for Estimating the Personal Income Tax (PIT) Gap	.43
	3.2.3.2 Gap	The IMF's RA-GAP methodology for Estimating the Corporate Income Tax (C 44	IT)
	3.2.4 E	Diagnostic Framework for Tax Expenditures	.49
V	POTENT	FIAL OUTCOMES	.50
REFE		S	.52
APPE	INDICES		.55

List of Abbreviations and Acronyms

AR	Autoregressive	
ARCH	Autoregressive Conditional Heteroskedasticity	
ARIMA	Autoregressive Integrated Moving Average	
ARMA	Autoregressive Moving Average	
AU	African Union	
ADB	African Development Bank	
BEPS	Base Erosion and Profit Shifting	
CIT	Corporate Income Tax	
DRM	Domestic resource mobilization	
GARCH	Generalized Autoregressive Conditional Heteroskedasticity	
GOS	Gross Operating Surplus	
GST	General Service Tax	
GDP	Gross Domestic Product	
IES	Income and Expenditure Survey	
IMF	International Monetary Fund	
LIC	Low Income Countries	
MA	Moving Average	
NFS	Non -Financial Sectors	
PAYE	Pay As You Earn	
PIT	Personal Income Tax	
SSA	Sub Saharan Africa	
UNECA United Nations Economic Commission for Africa		
VAR	Vector-autoregressive	
VAT	Value Added Tax	
VECM	Vector-error-correction Models	
WEO	World Economic Outlook	

EXECUTIVE SUMMARY

Domestic resource mobilization (DRM) is considered the most sustainable source of financing development. To this end, a lot of effort has been put in raising non-resource tax revenues in Africa through various tax policy and administrative reforms. This has seen the ratio of tax revenues (excluding natural resource taxes and social contributions) rise steadily from roughly 11 per cent in the early 2000s to around 16.8 per cent in 2018.

An analysis of the revenue to GDP ratio based on selected countries indicates that most of the countries have not yet attained the estimated taxable capacity among African countries which is estimated at 20 per cent of GDP. This implies that there is still room for more revenue mobilization. A further analysis of other key macroeconomic variables such as expenditure as a percentage of GDP and Debt as a percentage of GDP indicate a rising trend. This implies that, more effort is required in enhancing domestic revenue mobilization towards financing the rising expenditure needs of African countries with the objective of achieving economic growth and fiscal sustainability.

The implementation of Agenda 2030 for Sustainable Development and the African Union's Agenda 2063 hinges on Africa's ability to mobilize sufficient, predictable and timely financial resources (ECA, 2016). To this end, domestic resource mobilization has to play a major role in financing the achievement of the Sustainable Development Goals for sustainable development of the countries. This calls for an analysis of the tax structures with the objective of identifying potential revenue mobilization opportunities. This forms the basis of developing this analytical framework which is designed to be utilized by researchers, and tax policy makers in analysing the tax structures of different countries. With this background, the following are some of the analytical tools have been proposed for use in assessing the direct tax policy systems in different countries:

- Estimation of taxable capacity which entails estimating a country's maximum level of tax revenue it can achieve given its existing economic, demographic, institutional and technological conditions. Estimating the tax capacity provides information on the gap between the actual tax revenue collected and the optimal tax revenue. This helps to reveal how much effort a country needs to put in to realize its full potential. It also points out to the sectors of the economy which are key in determining the taxable capacity of the country;
- Tax Analysis and Revenue Forecasting which helps in assessing how the revenue administration of the client country analyses and monitors the performance of its tax revenue streams and how it estimates the impact of tax policy changes using its revenue-forecasting model. The ability to estimate the potential impact of tax policy changes enables the policy makers to evaluate the revenue loss or gain from the various policy options before they are recommended for implementation;

- **Diagnostic Framework for Tax Expenditures** which entails estimating the net present value of the streams of benefits and costs (revenue losses) associated with the tax expenditures. The costbenefit analysis will be used to examine if there has been value for money for the tax expenditures provided in the SSA countries;
- Tax Gap Analysis which involves identifying where the gaps are in the tax system to provide information on the sources of the tax losses. Tax gap analysis helps to decompose two main components: the impact of noncompliance (*compliance gap*), and the impact of policy choices (*policy gap*). The analysis can further be undertaken at sector level thus indicating which sectors have large tax gaps. This will help develop sector-focused policy interventions to reduce the tax gaps thus enhance revenue collections. It is worth noting that tax gap analysis is quite technical and requires a lot of resources and time. This is partly due to the kind of data required to conduct the analysis which is not readily available in most of the countries. Hence it may not be applicable for this UNECA assignment in view of the limited time frame but it's a powerful tool in analysing the tax gaps. Hence in the short run the technical advisors could consider building capacity among the tax policy makers on how to use the tool in estimation of tax gap.

A detailed outline of the steps to be followed in conducting the UNECA missions in the respective SSA countries using the approaches and the analytical framework is provided under **Appendix 1**.

I INTRODUCTION

1.1 Background

Domestic resource mobilization (DRM) is considered the most sustainable source of financing development in developing countries and a lot of progress has been made in raising non-resource tax revenues over the past two decades in Africa. The ratio of tax revenues excluding natural resource taxes and social contributions rose steadily from roughly 11 per cent in the early 2000s to around 15 per cent in 2015. The significant improvement in revenue performance has been attributed to various reforms adopted over the period, some of which include the introduction of value-added tax in several countries, adoption of programs to improve taxpayer services, roll out of electronic filing systems, creation of semi-autonomous revenue agencies, reduction of tax exemptions, and implementation of tax reforms for small businesses (Coulibaly and Gandhi, 2018).

The implementation of Agenda 2030 for Sustainable Development and the African Union's Agenda 2063 hinges on Africa's ability to mobilize sufficient, predictable and timely financial resources (ECA, 2016). To this end, it is envisioned that tax and non-tax revenue at all levels of government should cover at least 75 per cent of current and development expenditure. Some of the proposed strategies towards the achievement of the set target include: putting in place an effective, efficient and transparent national Revenue Authority; developing and implementing proactive frameworks for developing tax policies; putting in place simplified frameworks to widen the scope of tax collection; developing infrastructural capacity for revenue collection maximization and accountability; providing appropriate incentives to improve revenue collection and accounting behaviour of staff; putting in place effective systems for revenue collection audits; building human capacity in revenue collection; educating the public on their obligations towards payment of taxes; putting in place polices that will widen the scope of tax collection in the informal sector; negotiating good revenue sharing arrangements with investors in the extractive industry / promoting policies to maximize revenues due to the state from the extractive industry (AU, 2015). It is therefore imperative, that governments undertake reforms that continue to strengthen domestic resource mobilization in order to attain the development objectives and achieve fiscal sustainability.

1.1.1 Objectives of the paper

The aim of the paper is to develop an analytical framework that could be used to assess African countries' direct tax policies with the view of strengthening domestic resource mobilization towards achieving the countries' development objectives as they transition through and out of the COVID-19 pandemic in the

short run, and as they work towards achieving their long term fiscal sustainability. Specifically, the paper seeksto:

- i. Review selected African countries' direct tax policies (Personal Income Tax and Corporate Income Tax), and enumerate key distinctive features, that could strengthen domestic resource mobilization;
- ii. Produce an analytical framework, with some country examples, that African countries can refer to and use to strengthen their direct tax revenue collection;
- iii. Carry out empirical case studies using existing data to support the policy conclusions; and
- iv. Give alternative policy options for adoption with the aim of identifying those options that could enhance revenue mobilization.

For the purpose of this paper, the selected countries under analysis included; South Africa, Kenya, Cameroon, Senegal, Egypt, Ethiopia and Ghana.

Expected Outcomes

It is expected that the developed framework will be utilised by policy makers and researchers in conducting comprehensive tax policy analysis of the existing tax systems with the aim of identifying revenue mobilization opportunities. The ensuing recommendations from the policy analysis could be adopted into tax policy resolutions and possibly be adopted into law by member States.

1.1.2 Situation Analysis of the potential implications of Covid-19 pandemic on domestic resource mobilization

COVID-19 pandemic has not only affected the health sector but has also had major economic effects through reduction in productivity, and through negative supply shocks following closure of some manufacturing factories. The pandemic has also changed consumers' spending behaviours mainly due to reduction in their income resulting from reduced economic activities and job loss. The service industries such as tourism, hospitality, and transportation have suffered significant losses due to reduction in travel following lockdowns and movement restrictions. The contraction in economic activity is expected to reduce Africa's domestic tax and non-tax revenues through reduction in tax bases thus reducing tax-to-GDP ratios. Moreover, public revenues will decline as governments reduce taxes in an effort to encourage economic recovery, and as tax collections are suspended during the pandemic (OECD, 2020).

An analysis of fiscal policy response to Covid-19 pandemic indicates that, most countries allocated greater proportion of resources to healthcare and virus containment measures, and provided support to vulnerable households through a range of measures. The fiscal packages were aimed at cushioning the immediate impact of the sudden drop in economic activity on firms and households and to preserve countries' productive capacity. Some of the tax related measures adopted included extending deadlines for tax filing, the deferral of tax payments, the provision of faster tax refunds, more generous loss offset provisions, and some tax exemptions, including those from social security contributions, payroll taxes or

property taxes. Countries also implemented wide-ranging measures to help businesses retain their workers through short-time work schemes or wage subsidies. To this end, the effect of Covid-19 pandemic was projected to have a negative effect on revenue mobilization with revenues projected to decrease on average by 2.6 per cent of GDP in 2020 compared to 2019 while the overall fiscal expenditures were projected to increase on average by 0.9 per cent of GDP in 2020, thus increasing the fiscal deficits on average to 7.6 per cent of GDP in 2020. The effect was projected to be large for the oil exporters and tourism dependent countries. Considering the declining global donor funding and unpredictable economic shocks, domestic resource mobilization has to play a major role in financing development and narrowing the financing gap in Africa. This is proposed to be done through: taxing hard to reach sectors such as agriculture, the informal sector and the digital economy; improving mobilization of non-tax revenue; leveraging information technology and digitalization to broaden the tax base, reduce revenue collection costs and improve tax administration; and strengthening policies that tackle base erosion and profit shifting, tax avoidance and tax evasion (ECA, 2019; OECD, 2020).

Fiscal Policy Responses to Covid-19 pandemic across the selected countries

In the wake of Covid-19 pandemic, countries adopted temporary fiscal policy measures to cushion the economies against the potential negative effect of the crisis. The following are some of the measures across the selected countries: In Cameroon temporary tax accommodation measures were provided to businesses directly affected by the crisis. The measures included: tax moratoria and deferred payments, exemptions from tourist tax in the hotel and catering sectors, exemption from withholding tax for taxis and motorbikes and petty traders, allocation of a special envelope of CFAF 25 billion for the expedited clearance of VAT credits awaiting reimbursement, and postponement of the deadline to pay land taxes up to 30 September 2020. In Senegal, the containment measures and the sudden stop of travel and tourism contributed to a significant economic slowdown and worsened by declining export demand and lower remittances. To cushion the economy, the government implemented an economic and resilience package of up to 7 per cent of GDP to improve the health system, strengthen social protection, stabilize the economy and the financial system to support the private sector and employment, and securing supplies and distribution for key foodstuffs, medicine and energy products. Tax policy measures adopted included extending the deadline for paying suspended tax obligations from 12 to 24 months to improve the liquidity of firms. In the case of Egypt, the tax policy measures included the extension of moratorium on the tax law on agricultural land for 2 years, reduction of the stamp duty on transactions and tax on dividends, postponement of capital gains tax, a tax of 1 per cent on all public and private sector salaries and 0.5 per cent on state pensions was imposed and the proceeds were earmarked for sectors and SMEs most affected by the pandemic. The fiscal policy measures adopted in Kenya included allocating a Ksh56.6 million economic stimulus package that included a new youth employment scheme, provision of credit guarantees, fast-tracking payment of VAT refunds and other government obligations, increased funding for cash transfers, full income tax relief for persons earning below the equivalent of US\$225 per month, reduction of the top pay-as you earn rate from 30 to 25 per cent, reduction of the base corporate income tax rate from 30 to 25 per cent, reduction of the turnover tax rate on small businesses from 3 to 1 per cent, and a reduction of the standard VAT rate from 16 to 14 per cent. While some of the tax measures,

including the reduction of top PAYE rate, corporate income tax rate and VAT were reversed effective January 1, 2021. In response to the effects of Covid-19 pandemic, the government of South Africa assisted companies and workers facing distress through the Unemployment Insurance Fund (UIF) and special programs from the Industrial Development Corporation. Additional funds were made available for the health response to COVID-19, workers with an income below a certain threshold received a small tax subsidy for four months, and the most vulnerable families received temporarily higher social grant amounts until end-October 2020. SMEs under stress, mainly in the tourism and hospitality sectors, and small-scale farmers operating in the poultry, livestock, and vegetable sectors were also supported through provision of funds. An official loan guarantee scheme was also introduced to provide bank loans, guaranteed by the government, to eligible businesses. The tax policy measures pursued included accelerated reimbursements of tax credits, allowing SMEs to defer certain tax liabilities, full rebate of customs duty and import VAT exemption on a list of essential goods and a 4-month skills development levy tax holiday. In the case of Ethiopia, some of the approved measures to support firms and employment included forgiveness of all tax debt prior to 2014/2015, a tax amnesty on interest and penalties for tax debt pertaining to 2015/2016-2018/2019, and exemption from personal income tax withholding for 4 months for firms who kept paying employee salaries despite not being able to operate due to Covid-19. The government of Ghana committed a total of GHc 11.2 billion to face the pandemic and its social and economic consequences. Support was provided to selected industries such as pharmaceutical sector supplying COVID-19 drugs and equipment, support to SMEs, building or upgrade of 100 district and regional hospitals. To compensate for larger spending related to the COVID-19 crisis, the government cut spending in goods and services, transfers, and capital investment. In South Sudan, the government allocated a COVID-19 fund of USD8.0 million, of which USD5.0 million was allocated to the Ministry of Health to combat the pandemic. The government also redirected the US\$7.6 million grant to purchase items for COVID-19 prevention and treatment (IMF, 2021).

1.1.3 The trend of the key Macro-economic variables across the sampled countries

This section presents an overview of how the selected countries (Cameroon, Ethiopia, Egypt, Ghana, Kenya, South Africa, Senegal and South Sudan) are performing in regard to the key macroeconomic variables which play a key role in defining an economy's fiscal sustainability. These key macro-economic variables includes gross debt as a percent of GDP, expenditure as a percent of GDP, revenue as a percent of GDP, and GDP for the sampled countries.

Gross debt as percent of GDP

Over the last decade, African countries' average debt-to-GDP ratios increased by about 50 per cent from 39.5 per cent of GDP in 2011 to 61.3 per cent of GDP in 2019. The increase in debt was due to a number of factors, including increasing access to commercial finance by some of the most vulnerable LICs associated with massive global liquidity push factors and the commodity price shocks of 2014 that saw revenues from commodity exports decline significantly.¹ Consequently, the flow of debt widened with a broad increase in fiscal deficits across the continent.² The situation is likely to worsen following the COVID-19 pandemic which hit the developing countries at a time when the risk of debt distress was on the rise. This implies that the expansionary fiscal position resulting from increases in budgetary allocations on COVID–19 related health spending, unemployment benefits, targeted wage subsidies and direct transfers, and tax cuts and deferrals would further widen fiscal deficits in the continent (AfDB, 2020).

A review of the selected countries' debt sustainability position indicates that, **Ghana's** external and overall debt position was classified under high risk of debt distress though sustainable. The shocks from COVID-19 epidemic led to a collapse of oil prices, decline in trade, and lower non-commodity growth and are expected to deepen current account and fiscal deficits over the medium-term resulting in a higher debt path. In **Ethiopia**, the public and publicly guaranteed debt though sustainable but the country was assessed to be at high risk of debt distress. Ethiopia's debt vulnerability is a result of rising debt servicing needs, an overvalued exchange rate and a small export base. **Cameroon** was ranked under high risk of external and overall public debt distress but sustainable, conditioned on the availability of concessional resources and avoidance of additional non-concessional borrowing. The country was exposed to demand and supply shocks due to the slowdown in major trading partners (China and Europe) and falling oil prices. An analysis of the impact of the COVID-19 on debt sustainability in the case of **Senegal** indicated that the risk of debt distress remained moderate and sustainable using the post COVID-19 pandemic scenario as baseline. However, the country's space to absorb shocks narrowed and a more extensive global and

¹ African countries are largely basic commodity exporters, and are therefore vulnerable to commodity price shocks.

² As at 2019, over 50 per cent of African countries had fiscal deficits above the Africa average of 3 per cent of GDP – ECA 'COVID19 in Africa; Protecting Lives and Economies'.

domestic COVID-19 outbreak could lead to a much steeper economic decline in 2020. In the case of Kenya, the risk of debt distress moved from moderate to high due to the impact of the global COVID-19 crisis which aggravated existing vulnerabilities. The crisis led to a sharp decline in export and economic growth which required a strong fiscal response from the authorities thus increasing budget deficits. In the case of South Africa, fiscal deficits have been persistently large due to continued high expenditure despite weakening revenue performance and state-owned enterprises (SOE) bailouts. The government deficit was projected to reach 6.5 per cent of GDP in FY19/20, resulting in significant debt accumulation which was projected to exceed 60 per cent of GDP in FY19/20 thus leaving South Africa with no fiscal space. South Sudan's debt was assessed as sustainable though in high risk of external and overall public debt distress. South Sudan's economy was severely impacted by the sharp decline in the international price of oil which led to lower oil revenues. The pandemic response measures such as travel restrictions, curfews, quarantine, etc., reduced aggregate demand thus limiting non-oil growth. Egypt's debt sustainability analysis indicated that Egypt's debt remained sustainable but projected to increase further in FY2020/21. The debt-to-GDP ratio remains above the benchmark of 70 per cent of GDP for emerging markets and it is projected to increase to about 93 per cent of GDP in FY2020/21(IMF, 2020; IMF, 2021). Figure 1.1 provides the trend in gross debt as a percent of GDP since 2004 to 2020 for the sampled countries.



Figure 1.1 Trend in Gross debt as a percent of GDP

Source of data: IMF World Economic Outlook, 2021

Figure 1.1 shows that the trend of debt as a percentage of GDP for South Africa, Kenya, Cameroon, Senegal, South Sudan, Ghana and Egypt has been on the rise since 2014. Ethiopia's debt-to-GDP ratio was highest in 2004 then declined sharply between 2007 and 2009 before rising again in 2010. Debt as a ratio-of-GDP for all the sampled countries seems to be on an upward trend from 2019 to 2020. Considering the rising debt levels, there is need for more domestic resource mobilization to enable the countries finance their increasing expenditure needs with less reliance on external debts thus preventing the countries from dipping into debt unsustainability levels.

Revenue as a ratio of GDP

A review of tax revenue collection based on an analysis conducted in 2018, indicated that the unweighted average of the tax-to-GDP ratio for 30 African countries (with Ghana, Cameroon, Egypt, Kenya, Senegal and South Africa being part of the sampled countries) was 16.5 per cent in 2018 (OECD/AUC/ATAF 2020). This is below the estimated Sub-Saharan Africa tax capacity of 20 per cent of GDP and that of Latin America and the Caribbean (LAC) average of 23.1 per cent and the OECD average of 34.3 per cent. Africa's relatively low could be due to factors such as inadequate fiscal policy, low taxable capacity of the economies, leakages in revenue collection and weak enforcement and a large informal sector (Coulibaly and Gandhi, 2018).

Direct taxes continue to be a significant source of revenue among African countries with income and profits accounting for 38.7 per cent of tax revenues while personal income taxes and social security contributions account for 24.7 per cent of total tax revenues for Africa on average (OECD/AUC/ATAF 2020). VAT receipts contributed most to the increase in average tax-to-GDP ratio between 2010 and 2018, reaching 5 per cent of GDP in 2018, while income taxes were the second driver reach 6.2 per cent of GDP in 2018.



Figure 1.2 provides the trend in revenue collected as a percent of GDP from 2004 to 2020 for the sampled countries.

Figure 1.2: Revenue trends (as a percent of GDP), 2004-2020

Figure 1.2 indicates that, South Africa, on average, managed to collect over 25 per cent of revenue as a percentage of GDP from the year 2005 to 20219. South Sudan experienced a dip in revenue collection in 2012 and 2015 then a sharp increase in revenue collection from 2016 to 2019. While Kenya, Ghana, Cameroon, Ethiopia and Senegal recorded a performance of below 20 per cent of revenue collected as a percent of GDP. The trend indicates that, revenue as a percentage of GDP dipped in the year 2020 for the sampled countries save for Senegal where revenues increased from 20.2 per cent in 2019 to 21.5 per cent in 2020. Going by the estimated taxable capacity for Africa of 20 per cent of GDP, the trends indicate that; Ghana, Ethiopia, Kenya, Senegal and Cameroon are performing below the estimated potential. Therefore, more effort is required towards identifying more revenue mobilization opportunities to enable the countries attain higher revenue collection to finance the countries development needs and promote economic growth.

Source of data: World Economic Outlook (WEO)



Figure 1.3: Expenditure trends (as a percent of GDP), 2004-2020

The expenditure trend in Figure 1.3 indicates that it has been fluctuating significantly since 2013, with highest expenditure recorded in South Sudan, South Africa and Kenya between 2012 and 2019. The rising expenditure calls for more domestic revenue mobilization to achieve the sustainable development goals with minimum dependence on external debt to finance the countries development.

Changes in Gross Domestic Product

The COVID-19 global pandemic impacted negatively on the economic activities worldwide resulting into a global output decline and large revenue losses in the second quarter of 2020, for many countries. Small and medium-sized enterprises (SMEs) were particularly affected especially those operating in the service sector, with some completely shutting down and some experiencing high turnover. Labour market conditions deteriorated considerably resulting into job losses and reduced work hours. The strict containment measures adopted by governments such as partial lock downs also affected the economies negatively since the markets could not operate optimally (OECD, 2020). The economic shock resulting from the Covid -19 effects was projected to lead to a contraction of the region's economy by –3.0 per cent in 2020 with the largest impact being experienced among the tourism-dependent economies and oil-exporting countries (Figure 1.4). Given the unprecedented scale of the crisis, an ideal fiscal policy mix is necessary to allow greater fiscal space for growth-enhancing reforms to support recovery. To this end, enhanced domestic revenue mobilization will be significant in promoting economic growth.

Source: IMF (World Economic Outlook), 2021



Figure 1.4: Trends in Gross Domestic Product in selected countries, 2004-2020.

Source: IMF (World Economic Outlook), 2021.

The trends in Figure 1.4 indicate an almost constant GDP for Cameroon, Ethiopia, Ghana, Kenya, Senegal, and South Africa over the study period with a sharp decline in 2020. South Sudan recorded an unstable GDP with a sharp rise in 2013 followed by continued decline between 2014 to 2016 then an improvement in 2017 to 2020, which could be attributed to the political instability that prevailed over those years.

Therefore, considering the significant role that domestic revenue mobilization has to play in financing the sustainable development goals, in financing the expenditure needs of the countries and in repaying debts to maintain debt sustainability levels, policy makers must reconsider the policy options which could enhance revenue mobilization. The policy options must take into account the principles of a good tax system which include: achieve horizontal and vertical equity, be based on ability to pay, have stabilising effect, easy to collect, achieve redistribution of wealth from the rich to the poor, be certain and flexible to minimise distortions in the operations of the economy, and at the same time achieve fiscal sustainability.

II LITERATURE REVIEW

This section reviews the Haig-Simons concept of income and the selected countries' direct tax policy with the aim of enumerating the key distinctive features that could strengthen direct tax revenue mobilization to support financing of the countries' development agenda. The section also reviews literature on some of the challenges which undermine direct tax revenue mobilization and the proposed tax policy reforms which could enhance revenue mobilization.

2.1 Haig-Simons Concept of Income

The Haig-Simons concept of income, which stipulates that income tax base is equal to the sum of consumption and change in net worth, has been a standard of income tax theory and policy discussions for a long time. The concept was first advocated by German legal scholar Georg von Schanz and was further developed by American Economists, Robert M. Haig and Henry C. Simons. It has been applied by Economists in attempts to define a comprehensive income tax base. As put across by Bittker (1967), Haig defined personal income as "the money value of the net accretion to one's economic power between two points of time," a formulation that was intended to include the taxpayer's consumption, and that was thought by Simons to be interchangeable with his own: "Personal income may be defined as the algebraic sum of (i) the market value of rights exercised in consumption and (ii) the change in the value of the store of property rights between the beginning and end of the period in question."

In this concept, all inflows and outflows of resources are considered taxable income in a broad sense, including donations and windfall gains. In particularly, what Haig–Simons comprehensive definition of income includes as components of income are: wages and salaries, commissions, profits of privately– owned businesses, dividends, interest income from securities and bank accounts, tips, rental income , transfer payments (such as employment insurance benefits), gifts or inheritances received, income in kind such as the value of free (or subsidized) parking provided by an employer, the value of driving a company car for personal use, frequent flyer miles earned from taking business trips, the value of accommodation in owner–occupied housing, and the net increase in the real value of a person's assets. Therefore, the Haig-Simons definition of comprehensive income tax base will form the basis for the analysis of the personal income tax regimes as discussed in Section 3 and Appendix 1.

It is worth noting that the classic Haig-Simons formulation³ of personal income has been criticized by some authors. For instance, Dodge (2013) pointed out that the concept is contrary to fundamental political values, and raises (unnecessarily) intractable practical problems. According to Dodge (2013), Haig-Simons concept is ambiguous and insufficient as it posits that consumption is an independent category of income and that the "accretion" notion of "changes in wealth" – referring to changes in asset values – cannot be maintained in the face of the realization principle – embraced by Simons - which (on the income side) is widely understood to refer to the receipt of cash or its equivalent.

2.2 A review of the selected countries' direct tax policy key distinctive features

This section reviewed the selected countries' direct tax policy with the aim of enumerating the key distinctive features and highlighting the potential income tax base broadening policy options.

³ Dodge (2013) gives an example of an individual X who begins the year with \$20K of cash, and during the year earns \$50K and consumes \$55K. Under Haig's version, income is \$45K (\$50K earnings less decrease in saved wealth of \$5), ignoring consumption. But the right answer is \$50K, obtained under the Simons definition (\$55K consumption less the decrease in wealth of \$5K). In accounting terms, sources (\$20 + \$50) equal uses (\$55 consumption + \$15 savings).

2.2.1 Review of Personal Income tax distinctive features

Some of the unique features identified from the review of the personal income tax policy among the sampled countries which could enhance direct tax revenue mobilization included: adoption of capital gains tax when the transfer value exceeds the adjusted cost and rental income tax; adoption of withholding tax system; taxation of worldwide income for residents while non-residents are taxed on income derived in their respective countries which is a common feature among all the selected countries. Worldwide taxation is an effective way of addressing tax competition and profit shifting through allocation of taxing rights to destination countries. However, its administration is faced by challenges such as limited exchange of information, which makes it difficult for the developing countries to obtain vital information required in addressing base erosion and stem illicit financial flows. There is also limited technical capacity among the tax administrators in dealing with international taxation which further complicates the administration of worldwide taxation and exploring ways of exchanging tax related information for effective administration. **Appendix 3** provides some of the personal income tax key distinctive characteristics across selected countries.

The base broadening income tax policy options could include:

- Estimating annually the tax expenditure to reveal the revenue forgone as a result of granting incentives. Keeping track of the data on exemptions could be useful in guiding the government in identifying the tax expenditure items which are achieving the intended objectives and remove exemptions where costs exceed benefits;
- Regarding the taxpayers in loss position monitoring is key to establish the validity of such claims before allowing the loss carry forward;
- Adopting withholding tax system. The primary motivation for adopting withholding tax system for
 personal income tax is to reduce tax evasion and to decrease cost of collection to the tax
 administration. Withholding tax system is most commonly used for the personal income tax on
 wages but can also be used effectively for a variety of income and wealth taxes;
- Imposition of capital gains tax and rental income tax.

2.2.2 Review of Corporate Income Tax distinctive features

The common feature among all the sampled countries is in the taxing resident companies on their worldwide income while non-residents are taxed only on the income derived in the country. This ensures all taxable income accrued in the country is subject to tax thus curbing tax avoidance tendencies. The other common feature among all the countries is the deductibility of expenses incurred in the production of income and the loss carry-forward provision. For the loss carry-forward there is some difference on the length of period the loss can be carried forward, with countries such as South Africa allowing loss carry-forward without restrictions and set off against profits until exhausted, as long as the company continues to trade in the year of assessment. The loss carry-forward without restriction may be abused by companies

who may decide to do tax planning and remain in perpetual loss position. Therefore, extra administrative measures like auditing the genuineness of the loss carried forward may be necessary to curb tax evasion.

The corporate rates vary across the countries with some countries with quite high rates while others have low rates. For the countries with very high rates of tax the policy option could be to expand the tax base and consider lowering the rates. This is because high rates could be an indication of targeting a very narrow base, thus overburdening a few, by adopting high rates of tax to mobilize revenue. A**ppendix 4** provides more information regarding the specific countries' CIT policy features.

2.2.3 Review of withholding income tax distinctive features

Use of withholding tax system is a key strategy in ensuring income paid to both residents and nonresidents on royalties, professional fees, contractual fee, on dividends and interest on deposits is subject to tax which minimizes tax evasion. This feature applies to all the sample countries the main difference being the different rates levied on each source of income and on whether the withholding tax is treated as a final tax. More details on withholding tax are provided in **appendix 5**.

2.2.4 Review of the Thin Capitalization rules

Thin capitalization rules are regulations that limit the corporate tax deductibility of interest paid to shareholders. Companies may choose debt over equity financing. To secure tax revenues many countries have introduced thin capitalization rules. A review of the tax policy across the sampled countries indicates that all the countries other than South Sudan have thin capitalization rules in place. More information is provided in **appendix 6**.

2.2.5 Review of the Tax Treaties

According to Holmes (2014), tax treaties assign the right to tax income earned through active business to the source country and the rights to tax passive income (dividends, interest, royalties, fees for services, etc.) to the state of residence of the providers of capital, intellectual property or services. However, lack of capacity and technical understanding of tax treaties may make development of such treaty policy and model treaties a challenge for most sub-Saharan African countries. A successful review of tax treaties requires capacity and technical understanding of how treaties are negotiated to achieve the desired objective. Thus, the first milestone for developing countries would be building capacity in the area of tax treaties and receive technical assistance in the formulation of tax treaty policies and model. This can be offered by experts within the countries themselves or through external support from other countries.

A review of the sampled countries indicated that other than South Sudan, the other countries have signed some tax treaties with various countries with South Africa and Egypt leading with over 50 tax treaties. Of importance to note is that poorly negotiated treaties could lead to significant revenue loss and vulnerability to abusive tax planning. The policy options to safeguard revenue mobilization includes ensuring there is fair distribution of taxing rights taking into consideration the costs and benefits of the treaties undertaken at the negotiation stage. The other policy option in safeguarding tax base is ensuring

that the treaties signed include anti-abuse clauses, conducting the cost-benefit analysis of existing tax treaties, and renegotiating the tax treaties with high costs.

2.3 Empirical literature on challenges undermining direct tax revenue mobilization

This Section reviews some of the literature with focus on the challenges which undermine direct tax revenue mobilization and some of the proposed tax policy reforms which could enhance direct tax revenue mobilization. Some of the documents reviewed included tax policy documents prepared by development partners (IMF, OECD, ADB, World Bank) who play a significant role in supporting developing countries in their efforts to improve revenue mobilization.

ADB (2010) noted that the shallow tax-base in most African countries is eroded further by excessive granting of tax preferences, inefficient taxation of extractive activities and inability to fight abuses of transfer pricing by multinational enterprises. Despite African countries being endowed with vast natural resources, the countries get less money from resources, often due to lack of capacity to negotiate contracts that allow them to generate fair share of rents from natural resource extraction. The other policy challenge among African countries is relying excessively on a few taxes to generate revenues and ineffective urban property tax administration, yet urban property taxes offer large unexploited opportunity for taxation. It is becoming urgent to put in place local tax structures that can grow with urban development and the corresponding need for urban infrastructure. Property income taxes are a natural candidate as they are one of the few types of tax that is progressive, administratively feasible in Africa and that scales up automatically with urban expansion. Whereas a large number of African countries do apply some sort of urban property tax, the general observation is that property taxes yield revenue well below their potential. Thus there is need to improve the balance between different taxes in the long run. Urban property taxes for example, could yield a much higher return. Policy makers should concentrate on ways to deepen the tax base by removing tax preferences, dealing with transfer pricing abuses by multinational enterprises and taxing extractive industries fairly and transparently.

Tanzi and Zee (2000) highlighted some of the tax policy issues encountered in developing countries that undermine tax revenue mobilization as including high levels of exemptions and deductions that tend to narrow the tax base and the tendency to abuse tax incentives by existing enterprises disguised as new ones through nominal reorganization. In considering the constraints on the efficacy of tax incentives, it is suggested that granting of such incentives should aim at promoting certain sectors such as high-technology industries whose development is likely to confer significant positive externalities on the rest of the economy. In the administration of personal income tax in developing countries, the effectiveness of rate progressivity is severely undermined by exemptions and deductions which tend to narrow the tax base and negate effective progressivity. The study recommended that effective rate progressivity could be improved by reducing the degree of nominal rate progressivity and the number of brackets and reducing exemptions and deductions. The other tax policy challenge is in the tax treatment of financial income whereby in many developing countries, interest income is taxed as a final withholding tax at a rate substantially below both the top marginal personal and corporate income tax rate. The study

recommended careful application of final withholding on interest income whereby final withholding should not be applied if the taxpayer has business income, since the business is entitled to full deductibility of interest expenditure resulting to significant tax savings. On taxation of dividends, the study recommended exempting dividends from the personal income tax or tax them at a relatively low rate and treat it as a final withholding tax. Tax policy issues relating to corporate income tax were found to be numerous owing to multiple rates based on sectoral differentiation and the design of the depreciation system. The shortcomings found in the depreciation systems in developing countries includes too many asset categories and depreciation rates. The study suggests as a policy recommendation to group assets that last a long time, such as buildings on one end and fast depreciating assets on the other hand and the depreciation rates should generally be set higher than the actual physical lives of the underlying assets to compensate for the lack of a comprehensive inflation-compensating mechanism in most tax systems. And the declining-balance method should be preferred to the straight-line method since it allows for the pooling of all assets in the same asset category and automatically accounts for capital gains and losses from asset disposals.

IMF (2011) proposed some of the revenue mobilization reform strategies to include eliminating exemptions that forego revenue which can amount to several points of GDP; establishing a broad-based corporate income tax at rates competitive by international standards; extending the PIT base, and ensuring a coherent treatment of alternative forms of capital income; implementing simple but coherent regimes for taxing smaller businesses; strengthening real estate taxes; and developing capacity for tax expenditure and wider policy analysis.

Khaled Abdel-Kader and Ruud De Mooij (2020) reviewed policy choices in the structure of the personal income tax on labor and capital income, taxes on wealth, the corporate income tax, and consumption taxes for inclusive growth. Some of the proposed policy recommendations towards supporting direct tax revenue mobilizations included strengthening property taxes which are considered least distortive for economic growth as their base is immobile and there is scope to exploit this tax by raising tax rates, and updating property values to current market prices especially in developing countries. However, one of the challenges identified among developing countries in the administration of direct taxes which undermine tax revenue mobilization is granting tax exemptions with the aim of attracting foreign direct tax incentives which are generally found to be ineffective and inefficient and their fiscal cost can be high. Surveys undertaken indicate that these tax incentives generally rank low in the list of relevant location factors for multinationals.

Mansoor *et al.* (2018) reviewed the evolution of revenue efforts in six emerging markets (South Africa, Morocco, Turkey, Argentina, Korea and Uruguay) that managed to raise their revenue-to-GDP ratio regularly and sustainably with the objective of guiding Senegal and low income countries on policy options towards revenue mobilization. The sampled countries were selected based on the following features: they experienced regular and relatively smooth increases in revenue excluding grants across the 20-per cent-of-GDP threshold over the 1980–2014 study period; they transitioned from being low-income countries to at least middle income countries during this period; they have no significant oil revenue; they are not very small countries that might be highly dependent on a large neighbouring country and they are not

very large countries which generally have their own peculiar dynamics. The key weaknesses highlighted regarding Senegal included relatively high statutory rates yet the performance of its income tax was weak which signalled either a smaller tax base or lack of control over the existing base and a relatively higher burden on a smaller number, property tax was under used in Senegal yet this base was found to be more important among the sampled countries over the study period. Poor overall revenue performance in Senegal was found to be due to income-related taxes (PIT, CIT, social contributions). The study recommended base broadening through the elimination of tax exemptions, tapping the potential of real estate, improving the taxation of capital income (including capital gains taxes, thin capitalization rules, transfer-pricing guidelines) to enhance revenue mobilization.

OECD (2018) study shows that major tax reforms among OECD countries included acceleration in CIT rate cuts driven by a few large economies including countries with traditionally high rates. Efforts to safeguard corporate income tax base against international tax avoidance continued through anti-avoidance measures and implementation of OECD/G20 Base Erosion and Profit Shifting (BEPS) package, with a few other significant property tax reforms

With regard to international taxation, efforts to protect CIT bases against corporate tax avoidance have received great focus with the adoption of significant reforms in line with the OECD/G20 Base Erosion and Profit Shifting (BEPS) project. Efforts to achieve a consensus-based multilateral solution to address the tax challenges arising from the digitalisation of the economy are ongoing since it is a major concern for many countries in the region. There is also an increased focus on property income taxation (capital gains and rental income tax) compared to previous years. In tackling illicit financial flows African countries were encouraged to having an intergovernmental African position on the negotiation of the inclusive framework which focuses on unified approach to reallocation of taxing rights to market jurisdictions; a Global Anti-Base Erosion Proposal which focuses on tax challenges arising from the digitalization of the economy; a review of tax treaties and aim for more taxation rights since tax treaties that include anti-abuse clauses make tax avoidance through treaty shopping harder (OECD,2020).

2.4 Some case studies on tax policy reforms towards enhancing revenue mobilization

Akitoby *et al.* (2018) conducted a review of tax revenue mobilization episodes in emerging markets and low-income countries with the objective of establishing how countries mobilize large additions to tax revenue. The authors built a novel dataset covering 55 episodes of tax revenue mobilization during which revenue administration and tax policy reforms played a crucial role in increasing the tax-to-GDP ratios. 29 were low-income countries, 18 were emerging markets, and 8 of the countries were resource-rich economies. The key findings from the study indicated that many countries that observed large revenue

increases pursued revenue administration and tax policy reforms in parallel. The tax administration focused on broadening the tax base for both direct and indirect taxes through improvements in compliance and by reducing exemptions and/or eliminating tax holidays. Reduction in exemption was found to be the second most frequent tax policy tool used to mobilize revenue while in more than half of the country episodes, various exemptions were eliminated related to VAT, general GST and CIT. Specific measures included reducing statutory and discretionary exemptions and ending tax holidays. The study also observed that property taxation has not been a common tool to mobilize revenue since it was observed in only 3 percent of cases. This could be explained by the fact that, property taxes have not been broadly implemented in many developing countries due to legal loopholes and weak tax administration capacity, which could limit its application as a policy tool especially at the local level where it is often allocated.

OECD reviewed major tax reforms and tax policy trends across 36 countries including Argentina Indonesia, and South Africa (OECD, 2019). Some of the key reforms identified in these countries included; increases in capital allowances and R&D tax incentives, base broadening policies such as restrictions to loss-carryover provisions, elimination of the allowance for corporate, base expansion and profit shifting (BEPS) and anti-avoidance measures, tax and digitalisation by pursuing unilateral tax measures, enlisting digital platforms in the collection of VAT on online sales and increasing taxes on high-value immovable property.

ITC-OECD (2015) reviewed the reforms carried out by East Asia (Bangla - desh Vietnam and Afghanistan), Europe (Bosnia and Herzegovina, and Georgia), Latin America (Paraguay), and sub-Saharan Africa (Rwanda), the results and the international cooperation that helped achieve them. For Rwanda, the case study focused on policy reforms and tax administration which included enactment of a new income tax law with three tax rates; 0 per cent, 20 per cent, and 30 per cent and elimination of many exemptions in the year 2015. A 4 per cent turnover tax was imposed on intermediate size firms in lieu of adhering to a full profit tax of 30 per cent, which required detailed bookkeeping. In 2012, the income tax law was amended to include a special tax regime for small and micro enterprise (SME) taxpayers. This SME tax regime included a 3 per cent tax on turnover for small taxpayers and four categories of fixed payments for micro taxpayers. From 2001 to 2013, total tax revenues as a share of GDP rose by about half. The revenue increase came about due to improved legislation and strengthened administration, a broadened tax base including an increased registration of taxpayers, and improved compliance. International organizations and bilateral donors provided technical assistance in tax policy and tax administration reform including capacity building and funding IT related services. In the case of Vietnam, the corporate income tax (CIT) rate was reduced from 28 per cent to 25 per cent and further to 22 per cent in 2013 and exemptions were also reduced. The personal income tax (PIT) was modified once by ordinance in 2007 and by a new PIT law in 2009. The major changes in the PIT were to equalize treatment between Vietnamese and resident foreigners, including removal of a number of exemptions. The outcome was improvement of CIT from companies that do not operate in the oil sector, as well as tripling in revenues from the tax on individuals. The change in the PIT law led to broadening of the tax base resulting to a steady rise in revenue. Technical advisory assistance was also provided in the development of an e-Tax Information System, training in risk management for audit, debt collection, refund systems management and transfer pricing/advance pricing arrangement as well as other international taxation issues.

In the case of **Paraguay**, the overall financial and economic situation had deteriorated dramatically from 2000 to 2004. To support revenue mobilization, some of the income tax policy reforms included; establishment of a first personal income tax with a top rate of 10 per cent for persons earning 10 times the minimum wage and 8 per cent on low-income earners. The tax on small business was adjusted to ease administration and compliance. For corporate income tax, the rate was reduced from 30 per cent to 20 per cent, in 2005, and to 10 per cent in 2006. Along with these tax rate changes and the introduction of the new way of taxing agricultural incomes, the new tax law removed many exemptions and loopholes. The tax reforms resulted in increased revenues resulting from broader base and increased compliance despite lower rates. Tax revenues rose steadily from the 8.8 per cent of GDP in 2003 to 10.3 per cent in 2004 and to 12.8 per cent by 2010. International co-operation provided technical assistance in assessing and evaluating policy reforms, which supported the move towards eliminating costly tax expenditures and broadening the tax base.

In **Bangladesh**, efforts to strengthen tax administration led to a gradual reduction in the corporate income tax (CIT) rate from 40 per cent to 27.5 per cent in the early 2000s. The objective was to implement reforms that might increase revenues equivalent to 0.5 per cent of GDP. The tax ratio rose from 7.5 per cent of GDP in 2006 to 9.7 per cent in 2013. The bigger proportion of the increased revenue resulted from income taxes, which doubled from 1.2 per cent of GDP (corporate and personal combined) in 2006 to 2.3 per cent in 2011. The international community played an important role in tax reform through technical guidance to support the reform process which included strengthening enforcement and audit in specialized areas, such as banking, telecoms, and insurance, and the strengthening of the Large Taxpayers Unit to manage and collect tax arrears. **In Bosnia and Herzegovina**, in 2003, the Parliament adopted a law on indirect taxation. The new corporate income tax laws replaced the former profit tax laws and provided lower rates which also reduced loopholes and exemptions. CIT and PIT combined collections rose from only 0.6 per cent of GDP in 2006 to 3.3 per cent of GDP in 2012. In addition, property tax laws were introduced with the intent of clarifying the tax base and increasing revenues. Combining the payment of social contributions with income taxes led to lower compliance costs for taxpayers as well as to higher collection of contributions and personal income taxes.

From this review, the following key challenges and opportunities towards tax revenue mobilization are identified:

Challenges

- Countries get less money from natural resources often due to lack of capacity to negotiate contracts that allow them to generate a fair share of rents from natural resource extraction.
- Relying on a few sets of tax heads to generate revenues and ineffective urban property tax administration yet urban property taxes offer largely unexploited opportunity for taxation.
- Tax challenges arising from the digitalisation of the economy, as the evolution of technology has led to changes in the business models, which has created challenges in the allocation of taxing rights between source and residence jurisdictions for income and VAT purposes.

• High levels of exemptions and deductions that tend to narrow the tax base and abuse of tax incentives by existing enterprises.

Opportunities

- Base broadening through the elimination of tax exemptions and tax holidays
- Tapping the potential of property income taxes
- Improving the taxation of capital income (including capital gains taxes, thin capitalization rules, transfer-pricing guidelines etc.).
- Dealing with transfer pricing abuses by multinational enterprises and taxing extractive industries fairly and transparently.
- Granting of tax incentives should targeting certain sectors such as high-technology industries whose development is likely to confer significant positive externalities on the rest of the economy.
- Developing capacity for tax expenditure and wider policy analysis to keep track of revenue foregone
- Base broadening policies such as restrictions to loss-carryover provisions
- Enlisting digital platforms in the collection of taxes on online transactions
- Review of tax treaties and aiming for more taxing rights

2.5 Analysis of tax structure in African countries

This section presented two case studies involving an analysis of the tax structure using some analytical tools and techniques that can be applied to analyse the direct tax structures with the objective of establishing the shortfalls and opportunities in direct tax mobilization in African countries. This is based on a case study from South Africa, where tax gap analysis approach was adopted in analysing PIT and CIT. In the second case study, Coulibaly and Gandhi (2018) undertook a study to identify the two fundamental drivers of tax revenues mobilization in Africa through estimation of taxable capacity.

2.5.1 Case study 1: Estimating Personal income Tax Gap in the South Africa

This case study shows how Dare *et al.* (2019) used the micro-simulation model to estimate the PIT gap using South Africa's data. The study applies PIT using a progressive structure, with the highest marginal tax rate for the 2018 fiscal year set at 45 per cent. The results show that PIT contributes about 30 per cent of South Africa's total revenue, whereas PAYE contributes over 90 per cent of the total PIT revenue. Non-salaried (non-payroll) income earners pay taxes through provisional tax payment, which constitutes on average of 7 per cent of the total PIT collections. This method allows the taxpayer to pay income tax across the relevant assessment year, as two advance payments are expected, with a possible third payment at the end of the tax year, if required.

The case study uses the Income and Expenditure Survey (IES) data of 2010/2011 survey to estimate South Africa's personal income tax gap. The 2010/2011 survey data used a sample of 25,328 households

collected nationwide. A static micro-simulation model is applied to estimate the PIT gap. To determine the tax liability, exclusions such as in-kind income, unrealised capital gains and imputed rent are removed from the total comprehensive income to arrive at gross income. Exemptions such as the tax-free portion of income (that is, amount below taxable threshold), the tax-free portion of interest, and some pension income (such as war veteran's pensions and disability pensions) are deducted from gross income, after which allowable tax deductions (such as pension contributions, medical contributions, depreciation allowances and donations to an approved public benefit organisation) are subtracted from the income balance, to obtain the taxable income.

The tax due is determined by applying the tax rate schedule to the taxable income. The tax liability is computed as shown in Table 2.1.

Variable	Value
Total (comprehensive) income	XXXX
Less: Exclusions	XXXX
Gross (cash) income	XXXX
Less: Exemptions	XXXX
Deductions	XXXX
Taxable income	XXXX
Multiply by tax rate (%)	XXXX
Tax amount	XXXX
Less: Rebate (Income below the lower PAYE	XXXX
threshold)	
Tax payable	XXXX

Table 2.1 Calculation of personal income tax liability

Source: Dare et al. (2019)

In accordance with the Income Tax Return for Individuals (the ITR12), a tax calculator is developed and a line by line estimation of the tax liabilities is performed. According to Dare *et al.* (2019), the estimated tax amounts are then grossed up to national levels using household weights, where the weight is an inverse of the household's probability of selection. Grossed up tax liabilities are added together to produce the total amount of tax revenue that the state should collect if every taxpayer complies with the tax legislation. The potential tax liability is then calculated from the total taxable income. The discrepancy between these two theoretical tax liabilities (that is, from the gross income and the total taxable income) gives an estimate of the policy gap. The theoretical tax liability derived from the total taxable income is then compared to the personal income tax collections (obtained from SARS). The difference between the estimated potential tax liability is matched against the actual PAYE collections and the difference gives the salaried income tax gap. The theoretical tax liability for non-salaried income is calculated by subtracting the salaried tax liability from the total tax liability for the non-salaried income is then compared with the actual tax liability. The estimated potential tax liability from the total tax liability for the non-salaried income is then compared with the actual tax collections from provisional

taxpayers, and the discrepancy between these two figures is the tax gap with respect of non-salaried income earners.

Dare, *et al.* (2019) found that the government of South Africa could have collected potential tax revenue of up to R449.6 billion from individual taxpayers in 2010/2011 but this was reduced to R316.6 billion due to tax expenditures. The policy gaps for 2010/2011 was R133 billion, meaning that approximately 30 per cent of PIT revenue remained uncollected due to tax expenditures. Relative to the total PIT gap, it is estimated that the policy gap constituted was 84 per cent in 2010/2011. This implies that reducing the policy gap in South Africa would raise a significant amount of revenue.

Dare, *et al.* (2019) also found that the South African government lost R26.2 billion worth of revenue in 2011, which is 8.3 per cent of the potential tax revenue. In 2010/2011, instead of raising R265.1 billion worth of PAYE, the government managed to collect R264.8 billion and lost R0.3 billion through non-compliance (a 99.9 per cent compliance rate). In 2010/2011 the potential tax liability (from taxable income) for non-salaried income taxpayers was R25.6 billion instead of collecting R51.5 billion, implying a tax gap of R25.9 billion and a compliance rate of 49.7 per cent.

Estimating the Corporate Income Tax Gap in South Africa

This section presents the estimation of the 2017 corporate income tax gap for South Africa undertaken by Jansen *et al.* (2020) as an example of using the top-down approach. This case study follows the IMF methodology (by Ueda, 2018) and uses national accounts statistics and tax administrative data to estimate the gap in the non-financial corporate sector. Jansen *et al.* (2020) notes that the SARS and SARB sectoral classifications differ, thus adjusted the SARS sectoral classification to align the tax administrative data with the national accounts statistics by excluding financial and insurance activities from the analysis as shown in Table 2.2 below.

Accommodation and food service activities	Information and communication
Activities of extraterritorial organizations	Manufacturing
Activities of households as employers	Mining and quarrying
Administrative and support service activities	Other service activities
Agriculture, forestry, and fishing	Public administration and defence; compulsory social security
Arts, entertainment, and recreation	Real estate activities
Construction	Transportation and storage
Education	Unspecified
Electricity, gas, steam, and air-conditioning	Water supply, sewerage, and waste management
Human health and social work activities	Wholesale and retail trade; repair of motor vehicles and
	Motorcycles
Professional, scientific, and technical activities	

Table 2.2 Reclassification of the non-financial sector: sub-sectors included

Source: Jansen et al. (2020)

The national accounts data shown in Table 2.3 were extracted from the non-financial sector of the South African Reserve Bank database.

Table 2.3National accounts statistics

CODE	DESCRIPTION
KBP6746J	Generation of income account: Gross operating surplus: Non-financial corporations
KBP6748J	Allocation of primary income account: Interest received: Non-financial corporations
KBP6751J	Allocation of primary income account: Rent received: Non-financial corporations
KBP6753J	Allocation of primary income account: Interest paid: Non-financial corporations
KBP6755J	Allocation of primary income account: Rent paid: Non-financial corporations
КВР6757Ј	Secondary distribution of income account: Non-life insurance claims received: Non-financial corporations
KBP6759J	Secondary distribution of income account: Social contributions paid: Non-financial corporations
KBP6761J	Secondary distribution of income account: Net non-life insurance premiums paid: Non- financial Corporations
KBP6762J	Secondary distribution of income account: Miscellaneous current transfers paid: Non- financial Corporations
KBP6768J	Capital account: Capital transfers received: Non- financial corporations
KBP6769J	Capital account: Capital transfers paid: Non-financial corporations
KBP6772J	Capital account: Change in inventories: Non-financial corporations

Source: Jansen et al. (2020)

The tax administrative data consisted of income statement of the ITR14 tax returns, which provides information on sales and income items such as accounting profit on disposal of fixed assets and/or other assets, interest received, bad debts recovered, levy income, and other income. The expense items in the income statement include items such as accounting losses on disposal of fixed assets and/or other assets; bad debts written off; utility charges (e.g. electricity); repairs, maintenance, insurance, improvements or alterations; travelling and other expenses. The ITR14 tax returns include the tax computation details based on the current tax legislation rules to adjust the accounting profits or losses of corporates to derive the taxable income or loss for the corporate financial year. The net of credit and debit adjustments is added to the national accounts survey data estimates of net financial accounting profits. This estimated total is then adjusted for current year's losses and carried-over losses of previous years.

The concept of the corporate income tax compliance gap is based on two indicators: *the CIT taxable base gap* (the difference between potential and declared corporate income tax base) and *the CIT tax liability gap* (the difference between potential corporate tax liability and the actual corporate tax liability). The potential tax liability is calculated from the gross operating surplus (GOS), which is calculated from national accounts data, which is then compared with the GOS declared by corporates in the tax return administrative data. The first step in the framework is to adjust the GOS to obtain the financial accounting profits of corporates. GOS is the difference between output and the sum of intermediate consumption and primary incomes. Financial accounting profit (FAP) deducts expenses from income, according to accounting standards. Hence, there are items that must be added on the revenue side, and items that must be deducted on the expenses side to calculate the financial accounting profits of companies (FAP). The derivation of receipts and payments used in the calculation of the potential financial accounting profit is as presented in Table 2.4 below.

Non-financial sector	2017	
Gross operating surplus (SARB)	1,008,084	
Plus (+)		
Interest receipts (SARB)	95,333	
Rent (SARB)	642	
Non-life insurance claims (SARB)	39,281	
Capital transfers (SARB)	19,886	
Inventory valuation adjustment (SARB)	2,050	
Sub-total: Receipts	157,192	
Minus (-)		
Interest paid (SARB)	95,807	
Rent paid (SARB)	5,595	
Social contributions paid (SARB)	18,320	
Net non-life insurance premiums (SARB)	39,281	
Miscellaneous (SARB)	5,348	
Capital transfers (SARB)	-59	
Accounting depreciation (SARS)	158,543	
Sub-total: Payments	322,835	

 Table 2.4
 Tax gap analysis—potential tax liability (in Rand million, current year prices)

Source: Jansen et al. (2020)

The additional income receipt items, which are not perceived as output items in the national accounts which include items such as interest receipts, rent, inventory evaluation adjustment, non-life insurance claims, and social contributions are also added. The next step is to deduct expenses that are not recognized as input items in the national accounts, but which are deducted in the financial income statements of corporations. These include items such as interest paid, rent paid, current transfers, social contributions, non-life insurance claims, miscellaneous expenses, and accounting depreciation. After calculating the potential accounting profit, the potential current-year tax base is derived by considering the tax computation adjustments. The net (computation) adjustments to accounting profits and losses of firms are based on the tax legislative rules, and the data are extracted from the ITR14 tax returns. The difference between the debit and credit adjustments is then added to the potential FAP, as shown in Table 2.5 below.

	0047
	2017
Potential Financial Accounting Profit (FAP): Nonfinancial firms	842,441
(NFS)	
Plus (+)	
Net adjustments NFS (SARS)	-205,634
Plus (+)	
Absolute NFS current-year losses	146,452
Potential Current Year Tax Base (C-TB)	783,259
Minus (-)	
Absolute NFS deductions for carried-over losses	58,371
Potential Tax Base (TB)	724,888
SARS assessed data	
Declared tax base NFS (Net profit firms)	404,809
Plus (+)	
Absolute NFS deductions for carried-over losses	58,371
Declared Current Year Tax Base (C-TB)	463,180
Declared CIT liability (NFS)	115,152

Table 2.5Tax gap analysis—declared tax base and tax liability (in Rand million, current year
prices)

Source: Jansen et al. (2020)

A further step towards calculating the potential tax base is the derivation of the potential current year tax base, which is done by adding the current-year losses (after net adjustments, the calculated loss). Since potential liabilities must reflect only the activities of profit-making corporations, it is necessary to add back the absolute value of the aggregate losses for the current year. Finally, the last step in deriving the potential tax base and the potential liability is to deduct the carried-over losses as specified in the CIT legislation. The available ITR14 assessed corporate income tax data contains the assessed taxable income and assessed tax payable by calendar year. Assessed taxable income is the sum of cumulative assessed losses brought forward from prior years and the current year's taxable profits or losses after net adjustments. In the calculation of the tax gap it is a requirement to deduct the portion of the cumulative losses utilized in the current year from the potential current-year tax base, to derive the potential tax base. Utilization of the losses in the current year are limited to the portion of the cumulative losses set against taxable profits after debit and credit adjustments have been applied to the accounting profits of corporate income taxpayers.

The methodology developed to calculate the key variables used in the gap analysis involved the construction of six scenarios at the individual corporate income taxpayer level, using the SARS tax administrative data. The scenarios give information on the company's profit/loss position and whether it is making a calculated profit or loss (after net adjustments). From these scenarios, Jansen *et al.* (2020) calculated applicable net adjustments, aggregate current-year losses, cumulative losses utilized in the current year, taxable income, and taxes paid. If a company is in a calculated profit position, some of the

carried-over losses from previous years can be deducted and if it has taxable income remaining after this deduction, there will be tax payable.

The cumulative losses were deducted from the potential current-year tax base to derive the potential tax base. The potential tax liability was then derived at an average (unweighted) rate of 28 per cent of the tax base. The CIT base tax gap and the CIT tax gap calculations require the derivation of the declared current-year tax base and declared tax liability. Jansen *et al.* (2020) derived the (calculated) declared current-year tax base by adding the (calculated) losses brought forward to the declared taxable base given the calculated current-year tax base. The calculated taxable base was derived from the taxable income in each of the six scenarios and it was aggregated to give the calculated taxable base. The difference between the potential and the current-year tax base gives the CIT base gap, as shown in Table 2.6 below.

Table 2.6 Tax gap analysis—CIT base gap and CIT gap (in Rand million, current year prices)

	2017
Potential Non-financial Sectors (NFS) CIT liability	202,969
Non-financial Sectors (NFS) CIT base gap	320,079
Non-financial Sectors (NFS) CIT base gap / Potential C-TB	40.9%
Non-financial Sectors (NFS) CIT gap	87,817
Non-financial Sectors (NFS)CIT gap / Potential TB	12.1%

Source: Jansen et al. (2020)

Jansen *et al.* (2020) found out that the non-financial Sectors (NFS) CIT base gap as a percentage of the calculated potential current-year tax base was close to 40 per cent in 2017. The CIT gap was above 12 per cent for 2017. Calculation of CIT efficiency ratios entails dividing the tax liability by the reference tax base times the tax rate. The ratios are calculated for the potential and calculated tax liabilities using GOS as the base as shown in Table 2.7 below.

Table 2.7CIT efficiency ratios (in Rand million, current year prices)

	2017
Gross Operating Surplus	1,008,084
Potential tax liability	202,969
Calculated tax liability	115,152
Tax rate	0.28
CIT efficiency ratios	
Potential CIT efficiency ratio	72%
Declared CIT efficiency ratio	41%

Source: Jansen et al. (2020)

The results by Jansen *et al.* (2020) showed that using the potential tax liability gave an efficiency ratio of 72 per cent for 2017. Evidently, South Africa can attain efficiency gains with increased tax compliance.

2.5.2 Case Study 2: Estimation of the average taxable capacity of the sampled sub-Saharan African countries

Coulibaly and Gandhi (2018) assessed the prospects for mobilizing additional tax revenues focusing on three fundamental questions: What factors accounted for the recent increase in tax revenues in Sub-Saharan Africa?; how the current levels of tax revenues compared to the tax capacity of African economies and what policies can the countries in the region pursue to raise additional revenues? The sampled countries included; Mozambique, Swaziland, Togo, Namibia, Botswana, Zambia, Burundi, Madagascar, Nigeria and Chad. The study adopted the stochastic frontier analysis in estimating the average taxable capacity among the sampled countries. The results indicated that, sub-Saharan African countries had a relatively low tax capacity at 20 per cent of GDP, on average, which was the lowest in the world, and almost 10 percentage points below that of OECD countries. This was attributed to the low level of economic development, the large share of agriculture in economic activity and the large size of the shadow or informal economy. The informal economy in the region was found to account for 34 per cent of GDP on average. The results suggested that the benchmark against which to measure revenues collection for most countries in Africa should not be the 24 per cent level of the OECD, but the 20 per cent tax capacity level of African economies.

III ANALYTICAL FRAMEWORK

This section provides a framework for the preparation of technical assessments of tax systems to identify shortfalls and opportunities in domestic resource mobilization in client countries, with a particular focus on the direct taxes. Direct taxes mainly consist of corporate income taxes and personal income taxes (such as Pay as You Earn, rental income tax, capital gains tax, and property tax). Other direct taxes on businesses include resource tax, advance tax, turnover tax, and presumptive tax. The section also discusses the analytical tools and techniques that can be applied to analyse the direct tax structures with the objective of identifying shortfalls and opportunities in direct tax mobilization in client countries.

3.1 Approach to the assessment of direct taxation systems

The assessment to identify domestic resource mobilization shortfalls and opportunities in the client countries will be carried out through a well-structured UNECA Mission composed of UNECA Task Team Leader, technical staff and/or Tax Policy Consultants. Generally, the Mission Team will be expected to identify shortfalls in DRM and the opportunities that could lead to enhanced collection of the direct taxes in African countries. The operationalization of the UNECA Mission's work is detailed in **Appendix 1**.

Before the visit, part of the UNECA Mission Team's preparations will be to review the available materials on direct taxes in target countries, develop forms for data and information gathering, and come up with the questions to assess the various features of a good tax system. The sets of questions in Table 3.1, 3.2, and 3.3 in this section will be used to develop a standardized summary of the tax system features in in African countries. This will be used to gather information/data and to carry out a comparative analysis of the direct tax systems in the countries before the UNECA mission visits. According to Le *et al.* (2016), the features of a good tax system are equity, economic efficiency, revenue adequacy, technical efficiency, stability of tax revenues, and tax neutrality.

3.1.1 Personal income tax (PIT)

Personal income tax is levied on income earned by individuals from different sources, such as wages, interests, dividends and rents. The taxes are often withheld at source and can become the final tax which may be helpful in countries with weak systems of tax administration and compliance (Le *et al.*, 2016). PIT can be designed to be progressive by applying higher tax rates on higher income brackets thus serves well some key principles of a good tax system (that is, the ability to pay, and equity). Le *et al.* (2016) points out that the progressivity in an income tax system can be changed by changing the marginal tax rates, changing the level of standard deduction (zero bracket threshold), and by varying the size of tax brackets and credit schemes. The personal income tax system is made complex by the broad definitions of taxable income, and a number of deductions that include allowances and deductions for family members, medical expenses and charitable contributions. Table 3.1 presents a set of questions for assessment of the personal income tax regime in African countries. These will be used to develop a database for comparative analysis of PIT regimes in the respective countries.

Tax Regime	Information Required	Information source		
Feature				
1. Jurisdiction	Worldwide or Territorial	1. Tax Law (PIT code)		
Dasis		2. Regulations		
2. Rate structure	1. Standard rates 2. Income brackets on which different	1. Tax Law (PIT code)		
	rates apply 3. Number of income brackets? 4. If there are	2. Regulations		
	scheduler tax rates, types of incomes on which they apply			
	with the respective rates.	· - · · · · · · · · · · · · · · · · · ·		
3. Base and	1. Does the tax base include income from all sources:	1. Tax Law (PIT code)		
Exemptions	wage, bonus, overtime payment, rental income, interests,	2. Regulations		
	dividends, income from self- employment, business,			
	commerce, agriculture, industry, transport; income from			
	copyright, franchise, annuity, etc.;			
	2. List of exempt or excluded income with rationale for			
	exemption			
	3. Treatment of pension. Is there a state pension system			
	and how is it coordinated with personal tax? Is			
	contribution to pension funds tax deductible? Is the			
	distribution of income taxable?			
	4. What is the tax basis? Is the preferred tax basis net			
	income (using the Haig-Simons definition) or			
	consumption? How does the country's measurement of			
	taxable income compare with the Haig-Simons			
	comprehensive income definition?			
	5. What about income from capital gains? Are they treated			
	as part of normal income or taxed separately? What is the			
	basis for capital gains tax?			
	6. What percentage of labour force are paying PIT?			
4. Treatment of	1. Definition of resident 2. Does the same tax schedule	1. Tax Law (PIT code)		
non-residents	apply to non-residents or there are differences in	2. Regulations		
	treatment? 3. What about tax on distributed dividends to			
	non-residents?			
5. Deductions,	1. Standard and other deductions 2. List of allowances	1. Tax Law (PIT code)		
allowances and tax	3. Are tax credits available on taxes paid in a foreign	2. Regulations		
credits	jurisdiction? With treaty or without treaty?			
7. Administration /	Withholding methods and types, annual reporting	1. Tax Law (PIT code)		
Compliance	requirements and anti-abuse rules. Filing Status	2. Regulations		
	(individual, joint, tamily, etc.).			

Table 3.1	Questions	for a com	parative a	analysis o	f PIT	regimes

Source: Le et al. (2016) & Author (2021)

Issues of taxation, in general, involve the answer to three questions: (i) Who is the tax payer? (ii) What is the tax base? and (iii) What are the tax rates? For personal income tax, the answer to the first question will be domestic residents who pay tax on some measure of net income and, perhaps, nonresidents who

pay on a gross income basis. The separation of resident and nonresident taxation will clarify the difference between border withholding taxes on nonresidents as final taxes and withholding taxes such as PAYE on domestic residents which, as a matter of method, should be a prepayment for aggregate income.

3.1.2 Corporate income tax (CIT)

Corporate income tax is imposed on the net profit of a company – computed as the gross revenue minus all deductible expenses incurred wholly and exclusively in earning the income or maintaining the assets. Income arising from all sources including business, trading as well as non-business income is included in the tax base. Le *et al.* (2016) points out that most developed countries tax capital gains at the full corporate income tax rate, but a few countries exempt capital gains if reinvested in business. Table 3.2 presents a set of questions for assessing corporate income tax regime in African countries. These will be used to develop a comparative database for African countries' CIT regimes.

Tax Regime	Information Required	Information source
Feature		
1. Accounting	1. Cash or accrual basis? 2. Description of how one	1. Tax Law (CIT code)
	incomeregime	2. Regulations
2. Business	1. Types of entities subject to corporate tax	1. Tax Law (CIT code)
Entities	2. What taxes apply to agricultural activities, small businesses, property income etc?	2. Regulations
3. Jurisdictional	Worldwide or Territorial (including type of territorial)	1. Tax Law (CIT code)
Basis		2. Regulations
4. Rate structure	1. Standard rate 2. Are there reduced rates on some	1. Tax Law (CIT code)
	industries by location or by sector? 3. Are natural	2. Regulations
	resources e.g. minerals, oil and gas subject to higher	3. Mining code; Petroleum
	tax rate?	law
5. Base and	1. Does the tax base include income from all sources:	1. Tax Law (CIT code)
Exemptions	business, trading as well as non-business income?	2. Regulations
	2. List of categories of incomes or businesses that are	
	exempt for indefinite or given number of years	
	3. What percentage/number of businesses are in small	
	and medium category (SME)? Any special provisions	
	for SMEs?	
	4. Clarify the distinction between the tax base, which is	
	comprehensive income, and withholding methods such	
	as PAYE, border withholding, withholding on interest,	
	and other advanced taxes. Can the withholding	
	methods in combination approximate the	
	comprehensive income tax base?	
6. Treatment of	1. Permanent establishment rules. Definition of a	1. Tax Law (CIT code)
non-resident	domestic and foreign entity	2. Regulations
		3. Tax treaty

Table 3.2 Questions for a comparative analysis of CIT regime

companies or	2 Does the same tax regime apply to foreign	
branches	apterprises or there are differences in treatment?	
branches	Foreign Tax Credit allowed in general or by treaty.	
	3. Any differences in treatment of subsidiaries versus	
	branches?	
	4. Does the law have clear provisions on transfer	
	pricing? General description (e.g., OECD)? Any unit in	
	Ministry of Finance (MoF) or revenue authority to deal	
	with this?	
7. Withholding tax	1. Rate of withholding on dividends being repatriated?	1. Tax Law (CIT code)
	2. Rate of withholding on interest or management fees	2. Regulations
	to non-residents?	3. Tax treaty
8. Depreciation	1. What are different depreciation rules for different	1. Tax Law (CIT code)
	asset groups? 2. What industries, sectors are given	2. Regulations
	accelerated depreciation? 3. How is computation of	
	capital gains done?	
9. Tax incentives	1. What kind of incentives are available and to which	1. Tax Law (CIT code)
	industries - lower tax rates, investment allowance,	2. Regulations
	accelerated depreciation 2. Presence of tax holidays,	3. Investment promotion
	investment incentives, investment tax credits? If yes,	law (if applicable)
	are those industries still required to submit their	
	profit/loss account?	
10. Loss carry	1. Loss carry forward rules for indefinite period or given	1. Tax Law (CIT code)
over	number of years?	2. Regulations
	2. Any loss carry backward provisions?	
11.Administration/	1. Type of advanced tax, treatment of flow through	1. Tax Law (CIT code)
Compliance	2. Is there any provision for integrating PIT and CIT?	2. Regulations
	3. Provide clarity on the relationship between PIT and	
	CIT as part of an integrated tax system. Discuss the	
	double taxation of corporate income and the nature of	
	flow-through applications (such as dividend exemptions	
	and gross-up and credits) as applied	
	4. How to integrate the PIT and CIT system if integration	

Source: Le et al. (2016) & Author (2021)

3.1.3 Natural Resource Tax

The tax instruments applied on resource rent generated from the exploitation of exhaustible natural resources such as minerals, oil and gas, comprise of corporate income tax, and additional profits tax or resource rent tax. In this context, how much resource to extract in each time period, and also the quality or grade of the ore is important. Royalty, the main non-tax instrument, can be applied on quantity of mineral, oil or gas just like a unit tax or on revenue at ad valorem rate (Le *et al.*, 2016). Royalty ensures that revenues begin to flow to the government as soon as production starts. Table 3.3 presents a set of questions for assessment of the royalty-income tax regime in African countries. These will also be employed in developing a comparative database for the target countries.

Tax Regime Feature	Information Required	Information Source		
1. Royalty regime	1. Standard rate of royalty 2. Is there a	1. Mining code; Petroleum law		
	sliding royalty regime where the rates may	Tax Law		
	be indexed to the market price of the	2. Circulars issued from time to		
	mineral, oil or gas?	time		
	3. Is royalty linked to revenue only or linked			
	to profits? If it is profit linked how is profit			
	determined for this purpose?			
	4. Distinction between contractual			
	payments (royalties) and taxes (VAT and			
	income tax).			
2. Corporate income tax	1. Income tax provisions related to natural	1. Tax Law (CIT code)		
rate, depreciation rules	resource sector. Tax rate applied to natural	2. Mining code; Petroleum Tax		
and incentives	resource sector? Is it different from the	Law		
	normal CIT rate?	3. Regulations		
	2. Are the same depreciation rules applied			
	to this sector as the normal CIT? Are			
	exploration costs amortized or expensed?			
	3. What percentage/number of businesses			
	are in small and medium category (SME)?			
	Any special provisions for mining SMEs?			
	4. Are there clear Transfer pricing laws and			
	rules and the administration equipped to			
	deal with it?			
3. Tax incentives	1. What kind of incentives are available to	1. Tax Law (CIT code)		
	this sector – investment allowance,	2. Mining code; petroleum tax		
	accelerated depreciation?	law 3. Investment promotion		
	2. Any tax holidays? If yes, are the mines or	law		
	oil wells still required to submit their			
	profit/loss account?			
4. VAT	1. Is there any special treatment of VAT	1. VAT law.		
	regarding extractive industry (e.g., rates,	2. VAT regulations.		
	exemptions, treatment of refunds on	3. Other related		
	investment/imports, exports and domestic	laws/regulations governing the		
	sales)?	VAT on extractive industry.		
5. Small and artisanal	1. Are there special royalty rate for this kind	1. Tax Law (CIT code)		
mining	of mining	2. Mining code		
	2. Are there special income tax provisions			
	tor this kind of mining			
Other types of taxes	What other types of taxes or nontax fiscal	1. Lax type specific laws and		
	instruments as applicable to extractive	regulations.		
	industry (e.g., land rent, application,			
	registration fees and stamp duties, property			

Table 3.3Questions for a comparative analysis on the design of natural resources tax and
royalty

taxes). What about contract terms such as stabilization clauses, among other provisions.	
Note: The mineral contract analysis should	
be extended beyond the taxation of mineral	
enterprises.	

Source: Le et al. (2016) & Author (2021)

As indicated before, the set of questions in the above tables will be useful in developing a comparative database for the respective target countries. This will form a basis for identifying the shortfalls and opportunities in the direct tax systems of the countries for a fruitful engagement during the country visits. This baseline information is necessary to the UNECA Mission Team's preparations for the evaluation of the direct tax policies for the respective countries. The comparative analysis of the tax regimes will inform the discussions during the initial visits to understand the direct tax policy and administrative structures, as well as the concerns on the tax system from stakeholders such as local policy makers and the taxpayers.

3.2 Analytical tools and techniques

This section discusses a menu of analytical tools and techniques that can be employed to analyse the various aspects of domestic resource mobilization in a country. However, some of the tools (such as tax gap analysis) are quite technical, requiring a lot of resources and time to deploy. Hence, they may not be applicable in the current UNECA project in view of the timelines and resource allocation. Therefore, in this assignment it may not be a reasonable use of resources to do the type of empirical tax gap analysis described in this section. The specific tools to be deployed in the current assignment are provided in the discussions on how to operationalize the project (see Appendix 1).

3.2.1 Estimation of Taxable Capacity and Tax Effort

Taxable capacity refers to the maximum level of tax revenue that a country can achieve given its existing economic, demographic, institutional and technological conditions. Taxable capacity captures the amount of tax revenue that a government could possibly raise given its tax system structure and the degree of enforcement (Besley and Persson (2013). Estimating tax capacity provides information on the gap between the actual tax revenue and the optimal tax revenue, revealing how much effort a country needs to put in equipping the tax sources. Tax capacity estimates will show the extent of tax revenue shortfalls in a country. Further analysis at sector level will provide a clear picture of the sectors with large tax gaps. This will be useful to the local policy makers in formulating strategies to reduce the tax gap. Ideally, the level of taxation that can be reached in a given country. Implying that tax capacity is mainly determined by some inherent features of the economy such as per capita income, rate of population growth, trade openness, share of agricultural value added in GDP, natural resource endowment, and quality of bureaucratic and political institutions (Le *et al.*, 2016). Therefore, review of these macroeconomic and institutional variables and how they affect tax capacity in respective countries will help in proposing

policies to improve on the tax capacity of African countries. This applies to the analysis on tax effort as well.

Tax effort is defined as the ratio of the actual tax revenue to gross domestic product (GDP) of a country. However, Fenochietto and Pessino (2013) defined tax effort as the ratio of tax revenue to tax capacity. Tax effort is one of the useful indicators in capturing the economic efficiency of the tax system. This implies that the tax system does not discourage work, savings and investment in the economy - does not slow long run economic growth. Where sectoral data is available, the tax efforts can be computed at sector level to inform a sector-specific policy and administrative actions to enhance domestic resource mobilization.

3.2.1.1 Model Specification for the Traditional Regression Approach

In developing the model, the principal premise of the specification is that, the tax revenue capacity of a country is determined by economic factors, demographic and institutional characteristics. In an operating environment with no inefficiency, a country's tax administration collects tax revenue as a function of its determinants as shown in equation 3.1.

Assuming that function $\oint (\chi t, \beta)$ is linear in logs, and that there are k inputs defining the country's tax base where *T*t represents a ratio of tax revenue to GDP, while χt represents a matrix of variables affecting the country's potential revenues, while β represents the coefficients. The specific form of the equation is as shown in equation 3.4.

Whereby: the β s represents the coefficients while X_{i (i=1,2,3...)} represents the variables which determine the country's potential revenue.

3.2.1.2 Model Specification for the Stochastic Frontier Approach

Assuming that there is no inefficiency, a tax administration collects tax revenues $Tt= f(\chi t,\beta)$. Stochastic frontier analysis assumes that a tax administration collects less revenue than it might due to some degree of inefficiency which is, $Tt=f(\chi t,\beta)\xi t$. Where $\xi = (0,1)$ is the level of inefficiency in revenue collection. If ξ

=1, the tax administration is collecting optimal amount of tax revenues using the available inputs χ t. When $\xi < 1$, the tax administration is not making the maximum use of the available inputs χ t. The tax collection Tt is assumed to be strictly positive and the degree of technical inefficiency is also assumed to be strictly positive ($\xi > 0$). Tax revenue collection Tt is also assumed to be subject to random shocks. Therefore, the tax revenue equation can be expressed as;

$Tt= \oint (\chi t, \beta) \xi t \exp(vt)$. 3.5
Taking the natural log of equation 3.5 yields equation 3.6	
ℓn(<i>T</i> t) = ℓ <i>n</i> [∱(χt,β)] + ℓn (ξt)+ <i>v</i> t	3.6
Assuming that $\oint (\chi t, \beta)$ is linear in logs and defining ui =- ℓ n (ξ t) yields ℓ n(T t) = ℓ n[$\oint (\chi t, \beta)$] + v t - ut3.7	
The specific form of the equation is therefore as shown in equation 3.8	
$vn(Tt) = \beta 0 + \beta 1 vnX_i + + vt- ut$	3.8

Whereby; *T*t represents a ratio of tax revenue to GDP, while $X_{i \text{ (i=1,2,3...)}}$ represents a matrix of variables affecting the country's potential revenues as discussed in the traditional regression approach. The inefficiency effect ut lowers the tax collection from the potential level. The model assumes two distributions for the inefficiency term whereby u_t is independently half-normally N+(0,) distributed, and in the second case u_t is independently exponentially distributed with variance σu_2 .

3.2.2 Tax Analysis and Revenue Forecasting

It is important to assess how revenue administration in the client country analyses and monitors the performance of its direct tax revenue streams and how it estimates the impact of tax policy changes using its revenue-forecasting model. Assessing the revenue performance and forecasting of revenues serve three related but distinct budgetary purposes: (i) short term cash management within a financial year, (ii) medium term budgeting, and (iii) tax expenditure forecasting (Le *et al.* (2016).

3.2.2.1 Tax Analysis

In carrying out an analysis of the performance of the direct taxes, outline the revenue performance from different tax heads for a specific period (Monthly, quarterly or annually), and highlight the revenue performance per tax head (outlining drivers of revenue growth and declines). The results of the tax analyses can be reported as shown in Table 3.4 below.

	Month (E.g. April	2021)		Quarter	(E.g. 1 st Q	uarter)2021		Annual	(January -	December 2	2021)
Tax Head	Actual	Target	Variance	Growth	Actual	Target	Variance	Growth	Actual	Target	Variance	Growth
CIT												
Pay as You												
Earn												
Rental												
income tax												
Capital												
gains tax												
Advance												
tax												
Turnover												
tax												
Resource												
tax												
Royalties												
Total												

Table 3.4: Direct Tax Revenue Performance Analysis
--

When carrying out the assessment, will be important to establish the level of revenue monitoring in the countries and the tools applied in monitoring revenue collections (daily, weekly, monthly, quarterly and annually). Table 3.4 will form a basis for evaluating how the countries monitor their revenue performance. These simple revenue tracking tools can also be used as a basis for developing simple short-run forecasting tools to help the revenue administrators know whether they are off-track or on-track in achieving their annual revenue targets. This will inform them about the need to promptly come up with interventions to improve revenue performance. It is also important to understand if the countries explain the revenue performance context that primarily focuses on operating (economic) environment, tax policy changes (report revenues resulting from tax policy changes), and sector specific issues. These revenue monitoring reports (if available) will help in identifying opportunities and challenges that could lead to tax policy reforms and hence increase in revenue collection. Also establish whether the countries outline both positive and negative revenue growth areas and the revenue expectations for the next period (next month, next quarter, next year).

3.2.2.2 Approaches to Tax Revenue Forecasting

The ability to estimate the potential impact of tax policy changes enables the policy makers to evaluate the revenue loss or gain from the various policy options before they are recommended for implementation. It is therefore important for the UNECA Mission to establish how countries forecast their tax revenues and monitor the impact of the tax policy changes. This will inform the need to develop the technical capacity of the country's Revenue Authority and the National Treasury to improve on their budgeting process and revenue target setting using accurate revenue forecasting tools. Most importantly, improving tax revenue forecasting capabilities will enable the countries to better monitor the impact of tax policy changes and to undertake policy reversals where necessary (for policies with unexpected adverse effects on other revenue streams).

Approaches to tax revenue forecasting include:

- Naive Approach judgmental Approach
- Incremental Approach Extrapolation, trend analysis
- Causal Approach Effective tax rate, tax elasticity (point elasticity & elasticity from regression models)

Naive Approach is based on judgements or 'guesses' about the trends in the revenues that can be expected from each category. The judgements can be provided by experts or by consensus among interested stakeholders who are involved in some way with the tax source and can make reasonable assessments of what is likely to happen in the future (Kavanagh and Iglehart, 2012). The incremental approach involves extrapolation, that is, projection of future values based on extending a known sequence of values or facts beyond what is already known. Extrapolation can be carried out using simple mean, weighted mean, trend analysis or exponential smoothing. The causal approach involves establishing the causal relationship between the tax receipt and the tax base stated in law (or proxy tax base). This can be done using effective tax rate or tax elasticity. Tax elasticity is the automatic response of tax revenue to changes in the tax base less the discretionary tax changes. Tax elasticity measures the elasticity of tax revenue at a particular point in time and can be employed when there is no adequate historical data to carry out a time series analysis (use the regression method). This can be computed using the following formula:

 $Point \ Elasticity = \frac{\% \Delta \ in \ Tax \ Revenue \ at \ Time \ t, at \ constant \ policy}{\% \Delta \ in \ Proxy \ Tax \ Base \ at \ Time \ T}(3.9)$

Tax revenue forecasting using point elasticity is given by:

Projected $\%\Delta$ *in Revenues = Elasticity Assumption x Projected* $\%\Delta$ *in Proxy Tax Base.......*(3.10)

Projected Revenues for Time t=1 = Revenues at Time t (1 + Projected % Δ in Revenues).....(3.11)

Tax elasticity can also be estimated through a regression. In a regression procedure, the tax receipts are related to the tax base or proxy tax base, mostly gross domestic product (GDP) or other relevant macroeconomic variables (Gamboa, 2002). The generated tax elasticity is then employed in a spread sheet model to forecast tax revenue. Additionally, tax revenue forecasting is done following some common assumptions. These assumptions are consistent with macroeconomic variables like growth in the GDP (national income), wages and salaries, final consumption, imports and exports, inflation rate, exchange rates and interest rate among others. The following steps put forward by Hannon, Leahy and O'Sullivan (2015) summarize the process of tax revenue forecasting:

Step 1: Estimate outturn for year t (outgoing year) and form base for year t+1. The assessment is based on revenue performance in year to date, likely performance over remaining part of year, and close interaction with revenue offices on emerging trends. Assess revenue growth trends and specify forecasting assumptions.

Step 2: Adjust for once-off factors which artificially inflated/deflated year t tax receipts

Step 3: Capture carry-forward effects of previous year's budget measures.

Step 4: Apply macroeconomic driver (projections/assumptions) and elasticity factor, where appropriate and generate a forecast.

Step 5: Capture impact of new policy measures in year t+1 (for example, increase in tax rate) and adjust the forecast obtained in step 4 above.

The tax revenue forecasting procedure can be summarised using the following equation borrowed from Hannon, Leahy and O'Sullivan (2015), with some modification:

 $Rev_{t+1} = (Rev_t - D_t)(1 + TB_g.E)) + D_{t+1} + PM_{t+1}$ (3.12) Where:

 Rev_{t+1} - is the one year ahead forecast for a particular tax head

 Rev_t - is an estimate of the tax yield for that tax head in the current year, which is the year in which the forecast is made

 D_t - are one-off (temporary) items and/or discretionary changes affecting the tax yield in the current year

 TB_g - the projected growth rate in the appropriate macroeconomic variable/tax base (that is the main economic variable that drives the tax receipts) for a particular tax for the year ahead

E - is the elasticity measuring the responsiveness of tax revenue to the tax base (or effective tax rate can be used in instead of elasticity)

 D_{t+1} - are one-off items and/or discretionary changes affecting the tax yield in the coming year PM_{t+1} – are effects of policy measures/changes. They are the estimated tax yield from any changes in public or tax policy affecting tax receipts for a particular tax head in the coming year

The model in Equation 3.4 can be deployed on a spreadsheet and used to forecast tax revenue. This model is easy to use since it doesn't require a lot of historical data. However, where adequate time series data is available there are a number of regression models that can be employed in the tax revenue forecasting. These models include: Autoregressive (AR), Moving Average (MA), Autoregressive Moving Average (ARMA), and Autoregressive Integrated Moving Average (ARIMA) models; Vector-autoregressive (VAR) and Vector-error-correction (VECM) Models; Autoregressive Conditional Heteroskedasticity (ARCH) & Generalized Autoregressive Conditional Heteroskedasticity (GARCH) Models.

In the assessment of revenue forecasting model and procedures, the following three factors should be considered (Le *et al.*, 2016):

- The institutional set up and who prepares the forecast? In most developing countries, this is done by the tax policy unit in the Ministry of Finance.
- Who is responsible for making the economic forecasts? The projected macroeconomic performance of the economy is a crucial parameter in all the forecasting models.
- How good is the data and who maintains it? For the various revenue forecasting models, a variety of good quality data from different sources are needed such as the data on tax revenues,

imports/exports and other trade data, input-output tables, household consumption and income data.

3.2.3. Tax Gap Analysis

It is important to identify where the gaps are in the tax system to provide information on the sources of the tax losses. Tax gap analysis helps to decompose two main components: the impact of noncompliance (*compliance gap*), and the impact of policy choices (*policy gap*). The analysis can further be undertaken at sector level thus indicating which sectors have large tax gaps. This helps to develop sector-focused policy interventions to reduce the tax gaps and to enhance revenue collections. It is worth noting that tax gap analysis is quite technical, requires a lot of resources and time, and thus may not be applicable in the current UNECA project in view of the timelines and resource allocations. Therefore, in this assignment it may not be a reasonable use of resources to carry out the empirical tax gap analysis described. However, it is important to highlight that it is one of the analytical tools that can be applied to identify compliance gaps and policy gaps in the direct tax systems.

In the IMF's RA-GAP framework, the tax gap is broadly defined as the difference between potential revenue from underlying economic activities and actual revenue. Tax gap can be decomposed into *compliance gap*, and *policy gap*. As defined by Thackray *et al* (2019), the compliance gap is the difference between the potential tax given the current policy framework and actual tax revenue. Compliance gap comprises the revenue loss due to non-filing, underreporting, underpayment, taxpayers' misunderstanding of tax legislation, and tax authorities poor record-keeping among others. The compliance gap thus directly measures the performance of a revenue administration in collecting the tax due from taxpayers. The International Monetary Fund refers to the policy gap as the difference between theoretical revenue, given a hypothetical policy framework and potential revenue, given the current policy framework.

According to Ueda (2018), there are two main approaches that can be used to identify the direct tax gaps:

- Top-down approach: the top-down (or macro-) approach relies on macro-economic data to
 provide a comprehensive assessment of all tax revenue foregone through noncompliance by
 measuring the gap as the difference between actual base and revenue, and estimated potential
 base and revenue. This is to be estimated using the IMF's RA-GAP framework for CIT gap, which
 makes use of Gross Operating Surplus (GOS) and makes appropriate adjustments to reflect
 conceptual differences from the potential CIT tax base and liabilities.
- Bottom-up approach: the bottom-up approach (micro-approach) uses individual-level data
 obtained from tax audit records and household surveys. For instance, results of random audits or
 operational audits targeted by some criteria, or other interventions by tax authorities, can be used
 to quantify the impact of specific noncompliant behaviours. However, results of audits need to be
 interpreted with possible non-detection biases due to differences in the capacity of auditors
 and/or the scope of audits.

3.2.3.1 Micro-simulation model for Estimating the Personal Income Tax (PIT) Gap

The micro-simulation model consists of constructing tax calculators based on the PIT guidelines to produce a line by line estimation of the tax liabilities on all positive taxable income. The aim is to estimate the policy gap in the PIT regime, which is the difference between the theoretical tax liability from the gross income and the theoretical tax liability from total taxable income. On the other hand, the compliance gap is estimated by the difference between the theoretical tax liability from and the actual revenue collections.

As applied by Dare *et al.* (2019) in estimation of PIT in South Africa, the process is as follows:

• The tax calculator is applied to gross income (inclusive of tax expenditures) to obtain the amount of tax revenue the state would collect in the absence of tax expenditures such as rebates or deductions for medical expenses. Taxable income is computed as the difference between gross income (*Y_i*) for individual *i* and the total deductions for the individual:

 $Taxable Y_i = Gross Y_i - Deductions_i$ (3.13)

• The tax liability (X_i) is then calculated by applying the tax rates and the rebates to taxable income (Y_i) for the year of assessment. The tax liabilities are grossed up to national level (N) figures using household weights (w_i), where the weight is an inverse of the household's probability of selection. These are then aggregated to generate the theoretical tax liability for taxable income in the country:

• To establish the compliance gap, the actual revenue collections (R_c) are subtracted from the theoretical tax liability from taxable income($\sum_{i=1}^{N} w_i X_i$):

Compliance $Gap = \sum_{i=1}^{N} w_i X_i - R_c$(3.15)

- More particularly, the tax calculator can be applied to payroll income to estimate the theoretical tax liability for payroll income (PAYE). The estimated potential tax liability is matched against the actual PAYE collections and the difference gives the payroll income tax gap. The theoretical tax liability for non-payroll income is calculated by subtracting the payroll tax liability from the total theoretical tax liability from taxable income. The tax gap for non-payroll tax is then estimated by the difference between potential tax liability for the non-payroll income and actual tax collections from provisional taxpayers.
- To establish the amount of tax (G_i) the government would collect in the absence of tax expenditures, the tax liability for each household is calculated by applying the tax rates to the gross income for the year of assessment. The tax liabilities are grossed up to the national level (N) figures using household weights to generate gross theoretical tax liability from gross income:

Gross Theoretical Tax Liability from Gross Income = $\sum_{i=1}^{N} w_i G_i$(3.16)

• The difference between the two theoretical tax liabilities (from the gross income and the total taxable income) gives an estimate of the policy gap:

Policy
$$Gap = \sum_{i=1}^{N} w_i G_i - \sum_{i=1}^{N} w_i X_i$$
......(3.17)

Where $\sum_{1}^{N} w_i G_i$ is the theoretical tax liability from is gross income and $\sum_{1}^{N} w_i X_i$ is the theoretical tax liability from total taxable income.

Data required to measure the PIT Gap

This requires individual-level data obtained from tax audit records or household surveys mainly consisting of:

- Amounts of income from the various sources
- Deductions and exemptions such as disability pensions, medical expenses and medical aid, pension fund contributions, retirement annuity fund contributions among others

3.2.3.2 The IMF's RA-GAP methodology for Estimating the Corporate Income Tax (CIT) Gap

The macro-approach for estimating the CIT gap is based on the IMF's RA-GAP methodology for CIT gap, which has the advantage of using available data⁴ without additional costs of collection and suits initial evaluations of overall CIT noncompliance in a country. However, as pointed out by Ueda (2018), the top-down approach assumes a simple, static model measuring the compliance and policy gaps given current levels of economic activities shown in statistical data. The gap estimates are therefore indicators of the efficiency of tax administration and policy, rather than exact estimates of additional revenues under greater administrative efforts and different policies. Ueda (2018) warns that the top-down approach requires a basic condition that the macroeconomic data are compiled independently of declared tax base and liability. Also, it is important to understand how national accounts data are constructed to include unobserved economic activities.

The RA-GAP framework for CIT gap starts from Gross Operating Surplus (GOS) and makes appropriate adjustments to reflect conceptual differences from the potential CIT tax base and liabilities. The conceptual differences between GOS and the actual tax base (TB) of CIT can be classified into three categories:

- D1, which is the difference between Gross Operating Surplus (GOS) in national accounts and the aggregate financial accounting profit (FAP) of CIT taxpayers,
- D2, which is the difference between aggregate financial accounting profit (FAP) and aggregate current year net tax base (C-NTB), and

⁴ The data requirements for estimating CIT gap are indicated in Appendix 2.

• D3, which is the difference between aggregate current year net tax base (C-NTB) and aggregate tax base (TB) after considering losses and effects of carry-over losses.

By adjusting Gross Operating Surplus (GOS) by the estimates for D1, D2 and D3, the aggregate potential FAP, C-NTB, and TB are estimated, and finally the potential CIT liability is calculated. The steps for estimating the CIT compliance and policy gap is as follows:

Step 1: Determine the Scope of the CIT gap

Determine the target segments of the economy depending on the coverage of CIT legislation with regard to business entities, and availability of detailed data. Ueda (2018) points out that in national accounts, any incorporated (legal) entities producing market products as residents are classified as corporation (S11 or S12), and such entities usually consist of most part of the whole entities subject to corporate income tax in a country. However, due to practical difficulty in estimating potential CIT base/liability for S12 (financial corporations), it can be reasonable to limit the scope of the CIT gap to S11 (non-financial corporations).

Step 2: Adjust for Entities without CIT Obligations

Retrieve the corresponding Gross Operating Surplus (GOS) data for corporations from national accounts, and then adjust for incomes of entities not subject to CIT as per the country's CIT legislation.

Step 3: Adjustments on Gross Operating Surplus (GOS)

Gross Operating Surplus (GOS) is calculated from output by subtracting input (intermediate consumption) and primary incomes directly allocated to employees and government (compensation of employees and taxes on production and imports minus subsidies). On the other hand, aggregate financial accounting profit (FAP) is calculated as the difference between revenues/incomes and expenses/costs following definitions of accounting standards. There are many differences that can be categorized in revenue side (differences between output and revenue/income) and expense side (difference between input/ primary incomes and expense/cost). In particular, Ueda (2018) noted that GOS does not include any effects of changes in asset prices because they are recognized as changes in the valuation of existing assets, and not regarded as newly created value added.

To adjust for the conceptual differences between GOS and aggregate FAP, it is necessary to consider individual items and estimate the adjustments needed item by item using available data. In Table 3.5, the positive adjustments show what should be added to GOS to estimate potential aggregate financial accounting profit (FAP), whereas the negative adjustments show what should be subtracted from GOS to estimate potential FAP. These adjustments are for estimating the potential aggregate financial accounting profit. However, when the adjustments are compared across countries, they will reveal how different countries treat the expense items in their CIT regime. Thus could indicate possible tax policy reforms in computing aggregate financial accounting profit in the SSA countries.

Positive Adjustments to GOS	Negative Adjustments to GOS		
Interest (receipt)	Interest (payment)		
Distributed income of corporations (receipt)			
Other investment income (receipt)	Other investment income (payment)		
Rent (receipt)	Rent (payment)		
Current transfers (receipt)	Current transfers (payment)		
Capital transfers (receipt)	Capital transfers (payment)		
Inventory valuation adjustment	Depreciation		
Capital gains	Capital losses		
Profits of foreign branches			
Other adjustments:	Other adjustments:		
• Other items that are recognized as input in	• Other items which are not recognized as		
national accounts but not treated as	input but treated as accounting		
accounting costs/expenses include: cost of	expenses/costs are: current expenditure		
trading and issuing securities.	for R&D and software, provisions of		
• Other items which are not recognized as	allowances and reserves, stock options		
output in national accounts, but treated as	to employees.		
accounting incomes/revenues include:			
reversal of allowances/ reserves.			

Table 3. 5: Adjustments to GOS to Estimate Potential Aggregate Financial Accounting Profit (FAP)

Source: Ueda (2018)

Step 4: Adjustments to Potential Financial Accounting Profit (FAP)

In calculating CIT base of individual corporations, there are several mandatory differences between financial accounting profit (FAP) and taxable income under CIT legislation. At the aggregated level, adjusting these differences to the potential FAP results in the aggregate potential net tax base for the current year (C-NTB).

Table 3.6Adjustments to Potential FAP to Estimate Potential Net Tax Base for the Current Year
(C-NTB)

Positive Adjustments (include specific items that cannot be deducted in calculating taxable income but accounting standards allow them to be deducted in calculating FAP)	Negative Adjustments (include specific items that can be deducted in calculating taxable income but accounting standards do not allow them to be deducted from FAP)			
Limitation on deductible donation amounts	Receipt of dividends			
Limitation on deductible interest	Bad debt expenses			
Limitation on deducting entertainment expenses	Negative differences between accounting			
	depreciation and tax deprecation			
Limitation on deducting fines and penalties	Deductions for equity returns			
Limitation on deductions of allowances and reserves	Specific deductions for calculating taxable			
	income (such as for R&D expenses)			
Positive differences between accounting depreciation	Foreign source incomes not subject to			
and tax depreciation	domestic taxation			
	Deductible income subject to other taxes (such			
	as withholding tax or special levies)			

Source: Ueda (2018)

Because GOS and potential FAP are aggregated values including both positive results of corporations making profits and negative results of corporations making losses, Ueda (2018) notes that the calculated C-NTB value also shows the net value reflecting both profits and losses.

Step 5: Adjustments to potential net tax base for the current year (C-NTB)

The Current-year Net Tax Base (C-NTB) is an aggregated value over the entire economy, reflecting both positive and negative results of individual corporations' activities. The potential CIT liabilities, however, should reflect only aggregate results of profit-making corporations in a current year, excluding the results of loss making corporations. Therefore, the potential current year tax base (C-TB) is calculated by adding the aggregate losses to the potential C-NTB. The potential tax base (TB) is then derived by subtracting the deductible carried over loss from the potential C-TB. The deductibility of carried-over loss is stipulated in CIT legislation, and it is usually limited to the amount of profit at the maximum.

Step 6: Estimating the CIT liabilities

Potential CIT liabilities are derived from multiplication of the potential tax base (TB) by relevant CIT statutory rates and, adjusting for tax credits and additional liabilities as stipulated in the respective countries' tax law (CIT code) and regulations. If there are multiple CIT rates, the estimated aggregate tax base should be separated into different parts to which different CIT rates are applied. The aggregated tax credits and additional liabilities can be estimated from survey data, or directly retrieved from tax return data.

Step 7: Measuring actual CIT declarations

The declared CIT base and liability can be significantly different from actual CIT collection presented in revenue statistics. Therefore, it is important to separately analyse the difference between actual CIT collections and CIT declarations, considering the timing of payments, coverage of revenues, and unpaid arrears. It should be done by comparing the dataset of payment and the dataset of declarations. The values of CIT payments may include advance payments and interest or penalties, and reflect reimbursements, for which timing is different from declared tax period. The unpaid arrears need to be separately recorded as a CIT collection gap.

To estimate CIT base gaps and CIT gaps, it is necessary to have declared CIT base and liability that can be matched with the estimated potential CIT base and liability in terms of scope and timing. Because the measures of potential CIT base and liability are based on national accounts data in which economic activities are usually recorded by calendar year (January to December), it is best to use appropriately aggregated data on the declared CIT base and liability that have accrued from economic activities in a particular calendar year. For that purpose, actual CIT declarations need to be classified based on the 'tax period' in which economic activities have been performed, rather than the timing of actual payments. If tax periods deviate from a calendar year, adjustments for allocating CIT declarations to a calendar year will be needed. One approximation method suggested by Ueda (2018) is to classify taxpayers with tax periods beginning between January and June into an 'early (E)' group, and taxpayers with tax periods beginning between July and December into a 'late (L)' group. This allows the collections for calendar year to be calculated as:

$$TB_{t}^{D} = \sum_{i \in E} TB_{i,t}^{D} + \sum_{i \in L} TB_{i,t-1}^{D}$$
(3.18)

Where TB is potential CIT base; t is a calendar year; D denotes declared; E denotes the early (E)' group of taxpayers; L denotes the late (L)' group of taxpayers. Thus TB_t^D is declared potential CIT base in calendar year t.

Measuring CIT Policy Gaps

In the procedure of analysing the potential CIT base/liability, the impacts of different policy framework can be analysed. Conceptually, any reduction of potential CIT base/liability (computed in equation 3.18) due to discretionary choice of policies is recognized as CIT policy gap. To quantify the CIT policy gaps, it is necessary to determine a reference policy, and focus on the current year effects on CIT base or liability. Ueda (2018) proposes three different types of policy gaps, measuring current-year quantitative implications of discretionary choice of policies, as follows:

• **Policy gap A**: effects of exempted entities or incomes. The difference between the current year tax bases under the current policy framework and the bases under the alternative policy framework without any exempted entities and incomes in S11, non-financial corporations.

- **Policy gap B:** effects of special calculation methods for tax base. The difference between the current year tax bases under the current policy framework and the bases calculated under an alternative policy framework that does not reflect any discretionary policies increasing and/or decreasing taxable incomes from financial accounting profits.
- **Policy gap C**: effects of special tax credits and additional liabilities. The difference between the current tax revenues and the revenues under an alternative policy framework without any discretionary tax credits and additional liabilities.

The above analytical framework can be applied to measure the compliance gaps and policy gaps under PIT and CIT as well as to identify those sectors where improvement is most needed. This enables the tax administration to re-focus its efforts to the specific areas and sectors in enhancing domestic resource mobilization. However, the tax gap analysis is not recommended for the current UNECA project due to the resource requirements, the timeliness of delivering the output, and the potential challenges in obtaining the required data from the SSA countries that may require a longer period to deploy the tool. Moreover, the tax gap analysis will identify where the gaps are in the tax system to provide information on the sources of the tax losses but may not give much information on the tax policy reforms to fill the gaps. This will have to be done separately.

3.2.4 Diagnostic Framework for Tax Expenditures

Tax expenditures are arguably the most important tax policy instruments driving weak or underperforming mobilization of domestic tax revenue in Sub-Saharan Africa countries (World Bank, 2017). Tax expenditures appear under the following forms:

- Rate reliefs: a reduced rate applied to a class of taxpayers or activities
- Exemptions: income excluded from the tax base
- Allowances: amounts deducted from gross income, to arrive at taxable income
- Credits: amounts deducted from tax liability
- Tax deferrals: a relief in the form of a delay in paying tax

The tax expenditures are basically government transfers to the beneficiaries if there is no significant economic benefits associated with them. Therefore, it is important to estimate the net present value of the streams of benefits and costs (revenue losses) associated with the tax expenditures. The cost-benefit analysis will be used to examine if there has been value for money for the tax expenditure provided in the SSA countries. The approach consists of the following steps:

- i) Examine the needs, constraints and formulate objectives and targets of the cost-benefit analysis
- ii) Carry out an analysis of incremental effects and collect data on costs and benefits
- iii) Express costs and benefits in a uniform standard measure such as converting nominal to real terms

iv) Compute the Net Present Value (NPV) for the tax expenditure using the following equation:

$$NPV = \sum_{t=0}^{n} \frac{(Benefits - Revenue Forgone (cost))_t}{(1+r)^t}$$
(3.19)

Where *NPV* is the Net Present Value; r is the discount factor; t is the period; n is the investment period for which the tax expenditure is provided in years. The present value computation begins with the annual revenue cost, so it is important that some rigor is applied to the derivation of the annual revenue cost for each type of incentive.

- v) Conduct a sensitivity analysis and analyze risks using the ranges and probabilities of the costs and benefit values by simulating expected outcomes of the tax incentives
- vi) Consider all the quantitative analysis as well qualitative analysis of non-quantifiable factors and make appropriate recommendations.

The analysis of the tax expenditures will provide an indicator of the economic efficiency of the direct tax systems in the respective SSA countries. This is because tax incentives tend to distort the allocation of economic resources. In assessing the treatment of the tax expenditures, it is important to evaluate if the client country conforms to the following best practices in granting and monitoring of the tax expenditures (Le *et al.*, 2016):

- Development of a repository of all tax expenditures arrangements does the country have a consolidated repository of all tax expenditures across all sources?
- Does the country estimate the revenues forgone under the various forms of tax expenditure
- Does the country assess the efficiency, impact and equity of the tax expenditures proposed tools for assessing the efficiency and impact of tax expenditures is the cost-benefit analyses, which require taxpayer-level data. Check if the government systematically assesses the efficiency and effects of proposals on tax exemptions.
- Fiscal Governance sound fiscal governance of tax expenditures requires a clear and consistent legal framework for granting and monitoring tax exemptions. Proper fiscal management of tax expenditures is considered as one of the key instruments to promote transparency, accountability and good governance in taxation.

This diagnostic framework is currently being used by Kenya with technical support from the World Bank. Already, Kenya has developed a repository of all tax expenditures provided for under the tax laws. What remains is to develop a framework for monitoring of the economic benefits and revenue losses associated with the tax expenditures.

V POTENTIAL OUTCOMES

This project is expected to provide an analytical framework on tax policy for African countries, with an overview of best practice tax policy options on direct taxes. The proposed analytical framework will be applied to provide technical advisory services to client countries to enable them identify gaps in the mobilization of their domestic revenues. This will help to build their capacity and provide support for the implementation of the developed framework and recommendations for appropriate response and recovery for development. From the reviewed literature, possible policy options for the African countries may include:

- Forecasting of impact of tax policy changes Introducing tools and techniques for a sound revenue forecasting system that also contributes to strengthening of tax effort.
- Review and improve on the tax policy framework, define a comprehensive strategy for the tax system at the national level, so the government can appropriately plan and carry out the short, medium and long-term measures necessary to secure a sustainable revenue system for a shared vision of the tax system. To achieve this the countries may need to develop a comprehensive and focused national tax policy strategy that would provide stability and transparency to the tax system.
- Improve on the provision and monitoring of tax expenditures, review the list of exempted income for corporate taxation purposes and remove the redundant tax incentives.
- Build capacity in SSA to undertake tax gap analysis. This will help to inform the tax administrations on areas and/or sectors to focus on in the domestic resource mobilisation efforts. This can be achieved by working with the IMF under the IMF's RA-GAP (Revenue Administration Gap Analysis Program) projects to support member countries to develop capacity for estimating tax gaps and consequently the strategies to reduce the tax gaps.
- Expand tax base. Diversification of sources of direct taxes by focusing on wealth tax, property tax, inheritance tax., improving the taxation of capital income (including capital gains taxes, thin capitalization rules, transfer-pricing guidelines
- Strengthen digital taxation-With evolution of digital technologies many businesses are likely to change the model of conducting their transactions and therefore tax administrations should be able to adopt to the change to ensure taxable income realized on such platforms is subjected to tax.
- Enhance the effectiveness of tax administration: Raczkowski and Mroz (2018) recommends simplification of the tax system, the procedures for paying taxes as well as tax forms; ensuring that taxpayers receive help from government agencies and other institutions in completing tax forms through appropriate services; and improvement of the functionality and transparency of the tax authorities' digital platforms.

REFERENCES

African Union Commission. (2015e). Agenda 2063: The Africa We Want. Popular Version, Final Edition. Addis Ababa: African Union.

Akitoby, Bernardin, Anja Baum, Svetlana Cerovic, and Jiro Honda, (2018a), "Tax Revenue Mobilization in Emerging Market Countries: Lessons from Country Cases," IMF Working Paper, forthcoming, (Washington: International Monetary Fund).

Besley, T. & T. Persson (2013). Taxation and Development. Book Chapter in Handbook of Public Economics (Auerbach, A., Chetty, R., Feldstein, M., & Saez, E., editors). Available at: *https://www.lse.ac.uk/economics/Assets/Documents/personal-pages/tim-besley/working-papers/taxation-and-development.pdf* (accessed on 9th March 2021).

Bittker, B. I. (1967). A 'Comprehensive Tax Base' as a Goal of Income Tax Reform. Harvard Law Review. 80 (5): 925–985. doi:10.2307/1339337. JSTOR 1339337

Coulibaly, B.S. and Gandhi, D. (2018). Mobilization of tax revenues in Africa: State of play and policy options. Africa Growth Initiative, Brookings Institution Policy Brief, October 2018.

Dare, C., S. Du Plessis, and A. Jansen (2019). Tax revenue mobilisation: Estimates of South Africa's personal income tax gap. *South African Journal of Economic and Management Sciences*, 22(1): 1–8.

Dodge, J. M. (2013). Deconstructing the Haig-Simons Income Tax and Reconstructing It as Objective Ability-to-Pay 'Cash Income' Tax. FSU College of Law, Public Law Research Paper No. 633, Available at SSRN: <u>http://dx.doi.org/10.2139/ssrn.2245818</u>

European Commission (2016). The concept of tax gaps: Report on VAT gap estimations. FISCALIS Tax Gap Project Group (FPG/041). Brussels: European Commission.

Gamboa, A. M.S.J. (2002). Development of Tax Forecasting Models: Corporate and Individual Income Taxes. Philippine Institute for Development Studies Discussion Paper Series No. 2002-06.

Hannon, A., Leahy, E. & O'Sullivan, R. (2015). An Analysis of Tax Forecasting Errors in Ireland. Irish Fiscal Advisory Council Working Paper No.3, September 2015.

International Monetary Fund, 2011, "Revenue Mobilization in Developing Countries," (Washington: International Monetary Fund).

ITC-OECD. 2015. Examples of Successful DRM Reforms and the Role of International Cooperation, Discussion Paper, July 2015. https://www.oecd.org/ctp/tax-global/examples-of-successful-DRM-reforms-and-the-role-of-international-co-operation.pdf

Jansen, A., Ngobeni, W., Sithole, A. & Steyn, W. (2020). The corporate income tax gap in South Africa. WIDER Working Paper 2020/40.

Kavanagh, S.C. & Iglehart, C. (2012). Structuring the Revenue Forecasting Process. Government Finance Review, October 2012.

Khaled Abdel-Kader & Ruud A. de Mooij, (2020). "Tax Policy and Inclusive Growth," IMF Working Papers 2020/271, International Monetary Fund.

Le, T.M., Jensen, L., Shukla, G.P. & Biletska, N. (2016). Assessing Domestic Revenue Mobilization: Analytical Tools and Techniques. Macroeconomic and Fiscal Management (MFM) Discussion Paper No. 15, October 2016.

National Treasury (2020). 'Budget Review 2020'. Pretoria: National Treasury, Republic of South Africa. Available at: www.treasury.gov.za.

National Treasury and SARS (2017). '2017 tax statistics'. Available at: www.sars.gov.za/About/SATaxSystem/Pages/Tax-Statistics.aspx

National Treasury and SARS (2019). 'Tax statistics 2019'. Available at: <u>www.sars.gov.za/About/SATaxSystem/Pages/Tax-Statistics.aspx</u>

OECD/AUC/ATAF (2020), Revenue Statistics in Africa 2020: 1990-2018, OECD Publishing, Paris, https://doi.org/10.1787/14e1edb1-en-fr.

OECD (2020), *Tax Policy Reforms 2020: OECD and Selected Partner Economies*, OECD Publishing, Paris, <u>https://doi.org/10.1787/7af51916-en</u>.

Pessino, C., Fenochietto, R. (2013). "Understanding Countries' Tax Effort." Working Paper, Fiscal Affairs Department, International Monetary Fund, WP/13/244, Washington, DC.

Raczkowski, K. and Mroz, B. (2018). Tax gap in the global economy. *Journal of Money Laundering Control,* Vol. 21 No. 4, 2018 pp. 567-583.

SARB (South African Reserve Bank) (2017). 'Institutional Sector Classification Guide for South Africa.

SARB (South African Reserve Bank) (2019). 'Statistics'. Online statistics website. Available at: https://www.resbank.co.za/Research/Statistics/Pages/OnlineDownloadFacility.aspx

Thackray, M., Hutton, E. & Ahmed, K. (2019). Kenya: Revenue Administration Gap Analysis Program-The Value-Added Tax Gap. Washington DC: International Monetary Fund, Fiscal Affairs Department.

Ueda, J. (2018). Estimating the Corporate Income Tax Gap: The RA-GAP Methodology. IMF Technical Notes and Manuals 18/02. Washington DC: International Monetary Fund.

United Nations. Economic Commission for Africa (2019). Economic Report on Africa 2019: fiscal policy for financing sustainable development in Africa. Addis Ababa.

Vito Tanzi and Howell Zee, (2000). Tax Policy for Emerging Markets: Developing Countries, National Tax Journal, 53, (2), 299-322

World Bank (2017). Corporate Income Tax Review: Improving Tax Policy & Efficiency for Strengthening Domestic Resource Mobilization. Kenya Tax Policy Studies. Washington DC: The World Bank Group.

http://www.yorku.ca/bucovets/4070/personal/personal_a.pdf

APPENDICES

Appendix 1: Outline on Approaches and Analytical Tools to be applied in Assessing Domestic Resource Mobilization Shortfalls and Opportunities in the SSA Countries

The assessment of the domestic resource mobilization shortfalls and opportunities in the client countries will be carried out through a well-structured UNECA Mission composed of UNECA Task Team Leader, technical staff and/or Tax Policy Consultants. The UNECA Mission will have clear terms of reference for the assignment, a work program and an approach to the analysis of direct tax system in a client country. The following is the proposed work program.

S/No.	Activity	Deliverables	Timelines
1	Develop a comparative database on direct tax regime of the client countries	Inception report with a comparative analysis of the tax regimes in the client countries	June – July 2021
2	Pre-visit preparations	Stakeholders engagement plan	August 2021
3	Initial Visits to the Client Countries	Initial UNECA Mission Reports	August – Sept 2021
4	Analysis of the information and data gathered from the initial visits and development of draft report	Draft Report on Response and Recovery: Mobilizing financial resources for development in the time of COVID-19	October 2021
5	Second Visit to the Client Countries – Validation of the Draft Report	Final Report on Response and Recovery: Mobilizing financial resources for development in the time of COVID-19	November – December 2021
6	Dissemination of Findings	Policy Briefs	December 2021

Table A1: Proposed UNECA Mission Work Program

Activity 1: Develop a comparative database on direct tax regime of the client countries

Before the visit, part of the UNECA Mission Team's preparations will be to review the available materials on the direct taxes in the client countries, develop forms for data and information gathering. The sets of questions in Table 3.1, 3.2, and 3.3 will be used to develop a standardized summary of the tax systems in the SSA countries. This will be used to gather information/data and to carry out a comparative analysis of the direct tax systems in the countries before the UNECA mission visits to the countries. Further, the Mission Team will examine the definition of income in the direct tax system of the SSA countries as compared to the Haig-Simons definition of income (compare and contrast the Haig–Simons equation with the SSA countries' individual income tax base calculations). Therefore, it is important for the Mission Team to have a basic understanding of income measurements and the practical application of the same in the SSA countries – it would be a useful exercise for the Team to review the Haig–Simons formulation and carry out a pre-visit analysis of derivation of income as the change in net worth. This will inform the preparation for the missions, and the questions to be asked during the initial visits. The Mission Team will be expected to develop pro forma income statements and balance sheets before trying to do gap analysis. Comparison of the pro forma income statements and balance sheets using the Haig-Simons definition of income and with income derived from application of the tax system in the client country will identify the gap for the individual (or entity). The UNECA Mission Team will also be expected to agree on the analytical tools to apply and develop data requirements for each tool. The available data, including the usual macroeconomic data for each country, will be collected before the visit. Any data gaps will be filled during the visits.

Activity 2: Pre-Visit Preparations

This will involve contacting the client countries, and developing a stakeholder engagement plan with a time schedule and a list of stakeholders to be engaged in each country. Data requests from the relevant parties in the client countries will be part of the pre-visit preparations. Mission members will also make specific requests about stakeholders they would like to meet. The stakeholder include, but not limited to, the policy makers at the State's National Treasuries (Ministry of Finance), the tax administrators, tax auditors, and the Private Sector Players (a sample of taxpayers). The other preparations will include travel and accommodation logistics.

Activity 3: Initial Visits to the Client Countries

The initial visit with representatives of the host country will enable the UNECA Mission Team to establish relationships with the stakeholders in the client countries. However, there is the potential to make some initial recommendations to begin the reform process: recommendations that help lay the foundation for future reforms, demonstrate your abilities, and assist with establishing an agenda for future work. Additionally, the UNECA Mission Team will take the opportunity to obtain more data/information

necessary to complete the comparative analysis and for applying the analytical tools (to evaluate the direct tax systems).

Activity 4: Analysis of the information and data gathered from the initial visits

Using the complete sets of data and information gathered during the initial visit, the UNECA Mission Team will carry further comparative analysis to identify tax policy reforms for each country. The Team will also use the analytical tools discussed in this report to carry out analyses to identify the shortfalls and opportunities for direct tax revenue mobilisation in the respective countries:

- Estimate taxable capacity and tax effort at sector level for each of the client country using the framework discussed in Section 3.2.1.
- Assess how the revenue administration of the client country analyses and monitors the performance of its direct tax revenue streams and how it estimates the impact of tax policy changes using its revenue-forecasting model. The framework in Section 3.2.2 will be applied. Most importantly, the aim will be to improve monitoring of revenue performance and tax revenue forecasting capabilities to enable the countries to better monitor the impact of tax policy changes.
- Estimate the net present value of the streams of benefits and costs (revenue losses) associated with the tax expenditures. The cost-benefit analysis will be used to examine if there has been value for money for the tax expenditure provided in the SSA countries. The team will also be expected to assess the treatment of the tax expenditures using the guidelines for best practices discussed in Section 3.2.4.

Activity 5: Validation of the Draft Report

The team will develop a draft report from the initial visit and the analyses carried out in Activity 4. This draft report will be subjected to a validation process, which will include peer review and second visit to the client countries to again engage the stakeholders.

Activity 6: Dissemination of Findings

This will involve development of policy briefs for each country and dissemination of the same plus the detailed final report to all the stakeholders engaged in the UNECA Mission.

Appendix 2: Data Requirements for Estimating CIT Gap

Category	Description	Data Required
National Accounts Data	As an independent source of statistics for the tax base, national accounts data need to be compiled on economic survey data, not	(1) Income generation (2) Allocation of primary income account (3) Secondary distribution of income account (4) Capital account (5) Inventory valuation adjustments
	relying on tax declarations. Requires tables classified into five	
	institutional sectors S11-15, and classified into individual economic	
	activities following ISIC classifications	
Registration Information	To appropriately classify CIT declarations and payments in line with	(1) ATIN—Anonymized Taxpayer Identification Number22 (2) Date of registration and
of All Individual CIT	the scope of the analysis and have necessary data to adjust GOS to	deregistration (if applicable) (3) Institutional sector classification (S11-15) (4) Economic activity
Taxpayers	TB, it is necessary to have complete individual CIT declarations with	classification consistent with national accounts (5) Description of tax period, including starting
	sufficient information for classification.	month/ending month, if different from general convention
Individual Tax Return	CIT declaration data are used to calculate declared CIT base and	(1) ATIN—Anonymised Taxpayer Identification Number (2) Tax period (3) CIT liability for the
Data for All Taxpayers	liability for each year, and estimate the magnitude of conceptual	period (4) Every line item showing CIT tax credits and additional CIT liabilities (5) CIT liability for
and Every Tax Period	differences between GOS and TB. Therefore, detailed data for	the period before considering tax credits and additional liabilities (6) Applied CIT rate (7) CIT base
Being Studied	calculating financial accounting profits and taxable incomes are	for the period (Declared TB) (8) Deduction for carried over losses (9) CIT base for the current year
	necessary. It needs to be checked if the data are internally	(Declared C-TB) (10) Declared loss for the current year, if any (11) Every line item used to
	consistent for the same tax period, and current year losses and	calculate from financial accounting profits to taxable incomes (12) Every line item used to
	carried-over losses are intertemporally consistent for individual	calculate financial accounting profit/loss, including income/ revenue and cost/expense items, or
Individual Devenant Date	taxpayers.	separate financial statement data showing the items
for All Taxpayors and	differences between declared CIT liability and actual CIT navment	(1) ATIN—Anonymised Taxpayer Identification Number (2) Tax period of CTT liability (3) Date of transaction (4) Amount of CTT normant, reimbursoment, and offset against other tax
Fuery Tax Deried Being	it is necessary to have detailed data about CIT navment	transaction (4) Amount of CTT payment, reimbursement, and onset against other tax
Studied	it is necessary to have detailed data about cri payment.	credits/habilities
CIT Aggregate Revenue	To check if individual tax return data are appropriately retrieved	(1) Annual aggregate CIT revenue data nublished by the government in its revenue statistics (2)
Data	without errors, and understand the quantitative impacts of limiting	Any classifications for the aggregate above, including advance payment, withholding taxes
	the scope of the CIT gap analysis and collection gaps, it is worth	classified as CIT. settlement (clearance of underpayments / overpayments), and others (penalties
	comparing the headline (aggregate) CIT revenue data published by	and fees)
	the government with (1) aggregate declared CIT liability for the	
	year calculated from C, and (2) aggregate CIT payment for the year	
	derived from D. This is also useful to understand the reasons for	
	levels and changes in CIT efficiency ratios calculated from headline	
	CIT revenue data.	

Source: Ueda (2018)

Appendix 3: Personal income tax key distinctive characteristics across the selected countries

	Distinctive features	Countries
Jurisdiction basis	• Residents are taxed on their worldwide income .Non-residents are taxed only on income derived in the source country.	Cameroon, Kenya, Ghana, Egypt, Ethiopia, Egypt, Senegal, South Africa,
when determining	• The total chargeable income of an individual is the total assessable income less the allowable deductions which differ across the countries	
taxable income	 Employment income includes salaries, wages, bonuses, overtime payments and other benefits and allowances Some of the taxable Income from business includes; leasing income, dividends, interest, capital gains, income from Agriculture, commercial and non-commercial activities, income from real property, and other investment income 	
Capital gains tax	 Capital gains tax is on shares or when transfer value exceeds the adjusted cost For the case of South Africa capital gains is added to the total income when arriving at taxable income 	Cameroon, Kenya, Ghana Egypt, Ethiopia, Egypt, Senegal, South Africa
Withholding tax	Adoption of withholding tax on income	Cameroon, Kenya, Ghana Egypt, Ethiopia, Egypt, Senegal, South Africa,
Exemptions	Certain categories of income are exempt from personal income tax and the exemptions differ across the countries	Cameroon, Kenya, Ghana Egypt, Ethiopia, Egypt, Senegal, South Africa,

Source: Deloitte (2020)

	Distinctive features	Countries
Tax Jurisdiction	-Resident companies are taxed on their worldwide income while non- residents are taxed only on income from the source country	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa, South Sudan
Deduction of expenses	Taxable profits are determined after deducting allowable expenses. These are expenses incurred in the production of taxable income.	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa, South Sudan
Treatment of dividends	Dividends income is treated differently across the countries whereby in some countries Dividends received by a resident company from a resident or non-resident company are subject to corporate income tax while in some countries dividends received by resident companies are exempted	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa, South Sudan
Loss carry forward	-Tax losses incurred by a company in a business activity may be carried forward. What differs across the countries is the period of time within which a loss can be carried forward	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa, South Sudan
Treatment of capital gains	-There is imposition of Capital gains tax across the countries what differs is the treatment of the capital gains income whereby in some jurisdictions it is added to other business income and taxed at the corporate tax rate while in others it is taxed separately	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa,
Exemptions	Certain categories of income are exempt from corporate income tax and the exemptions differ across the countries	Cameroon, Kenya, Egypt, Ghana, Ethiopia, Egypt, Senegal, South Africa, South Sudan

Appendix 4: Corporate income tax key distinctive characteristics across the selected countries

Source: Deloitte (2020)

Appendix 5: Comparison of withholding tax rates and the key distinctive characteristics across the selected countries

COUNTRY	TYPE OF	TAX BANDS /CATEGORY	TAX RATES RESIDENTS	TAX RATES NON- RESIDENTS	UNIQUE FEATURES
Cameroon		Dividends	16.5%	16.5%	15% plus a surcharge of 10% applies to dividends payments made to residents and non- residents
	Withholding	Interest on deposits	16.50%	16.5%	15% plus a surcharge of 10% applies to interest payments made to residents and non- residents
Cameroon	tax	Royalties		15%	Royalties paid to a non-resident are subject to a 15% withholding tax plus 10% surtax which may be reduce under a tax treaty
		Management or professional fees, lease rentals, payments made by local oil companies to foreign suppliers,	5%/10%	5%/10%	Subject to an applicable tax treaty withholding tax applies at a rate ranging from 5% to 15% is deducted from payments made to non- residents
Egypt		Dividends	5%/10%	5%/10%	Dividends paid to a resident and non- resident are subject to a 10% withholding tax. In cross border situations the rate may be reduced under relevant treaty
		Interest on deposits	0/20%	0%/20%	Interest paid to a non -resident is subject to a 20% withholding tax but the rate may be reduce under applicable treaties
		Royalties	0%	20%	Royalty payments made to non resident are subject to 20% withholding tax unless reduce under applicable treaty
		Technical service fees	0%	20%	Outbound payment for services attracts 20% withholding tax but may be reduced under a tax treaty
Ethiopia	Withholding tax	Dividends	10%	10%	-Withholding tax is final for residents -For non- residents, the withholding tax may be reduce by an applicable treaty
		Interest on deposits	5%	10%	-5% applies to interest paid on loans and 10% for other form of interest
		Royalties	5%	5%	-Withholding tax is final on royalties and for the non- residents it could be reduced in case of existing treaty
		Technical or Management		15%/10% for	-For residents, tax withheld is treated as payment of advance profit
		service fees	2%	mining	-For non- residents the tax may be reduced or eliminated based on the existence of a tax treaty
South	Withholding				-Dividend tax is levied on dividends declared by domestic companies in respect of non-resident
Africa	tax	Dividends	20%	20%	-Dividends paid to domestic companies, government, public benefit institutions are exempt

					-The following are exempt from withholding tax; interest on government bond, listed debt and debt owed by a local Bank -Exemption applies to interest paid to non-residents who are present for more than 183 days in
		Interest on deposits	0%	15%	aggregate in South Africa in the 12 month period preceding the date on which the interest is paid
		Royalties	0%	15%	-Withholding tax does not apply to a foreign person if the foreign person has been physically present in South Africa in excess of 183 days in aggregate in South Africa in the 12 month period preceding the date on which the royalty is paid
		Amounts paid to entertainers and sportspersons	0%	15%	-A final 15% withholding tax applies in respect of payments made to non -resident entertainers and sportspersons performing in South Africa.
		Proceeds from sale of	0%	7 5% /10% /15%	 Withholding tax is imposed on the proceeds from the sale of immovable property in South Africa by non- residents where the proceeds exceeds ZAR 2 million. A rate of 7.5% applies if the seller is an individual, 10% if company and 15% if the seller is a trust. The tax is an advance payment in respect of the seller's income tax liability.
			078	7.570/1070/1570	tax is an advance payment in respect of the sener's income tax habinty.
Senegal	Withholding tax	Dividends	10%	10%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Interest on deposits	16%	16%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Royalties	20%	20%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Technical service fees	20%	20%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Dividends	8%	8%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
	Withholding tax	Interest on deposits	0%/8%	8%	Withholding tax is not levied on interest paid to resident financial institutions
Ghana		Royalties	15%	15%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Management/professional fees	7.50%	20%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Rental payments	8%/15%	15%	-8% withholding tax applies if the rent is paid to a resident for residential accommodation and 15% if it is for commercial purposes
Kenya		Dividends	5%	15%	

					 -Interest received from financial institutions is subject to a 15% rate, withholding tax on interest on bearer certificate is 25% -Interest from bearer bonds is 10%
		Interest on deposits	10%/15%/25%	15%/20%/25%	-Royalties paid to a resident are subject to a 5% withholding tax and 20% if paid to a non-resident
		Royalties	5%	20%	
		Immovable property rent	0%/10%	30%	
		Movable property rent	0%	15%	
		Management and professional fee	5%	20%	
		Insurance and reinsurance premium	0%	5%	Insurance and reinsurance premiums paid to a non -resident for insurance of aircrafts is exempt from withholding tax
		Dividends	10%	10%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
South Wi Sudan tax		Interest on deposits	10%	10%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
	Withholding	Royalties	10%	10%	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty
		Technical fees paid to contractors	N/A	N/A	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty -Withholding tax rate on fees paid to non- resident is 15%
		Government contracts	20%	N/A	-The withholding tax is a final tax for non- residents and the rate may be reduced under an applicable tax treaty

Source: Deloitte (2020)

Appendix 6: Comparison of the Thin Capitalization rules across the various countries

Country	Thin capitalization rules
Cameroon	Interests paid on shareholder loans at a maximum rate of two points above the central bank lending rate are deductible from the taxable income. Interest paid on loans granted by shareholders or affiliated companies that hold at least 25% of the share capital or voting rights of the debtor company are deductible in the event where the loan does not exceed 1.5 times the company's equity and the interest payable is less than 25% of the company's gross operating income.
Egypt	A 4:1 debt-to-equity ratio applies. Interest on debt exceeding this ratio may not be deducted. In addition, a deduction is not allowed for interest expense that exceeds twice the credit and discount rate announced by the Central Bank at the beginning of each calendar year. The interest rate on loans between related parties must be on arm's length terms and must be supported by proper transfer pricing documentation.
Ethiopia	If a foreign-controlled resident company, other than a financial institution, has an average debt to average equity ratio in excess of 2:1 for a tax year, no deduction is allowed for interest paid by the company during that year on the portion of the loan that exceeds the threshold.
South Africa	Thin capitalization provisions within the general transfer pricing rules limit the deduction of interest payable by South African companies on debt provided by certain non-resident connected persons. South Africa's thin capitalization rules also apply to local branches of foreign companies. Provisions in the Income Tax Act restrict the deductibility of interest on loans obtained in connection with acquisitions and re-organizations.
Kenya	Kenya's thin capitalization rules restrict the deduction of interest expense for foreign controlled companies (other than licensed financial institutions) when the ratio of all interest-bearing liabilities exceeds three times sum of the payer's issued and paid-up capital and revenue reserves/accumulated losses (two times the payer's issued and paid up share capital for the extractive industry). "Control" for these purposes includes a participation of at least 25%.

Senegal	 Senegal has thin capitalization rules that impose restrictions on the deduction of interest paid to foreign related parties on loans granted to local companies: 1. The rate of interest paid to shareholders, partners, or other related parties on loans advanced directly or indirectly to a local company may not exceed the Central Bank rate, increased by three percentage points; 2. The interest referred to in (1) is deductible only if the company's share capital has been fully paid up; 3. The deduction of debt interest paid to an individual is limited to the interest attributable to loans not exceeding the amount of the company's share capital; 4. Interest referred to in (1) is not deductible to the extent it is paid on loans that exceed one and a half times the share capital and simultaneously exceed 15% of profits from ordinary activities, increased by depreciation and any provisions taken into account in determining those profits. This limitation does not apply to interest paid by companies that are not subject to corporation income tax to their partners if the latter are subject to income tax in Senegal on their interests. The total amount of deductible annual interest in respect of all debts incurred by members of a group of company cannot exceed 15% of the profits from ordinary activities, increased by such interest, depreciation, and any provisions taken into account in determining such profits.
Ghana	A resident person, other than a financial institution, is deemed to be thinly capitalised if the ratio of interest-bearing or foreign currency- denominated debt (to a non-resident parent) to equity exceeds 3:1. Interest deductions or exchange losses arising on debt in excess of the 3:1 ratio are disallowed.
South Sudan	None

Source: Deloitte (2020)