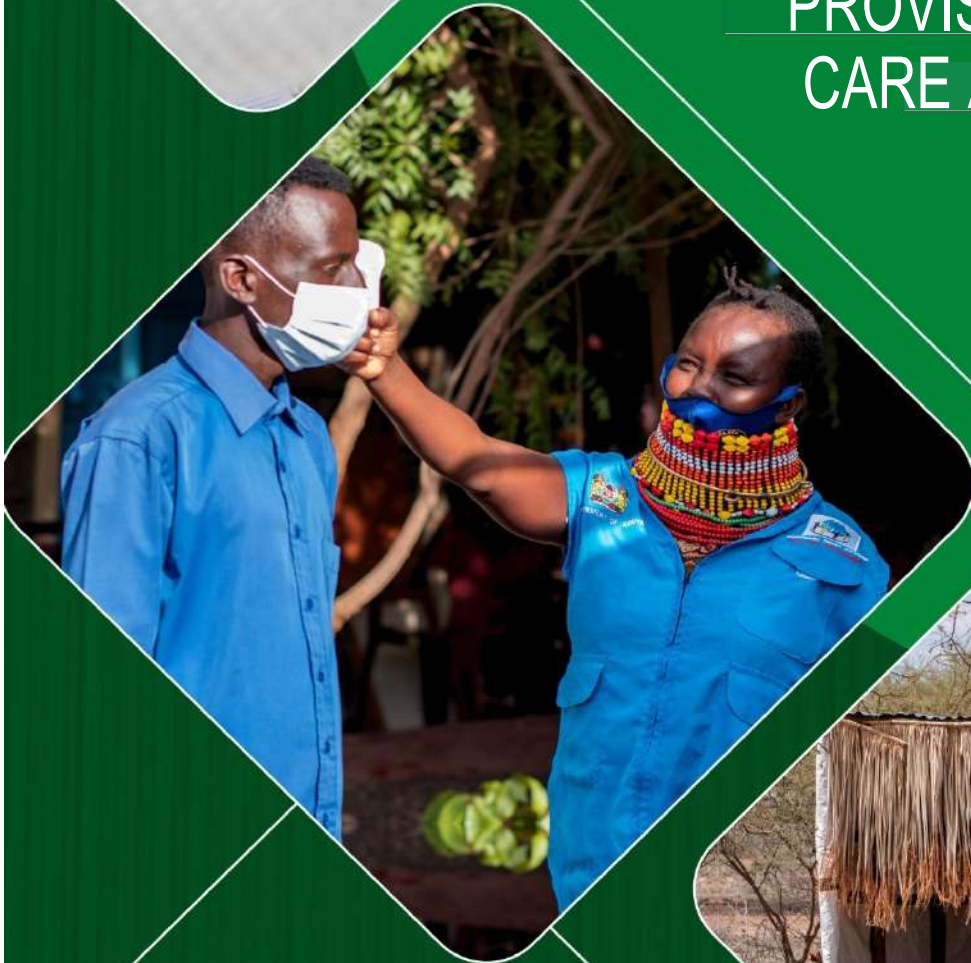


OPPORTUNITY COST ANALYSIS OF DEBT FINANCING AND PROVISION OF HEALTH CARE AND SERVICES



EXECUTIVE SUMMARY

The Government of Kenya is committed to providing universal coverage of quality health services to its population without subjecting them to financial hardship. This requires a substantial increase in public spending. However, fiscal resources have become increasingly scarce. Greater value for money in spending can be achieved through efficiency gains in sector operations, which holds promise to reduce the financing gap. This study explores opportunities to do so through better public financial management (PFM).

The study's main objective was to analyze the opportunity cost of debt financing over health expenditure. The three specific objectives of the study included a detailed analysis of Kenya's debt since FY 2017/2018 financial year, an analysis of the opportunity cost of debt financing to health care provision and financing in Kenya, and a detailed review of the current policies affecting debt financing and health financing in Kenya and to provide policy recommendations.

The study adopted a stepwise methodology to analyze the opportunity cost analysis of debt financing. The steps were as follows: (i) Review of current policy environment; (ii) Analysis of Kenya's debt stock; (iii) Analysis of debt financing; (iv) Analysis of health sector financing; (v) Analysis of opportunity cost of debt financing of health care provision using Regression analysis.

The trend analysis of both National and County expenditures on health have been increasing while debt servicing has been fluctuating since FY 2015/16. This revealed that there was no direct correlation.

The study established a positive relationship between growth rates in aggregate debt financing and health expenditure both at the national and county governments. However, the effect is felt more at the national level (65 percent) compared to the county (13.7 percent). This implies that the two governments equally prioritize health expenditure just as it does when servicing the debt

over expenditures in other sectors and departments, despite an upsurge in debt financing. This may also be an indication that revenues from debt are used to finance health expenditure - but with no additional information to support this, this is an hypothesis at this stage.

The study also showed a negative effect (10.6 percent) of external interest servicing on health expenditure. It can be argued that, since counties receive funds from the national government on a monthly basis as per the cash disbursements schedule, there are possibilities that national revenues are affected by external interest payouts which are made more frequent and fluctuating based on market rates. This leads to late disbursement which derails the expenditures.

The Analysis also revealed a negative correlation between health sector expenditure growth rate and other sector expenditures. This could be as a result of in-year reallocations. Conversely, from an execution perspective, the growth rate for health sector expenditure could be lagged by internal challenges, for example, institutional gaps as other sector expenditures expand typically. It is a zero-sum game, if the government allocates more to health, the government by default has to take away from other sectors.

Some of the recommendations derived from the study include but not limited to: the government should minimize its debt accumulation and intensify efforts towards servicing the outstanding debt, it should borrow smartly by pursuing low-cost loans and exercising caution in tapping international private debt markets, both levels of governments should enhance institutional and development frameworks in the health sector to increase their absorption rates, the National Government should leverage on the Own-Source Revenue Potential and Tax Gap Studies to enhance county OSR collections, the government should carefully scrutinize and control expenditure reallocations initiated through the supplementary budgets, the government should increase the budget allocations to the Health Sector to match the Abuja declaration commitment of 15 percent.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
TABLE OF CONTENTS	ii
ABBREVIATIONS AND ACRONYMS	iii
INTRODUCTION	1
DATA AND METHODS	2
CONCEPTUAL FRAMEWORK	2
CONCEPTUAL FRAMEWORK METHODOLOGY	2
FINDINGS	4
POLICY REVIEW	4
ANALYSIS OF KENYA'S DEBT STOCK	6
ANALYSIS OF DEBT FINANCING	16
ANALYSIS OF HEALTH SECTOR	22
BUDGET PERFORMANCE OF HEALTH SECTOR	25
STATISTICAL ANALYSIS	31
SUMMARY OF FINDINGS AND RECOMMENDATIONS	38
REFERENCES	44
APPENDICES	49

ABBREVIATIONS AND ACRONYMS

ADB	African Development Bank
AIA	Appropriation in Aid
ADF test	Augmented Dickey-Fuller test
ARUD	Agriculture, Rural and Urban Development
ASDSP	Agricultural Sector Development Support Programme
BPS	Budget Policy Statement
BROP	Budget Review & Outlook Paper
CBK	Central Bank of Kenya
CS	Cabinet Secretary
DANIDA	Danish International Development Agency
DRPNK	Drought Resilience Programme in Northern Kenya
DSA	Debt Sustainability Analysis
DSSI	Debt Service Suspension Initiative
DW	Durbin Watson statistics
EAC	East African Countries
ECF	Extended Credit Facility
EI & ICT	Energy, Infrastructure and Information Communications Technology
EWNR	Environment Protection, Water and Natural Resources
GDP	Gross Domestic Product
GECA	General Economic and Commercial Affairs
GJLO	Governance, Justice, Law and Order
GoK	Government of Kenya
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IDEAS	Instruments for Devolution Advice and Support
IMF	Internal Monetary Fund
KCSAP	Kenya Climate Smart Agriculture Project
KDSP	Kenya Devolution Support Project
KEMRI	Kenya Medical Research Institute
KEMSA	Kenya Medical Supplies Authority
KERP	Kenya External Resources Policy
KMTC	Kenya Medical Training College
KNH	Kenyatta National Hospital
KRA	Kenya Revenue Authority
MOH	Ministry of Health
MTDS	Medium Term Debt Strategy
MTRH	Moi Teaching and Referral Hospital
NACC	National AIDS Control Council
NARIGP	National Agricultural and Rural Inclusive Growth Project
NBI	Non-Bank Institutions
HSR	Health Sector Reports
NHIF	National Health Insurance Fund
OCob	Office of the Controller of Budget

PAIR	Public Administration and International Relations
PAYE	Pay As You Earn
PBB	Programme Based Budget
PDMO	Public Debt Management Office
PFM	Public Finance Management
RMNCAH	Reproductive, Maternal, Newborn Child and Adolescent Help
SAGAs	Semi-Autonomous Government Agencies
SBA	Stand-By Arrangement
SDR	Special Drawing Rights
SGR	Standard Gauge Railway
TDS	Total Debt Service
TEDS	Total External Debt Service
UHC	Universal Health Coverage
UIG	Urban Institutional Grants
UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
WB	World Bank
WSDP	Water & Sanitation Development



*"Money is all about opportunity cost.
Every time you spend on something,
that's something you can't spend on
something else."*

DAN ARIELY

1. INTRODUCTION

1.1 At the highest levels, Health has been identified as a key investment sector for Kenya. Through universal health coverage (UHC), the delivery of quality health services is promised to Kenyans at all socioeconomic levels. The target set to achieve this goal of UHC is by 2022. Kenya expects to attain UHC by expanding access to the National Health Insurance Fund. NHIF is a state corporation and the largest health insurer in the country. It is mandated to provide health insurance to those subscribed. Almost 80% of people with any form of health insurance are covered by NHIF, whose national coverage was 15.8% in 2017.

1.2 Given the constrained fiscal space, Kenya's debt appears to impose an undue burden. As of September 2020, Kenya's total public debt was Kshs 7.1 trillion. The country also moved from a percentage to GDP debt ceiling (50 percent) to an absolute figure of (Kshs 9 trillion) in October 2019. The ratio of domestic debt to external debt is almost equal at 49:51. This puts foreign borrowing at Kshs 3.2 trillion and domestic borrowing at Kshs 3.1 trillion. Debt financing in the same year is 41 percent of the total revenues in 2020/21. This reduces the ability of the country to finance its budget - and because it is unclear just how much of the incurred debt is going into the budget, there is a risk that Kenya is using borrowed funds to finance its debt.

1.3 This study explores the harm caused by the debt burden faced by the country and its financing opportunity cost in health service delivery. In FY 2019/20, Kenya's combined health expenditure at the national and county level was Kshs 215.7 billion - which was 10.2 percent of the overall combined expenditures. On the other hand, debts financing made during the year amounted to Kshs 651.5, translating to 30.9 percent of the combined overall expenditures. Clearly, Kenya spends a significant amount of its revenues on debt financing compared to health expenditures. This wide space in expenditures has the ability to crowd out potential expenditure to the health sector which is much needed to deliver on key services that are essential for the achievement of UHC. Adequate resource provision and the efficient use of these resources are required to achieve UHC without inflicting financial hardship to the poor.

1.4 However, the question of debt financing having an opportunity cost on other areas of government spending is double-sided. The funds borrowed are in fact used for public sector spending areas, including health. The fundamental question that should ultimately be focused on, is how the country could increase the fiscal space for all government functions, and in doing so, how fiscal space can be expanded for health spending. The available fiscal space for health is a function of general government economic growth, tax policies, and how health is prioritized in the budget. It is also a matter of expenditure rationalization to ensure value for money in areas like procurement and personnel emoluments. If the country was able to improve fiscal space on these two fronts, the question of debt financing would not be a matter of great concern.

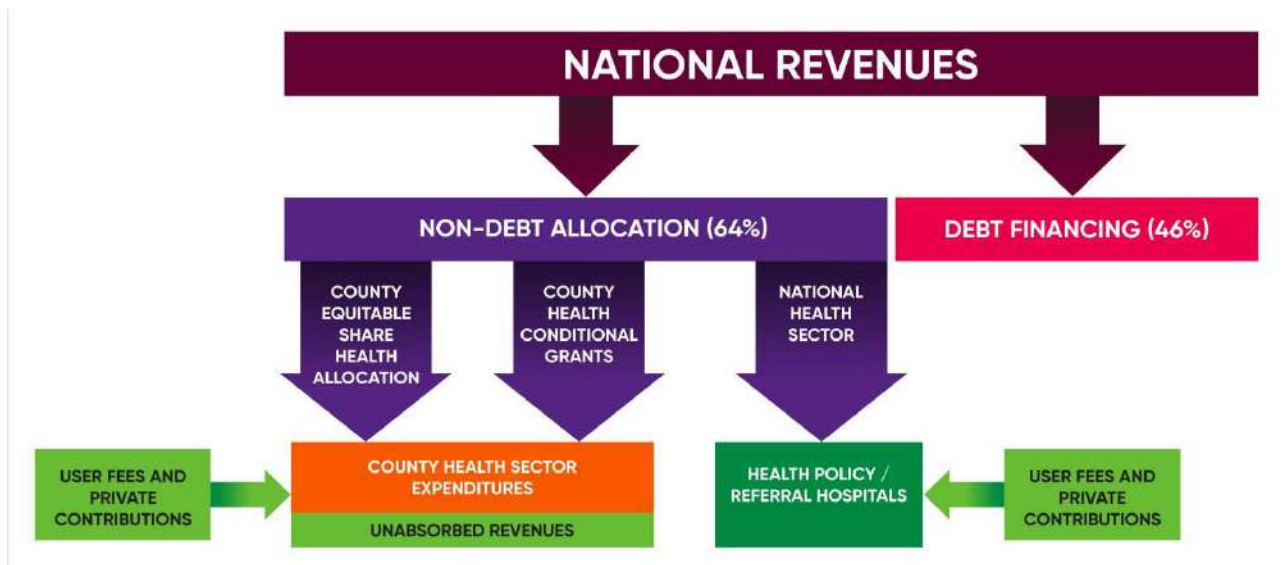
1.5 Health is a priority sector, but it still has to compete for resources with other areas of public expenditure. Competing demands amongst other sectoral and governmental functions would mean that any analysis on opportunity cost must take into consideration the same for all areas of expenditure. It would not be accurate to attribute all savings to one sector alone. As such, any analysis must then take into account potential debt savings allocations to other sectors.

2. DATA AND METHODS

CONCEPTUAL FRAMEWORK

2.1 The conceptual framework follows the sources of revenue that support the health sector. The methodology follows a simplified revenue flow, focusing on the factors that determine the size of the financial flows to the health sector. This happens at the national government, following health policy and conditional grant frameworks, and also happens at the county government following the equitable share, user fees, and conditional grants. It then looks at to what degree different types of debt affects health financing, and whether there is a statistically significant effect on changes in debt financing, on health.

Figure 1: Conceptual Framework

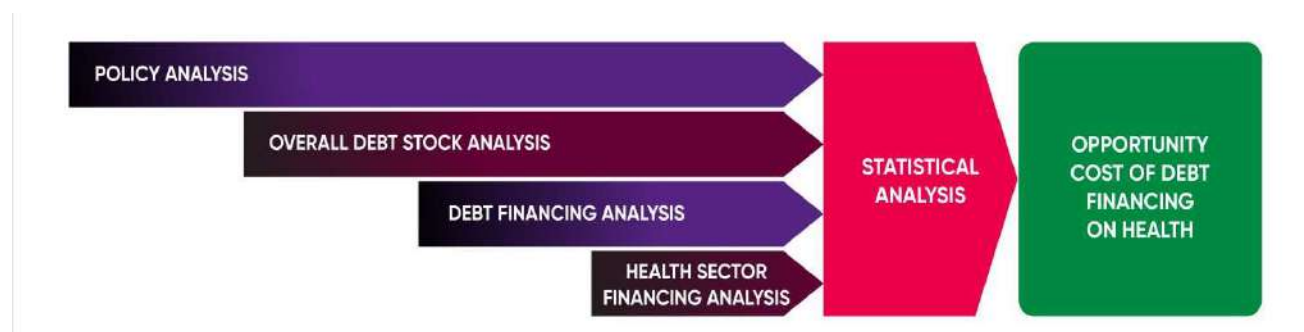


Source: Authors

CONCEPTUAL FRAMEWORK METHODOLOGY

- 2.2 The methodology of the opportunity cost analysis is as follows:
- Review of the current policy environment: The study reviews the underlying policy issues affecting the two broad areas over the years.
 - Analysis of Kenya's debt stock: The study analyzes the debt stock to establish the current debt context.
 - Analysis of debt financing: The study analyzes annual debt service components and commitments over the years while analytically comparing the revenue performance.
 - Analysis of health sector financing: The study analyzes health financing over the years to establish trends and other considerations affecting health service delivery.
 - Analysis of opportunity cost of debt financing of health care provision: Considering the effects of the debt and health analysis, the study estimates the correlation between debt financing and health financing to measure the opportunity cost.
 - Regression analysis: The study uses health financing as the dependent variable and debt financing as the independent variable holding a variety of other related factors constant.

Diagram 1: Overview of methodology



Source: Authors

DATA AVAILABILITY

2.3 The study utilizes secondary data from different sources. This includes the Central Bank, Controller of Budget reports, Public debt management office reports, Budget Policy Statements, Budget Review & Outlook Paper (BROP), Programme Based Budget (PBB), Health Sector reports, and National Hospital Insurance Fund (NHIF) reports among others.

Table 1: Data sources

Objectives	Variables/Indicators	Source of Data
1. Detailed analysis of Kenya's debt	Debt stock	Central Bank of Kenya
	Debt servicing (Debt service to Revenue ratios), Debt service to Revenue threshold	National Treasury, Budget Policy Statement, IMF
	Debt sustainability (Debt to GDP ratios), Debt to GDP threshold	World Bank, IMF
2. An opportunity cost analysis of debt financing to health care provision and financing in Kenya.	Budgetary allocation for Health Sector as a percentage of Total Budget	Budget Policy Statements, Budget Review & Outlook Paper (BROP)
	UHC allocation as a percentage of the health budget	Programme Based Budget (PBB), Health Sector reports
	NHIF composition (Sources)	National Hospital Insurance Fund (NHIF) reports
3. Debt financing and health financing policy review	Debt financing policy review	Debt and borrowing policy 2020,
	Health financing policy review	Healthcare financing Policy Brief, UHC & QI Policy Brief, Kenya Health Policy 2014-2030

3. FINDINGS

A. POLICY REVIEW

3.1 Several policy documents, legal frameworks, and strategies lay the framework for debt and health. These documents are essential to laying the groundwork on the debt and health frameworks in the country and if Kenya's debt and health outcomes are compliant; and if not, why not.

Table 2: Relevant documents consider

Name/ Date for the Policy	Relevant content
1. The Constitution of Kenya	<p>At a high level, The Constitution lays out the roles of Parliament and the Cabinet Secretary (CS) in charge of Finance with regards to debt. Parliament generally determines the terms on which the national government may borrow. The CS is answerable to Parliament on matters on debt.</p> <p>Within two months after the end of each financial year, the national government shall publish a report on the guarantees that it gave during that year.</p> <p>Public debt is a charge on the Consolidated Fund, but an Act of Parliament may provide for charging all or part of the public debt to other public funds.</p> <p>Public debt is all financial obligations attendant to loans raised or guaranteed and securities issued or guaranteed by the national government.</p> <p>A county government may borrow only if the national government guarantees the loan; and it is approved by the county government's assembly.</p>
2. PFM Act 2012	<p>The PFM Act 2012 sets out detailed debt obligations of the National Treasury, Public Debt Management Office, and reporting structures of the same at the national and county levels.</p> <p>It states that public debt and obligations shall be maintained at a sustainable level as approved by Parliament for the national government and the county assembly for the county government.</p> <p>The National Treasury also ensures that the national debt stays within the identified limits.</p> <p>CS Finance is required to report to Parliament quarterly, on all loans and guarantees incurred by the National Treasury, as well as to outline a debt management strategy annually.</p> <p>The debt management strategy must align with the Budget Policy Statement.</p> <p>The Public Debt Management Office (PDMO) is established alongside its functions including debt sustainability analysis (DSA) and tracking of all loans and guarantees.</p> <p>The National Assembly can approve revised debt limits.</p>
3. Debt and Borrowing Policy 2020	<p>The policy acts as a guide for public debt and borrowing practices of the National and County Governments, including the issuance process and management of the debt portfolio.</p>

	<p>The policy emphasizes the need to adhere to the laws and regulations governing public debt management.</p> <p>The policy indicates that the Government can borrow from multilateral, bilateral, and reputable financial institutions or through issuance of debt instruments in the financial market.</p> <p>It pushes for transparency in securing debt and the terms therein.</p> <p>The PDMO is tasked with establishing a risk management framework to enable the identification and management of the trade-offs between expected cost and risk in the Government debt portfolio.</p> <p>The PDMO must conduct regular DSA and update the MTDS to ensure that overall borrowing is within sustainable limits. The PDMO must also conduct regular stress tests for the country's debt portfolio to determine the potential impact of economic and financial shocks the country is potentially exposed to. The PDMO must also conduct analyses on the effect of each new loan on the total debt stock and the ability of the country to service the debt, to ensure that it does not negatively affect the country's debt sustainability.</p> <p>The National Treasury must also establish a Sinking Fund. A sinking fund is an account containing money set aside to pay off a debt or bond. This will be used for managing refinancing and settlement risks in the public debt portfolio.</p>
4. Kenya External Resources Policy (KERP)	<p>The KERP lays out the groundwork for development cooperation in the country. It provides the legal framework for guiding the sourcing and management of overseas aid into the country. The policy also guides the reporting of external assistance that is channeled to non-state actors.</p>
5. Budget Policy Statement (BPS) and Medium-Term Debt Strategy (MTDS)	<p>The BPS lays out the debt strategy for the year and the MTDS lays out the debt strategy for a period of three years reviewed annually. The objective of the MTDS is to guide the overall debt management operations of the National and County Governments with respect to debts, guarantees, and proposed borrowing.</p>

Table 3: Health Financing Policy Review

Name/Date for the Policy	Description
Kenya Health Policy 2014-2030	<p>The goal of the policy is to attain the highest possible standard of health in a responsive manner.</p> <p>The target of the health sector is to attain a level of health that is commensurate with that of a middle-income country.</p> <p>The policy seeks to ensure social and financial risk protection through adequate mobilization, allocation, and efficient utilization of financial resources for health service delivery.</p> <p>The primary responsibility of providing the financing required to meet the right to health lies with the national and county governments.</p>
Health Act 2017	<p>The Act seeks to ensure financial access to universal health coverage.</p>

B. ANALYSIS OF KENYA'S DEBT STOCK

3.2 Government finances its expenditures primarily by raising money through taxation. When tax revenues are insufficient to fulfill budget objectives, this is what is called a fiscal deficit. The government can make up the revenue shortfall by issuing debt. A rule of thumb when it comes to borrowing is that finances should be used for budget items that can help the government generate enough income to pay off the debt. This generally restricts debt income to development expenditure as opposed to recurrent expenditure like wages or operations and maintenance.

3.3 Debt can be either domestic or external. Domestic borrowing comes in the form of treasury bills and bonds issued by the Central Bank to the local market. External borrowing is revenue raised outside of Kenya in the form of vehicles like Eurobonds or concessional borrowing which are loans from international financial institutions or bilateral donors. Commercial borrowing is typically at higher interest rates than domestic or concessional.

Fiscal Deficit

3.4 Kenya is increasingly facing limited fiscal space occasioned by revenue shortfalls amid rising expenditure pressures. Year on year, expenditure growth has outpaced revenue growth. Revenue growth has been declining from 13.1 percent in FY 2016/17 to 3.7 percent in FY 2019/20. In 2015/16, the deficit was at its highest over the period because of the economic stimulus projects instituted by the government which accounted for an additional 1.6 billion in spending¹.

3.5 In 2019/20, because of the onset of COVID-19, revenues are expected to be at a record low. The government instituted measures to ease the economic impact of the pandemic on households and businesses by passing a raft of reliefs. However, these reliefs will mean that the government is not able to collect the revenues projected for the year, contributing to a larger deficit. The government has borrowed more funds to buoy the budget, but this also has the consequence of increasing the debt burden. Additionally, spending increased by Kshs. 40 billion (or 0.4 percent of GDP) meant to strengthen the health system's capacity, support vulnerable households, and ease the firm's liquidity constraints. Out of which health sector was allocated Kshs. 6.8 billion, most of which was funded by a US\$50m International Development Association (IDA) credit through the COVID-19 emergency response project². Revenues are expected to grow by only 2% in FY 2020/21 due to the effect of COVID-19³. According to the KRA, Kenya lost Kshs 122 billion between the month of March and June 2020, due to tax reliefs introduced by the government.

¹ Kenya Budget Statement 2016/17: "Consolidating Gains for a Prosperous Kenya" - <https://www.tralac.org/news/article/9857-kenya-budget-statement-for-2016-17-consolidating-gains-for-a-prosperous-kenya.html>

² Kenya Public Expenditure Review: Options for Fiscal Consolidation after the COVID -19 crisis. World Bank, 2020.

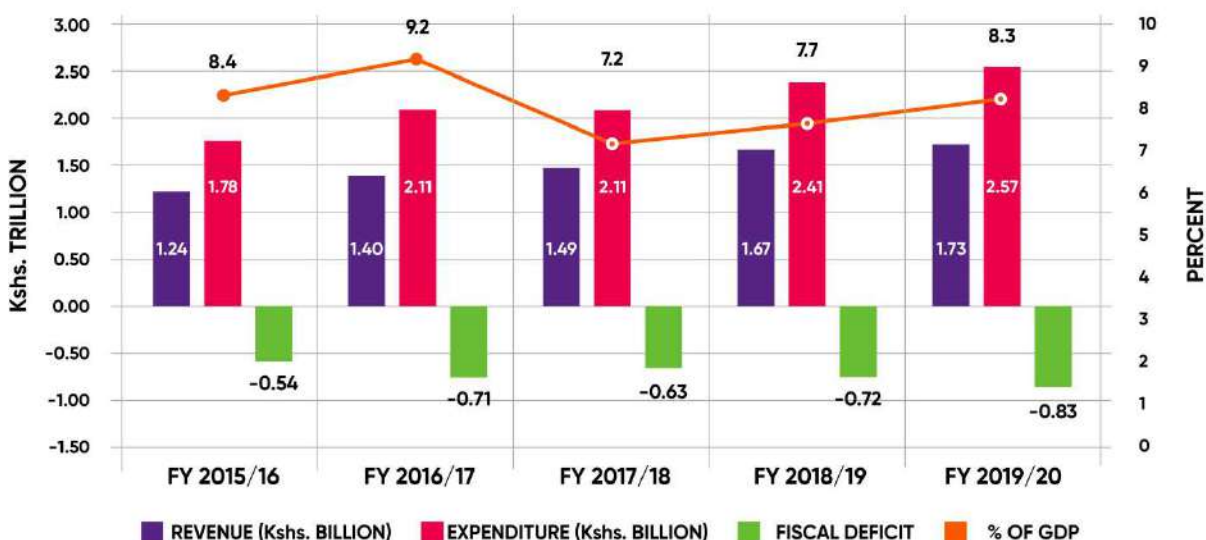
³ Budget Policy Statement 2020.

Table 4: Temporary COVID-19 tax reliefs enacted by the government.

Tax relief	Loss to Revenues Raised Nationally (Kshs millions)
100% PAYE tax relief for earnings below Kshs. 24,000	19,840
Reduction of PAYE top band from 30% to 25%	7,080
Reduction of Corporate Income Tax from 30% to 25%	45,691
Reduction of Turnover Tax from 3% to 1% for MSMEs	50
Reduction of VAT from 16% to 14%	49,598
TOTAL	122, 259

Source: "How Ordinary Revenues have Been Affected by COVID-19" - Ng'eno, June 2020

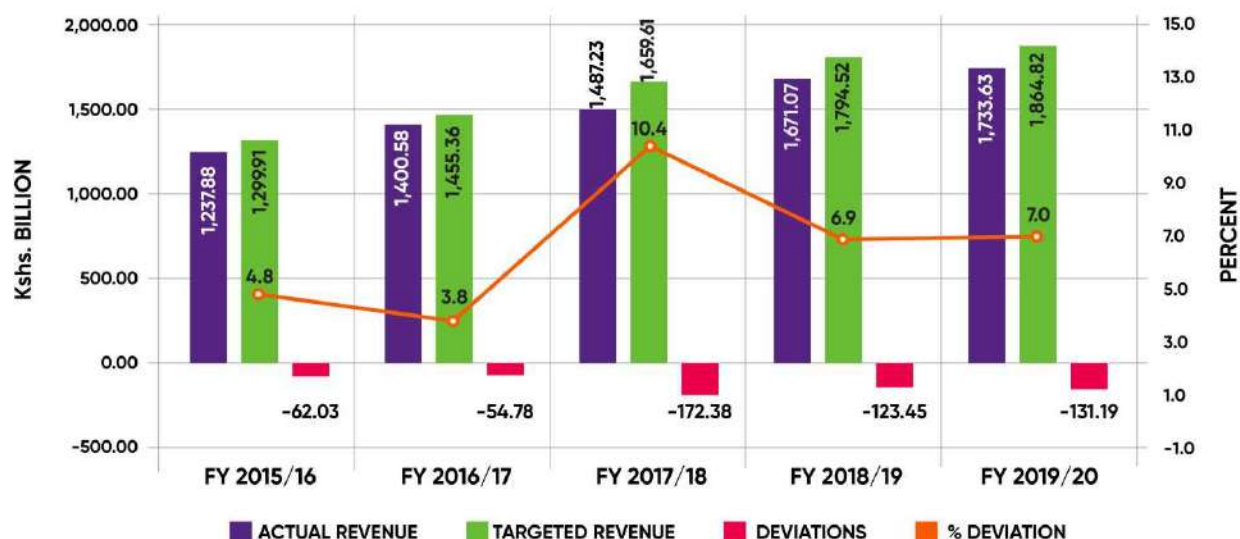
Figure 2: The fiscal deficit has continued to grow larger year on year



Source: National Treasury Budget Review and Outlook Paper.

3.6 The national budget has been growing consistently over the last five fiscal years. Total expenditure and net lending grew at the rate of 21.5 percent between FY 2017/18 and FY 2019/20 from Kshs. 2.11 trillion to Kshs. 2.57 trillion. However, revenue growth rate grew at a lower rate of 16.57 percent between FY 2017/18 and FY 2019/20 from Kshs. 1.49 trillion to Kshs. 1.73 trillion as a result causing a 31.8 percent increase in the fiscal deficit, compared to a 16 percent increase in fiscal deficit between FY 2015/16 and FY 2017/18. Similarly, fiscal deficit as a percentage of GDP grew from 7.2 percent to 8.3 percent between FY 2017/18 and FY 2019/20.

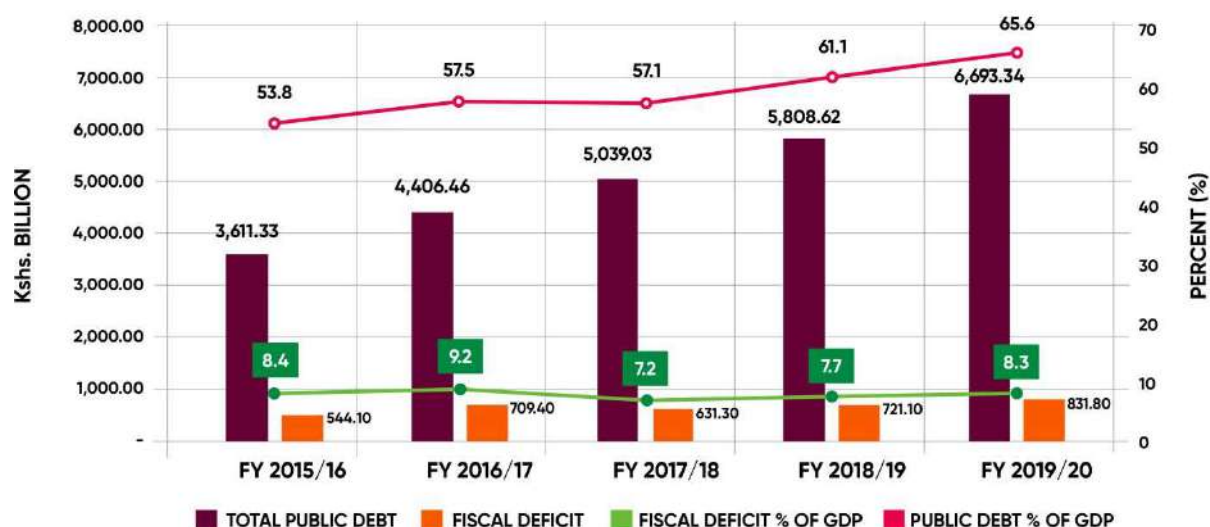
Figure 3: Revenues over the years have failed to match up.



Source: National Treasury Budget Review and Outlook Paper.

3.7 Kenya Revenue Authority (KRA) has consistently failed to meet its annual revenue targets. In FY 2017/18, the annual revenue collected was Kshs. 1.49 billion, a shortfall of the annual revenue target by 10.4 percent. In the last two financial years, KRA has been collecting a 7 percent shortfall in revenue from the annual revenue targets. However, it is important to note that collecting fewer revenues against the target does not necessarily mean that KRA is underperforming. Overall revenue collection was still higher than in previous years from Kshs. 1.2 billion in FY 2015/16 to 1.9 billion in FY 2019/20.

Figure 4: Total public debt grew by one percent higher than the 31.8 percent growth rate in the fiscal deficit between FY 2017/18 and FY 2019/20.

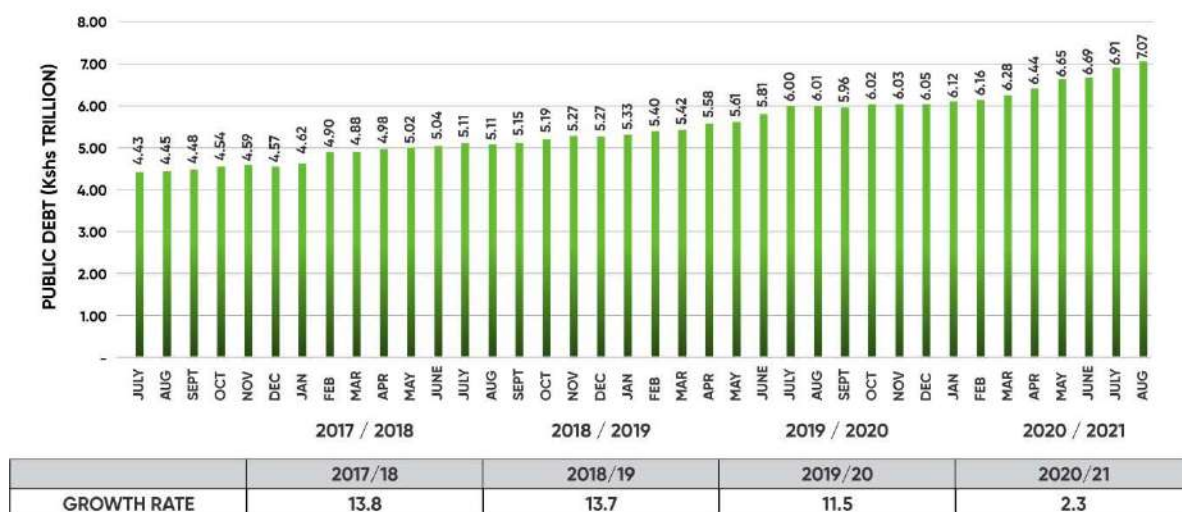


Source: National Treasury Budget Review and Outlook Paper

3.8 While public debt has been increasing gradually between FY 2015/16 and FY 2019/20 in absolute terms, the fiscal deficit has been fluctuating. However, since FY 2017/18, the fiscal deficit has increased but with a slower growth rate in public debt by 1 percent. As a percentage of GDP, the fiscal deficit grew at a higher rate than public debt by 0.4 percent from 7.2 percent in FY 2017/18 to 8.3 percent in FY 2019/20. The 0.6 percent growth rate in fiscal deficit in FY 2019/20 from 7.7 percent in FY 2018/19 was as a result of a shortfall in revenue target by Ksh 131.2 billion.

3.9 Since 2017/18, debt has been growing at a steady rate of 60 percent. The annual total public debt growth has been reducing overtime, for instance, in FY 2016/17, the annual total public debt growth rate was 22.2 percent and it has been declining to a record of 11.5 percent growth rate. As of August 2020, the total public debt stood at a record high of Kshs. 7.07 trillion (See Figure 5 below).

Figure 5: Total public debt has grown by 60 percent since FY 2017/18, expanding at a decreasing rate each financial year.



Source: Central Bank of Kenya.

Figure 6: Total public debt grew by an additional 1.7 percent between March and August 2020 on top of 10.9 percent growth in 2019 between the same period.



Source: Central Bank of Kenya.

3.10 Since the outbreak of COVID-19 in Kenya, total public debt has increased by 12.6 percent or Kshs. 0.79 billion between March and August. This increase was higher by 8.1 percent (Kshs. 0.23 billion) and 1.7 percent (Kshs. 0.59 billion) compared to the same period recorded in 2018 and 2019 respectively. In 2018, debt accumulation was slow compared to 2019 explaining the contrasting deviation from 2020.

3.11 The Kenyan government implemented a COVID-19 response plan equivalent to 0.8 percent of Gross Domestic Product (GDP) in 2020. However, these resources did not represent additional spending evident by the consistent growth trend of public debt in figure 5 above. Following the substantial decline in government revenue collection by more than 1.4 percent of GDP, the government was forced to re-prioritize expenditures including the payment of due debts⁴. As such, during the second supplementary budget for FY 2019/2020, the Ministry of Health's budget was reduced by 11 percent or Kshs. 12.2 billion. This resulted in a decrease of Kshs. 11.9 billion or 23 percent within the development budget. The programs which were most affected are: Preventive, promotive & RMNCAH program (harbors primary health care aimed at improving UHC) and Health policy, Standards & Regulations program (supports UHC coordination & Management Unit to increase health services) with a contraction of 48 percent and 18 percent respectively.

3.12 During the same strenuous period, many countries, particularly the poor sought temporary help in suspending debt-service payments owed to their official bilateral creditors. This resulted in the World Bank and the International Monetary Fund urging G20 countries⁵ to establish the Debt Service Suspension Initiative (DSSI) effective 1st May 2020⁶. Kenya participated in the DSSI in January of 2021.

Debt Composition

3.13 There are different classifications of debt - and they are not all created equal. Domestic debt is issued locally, in local currency, to residents of a country under the jurisdiction of local courts. Conversely, external debt is issued outside of the country, in foreign currency to non-residents of a country under the jurisdiction of foreign countries. Concessional debt is an external debt provided at preferential rates - typically issued by international financial institutions like the IMF or World Bank, and sometimes by bilateral donors. Commercial debt is issued by commercial banks and Non-bank institutions (NBI) like insurance firms, venture capitalists, and currency exchanges amongst others⁸, and they typically are the most expensive since they are market-based⁹.

⁴ https://www.eurodad.org/kenya_covid_19_debt

⁵ The G20 is an international forum for the governments and central bank governors from 19 countries and the European Union.

⁶ <https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative>

⁷ <https://www.businessdailyafrica.com/bd/economy/kenya-to-defer-sh75bn-after-u-turn-on-g20-debt-relief-plan-3203786>

⁸ Non banking institutions <https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/nonbank-financial-institution>

⁹ "Domestic and External Debt in Developing Countries" https://unctad.org/system/files/official-document/osgdp20083_en.pdf

Box 1: Composition of external & domestic debts.

External debts are mainly sourced from:

- 1) **Bilaterals** - This is country to country debt. Debt offered to a country borrower by one country lender. Since it involves a two-party agreement, the lender risk is much higher. They may carry a grant element that is not repayable, although this is perhaps recovered by having the credits tied i.e. the borrower is required to import goods and machinery from the lending country.
- 2) **Multilaterals** - This is lending from the IFIs. They provide:
 - a) **Concessional loans** - Zero interest rates and their repayment period ranges from 12-24 months but may be extended or canceled, and consecutive arrangements may be approved such as the IMF's Extended Credit Facility (ECF).
 - b) **Non-concessional loans** - Available for Eligible Member Countries. An example is IMF's Stand-By Arrangement (SBA) which has a longer repayment period of about 3¼-5 years with a lending rate of the market-determined Special Drawing Rights (SDR)¹⁰ interest rate.
- 3) **Commercial Banks** - They issue international syndicated loans and the Export Credit Financing contracted at a reference rate plus a margin. A great example is Sovereign/ Eurobond that is issued in a currency other than the currency of the country where it is issued - Kenya's USD 2.1 Billion Euro-Bond issued on 15th May 2019.
- 4) **Suppliers Credits** - Involves an arrangement under which a supplier or exporter agrees to allow the customer to defer payment under a sales contract involving goods and services provided by a supplier outside Kenya.

Domestic debts mainly arise from:

- 1) Central Bank
- 2) Commercial Banks
- 3) Non-bank Financial Institutions

Instruments issued by the government in the domestic market include:

- a) **Government Securities:**
 - i) **Treasury Bills** - Short-term borrowing instrument issued by the Government to finance the budget.
 - ii) **Treasury Bonds** - Medium to long-term term debt instrument issued by the Government to finance the budget.
- b) **Pre-1997 Government debt** - Debt repayment to the Central Bank of Kenya due to loans advanced for funding government operations in the 1990s.
- c) **Others** - Overdraft facility at the Central Bank of Kenya, cleared items awaiting transfer to Pay Master General (PMG), commercial bank advances, and Tax Reserve Certificates.

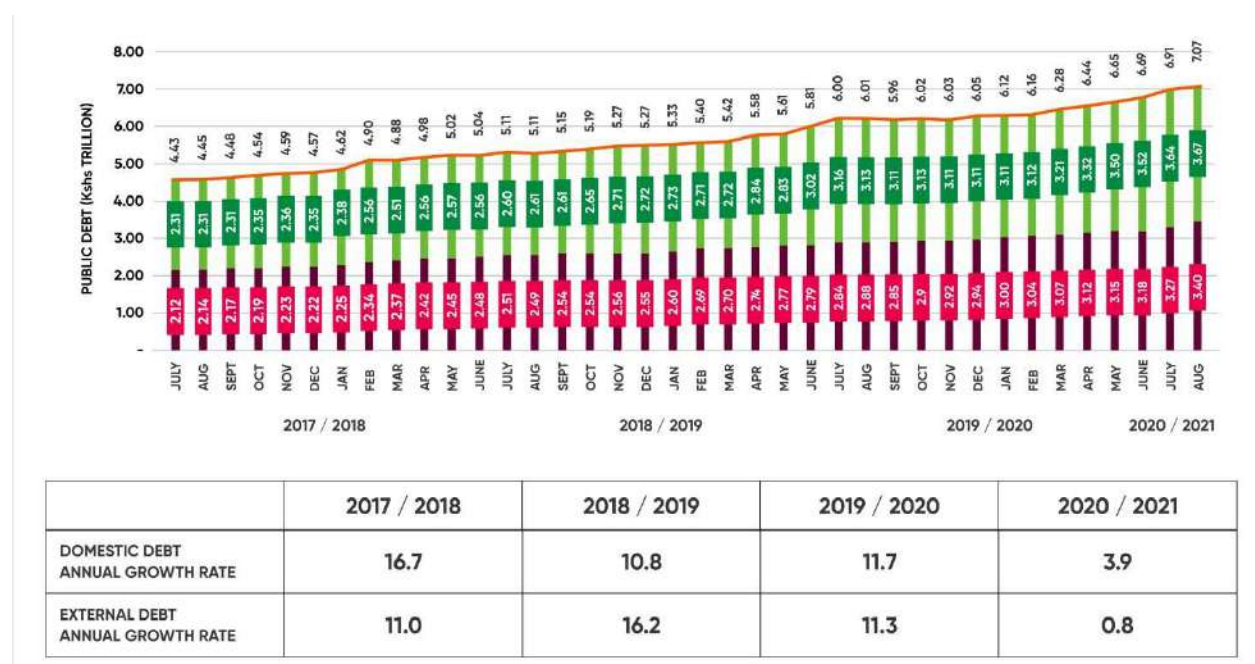
Source: National Treasury - Public Debt Management Office and various sources.

3.14 In order to manage the debt composition, level, risk and other regulatory components, the National Treasury formulated a Medium-Term Debt Strategy (MTDS). The Public Debt Management Office (PDMO) is an independent office within the National Treasury, mandated by the PFM Act 2012 (Section 62) to manage our debt portfolio. The MTDS is drafted by this office to provide a guideline on how the government should finance the fiscal deficits. It also provides a set combination of source financing and the impact associated with the overall debt portfolio. The MTDS gives recommendations of the most optimal strategy for implementation given the cost and risks associated with the existing debt.

¹⁰ "SDR" (Special Drawing Right), is a unit of account having the meaning ascribed to it from time to time by the Rules and Regulations of the IMF.

3.15 External debt increased by 58.9 percent from Kshs. 2.31 trillion to 3.67 trillion between FY 2017/18 and August 2020. Over the same period, domestic debt increased by nearly the same rate as external debt (60.4 percent) from Kshs. 2.12 trillion to Kshs. 3.4 trillion. Between FY 2017/18 and FY 2018/19, the annual external debt growth rate increased by 5.2 percent to 16.2 percent before declining in FY 2019/20 to 11.3 percent. Conversely, the domestic debt annual growth rate has been fluctuating over time with a high of 16.7 percent growth rate in FY 2017/18 (See Figure 7 below). The increase in external debt in FY 2017/18 was attributed to the increase in disbursements from international sovereign bonds, commercial syndicated loans, and bilateral creditors as well as foreign exchange rate movements.

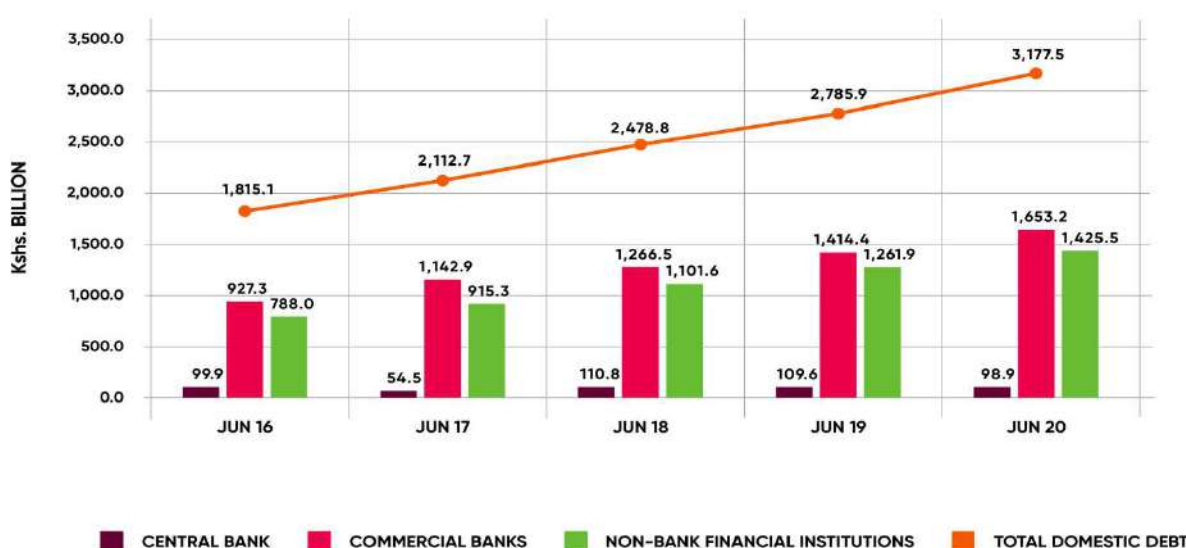
Figure 7: Domestic debt overall growth rate from FY 2017/18 to August 2020 was higher than external debt growth rate in the same period by 1.5 percent.



Source: Central Bank of Kenya

3.16 Domestic debt has been increasing at an average rate of 15 percent annually between FY 2016/17 and FY 2019/20. The highest growth rate of 17.3 percent was recorded in FY 2016/17 compared to previous year as shown in figure 8 below. Domestic debt composition is largely commercial bank, NBFI, and Central Bank of Kenya (CBK) holdings. Central Bank debt holdings on domestic debt are generally low compared to commercial banks and Non-bank Financial Institutions (NBFI) debts. This is a result of Central Banks' restrictions or set limits on lending to the government.

Figure 8: Commercial debt holdings by Commercial banks and NBFIs are on the rise.

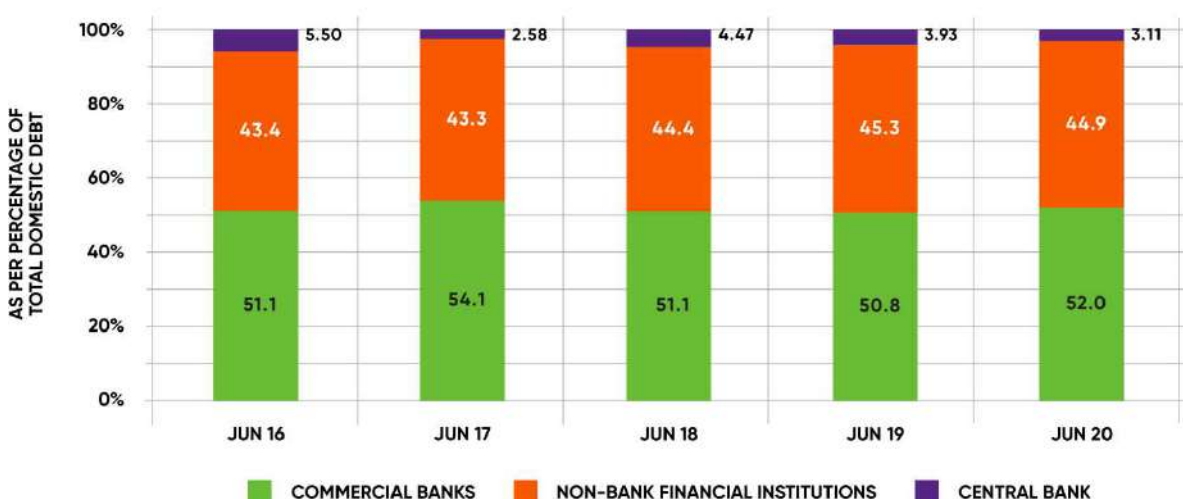


Source: National Treasury - Public Debt Management Office.

3.17 Commercial banks hold the majority of Kenya's domestic debt as shown in figure 9 below. They held on average 51.8 percent of the total domestic debt between FY 2016/17 and FY 2019/20, while CBK held on average 3.9 percent. NBFIs holding on government domestic debt have been increasing slightly between FY 2016/17 and FY 2018/19 from 43.4 percent to 45.3 percent before declining by 0.4 percent of the total domestic debt in FY 2019/20. However, the absolute figures for Commercial banks and NBFIs has been increasing consistently over the same period. Commercial banks' holdings of government debt are associated with a lower credit growth to the private sector and with a higher return on assets of the banking sector¹¹.

¹¹ <https://www.imf.org/~media/Files/Publications/WP/2019/wpica2019224-print-pdf.ashx>

Figure 9: Commercial banks hold over 50% of Kenya's domestic debt, followed closely by NBFIs

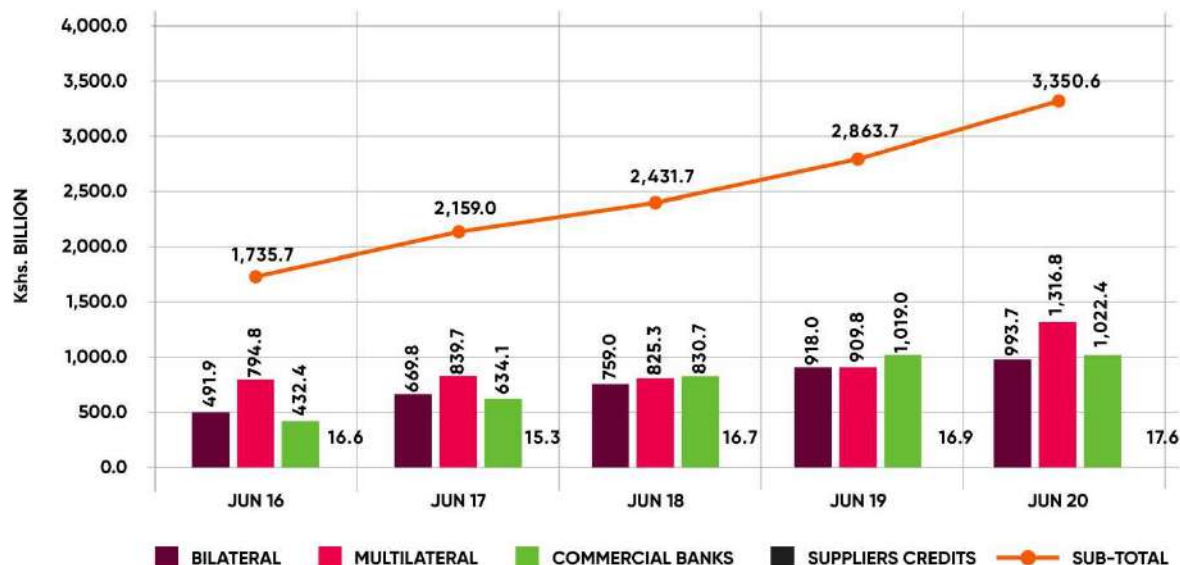


Source: National Treasury - Public Debt Management Office.

3.18 Kenya became a middle-income country in 2014, and thus not eligible for the same level of concessional lending as previously. As a result, Kenya has had to go to the open market to source for loans. This is primarily the reason that the country's external debt holdings in commercial have increased. Kenya is still able to borrow from multilaterals, but the debt rates are a blend; for example, Kenya borrows from the World Bank a mix of higher interest loans from the International Development Association (IDA) and lower interest loans from the International Bank for Reconstruction and Development (IBRD).

3.19 External debt has been increasing largely because of growth in multilateral debt and the depreciation of the shilling against hard currencies. Between FY 2016/17 and FY 2019/20, it grew at an average rate of 18 percent annually. Multilateral debt stock was sourced from concessional debt from the World Bank (IDA and IBRD), International Monetary Fund (IMF), and the African Development Bank (ADB). This aligns with the 2020 MDTS plan to contract a larger percent of its debt on concessional terms. The change in overall debt composition has, however, resulted in an aggregate rise in debt over the review period.

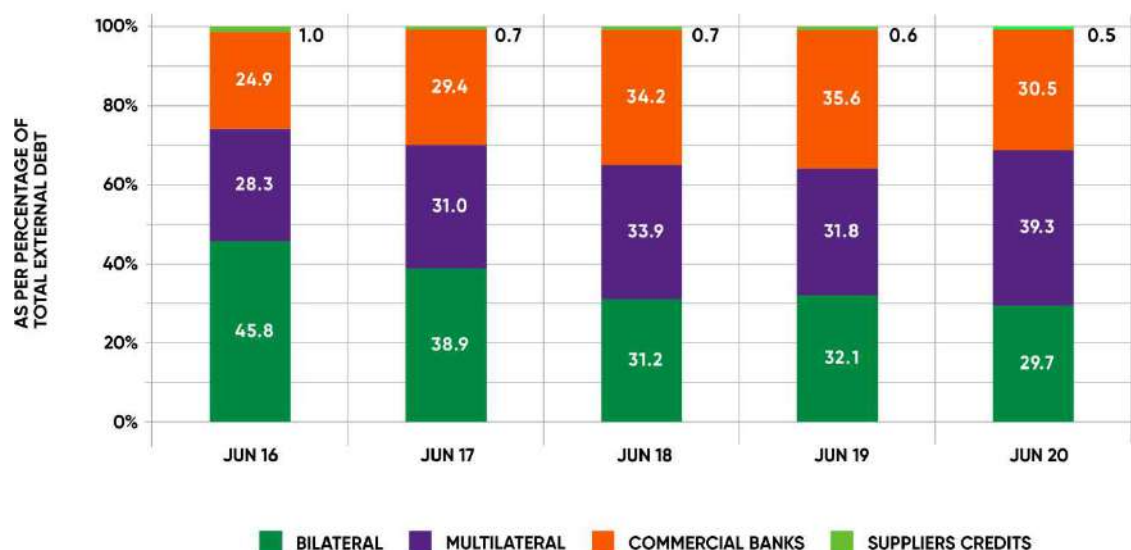
Figure 10: Majority of the components of external debt overall have consistently increased over the years.



Source: National Treasury - Public Debt Management Office.

3.20 The share of bilateral debt has been decreasing overall as indicated in figure 11 below. Between FY 2016/17 and FY 2019/20, bilateral debt fell from 46 percent to 30 percent. Multilateral debt on the other has been fluctuating but is generally on the increase. The share of commercial bank debt increased from 25 percent to 36 percent between FY 2016/17 and FY 2018/19 before declining to 31 percent in FY 2019/20. Commercial loans are more expensive relative to all other debt because of their high-interest rates and early maturities. Commercial loans represented an average of 31 percent of the external loan portfolio between FY 2016/17 and FY 2019/20. The government can adopt a policy of taking on concessional loans with lower interest rates and longer maturity profiles in order to retire outstanding commercial loans. This would result in an immediately more sustainable debt position.

Figure 11: The share of bilateral has been decreasing in favor of commercial and multilateral debt



Source: National Treasury - Public Debt Management Office.

3.21 In recent years, Kenya's rising public debt has raised concerns in macroeconomic outlook discussions amongst key lenders and global credit rating agencies. The Joint World Bank-IMF Debt Sustainability Framework (DSF) for Low-Income Countries which was introduced in April 2005¹², raised Kenya's risk of debt distress from moderate to high¹³ in May 2020. This is mainly attributed to the impact of COVID-19 crisis and the need for additional debt cover. Kenya's external debt burden indicators have breached the set threshold under the baseline scenario but is at the moment still able to make its repayments.

3.22 In the same way, Moody's credit rating for Kenya's outlook changed from stable to negative in May 2020.¹⁴ Moody's is an organization that assigns ratings based on the assessed risk and the borrower's ability to make interest payments. Its ratings are closely watched by many investors¹⁵. Kenya's negative rating reflects the rising financing risks associated with Kenya's borrowing requirements occasioned by repayment of external bilateral obligations which are due, and the need to refinance the mounting stock of short-term domestic debt. In the context of deteriorating revenue base and increasing pressure from COVID-19 budgetary needs, Moody's ratings indicate that Kenya may not find favorable opportunities to participate in debt relief initiatives requiring the participation of private-sector creditors.

3.23 The Public Finance Management Act 2015 explicitly describes the fiscal responsibility principles for maintaining public debt and obligations. Notably, Section 26 (1c) asserts that the national public debt shall not exceed 50 percent of GDP in net present value terms. Further, Section 196. (1) emphasizes that the debt limit at any given time shall

¹² <https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/39/Debt-Sustainability-Framework-for-Low-Income-Countries>

¹³ <https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf>

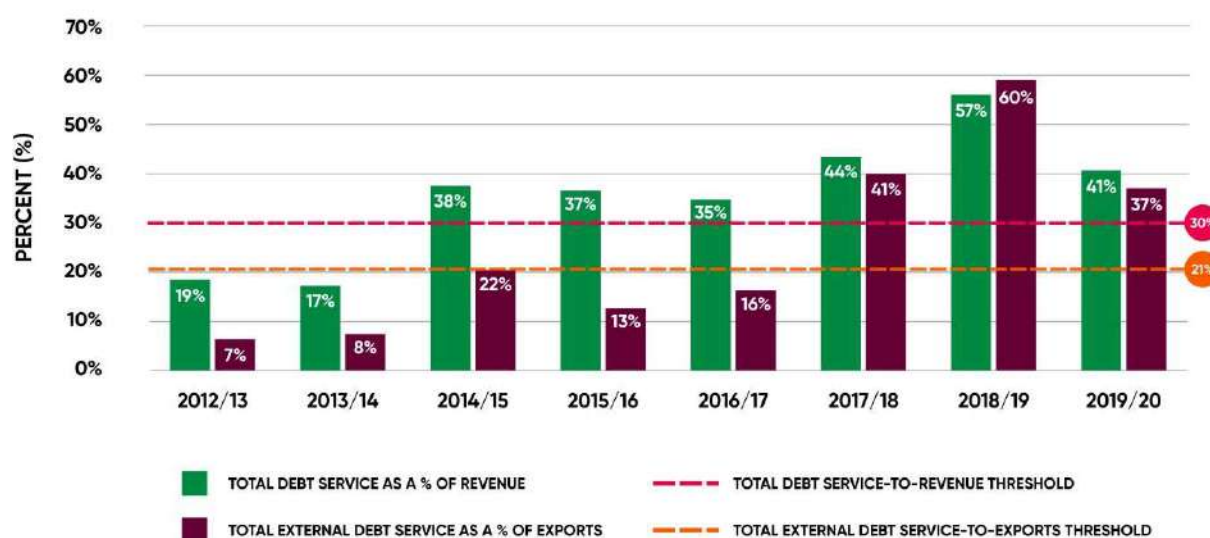
¹⁴ https://www.moodys.com/research/Moodys-changes-outlook-on-Kenyas-rating-to-negative-from-stable--PR_423404

¹⁵ <https://www.moodys.com/>

not exceed the above threshold. It follows that Parliament is mandated to set the annual thresholds for the annual borrowing by the national and county governments and their entities as per Section 196 (2) of the same Act.

3.24 In October 2019, through amendment of the PFM Act, Parliament raised Kenya's debt ceiling to Kshs 9 trillion - a departure from the percentage threshold measure of Debt to GDP in net present value.¹⁶ In 2015/16 Kenya's public debt stock surpassed the 50 percent set in law with a sharp 27 percent expansion in debt stock from the previous year. This expansionary trend carried on until FY 2018/2019 when the threshold measure shifted to absolute figures. The Kshs 9 trillion debt ceiling amounts to 88 percent of GDP, which is also higher than the IMF's benchmark of 70 percent of GDP in net present value terms.¹⁷ Given the debt stock of Kshs 6.69 trillion as of June 2020, the government only has Kshs 2.3 trillion space between debt and the debt ceiling.

Figure 12: Kenya's Debt-to-GDP ratio surpassed the PFM Act threshold of 50 percent in FY 2015/2016.



Source: National Treasury - Public Debt Management Office

3.25 The Debt-to-GDP ratio¹⁸ assesses what Kenya owes with its total production - in a sense, it's collateral. A high ratio is indicative of a growing inability to meet its debt obligations from production. Arguably, the deteriorating fiscal outlook as a result of fallout elicited from the pandemic has weighed down the country's prospects of producing goods and services necessary to offset the rising debt obligations.

¹⁶ Public Debt Management Report 2019-2020

¹⁷ <http://documents1.worldbank.org/curated/en/796991589998832687/pdf/Kenya-Joint-World-Bank-IMF-Debt-Sustainability-Analysis.pdf>

¹⁸ The ratio between a country's government debt and its Gross Domestic Product (GDP).

C. ANALYSIS OF DEBT FINANCING

3.26 Debt financing has increasingly become expensive for many governments with limited fiscal space. This has meant that the fiscal space to finance other government expenditure has become less over time, and if it continues to grow, could reverse the gains that elicited the borrowing in the first place.

3.27 Kenya had reduced its debt financing significantly between 2000 and 2013 until devolution was implemented. During the 1980s and 1990s, Kenya had become a highly indebted country epitomized by macroeconomic mismanagement leading to a reduction in donor inflows.¹⁹ As such, government Debt to GDP reached an all-time high of 78.30 percent in 2000.²⁰ This meant that debt servicing became very expensive hitting a record 18.5 percent as shown in figure 13 below. Importantly, Kenya responded by developing well-informed and logically structured reforms, such as debt rescheduling and expensive short-term domestic borrowing to finance its expenditures resulting in debt service decline in subsequent years.

Figure 13: The rate of debt servicing using the Government of Kenya's revenues has more than tripled during the post-devolution period.



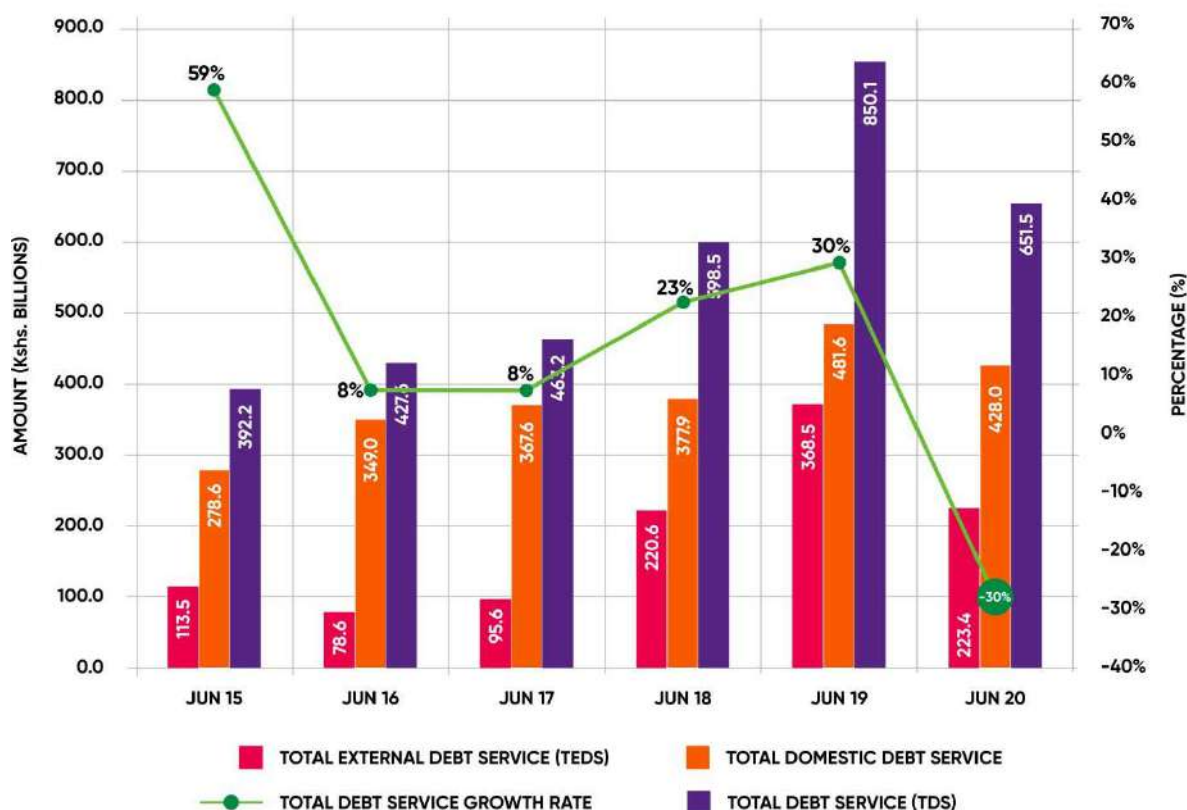
Source: Overseas Development Institute (ODI)

¹⁹ https://www.researchgate.net/publication/23780423_Debt_and_PRSP_conditionality_The_Kenya_case Discussion Paper No. 2002/54, Debt and PRSP Conditionality. The Kenya Case, 2002

²⁰ <https://tradingeconomics.com/kenya/government-debt-to-gdp>

3.28 Debt financing has spiked back up after devolution, more than tripling since 2013. Debt servicing is soaring back up to where it was in 2000, and in 2018 it sat at 16.2 percent and showing no signs of stopping – especially after the onset of the pandemic²¹. This growth has been attributed to a significant increase in both total external debt financing and domestic debt financing (See figure 14 below).

Figure 14: Total external debt service has grown significantly since 2016, while domestic debt in absolute terms remains highest.

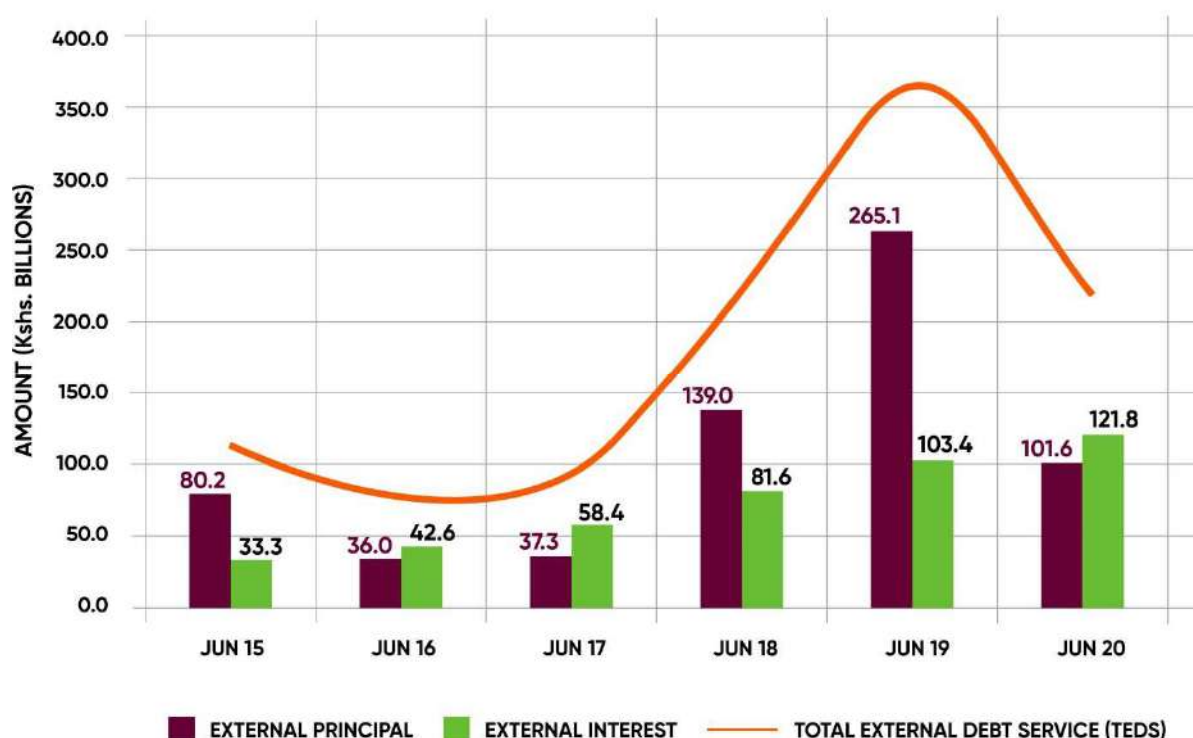


Source: National Treasury – Public Debt Management Office.

3.29 Based on figure 14 above, the Total Debt Service (TDS) expanded at an average rate of 17 percent between FY 2016/2017 and 2018/2019 before dropping in FY 2019/2020 by 30 percent. On average, Total External Debt Service (TEDS) expanded by 73 percent as compared to total domestic debt service which grew by partly 12 percent in the period under review. The sharp decrease seen in FY 2019/2020 was largely triggered by TEDS which registered a negative growth of 39 percent on account of lower repayments on commercial debts (reduction in principal payments of Ksh 175 billion in FY 2019/2020 from the previous year). Further, the reduction of 11 percent in total domestic debt service (fewer Treasury bond redemptions) somewhat contributed to the decline in TDS growth rate.

²¹ <https://www.odi.org/blogs/10801-low-income-country-debt-three-key-trends>

Figure 15: External interest has consistently expanded at an average rate of 28 percent in the last 3 years.

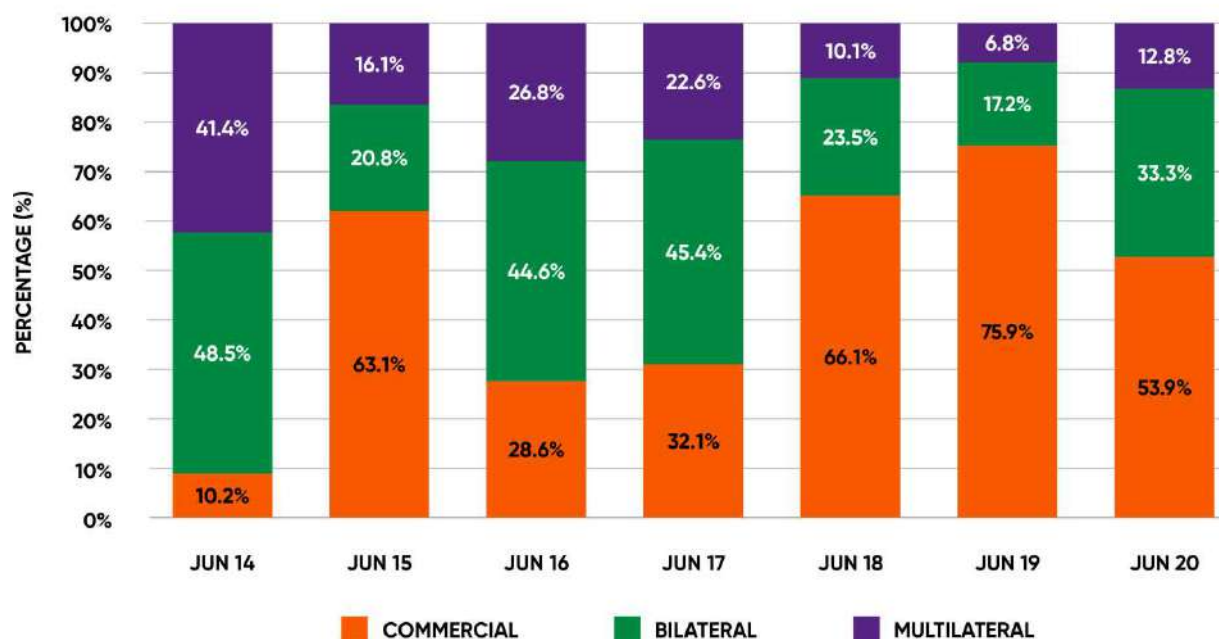


Source: National Treasury – Public Debt Management Office.

3.30 External principal payments form the bulk of TEDS. The increase in the external principal between FY 2016/2017 and FY 2018/2019 was on account of high payments made to commercial and bilateral creditors. TEDS declined in FY 2019/2020 by Kshs 145 billion from the previous year as a result of lower principal repayments on commercial debts as opposed to the external interest which increased by Ksh 18.5 billion²².

²² Annual Public Debt Report - 2017/2018 & 2019/2020

Figure 16: Commercial debt service has consistently contributed to more than half of the TEDS over the last 3 years.

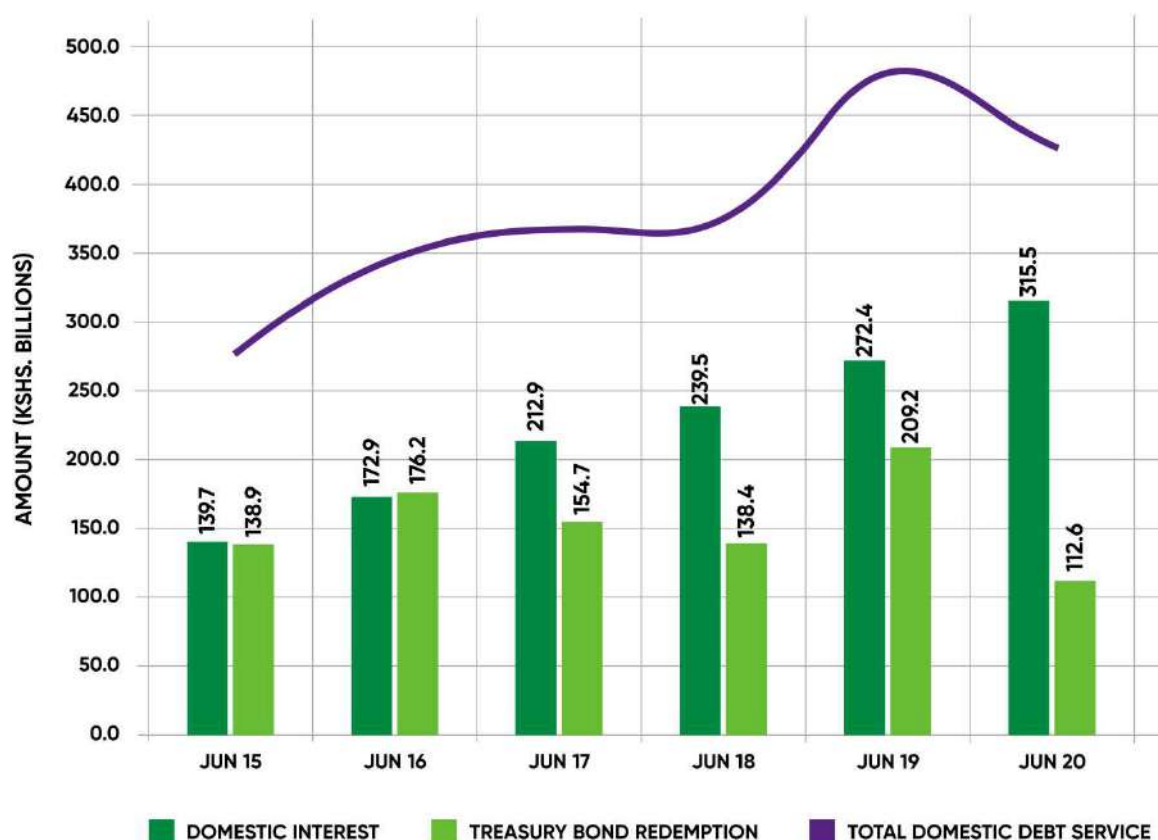


Source: National Treasury – Public Debt Management Office.

3.31 Commercial payments registered the highest contribution to TEDS within the last 3 years despite starting as the least contributor in FY 2013/2014. This increase is attributable to obligations that came due in 2019, including some to the Chinese Exim Bank for the Standard Gauge Railway (SGR) loan²³. Multilateral payments have diminished over the years averaging at 10 percent since FY 2017/2018 given Kenya's middle-income status that was achieved in 2014.

²³ <https://www.internationalbudget.org/wp-content/uploads/state-of-public-debt-Kenya-october-2020.pdf>

Figure 17: Domestic interest payments have increased at an average rate of 16 percent in line with an increase in domestic debt



Source: National Treasury – Public Debt Management Office.

3.32 Domestic interest payments have been outpacing Treasury bond repayments in recent years. The upward growth in domestic interest payments remained elevated in subsequent years where it doubled to Ksh 315.5 billion due to an increase in domestic debts – commercial banks and non-financial institutions (See figure 17). Treasury bond repayments seem to be declining as part of the national government’s medium -term debt strategy of lengthening the maturity structure of debt by issuing long term Treasury bonds.

Debt Sustainability

3.33 Kenya’s ability to service its debt obligation now and in the future can be determined through debt sustainability analysis. Other than the new joint Bank-Fund Debt Sustainability Analysis (DSA) framework 2020 which recently indicated Kenya’s public debt remains sustainable over the medium term,²⁴ several other indicators²⁵ that can be used to assess Kenya’s debt sustainability. These include: the ratio of foreign exchange reserves to

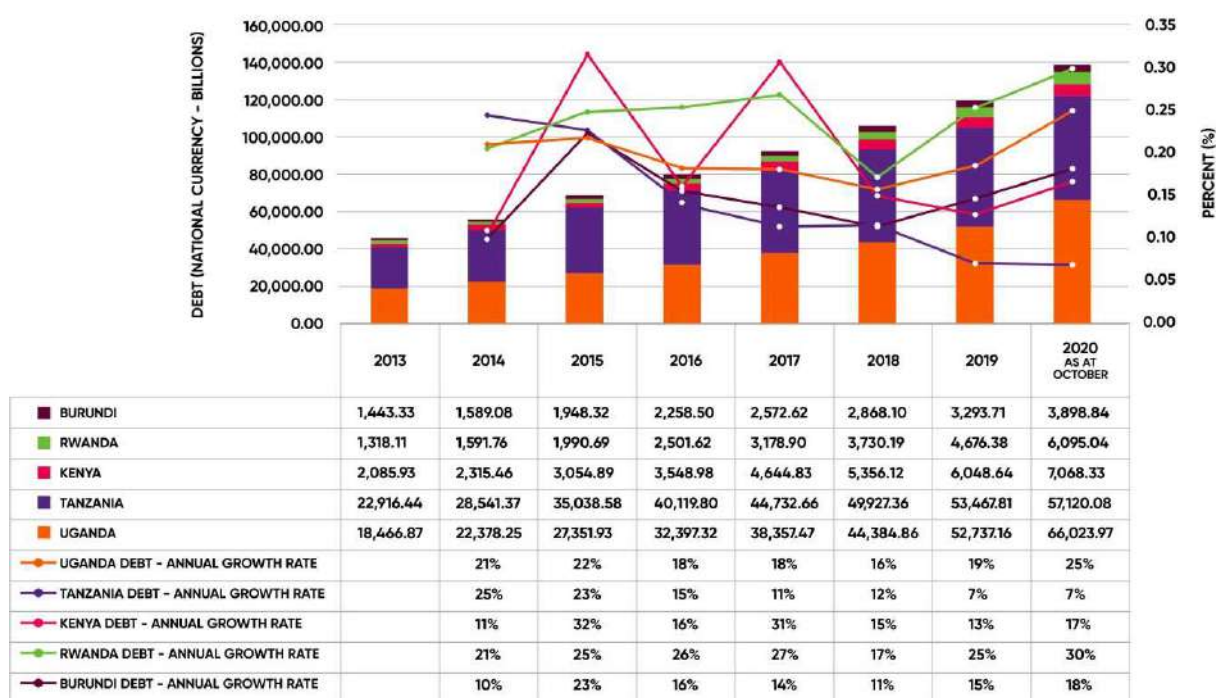
²⁴ National Treasury - Medium-Term Debt Strategy Paper 2020

²⁵ http://www.development-finance.org/en/component/docman/%20doc_download/83-debt-sustainability-indicators-2009-02.html

imports, the ratio of foreign exchange reserves to short term debt, the share of short-term debt in total debt, and interest payments to foreign exchange reserves.²⁶ The DSA supports the country's fiscal responsibility principles as spelled out in the PFM Act 2012, Section 15 (2d) which states that public debt and obligations be maintained at a sustainable level as approved by Parliament.

3.34 Government debt has been growing across the East African Countries (EAC) at an average growth rate of 20 percent. This has raised more concerns on their debt financing capabilities considering that the majority are grappling with revenue underperformance amidst increasing expenditure pressures. Based on the analysis in figure 18 below, Rwanda recorded the highest average growth rate in gross government debt at 25 percent followed by Uganda (20 percent), Kenya (19 percent), Burundi (15 percent), and Tanzania (14 percent) during the period under review.

Figure 18: In the EAC, Rwanda recorded the highest average growth rate in gross govt. debts at 24 percent.

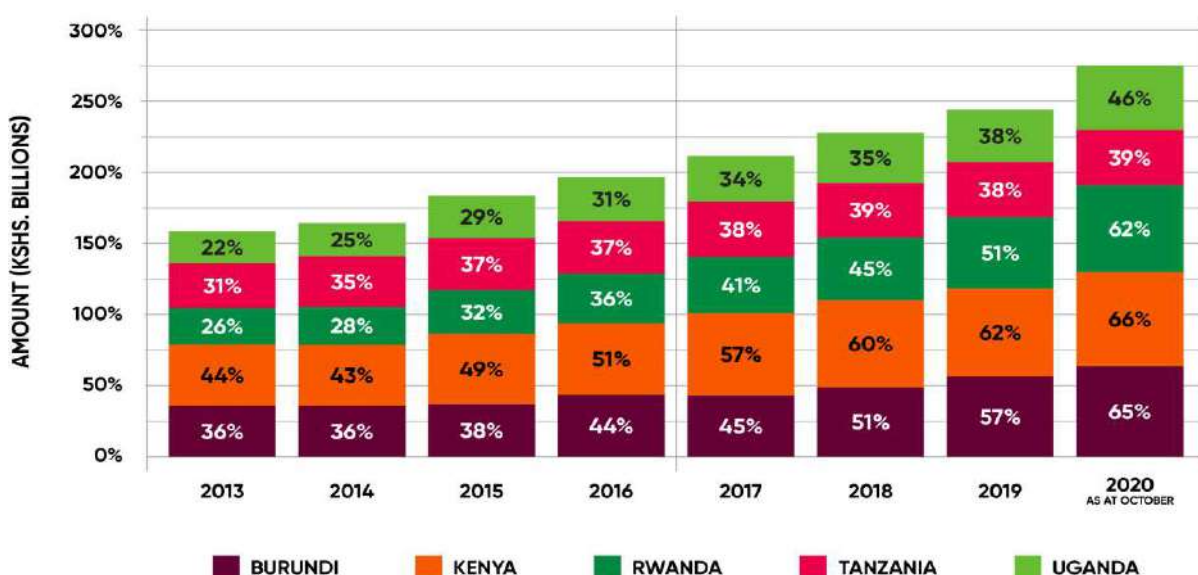


Source: IMF; World Economic Outlook Database, 2020

3.35 Figure 19 below shows that Kenya's Debt-to-GDP ratio is the highest in the EAC. Kenya leads the pack with an average ratio of 54 percent, followed by Burundi at 47 percent, Rwanda at 40 percent, and Uganda at 33 percent during the period under review. A low ratio means there is adequate economic output to repay the debt, while a high ratio implies that a country isn't producing enough to pay off its debts.

²⁶ United Nations Conference on Trade and Development (UNCTAD) - Compendium on debt sustainability and development, 2009. https://vi.unctad.org/resources-mainmenu-64/digital-library?task=dl_doc&doc_name=414_debtsustdev

Figure 19: Kenya's gross Debt to GDP Ratio is highest in the EAC



Source: IMF; World Economic Outlook Database, 2020

3.36 The Debt service-to-revenue ratio is a more practical measure to determine debt sustainability. While debt-to-GDP measures the country's capacity to repay, it does not necessarily demonstrate actual payments from a liquidity standpoint. The debt service-to-revenue measures how much of the revenues actually have to be paid year-on-year and whether the country can afford to pay it off in the face of other budget obligations.

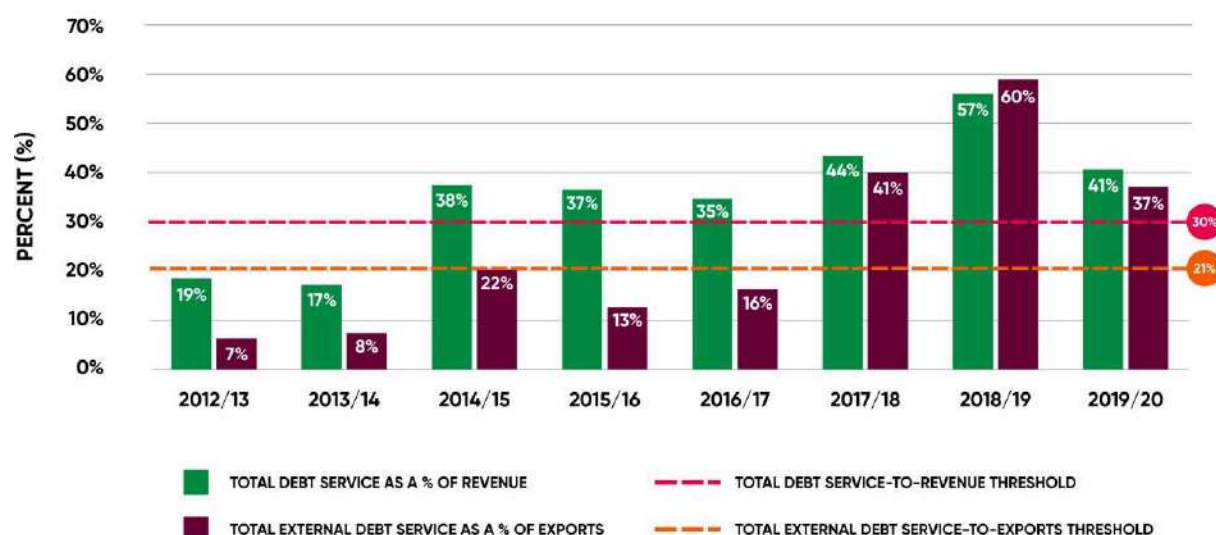
3.37 It has not been clear what is the current benchmark for Kenya's debt service - to - revenue ratio. However, several institutions have estimated it to be in the range of 30 percent.²⁷ PFM regulations 2015, Section 42 (1a) specifies that debt service payments shall be a first charge on the Consolidated Fund and the Accounting Officer shall ensure this is done to the extent possible that the government does not default on debt obligations. This implies that the nationally collected revenues should be first utilized to settle the debts and the remaining resources distributed amongst the implementing entities. Higher debt service to revenue ratio indicates that more debt repayments are being made leading to crowding out of budget items.

3.38 In FY 2019/20 shocks including the pandemic, the locust invasion, and floods have affected the country's revenue potential in FY 2019/20. The debt service-to-revenue ratio has remained higher than the recommended threshold since FY 2014/2015, crowding out the ability of the government to fulfill its budget obligations. In FY 2018/2019, the government

²⁷ <https://cytonnreport.com/topicals/kenyas-public-debt-2020> - Kenya Public Debt

made higher repayments on external syndicated debt and maturity of the 2014 debut Eurobond of USD750 million that matured in June 2019 pushing the ratio to 57 percent.²⁸

Figure 20: Both, total debt service-to-revenue ratio and total external debt service-to-export ratio outstripped the debt sustainability thresholds within the last three years.



Source: National Treasury - Public Debt Management Office & The International Monetary Fund (IMF)

3.39 On the other hand, the external debt service-to-exports ratio also exceeded the set limit of 21 percent²⁹ beginning FY 2017/2018. The ratio indicates how much of Kenya's export revenue will be used up in servicing its debt and thus, also, how vulnerable the payment of debt service obligations is to an unexpected fall in export proceeds³⁰. Export revenue supports the foreign currency payments needed to service external debts. The debt service-to-revenue ratio increased considerably in FY 2018/2019 when the total external debt service peaked at Ksh 369 billion (See Figure 20). Over the medium-term, Kenya needs to enhance its current account to strengthen its foreign currency position, to enable it to fulfill external debt obligations, and shield it from foreign currency fluctuations.

²⁸ Annual Public Debt Report 2018/2019

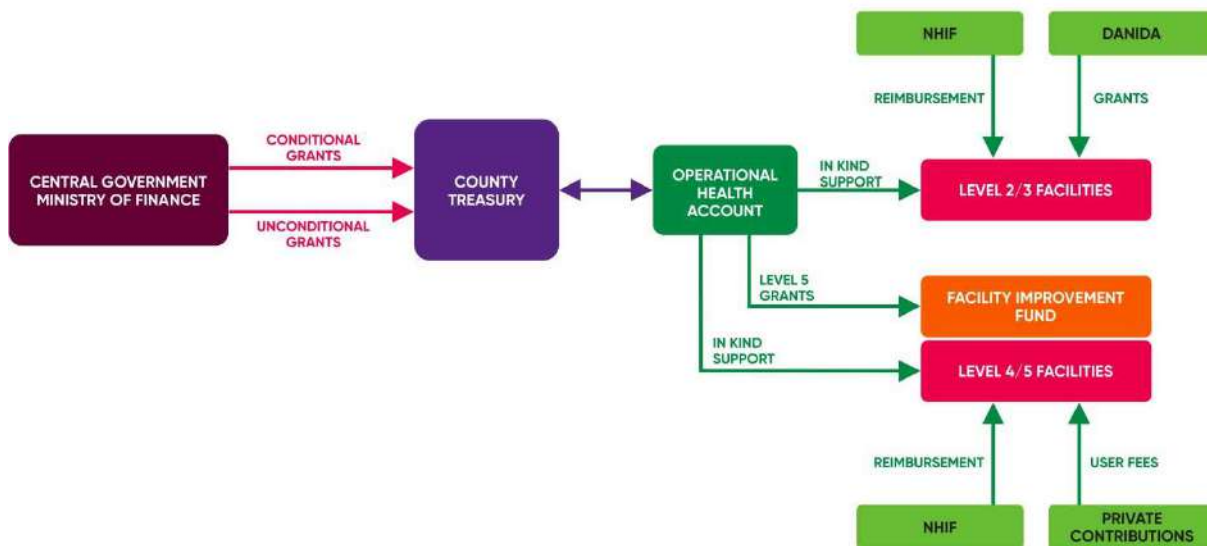
²⁹ <https://www.imf.org/en/Publications/CR/Issues/2020/05/11/Republic-of-Kenya-Request-for-Disbursement-under-the-Rapid-Credit-Facility-Press-Release-49405>

³⁰ <https://www.imf.org/external/pubs/ft/eds/Eng/Guide/file4.pdf>

D. ANALYSIS OF HEALTH SECTOR

3.40 The Kenya health system is devolved to the county level. The fourth schedule of the constitution which outlines the distribution of functions between national and the county governments, devolves all health functions (apart from the policy), to the counties. Over the years the national government has provided conditional grants to the county health facilities and has also sourced goods on their behalf (to be repaid over time).

3.41 Figure 21: Flow of Funds at County Level

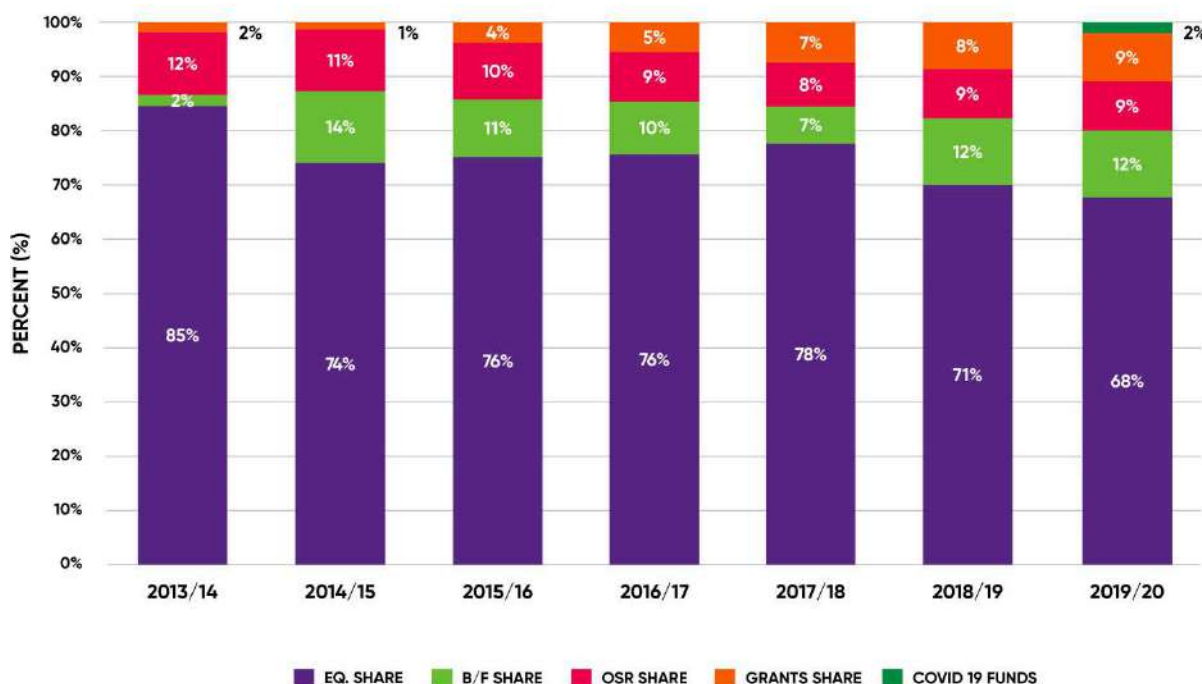


Source: Muikia and Piatti (2018)

3.42 County governments rely heavily on the national government for the resources to finance budgets. In FY 2019/2020, the contribution of Equitable share revenues declined to an all-time low of 68 percent due to additional revenues from the National Government through the Ministry of Health (MOH) for COVID-19 interventions. These amounts include: Ksh 5 billion towards the management of the pandemic, Kshs. 2.36 billion to cater for allowances for Front Line Health Care Workers, Kshs.350 million from DANIDA as a grant to support Level 2 and 3 Health Facilities to fight the pandemic.³¹

³¹ Controller of Budget - Annual National Government Budget Implementation Review Report

Figure 22: County governments have been relying heavily on Equitable Share revenues over the years, even though it is starting to diminish.



b/f refers to Balances brought forward

Source: Controller of Budget - Annual National Government Budget Implementation Review Reports

3.43 National government transfers to counties are unreliable. Budget releases from the treasury are not always on time which can cause delays. This affects planning and cash flow forecasting due to delayed disbursements from the national government.

3.44 Health is a priority sector, yet health budgets are not fully executed. Counties typically allocate funds based on their priorities and health tends to be a high priority sector across the board. Due to delays in cash transfers, when cash is received by the county, the County Treasury apportions revenues depending on budget pressures. Despite health being a priority sector, county health budgets are not executed in full which also contributes to lower than optimal performance.

Table 5: Budget performance in select counties.

2018/19	Nakuru	Narok	Kwale	Mombasa	Kirinyaga
Budget (Ksh Billions)	6.3	2.5	3.1	2.6	2.2
Expenditure (Ksh Billions)	3.8	2.3	2.5	3.0	2.1
Budget Execution Rate	60.3%	92.0%	80.6%	115.4%	95.5%

Health Share in County Spending	34%	25%	27%	20%	37%
Ranking in Total Share of Spending	1	1	1	2	1

Source: Muikia/Piatti

3.45 Health facilities receive funds from county revenues, conditional grants, and user fees. Apart from financing from the county equitable share allocation, counties health facilities receive other resources as follows:

- All county health facilities: *Linda Mama* maternity reimbursement, selected donor financing
- Level 2 and 3 facilities: User fee reimbursements
- Level 4 and 5 facilities: Level 5 grant, and user fees

3.46 Many Level 4 and 5 hospitals are allowed to collect user fees which they can directly administer, but a significant number have to send these resources back to the county for redeployment and as such have limited autonomy from the county. Level 2 and 3 facilities rely on county allocations as well as the *Linda Mama* and User fee reimbursements which are all directly reliant on national government transfers and by extension, are affected by the debt service-to-revenue ratio.

E. BUDGET PERFORMANCE OF HEALTH SECTOR

3.47 Prepared and guided by a policy framework, budgets are detailed government expenditures meant to implement programmes and activities within a financial year. By adopting a Programme Based Budget (PBB) approach - which organizes budgets around objectives rather than inputs³² - the Government of Kenya (GoK) has continued to prioritize spending in strategic interventions under the “Big Four” Agenda which amongst other objectives aims to enhance universal health coverage within the Health Sector.

NATIONAL GOVERNMENT HEALTH SERVICE PROVISION

3.48 Each year, the National Government makes budgetary allocations to sectors informed by macroeconomic and fiscal outlook while observing the resource envelope. There are ten sectors presented in alphabetical order as follows:

- Agriculture, Rural and Urban Development (ARUD)
- Education
- Energy, Infrastructure, and Information Communications Technology (EI & ICT)
- Environment Protection, Water and Natural Resources (EWNR)
- General Economic and Commercial Affairs (GECA)
- Governance, Justice, Law, and Order (GJLO)
- Health

³² <https://www.internationalbudget.org/wp-content/uploads/Improving-Program-Based-Budgeting-in-Kenya.pdf>

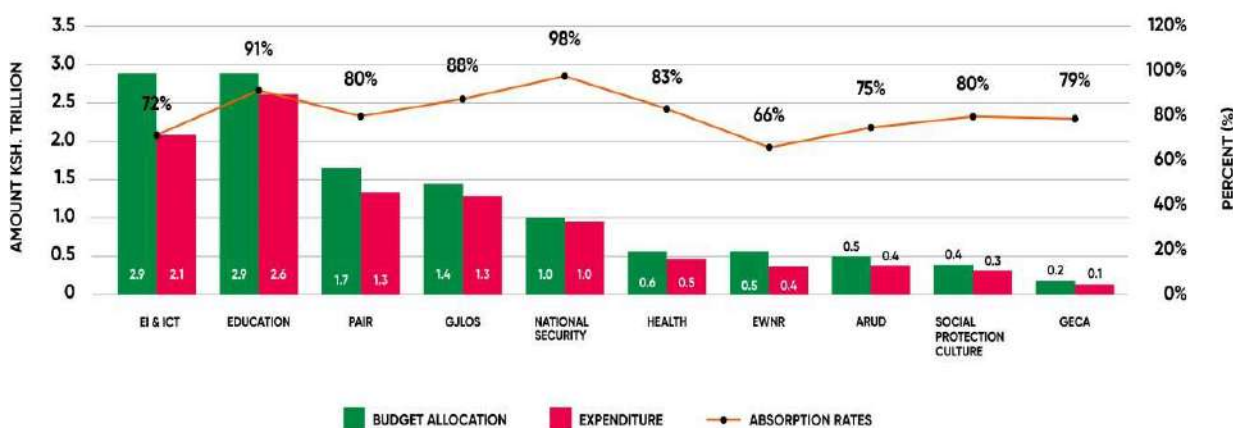
- National Security
- Public Administration and International Relations (PAIR)
- Social Protection, Culture, and Recreation Sector.

3.49 The Health Sector at the National level plays a critical role in providing affordable and equitable health care while ensuring quality service delivery. The sector comprises of:

- Ministry of Health, and
- Seven Semi-Autonomous Government Agencies (SAGAs) namely: ³³
 - Kenyatta National Hospital (KNH),
 - Moi Teaching and Referral Hospital (MTRH),
 - Kenya Medical Research Institute (KEMRI),
 - Kenya Medical Supplies Authority (KEMSA),
 - Kenya Medical Training College (KMTTC),
 - National AIDS Control Council (NACC), and the
 - National Health Insurance Fund (NHIF).

3.50 Additionally, resources are managed within the sector in five broad programmes. These include: Preventive, Promotive & Reproductive, Maternal, Newborn Child and Adolescent Help (RMNCAH), National Referral & Specialized Services, Health Research and Development, General Administration, Planning & Support Services, and Health Policy and Standards and Regulations.

Figure 23: Kenya has prioritized budget spending in two main sectors over the last 8 years - Energy, Infrastructure & Information Communications Technology, and Education.



Source: Controller of Budget - Annual National Government Budget Implementation Review Report.

3.51 Between FY 2012/2013 and 2019/2020, both the Education and EI & ICT sector received the highest budgetary allocation amounting to Kshs 2.9 trillion. This was Kshs

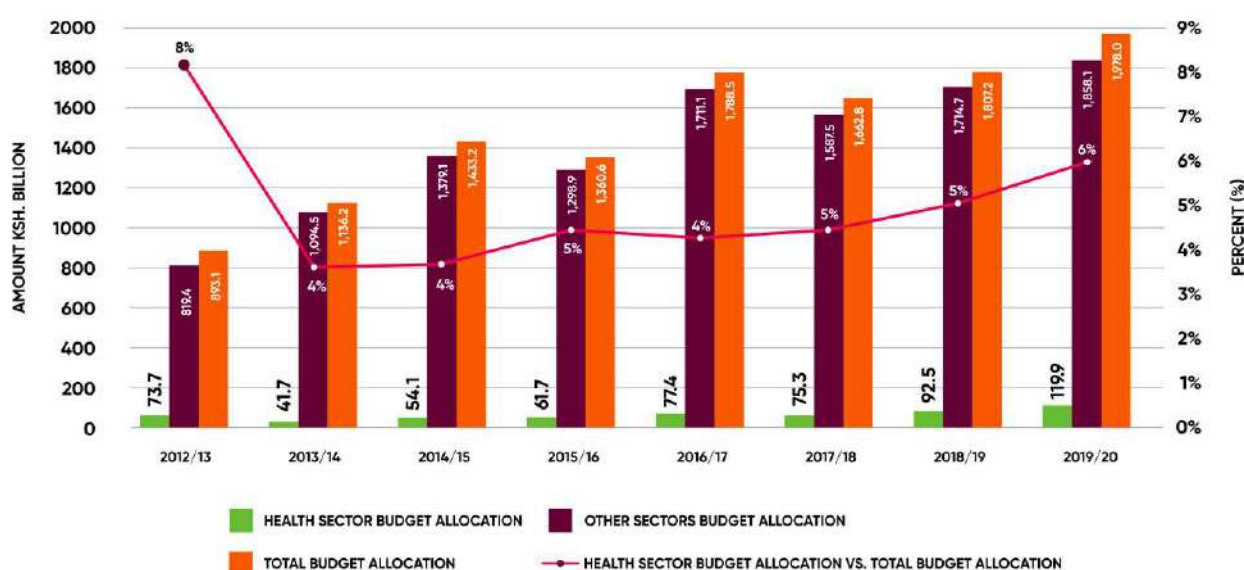
³³ Controller of Budget - Annual National Government Budget Implementation Review Reports

0.7 trillion more than what Health, Environment Protection Water and Natural Resources (EWNR), Agriculture Rural and Urban Development (ARUD), Social Protection, and General Economics and Commercial Affairs (GECA) were allocated collectively. Further analysis shows that the National Security sector recorded the highest absorption rate at 98 percent while the EWNR sector had the least at 66 percent.

3.52 Health has taken sixth place in spending priority over the last eight years. Health sector allocation over the period amounted to Kshs 0.6 trillion. This is because, at the national level, government intervention is restricted to policy and implementation at the Semi-Autonomous Government Agencies (SAGAs) and national referral facilities; most of the health sector is devolved. Health, from an absorption perspective, performed better at 83 percent compared to the other sectors.

3.53 Over the last eight years, as shown in figure 24 below, Kenya's health budget expanded from Ksh. 73.7 billion to Ksh. 119.9 billion representing an increase of 63 percent. The highest allocation was recorded in FY 2012/2013 amounting to 8 percent of the total budget. However, the share of allocation dropped by half in the following year as the overall budget grew by Ksh.243 billion. Since then, the share of health budget allocation stagnated staying within the range of 4 - 5 percent until FY 2019/2020 where it assumed an upward trajectory of 6 percent after the actual allocations increased by Ksh 27.4 billion equivalent to a growth rate of 30 percent. This drastic increase was largely attributed to the pandemic which the National Government had to address through a supplementary budget skewed towards the sector and the counties. Despite these upward-looking allocations, they evidently fell below the Abuja declaration of 2001 where the GoK had committed to increasing health allocation to 15 percent each year.³⁴

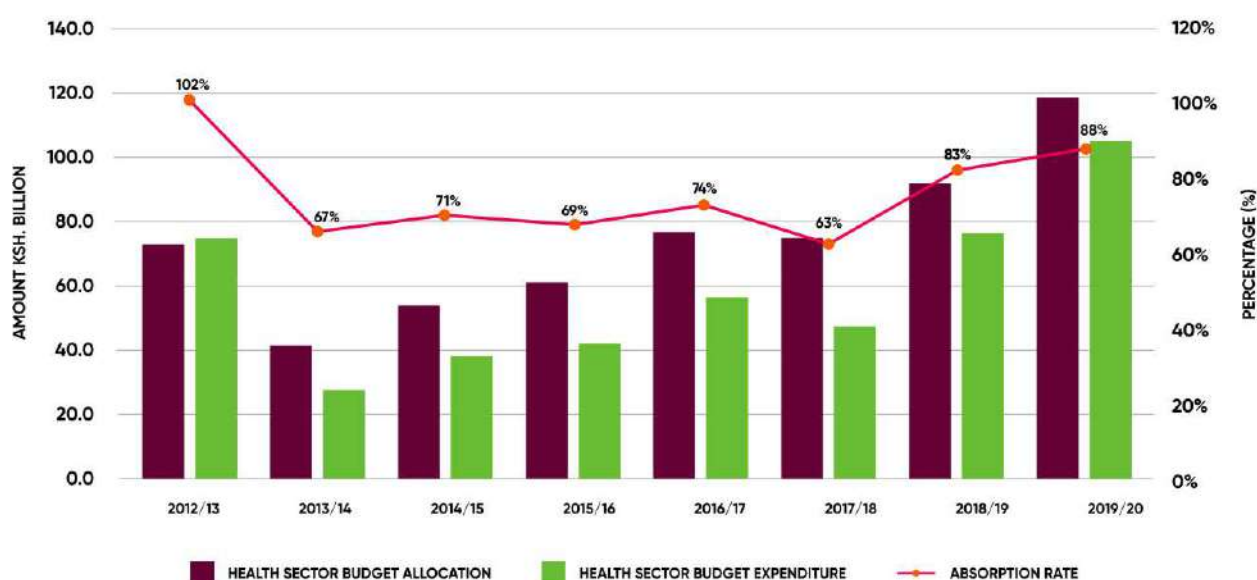
Figure 24: The share of health allocation over the year has been way below the Abuja Declaration threshold of 15 percent.



Source: Controller of Budget - Annual National Government Budget Implementation Review Report.

³⁴ Falling Behind the Promise. Analysis of the Health Sector Budget for FY 2011/2012 (European Commission and Australian Development Cooperation)

Figure 25: Health Sector Budget performance has greatly improved within the last two years.



Source: Controller of Budget - Annual National Government Budget Implementation Review Report

3.54 Budget execution in the Health sector during FY 2012/2013 was higher than the allocated budget representing an absorption rate of 102 percent. According to the Office of the Controller of Budget (OCoB), this anomaly was attributed to inadequate capacity of the system users. As such, the information on expenditure provided by MDAs had discrepancies that were not resolved by the time the annual budget implementation report was compiled. Despite the budget allocations rapidly increasing beginning FY 2013/2014 at an average growth rate of 20 percent, the absorption rates stagnated for five years before jumping in FY 2018/2019 by 20 percent from the previous year (see figure 25 above).

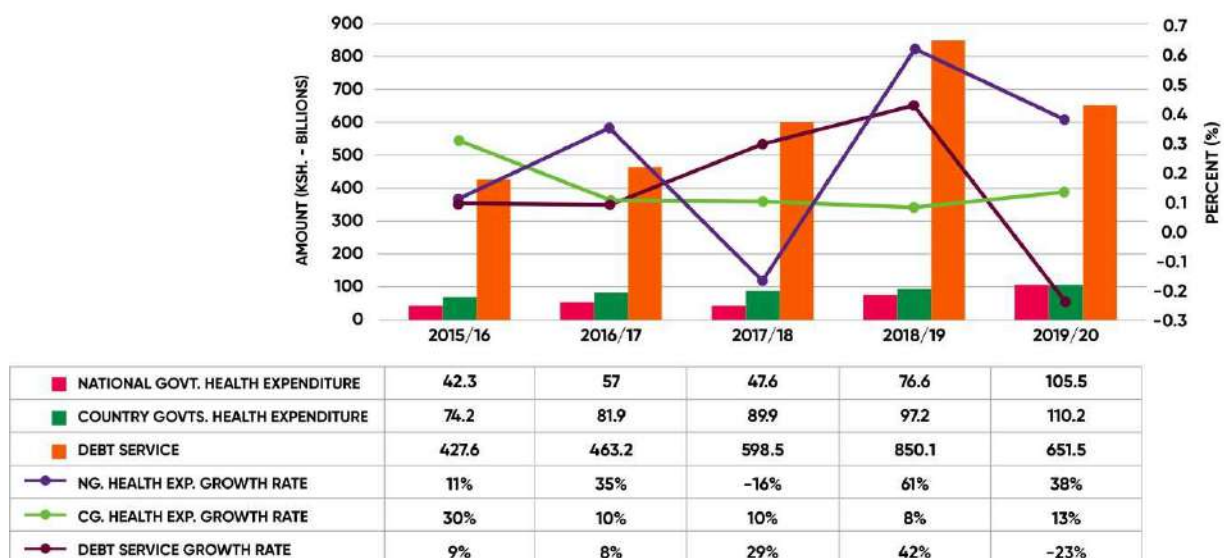
Figure 26: Recurrent expenditure peaked in FY 2019/2020 as the government responded to COVID 19 interventions.



Source: Controller of Budget - Annual National Government Budget Implementation Review Report

3.55 Figure 26 shows that the annual growth rates for both health recurrent and development expenditures are quite erratic. The recurrent expenditures - which are incurred while operating the services provided, commenced from a high note of Ksh 55.7 billion in FY 2012/2013 (This explains the abnormal overall expenditure in figure 25) before dropping by 70 percent. The absolute recurrent expenditure figures steadily improved in subsequent years - from lows of Ksh. 16.6 billion to highs of Ksh 66.7 billion in FY 2019/2020 where the government responded to COVID interventions which were more recurrent in nature. On the flip side, the development expenditures - which aims to create or renew assets depicted similar fluctuating trends with FY 2016/2017 being the only period they had almost matched recurrent expenditures - a difference of Ksh. 2.6 billion or 9 percent.

Figure 27: While comparing the annual average growth rates, National government health expenditures have outperformed county government health expenditures in the last five years.



Source: Controller of Budget - Annual National Government Budget Implementation Review Report

3.56 Both, National and County expenditures on health have been increasing annually at an average growth rate of 26 percent and 14 percent respectively. In FY 2018/2019 when the national government made the highest amount of debt services (Ksh. 850.1 billion), health expenditure at the national level also expanded by 61 percent while county government health expenditures increased at a decreasing rate of 8 percent compared to previous year. In the following FY 2019/2020, debt service declined by Ksh 198.6 billion or 23 percent while National Government health expenditures grew at a slower pace of 38 percent as County Government health expenditures expanded much faster at 13 percent compared to previous year. Suffice to say that, there is no direct correlation between debt service to health expenditure at both levels of government even when considering other financial years.

Table 6: The overall share of Conditional Grants focusing on health to County Governments have averaged at 30 percent over the last three years.

Conditional allocations to County Governments from National Government Revenue				
	2017/18	2018/19	2019/20	Totals
Health Sector allocations				
Conditional Grant- Leasing of Medical Equipment	4.5	9.4	6.2	20.1
Conditional Grants to Level-5 Hospitals	4.2	4.33	4.33	12.86
Conditional Grant- Compensation for User Fee Foregone	0.9	0.9	0.9	2.7
Sub-Total	9.6	14.63	11.43	35.66
Other Sector allocations				
Conditional Grant- Road Maintenance Fuel Levy	11.07	8.27	8.98	28.32
Conditional Grant- Rehabilitation of Village Polytechnics	2	2	2	6
Supplement for construction of County Headquarters	0.61	0.61	0.49	1.71
Sub- Total	13.68	10.88	11.47	36.03
Total	23.27	25.5	22.9	71.67
Share of Health Sector Allocations	41%	57%	50%	50%
Conditional allocations to County Governments from Loans and Grants from Development Partners				
	2017/18	2018/19	2019/20	Totals
Health Sector Grants				
Transforming Health Systems for Universal Care project (WB)	2.75	3.64	2.99	9.38
DANIDA Grant (Universal Healthcare in Devolved System Program)	0.76	1.01	0.99	2.76
World Bank Loan to Supplement financing County Health facilities	0.87	0	0	0.87
Sub-Total	4.38	4.65	3.98	13.01
Other Sector Grants				0
IDA (World Bank) credit: Kenya Urban Support Project (KUSP) -Urban Institutional Grants (UIG) + Bal	0	13.32	11.86	25.18
IDA (World Bank) credit (National Agricultural and Rural Inclusive Growth Project (NARIGP)	1.05	2.95	7.23	11.23

IDA (World Bank) credit: Kenya Devolution Support Project (KDSP)" Level 2 grant"••	0	4	4.89	8.89
Conditional Allocation- Other Loans & Grants	7.84	0	0	7.84
IDA (World Bank) credit: Water & Sanitation Development Project (WSDP)	0	3.8	3.5	7.3
IDA (World Bank-) Kenya Climate-Smart Agriculture Project (KCSAP)	0	3.04	3.64	6.68
IDA (World Bank) credit: Kenya Devolution Support Project (KDSP) (Level 1 Grant)	2.15	2.3	1.41	5.86
EU Grant (Instruments for Devolution Advice and Support - IDEAS)	0.99	1.04	0.49	2.52
Sweden- Agricultural Sector Development Support Programme (ASDSP) II + Bal c/f	0	1.01	0.85	1.86
EU- Water Tower Protection and Climate Change Mitigation and Adaptation Programme (WaTER)	0	0.88	0.5	1.38
German Development Bank (KfW)- Drought Resilience Programme in Northern Kenya (DRPNK)	0	0	0.35	0.35
Sub-Total	12.03	32.34	34.72	79.09
Total	16.41	36.99	38.7	92.1
Share of Health Sector Grants	27%	13%	12%	14%
Grand Total	39.68	62.49	61.6	163.77
Overall Share of Health Sector Conditional Grants	35%	31%	25%	30%

Source: Controller of Budget - Annual National Government Budget Implementation Review Report

3.57 On average, the overall share of Health sector Conditional Grants to Counties amounts to 30 percent of total conditional grants over the last three years. Total conditional grants over the period amounted to 164 billion. Kshs 48.67 billion focused on Health Sector programmes. Of this, Kshs 36 billion was received from National Government Revenue and Ksh. 13 billion from Development Partners. Comparatively, FY 2018/2019 had the highest allocation of conditional grants representing a 58 percent increase from previous year. This is mainly attributed to the introduction of new grants amounting to Kshs 22 billion. Total allocations to the health sector also increased by Ksh. 5 billion (38 percent) as the conditional funding for Leasing of Medical Equipments more than doubled to hit Kshs 9.4 billion.

F. STATISTICAL ANALYSIS

3.58 The objective of opportunity cost analysis is to ensure the country's financial resources are utilized efficiently amid the scarcity. In microeconomic theory, the opportunity cost is depicted as the loss of possible benefit from different options when one specific option is picked over the others. In this context, the study tries to estimate the possible loss the country is facing when it chooses to service debt over financing health care. To establish the opportunity cost of debt financing to health care provision and financing in Kenya, it is important to consider other competing options. In this case, other sectors compete for budget allocation from the government. To estimate the loss of potential gain from these sectors, the study approached the analysis from the angle of actual expenditures due to the findings on low absorption rates; budgeted amounts from this absorption perspective may then overestimate actual health service delivery metrics.

3.59 Because health service delivery happens at two levels of government, the analysis has been disaggregated. We undertook three categories of analysis looking at aggregated and disaggregated debt as follows:

- National debt effect:
 - How aggregate debt servicing affects health at the national level
 - How different categories of debt servicing affects health at the national level
- County debt effect: How debt affects health financing at the county level
 - How aggregate debt servicing affects health at both the county level
 - How different categories of debt servicing affects health at the county level

3.60 The analysis took into account the following factors:

Step 1: Choice of model: The choice of a time series model was to enable the establishment of the relationship of how health expenditure adjusts due to changes in total debt service and other national sector expenditures.

Step 2: Identification of variables of interest: Variables of interest include

- National and county health expenditure
- Total debt service, and
- All other national and county expenditures³⁵

A unit root test was undertaken to establish stationarity³⁶. In cases where variables did not have stationarity, they were differenced until they became stationary.

Step 3: Regression analysis: A regression was undertaken to establish the relationship between health expenditure and debt financing from an aggregate point of view, national point of view, and county point of view - controlling for each of the other government expenditures.

³⁵ Agriculture Rural & Urban Development, Energy, Infrastructure & ICT, Public Administration and International Relations, General Economics & Commercial Affairs, Health, Education, National Security, Governance, Justice, Law & Order, Social Protection, Culture & Recreation, and Environment Protection, Water & National Resources

³⁶ Stationarity of a series (that is, a variable) implies that its mean, variance and covariance are constant over time.

3.61 The unit root test results are presented in Table 7 below. The Governance, Justice, Law & Order (GJLO) expenditure growth rate, Social Protection Culture, and Recreation expenditure growth rate, and Public Administration and International Relations expenditure growth rate were all stationary at levels. Education and national security expenditure were stationary at first difference while debt financing, health expenditure, other sectoral expenditure growth rates were stationary after the second difference. Unit root tests was done before conducting the empirical analysis to determine the stationarity of the debt financing and expenditure variables. The use of non-stationary variables causes spurious regression results. The Augmented Dickey-Fuller test (ADF test) was used as presented in equation (1). The unit root test established if $\rho = 1$. If there exists a unit root, the variable is differenced in order to make it stationary.

$$I. \quad y_t = \rho y_{t-1} + \varepsilon_t \quad \text{Eq.1}$$

Where, $\rho = 1$; $\varepsilon_t \sim WN(0, \sigma^2)$ - The mean revolves around 1.

The rule of thumb is that if $R^2 > DW$ (R-squared is greater than Durbin Watson statistics), then it confirms the result is spurious because both series are non-stationary and therefore, the results cannot be used for forecasting or hypothesis testing unless the variables are subjected to ADF test.

The null hypothesis is that the series has a unit root. Therefore, we reject the null hypothesis if absolute value of computed tau statistics exceeds the interpolated critical values of Dickey and Fuller or MacKinnon. The study adopted the recommended benchmark for a significance level of 5%. The output of the ADF tests is presented below.

Table 7: Unit root test results for debt financing and national expenditure variables.

Variables	Correction of non-stationarity	P values
Health expenditure growth rate	2nd difference (+ intercept)	0.0000***
Debt financing growth rate	2nd difference (+ intercept)	0.0001***
Total Domestic Debt Service growth rate	2nd difference (+ intercept)	0.0002***
External Interest growth rate	At Level (intercept)	0.0002***
External Principal growth rate	At Level (intercept+trend)	0.0713*
Agriculture Rural & Urban Development expenditure growth rate	2nd difference (+ intercept)	0.0002***
Education expenditure growth rate	1st difference (+ intercept)	0.0291**
Energy, Infrastructure & ICT expenditure growth rate	2nd difference (+ intercept)	0.0228**
Environment Protection, Water & National Resources expenditure growth rate	2nd difference (+ intercept)	0.0009***
General Economics & Commercial Affairs expenditure growth rate	2nd difference (+ intercept)	0.0000***
Governance, Justice, Law & Order expenditure growth rate	At Level (intercept)	0.0324**
National Security expenditure growth rate	1st difference (+ intercept)	0.0441**

Public Administration and International Relations expenditure growth rate	At Level (intercept)	0.0025***
Social Protection, Culture & Recreation expenditure growth rate	At Level (intercept)	0.0990*

Significance level: 1%***; 5%**; 10%*

*Note that the annual expenditure data for the variables were converted to quarterly data for the purpose of analysis.

3.62 For the independent variables (debt financing and other government spending) the study estimates the coefficients as follows:

$$\text{II. } y_{it} = f(x_{it}, \beta) + \varepsilon_{it} \dots\dots\dots \text{Eq.2}$$

Where,

y_{it} is the health expenditure

x_{it} is the independent variables (debt financing, other government expenditures)

ε_{it} is the error term

$$\text{III. } y_{it} = \beta_1 x_{i1} + \beta_2 x_{i2} + \varepsilon_{it} \dots\dots\dots \text{Eq.3}$$

Where, β_i is the coefficients, x_{it} is the debt financing and z_{it} is the other national expenditures.

3.63 Aggregated debt effect on national health financing

$$\text{IV. } y_{it} = \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \beta_4 x_{i4} + \beta_5 x_{i5} + \beta_6 x_{i6} + \beta_7 x_{i7} + \beta_8 x_{i8} + \beta_9 x_{i9} + \beta_{10} x_{i10} + \varepsilon_{it} \dots\dots\dots \text{Eq.4}$$

Assumptions in the model:

1. There is a relationship between health expenditure and debt financing.
2. Other sectoral expenditures are the alternative sectors in which the government could have channeled the money allocated to health.
3. The model did not factor in the effect of user fees and private donations (which are largely dependent on level 4 and 5 hospitals) because of the unavailability of data.

3.64 Disaggregated debt effect on national health financing

$$\text{V. } y_{it} = \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \beta_4 x_{i4} + \beta_5 x_{i5} + \beta_6 x_{i6} + \beta_7 x_{i7} + \beta_8 x_{i8} + \beta_9 x_{i9} + \beta_{10} x_{i10} + \varepsilon_{it} \dots\dots\dots \text{Eq.5}$$

Where β_i is the coefficients, x_{i1} is the domestic debt, x_{i2} is the concessional debt (multilateral & bilateral), x_{i3} is the concessional debt from external sources, and z_{it} is the other national expenditures.

3.65 Aggregate debt effect on county health financing

$$\text{VI. } y_{it} = \beta_1 x_{it} + \beta_2 z_{it} + \varepsilon_{it} \dots\dots\dots \text{Eq.6}$$

Where, β_i is the coefficients, x_{it} is the total debt service growth rate, and z_{it} is the other departmental county expenditures.

3.66 Disaggregated debt effect on county health financing

$$VII. \quad y_t = \beta_1 x_{t1} + \beta_2 x_{t2} + \beta_3 x_{t3} + \beta_4 z_{t4} + \alpha_8 \dots \dots \dots Eq.7$$

Where, β_i is the coefficients, x_{t1} is the domestic debt, x_{t2} is the concessional debt (multilateral & bilateral), x_{t3} is the concessional debt from external sources, and z_{t4} is the other departmental county expenditures.

Results

Debt Service on National Health Financing

3.67 The data used in the analysis is the national health expenditure, debt financing, and other national sectoral expenditures for the year 2013-2020 presented in Appendix

1. In deriving the data, the following should be noted:

- I. In order not to face the challenge of lack of degrees of freedom due to the availability of 8 data points, the data was transformed into quarterly expenditure data.
- II. The growth rate of expenditures and debt financing was used instead of the actual expenditure values.

Aggregate debt effect on national health financing

3.68 The regression results showed that all other factors constant, a percentage change in debt financing causes a 65 percent increase in health expenditure. In the model, 88 percent (R-square) variation in health expenditure is explained by debt financing and other sectoral expenditures included in the model. A percentage in Governance, Justice, Law & Order expenditure growth rate causes a 48.4 percent decrease in health expenditure. Other variables are statistically insignificant. This implies that the debt burden shifts the expenditures from other sectors towards health expenditure.

Table 8: Regression results for health expenditure as a function of debt financing and other sectoral expenditures (Equation4).

Variables	Coefficients (%)	P values
Health expenditure growth rate was the dependent variable		
Debt financing growth rate	65.8	(0.0206)**
Agriculture Rural & Urban Development expenditure growth rate	-3.05	(0.9093)
Education expenditure growth rate	99.7	(0.1543)
National Security expenditure growth rate	91.2	(0.4197)
Energy, Infrastructure & ICT expenditure growth rate	45.8	(0.3697)
Environment Protection, Water & National Resources expenditure growth rate	11.82	(0.2282)
General Economics & Commercial Affairs expenditure growth rate	17.1	(0.6948)

Governance, Justice, Law & Order expenditure growth rate	-48.4	(0.0149)**
Public Administration and International Relations expenditure growth rate	-0.8	(0.9435)
Social Protection, Culture & Recreation expenditure growth rate	4.3	(0.6146)

Significance level: 1%***; 5%**; 10%*

Disaggregated debt effect on national health financing

3.69 The study showed that one percent growth rate in servicing of external debt interest, causes a reduction of health expenditure by 23.4 percent at the national government. However, the growth rate in financing of total domestic debt service growth and external principal showed a positive and significant relationship with the growth rate in health expenditure by 13.7 and 1.2 percent respectively. This implies that, as Kenya shifts some finances to service domestic debt and external principal, the health sector remains a priority sector as the expenditure continues to rise.

3.70 As indicated in Table 9 below, the opportunity cost of financing education by the national government causes a reduction in health expenditure growth rate by 2.6 percent. Similarly, increase in Energy, Infrastructure & ICT expenditure growth rate, Public Administration and International Relations expenditure growth rate, Governance, Justice, Law & Order expenditure growth rate, and Environment Protection, Water & National Resources expenditure growth rate has an adverse effect on the growth rate of health expenditure. This means that there is a high probability that funds were reallocated from the health sector and channeled to these sectors explaining a decline in health expenditure growth rate.

Table 9: Regression results for disaggregated debt effect on health financing (Equation 5)

Variables	Coefficients (%)	P values
Health expenditure growth rate was the dependent variable		
Total Domestic Debt Service growth rate	13.7	(0.0052)***
External Interest growth rate	-23.4	(0.0043)***
External Principal growth rate	1.2	(0.0432)**
Agriculture Rural & Urban Development expenditure growth rate	-3.7	(0.2546)
Education expenditure growth rate	-2.6	(0.0237)**
National Security expenditure growth rate	2.3	(0.2447)
Energy, Infrastructure & ICT expenditure growth rate	-1.2	(0.0051)***
Environment Protection, Water & National Resources expenditure growth rate	-0.8	(0.0782)*

General Economics & Commercial Affairs expenditure growth rate	1.3	(0.0402)**
Governance, Justice, Law & Order expenditure growth rate	-2.2	(0.1008)*
Public Administration and International Relations expenditure growth rate	-2.4	(0.0517)*
Social Protection, Culture & Recreation expenditure growth rate	(the variable was dropped to make the model significant)	

Significance level: 1%***; 5%**; 10%*

Debt Service Effect on County Health Financing

- Aggregated debt effect on county health financing

3.71 The opportunity cost of debt service on county health financing is positive at the county level. The results showed that a one percent increase in growth rate resulted in an increase in total debt service growth rate by 13.7 percent. This implies that, as the national government continues to clear outstanding debt service in the country, the county health expenditure is still given priority over other departments. This is supported by the negative relationship depicted by the model between growth rate in health expenditure and other county department expenditure growth rates.

Table 10: Regression output for the effect of debt servicing on county health expenditure (Equation 6)

Variables	Coefficients (%)	P values
County Health expenditure growth rate was the dependent variable		
Total Debt Service growth rate	13.7	(0.0052)*
Other county departmental expenditures growth rate	-23.4	(0.0043)*

Significance level: 1%***; 5%**; 10%*

- Disaggregated debt effect on county health financing

3.72 Servicing of external interest rate has the same detrimental effect on the county health expenditure just like it is at the national level, however at a lower level. The findings showed that a one percent change in servicing of external interest causes a 10.6 percent reduction in health expenditure growth rate at the county level. Additionally, a one percent change in expenditure growth rates from other departments in the county causes a reduction in health expenditure by 13.2 percent.

Table 11: Regression output for the effect of disaggregated debt servicing on county health expenditure (Equation 7)

Variables	Coefficients (%)	P values
County Health expenditure growth rate was the dependent variable		
Total Domestic Debt Service growth rate	-18.7	(0.4360)
External Principal growth rate	2.1	(0.0312)**
External Interest growth rate	-10.6	(0.0767)*
Other county departmental expenditures growth rate	-13.2	(0.0001)***

Significance level: 1%***; 5%**; 10%*

DISCUSSIONS

3.73 The effect of debt financing on health expenditure both at the national and county governments is positive. This implies that the two governments equally prioritize health expenditure just as it does when servicing the debt over expenditures in other sectors and departments. Literature has shown that the marginal negative effect of the relationship between the public debt burden and health expenditure often turns out to be positive when the quality of the institutions is at maximum. This suggests that the relationship between the public debt burden and health expenditure in Sub-Saharan African countries is a function of institutional quality³⁷. Therefore, it is important for the government to minimize its debt accumulation and intensify efforts toward the improvement of institutional quality.

3.74 The results reveal an upward trend in public health expenditure amidst rising debt service. This appears to contradict the popular belief that an increase in debt financing leads to a decline in government expenditure on health. The findings conform with a few pieces of literatures that have also established a positive relationship between debt financing and health expenditures (Fosu, 2008; Kirigia, Nganda, Mwikisa & Cardoso, 2011; Chubrik, Mogilevsky, Sinitsina & Dabrowski, 2011; and Said & Maria, 2020).

3.75 Debt financing has a positive effect on health expenditure growth rates at both levels of government. The effect is felt more at national level (65 percent) compared to county (13.7 percent). It can be pointed out that the health sector in the country remains a priority sector despite an upsurge in debt financing. Arguably, in the event that the national revenues decline substantially to an extent that debt servicing is compromised, there is a high likelihood that health sector expenditures may be crowded out as they compete for limited resources.

3.76 The model indicates that there is a positive relationship between total domestic debt servicing, external principal servicing, and health sector expenditure (See Table 9). Apparently, this may not always be the case especially during crisis periods such as the COVID-19 pandemic where health sector expenditures increase as the government is accorded debt relief which consequently postpones outstanding debt service.

³⁷ Said, R., & Morai, A. S. (2020). Relationship between Public Debt Burden and Health Expenditure in Sub-Saharan African Countries: The Role of Institutional Quality. *Journal of Business and Social Review in Emerging Economies*, 6(2).

3.77 Analysis reveals that there is a negative correlation between the health sector expenditure growth rate and other sector expenditures (See Table 9). As earlier mentioned, this could be a result of in-year reallocations. Conversely, from an execution perspective, the growth rate for health sector expenditure could be lagged by internal challenges, for example, institutional gaps as other sector expenditures expand typically.

3.78 Table 11 showed that an increase in external interest servicing affects county health expenditures negatively (10.6 percent). It can be argued that, since counties receive funds from the national government on a monthly basis as per the cash disbursements schedule, there are possibilities that national revenues are affected by external interest payouts which are made more frequent and fluctuating based on market rates. This leads to late disbursement which derails the expenditures.

3.79 Servicing of external interest rate has the same detrimental effect on the county health expenditure just like it is at the national level, however at a lower level. The findings showed that a one percent change in servicing of external interest causes a 10.6 percent reduction in health expenditure growth rate at the county level. Additionally, a one percent change in expenditure growth rates from other departments in the county causes a reduction in health expenditure by 13.2 percent.

4. SUMMARY OF FINDINGS AND RECOMMENDATIONS

4.1 This section provides the summary of findings drawn from the study and recommendations based on three main objectives: to provide a detailed analysis of Kenya's debt since 2017/2018 financial year, to conduct an opportunity cost analysis of debt financing to health care provision and financing in Kenya, and to review the current policy environment around issues of debt financing and health financing and provide policy recommendations.

SUMMARY OF FINDINGS

OPPORTUNITY COST

4.2 Debt financing growth rate has a positive relationship with health expenditure both at the national and county governments. However, its effect at the county is minimal (23 percent) compared to the effect at the national (65 percent growth rate in health expenditure).

4.3 Servicing of external interest has a detrimental effect on health expenditure both at the national and county governments, however at a lower rate in the county government. While servicing external principal has a positive correlation with health expenditure.

4.4 Health expenditure has a negative correlation with some sectors at the national level such as Energy, Infrastructure & ICT expenditure growth rate, Public Administration and International Relations expenditure growth rate, Governance, Justice, Law & Order expenditure growth rate, and Environment Protection, Water & National Resources expenditure growth rate.

4.5 At the county level, health expenditure growth rate has a negative relationship with expenditure growth rates from other departments in the county government by 13.2 percent.

POLICY FRAMEWORK

4.6 The policy framework is strong and supports debt responsibility and health financing. The challenge lies in maintaining a steady track without changing tack mid-strategy.

4.7 The legislative framework is coherent. Each legislative piece feeds into each other starting from the Constitution cascading downwards. Each piece was also subject to significant consultation at all levels.

DEBT STOCK

4.8 Kenya is increasingly facing limited fiscal space occasioned by revenue shortfalls amid rising expenditure pressures. Revenue growth has been declining and KRA is consistently having revenue shortfalls. Year on year revenue is increasing but never reaching targets. In 2020, because of the COVID-19 pandemic, revenues are expected to grow by only 2%.

4.9 Public debt has been gradually increasing but at a decreasing rate. The annual total public debt growth has been reducing. The pandemic however increased it by 12.6 percent or Kshs. 0.79 billion in 2020.

4.10 Public debt is somewhat equally split between domestic and external debt, but external debt is slightly higher. Within the external debt, the share of bilateral debts has been decreasing overall. The share of external commercial bank debt has also increased significantly. Commercial banks hold the majority of Kenya's domestic debts and borrowing from commercial banks and NBFIs have been increasing consistently. CBK's debt has somewhat stagnated.

DEBT FINANCING

4.11 The rate of debt servicing using the GoK's revenues has more than tripled over the years. This is caused by an increase in both total external and domestic debt financing. Total External Debt Servicing (TEDS) expanded at a much faster rate than total domestic debt service.

4.12 External interest payments have consistently expanded in the last 6 years as compared to the external principal payment which fluctuated. This signals challenges in debt negotiations. Commercial payments are now the highest contributors to TEDS despite being the lowest in FY 2013/2014. Multilateral payments have diminished over the years given Kenya's middle-income status that was achieved in 2014.

4.13 Treasury bond redemptions are declining as part of the national government's medium-term debt strategy of lengthening the maturity structure of debt by issuing long term Treasury bonds.

4.14 Kenya's risk of debt distress has risen from moderate to high. The Joint World Bank-IMF Debt Sustainability Framework (DSF) for Low-Income Countries raised the rating in May 2020, while Moody's credit rating for Kenya's outlook changed from stable to negative in the same month.

4.15 Kenya's debt performance compared to the EAC countries, is poor. Kenya's Debt-to-GDP ratio is the highest in the EAC. Both, total debt service-to-revenue ratio and total external debt service-to-export ratio outstripped the debt sustainability thresholds (30 percent and 21 percent respectively) within the last three years. In October 2019, through amendment of the PFM Act, Parliament raised Kenya's debt ceiling to Kshs 9 trillion - a departure from the percentage threshold measure of Debt to GDP in net present value.

HEALTH FINANCING

4.16 Kenya's health system is devolved to county level; thus, health is highly reliant on national transfers. County governments rely heavily on the national government for the resources to finance budgets, with Equitable Share revenues contributing averagely 70 percent of total county revenues.

4.17 County health facilities receive funds from the county revenues, conditional grants, and user fees. Levels 4 and 5 facilities are allowed to collect user fees which they can directly administer, although many have limited autonomy from the county.

4.18 Conditional Grants for county health averaged at 30 percent within the last three years. Total conditional grants to counties over the last three years amounted to 164 billion, out of which Kshs 49 billion focused on Health Sector programmes - Kshs 36 billion was received from the national government and Kshs 13 billion from development partners.

4.19 At the national level, health is not a priority. Over the last 8 years, the national government has prioritized budget spending in Energy, Infrastructure & Information Communications Technology, and Education each receiving the highest budgetary allocations amounting to Kshs 2.9 trillion. This is also because health has been largely decentralized to the counties.

4.20 Nevertheless, at a national level, health budget absorption is comparatively good. The sector absorption performed better than other sectors, ranking 4th at 83 percent.

4.21 Over the last eight years, Kenya's health budget expanded. The sector recorded the highest allocations in FY 2019/2020 largely attributed to the pandemic. However overall health sector budget allocations still fall below the Abuja declaration commitment of 15%.

4.22 The National government sent most of its health financing to the counties in 2020 to help them address the COVID-19 pandemic. The supplementary budget reduced national health by 11 percent, including development expenditures by 23 percent. The most affected programs were:

- preventive, promotive & RMNCAH program (which includes primary health care activities aimed at improving UHC) and
- health policy, standards & regulations program (which supports UHC coordination & Management Unit to increase health services).

RECOMMENDATIONS

POLICY FRAMEWORK

4.23 Parliament should keep the government in check by assessing the implementation of the debt management policies. This can be done by harmonizing provisions under the newly developed Debt & Borrowing Policy and the annual debt management strategic reports. By doing so, the following will be achieved:

- The debt sustainability thresholds will be observed,
- Strategic objectives will be met - lengthening the debt maturity structure,
- The right ratio of debt mix will be achieved,
- Revenue underperformance will be addressed to avoid huge fiscal deficits amongst others.

4.24 The government should encourage adequate discussion forums while making decisions on amending key legal frameworks that have an impact on public debt. This will foster accountability and transparency. A good example is the amendment of the PFM Act 2012 that raised the public debt ceiling to Kshs. 9 Trillion.

4.25 The current Public Debt Management Office (PDMO) as set out in the PFM Act 2012 Section 62 (1) operates as a directorate within the National Treasury which limits its autonomy to manage public debts. As such, there is a need to establish an independent public debt management body to discharge its functions without bias or interference.

DEBT STOCK

4.26 By restructuring the debt mix, Kenya should rely more on concessional loans and grants rather than on expensive bilateral loans that are non-concessional. This will reduce high-interest rates payments, averting the possibility of debt overhang.

4.27 In the medium and long-run, commercial borrowing should be restricted only to development projects with high economic returns. The targeted projects should be evaluated extensively by conducting in-depth pre-feasibility studies to ensure that projects will yield more than the market rate charged on the loans.

4.28 During stressful periods such as the COVID-19 pandemic, the government should take big cuts on capital expenditures to avoid unnecessary, “big borrowing.” Hence, the funds should be channeled towards sectors that directly or indirectly respond to health interventions as well as economic recovery.

4.29 Accumulate public debt based on national priorities with clear impact analysis based on the Country’s economic challenges. This will enhance the country’s ability to generate economic returns with which to repay debt.

4.30 Implement balanced budgets with very well-defined budget deficit limits if necessary. In order to avoid large deficit budgets, revenue underperformance should be dealt with and expenditure pressure reduced on capital-intensive projects.

DEBT FINANCING

4.31 Government to abide by set fiscal rules on debt sustainability. This will avoid moving the goalposts to suit short term objectives with disregard to the debt burden on future generations.

4.32 To reduce the external debt service-to-export ratio which has breached the set limit, the government should develop certain sectors. One key sector that plays a pivotal role within the “Big Four Agenda” is the manufacturing sector which has the potential to develop the private sector who in turn will help to improve export earnings consequently reducing the ratio.

4.33 The government should expand the tax base such as targeting the informal sector or net tax evaders as well as sealing revenue collection loopholes to step up the nationally collected revenues. This will ultimately reduce the debt service -to -revenue ratio by ensuring more resources are available to avoid crowding out of the budget item.

4.34 The government should fast-track its medium-term strategy of lengthening the maturity structure of debt. Resilient secondary markets should be developed so that they can support the government's initiative of issuing long-term debt instruments, such as treasury bonds.

HEALTH FINANCING

4.35 The government should minimize its debt accumulation and intensify efforts towards servicing the outstanding debt, in a bid to reduce accruing external interests which is detrimental to health expenditure.

4.36 The government should exercise caution in borrowing loans. It should borrow smart by pursuing low-cost loans and exercising caution in tapping international private debt markets.

4.37 Both governments should enhance institutional and development frameworks in the health sector to increase their absorption rates. This will increase the expenditure relative to the growth in debt servicing.

4.38 The National Government should leverage on the Own-Source Revenue Potential and Tax Gap Studies for the County Governments. This will enable it to support counties to put up structures that will address policy/framework, administrative, revenue systems, and amongst other challenges which undermine the enhancement of internally generated revenues to avert overreliance on national government revenues.

4.39 The government should carefully scrutinize and control expenditure reallocations initiated through the supplementary budgets. This will ensure that some of the key programme indicators which are particularly geared towards implementing Universal Health Care are not greatly affected.

4.40 The government should increase the budget allocations to the Health Sector to match the Abuja declaration commitment of 15 percent. Considering the improved budget absorption rate witnessed in the Health Sector within the last two years, the government should take advantage of this momentum which has been further amplified by the pandemic.

REFERENCES

1. Office of the Controller of Budget. Consolidated County Budget Implementation Review Reports, Financial Years 2013/14 - 2019/2020, <https://cob.go.ke/reports/consolidated-county-budget-implementation-review-reports/>
2. Office of the Controller of Budget. Consolidated National Budget Implementation Review Reports, Financial Years 2013/14 - 2019/2020, <https://cob.go.ke/reports/consolidated-national-budget-implementation-review-reports/>
3. Kenya Law Organization. County Allocation of Revenue Act, Financial Year 2016/17, <http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/CountyAllocationofRevenueActNo22of2016.pdf>
4. European Commission and Australian Development Cooperation. Falling Behind the Promise. Analysis of the Health Sector Budget, FY 2011/2012, https://www.health.go.ke/wp-content/uploads/2015/09/Position_Paper_3_-_HRH_Budget_Analysis_2011-2012_ed.pdf
5. International Budget Partnership. Improving Program-Based Budgeting in Kenya, June 2015, <https://www.internationalbudget.org/wp-content/uploads/Improving-Program-Based-Budgeting-in-Kenya.pdf>
6. International Monetary Fund (IMF). Request for Disbursement under the Rapid Credit Facility-Press Release; Staff Report; and Statement by the Executive Director for the Republic of Kenya, May 2020, <https://www.imf.org/en/Publications/CR/Issues/2020/05/11/Republic-of-Kenya-Request-for-Disbursement-under-the-Rapid-Credit-Facility-Press-Release-49405>
7. International Monetary Fund (IMF). Use of External Debt Statistics, 2003, <https://www.imf.org/external/pubs/ft/eds/Eng/Guide/file4.pdf>
8. Cytonn Report. Kenya's Public Debt, 2020, <https://cytonnreport.com/topicals/kenyas-public-debt-2020>
9. National Treasury. Annual Public Debt Management Reports, Financial Years 2012/13 - 2019/2020, <https://www.treasury.go.ke/economy1/debt-reports.html>
10. Central Bank of Kenya. (CBK). Public Debt Database, <https://www.centralbank.go.ke/public-debt/>
11. United Nations Conference on Trade and Development (UNCTAD) - Compendium on debt sustainability and development, 2009, https://vi.unctad.org/resources-mainmenu-64/digital-library?task=dl_doc&doc_name=414_debtsustdev
12. International Budget Partnership. The state of Kenya's public debt: the thin line between a rock and a hard place, 2020, <https://www.internationalbudget.org/wp-content/uploads/state-of-public-debt-Kenya-october-2020.pdf>
13. National Treasury. Annual Public Debt Management Reports, Financial Years 2017/18 - 2019/2020, <https://www.treasury.go.ke/publications/pdmo/category/42-medium-term-debt-strategy.html>
14. Development Finance Organization. Sustainability indicators, 2009, http://www.development-finance.org/en/component/docman/%20doc_download/83-debt-sustainability-indicators-2009-02.html
15. Jane Kiringai. Kenya Case. Discussion Paper No. 2002/54, Debt and PRSP Conditionality. The Kenya Case, 2002, https://www.researchgate.net/publication/23780423_Debt_and_PRSP_conditionality_The_Kenya_case
16. Trading Economics. Kenyan Government Debt to GDP, 2000, <https://tradingeconomics.com/kenya/government-debt-to-gdp>
17. Overseas Development Institute (ODI). Low-income country debt: three key trends, 2019, <https://www.odi.org/blogs/10801-low-income-country-debt-three-key-trends>
18. World Bank-IMF. Joint World Bank-IMF Debt Sustainability Analysis, May 2020, <http://documents1.worldbank.org/curated/en/796991589998832687/pdf/Kenya-Joint-World-Bank-IMF-Debt-Sustainability-Analysis.pdf>
19. IMF. Joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries, March 2020, <https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/39/Debt-Sustainability-Framework-for-Low-Income-Countries>
20. IMF. Low Income Country Debt Sustainability Assessment, Comprehensive List. September 2020, <https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf>
21. Moody's. Moody's changes outlook on Kenya's rating to negative from stable; affirms the B2 rating, May 2020, https://www.moody's.com/research/Moodys-changes-outlook-on-Kenyas-rating-to-negative-from-stable--PR_423404

22. IMF. Banks' Holdings of Government Securities and Credit to the Private Sector in Emerging Market and Developing Economies, 2019, <https://www.imf.org/-/media/Files/Publications/WP/2019/wpia2019224-print-pdf.ashx>
23. europeannetworkondebtanddevelopment (eurodad). Kenya, Covid-19 and Debt, 2020, https://www.eurodad.org/kenya_covid_19_debt
24. World bank. Non banking financial institution, <https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/nonbank-financial-institution>
25. United Nations Conference on Trade and Development (UNCTAD). Domestic and External Public Debt in Developing Countries, 2008, https://unctad.org/system/files/official-document/osgdp20083_en.pdf
26. Tralac Organization. Kenya Budget Statement 2016/17: "Consolidating Gains for a Prosperous Kenya," <https://www.tralac.org/news/article/9857-kenya-budget-statement-for-2016-17-consolidating-gains-for-a-prosperous-kenya.html>
27. National Treasury. Budget Policy Statement, 2020, <https://www.treasury.go.ke/component/jdownloads/send/212-budget-policy-statement/1510-2020-budget-policy-statement.html>
28. World bank. Kenya Public Expenditure Review: Options for Fiscal Consolidation after the COVID-19 crisis, 2020, <https://openknowledge.worldbank.org/handle/10986/34052>
29. National Treasury. Debt & Borrowing Policy, 2020, <https://www.treasury.go.ke/economy.html?download=1113:debt-and-borrowing-policy-2020>
30. National Treasury. Public Finance Management Act, 2012, 2020, <https://www.treasury.go.ke/tax/acts.html?download=603:the-public-finance-management-act-2012-1-1>
31. Parliament. Public Finance Management Regulations (National Government), 2015, http://www.parliament.go.ke/sites/default/files/2017-05/Legal_Notice_No._34_National_Govt_Regu.pdf
32. Kenyan Law Organization. Constitution of Kenya, 2010, <http://kenyalaw.org/kl/index.php?id=398>
33. Fosu, A. K. (2008). Implications of the external debt-servicing constraint for public health expenditure in sub-Saharan Africa. *Oxford Development Studies*, 36(4), 363-377.
34. Said, R., & Morai, A. S. (2020). Relationship between Public Debt Burden and Health Expenditure in Sub-Saharan African Countries: The Role of Institutional Quality. *Journal of Business and Social Review in Emerging Economies*, 6(2).
35. Kirigia, J. M., Nganda, B. M., Mwikisa, C. N., & Cardoso, B. (2011). Effects of global financial crisis on funding for health development in nineteen countries of the WHO African Region. *BMC International Health and Human Rights*, 11(1), 4.
36. Chubrik, A., Mogilevsky, R., Sinitsina, I., & Dabrowski, M. (2011). The impact of the global financial crisis on public expenditures on education and health in the economies of the former Soviet Union. *CASE Network Reports*, (100).

APPENDICES

Appendix 1: Raw Data

2012	SS	113.644	295	1063	76.2	1z+6	178.9	78.7	97.J	26	33.7
2013	75.1	445.2	29.1	9S	78.6	14.7	227.2	91.3	141.6	27.4	32.6
2014	27.8	160.+	49	T00.9	135.9	11.4	24Z5	93.8	16.2	16	29.9
2015	38.2	Z92.2	see	128.s	165.5	IS.1	2+e.+	97.8	116.8	20.B	34.1
2016	42.3	427.6	48.8	2433	202.2	16	293.7	113.7	144.6	27	26.7
1017	S7	463.2	38.3	426.2	175.1	19.4	3249	130.23	177.9	51	6]
2018	47.6	598.5	G2.3	2P2.Z	172.9	11.2	3 %B	144.7	183.6	51.3	S2.7
2019	76.6	8SOJ	51.4	39Z.8	188	20.5	427.9	1z+1.9	197.8	51	48.6
2020	J05.5	d51.5	51.7	421.8	218.6	25.2	429.6	Jz+5.7	197.7	58.1	72.5

* Values in Kshs. Million.

Appendix 2: Refined Annual Data (Growth rate - %)

2013	36.30	27.77	-1.36	-10.6Z	Z.15	-0.68	27.00	16.01	488Z	5.38	-Z.26
201€	-62.98	10.M	68.38	6.21	72.90	-22.45	8.9Z	2.J4	-1794	-41.61	-8.28
2015	37.c1	14z+.21	16.12	27.25	21.78	32.46	8.SZ	4.26	0.52	2B.15	14.05
2016	10.72	q03	-44.25	8933	22.18	s.96	9.34	16.26	23.80	3J.71	-21.70
2017	34.75	8.33	-21.52	75.32	-13.40	21.25	10.d2	14.54	23.02	88.89	128.46
2018	-1d.49	29.21	10.44	-31.44	-1.2d	-*2.N	19.67	11.11	3.20	0.5g	-13.81
2019	60.92	42.04	21.51	34.77	8.73	83.04	12.63	-1.g4	773	-0.58	-7.78
2020	37.73	-233B	0.58	7.11	16.28	18.0S	-190	2.68	-0.0S	7192	49J8

Appendix 3: Refined Quarterly Data (Growth rate - %)

201ZQ1	4.537205	3.470926	-0.16949	-1.32879	0.393701	0.084G6	3.37479	2,001271	5.72863	0.673077	-0.40801	
2o1se2	9.ora1	+s 18S5	-0.3389	-2.d5757	0.787401	-0.116B92	6.T958	4.002S4Z	11.4572+	1.346155	-0. 1602	
2013Q3	18.14882	13.88371	-0.+7797	-5.31515	1.574803	0.3Z784	13.49916	8.005085	22.91452	2.692308	—1.63205	
201ZQA	36.29764	27.76741	-1.35593	-10.6303	3.149606	-0.675+8	26.998Z2	16.01017	45.82904	5.384615	-3.26A1	
201SQ1	11.47756	23.47708	16.07927	-6.42009	20.5B74	-+.119	22.48246	12.69218	29.88732	-6.363	-^ .518+z	
201AO2	-1Z.3425	1918674	ZZ.51447	-2.20988	Z8.02518	-11.562Z	17.96559	9.374195	13.94S59	-18.1J0+	-S.77Z15	
20JAO3	-38.4626	46.8966	TO.94968	2.00O322	SS.46297	-47.OOS7	4 3.4S073	6.OS6244	-4.9964 3	-79.8582	-7.02768	
2014O4	-B2.9827	IO.éOéO6	+8.38z•88	+20526	72.9OO76	-22.449	8.934859	2.7Z 226	-17.9379	-II.6058	-B.2B22t	
2o1seJ	—so.8s«s	«,.oos8S	SS.z1ez7	J1.47JS7	50.12075	-8.7227	8.8324S7	3.1J'rz67	13.Z243	—24.1731	—2.69995	
2015Q2	-12.7863	77.40764	42.2536+	J6.73262	47.43074	5.00358	8.7ZOO86	3.501309	-8.71075	-6.74O42	2.882307	
2o1sez	z.z ABB	11o.800d	29.1B8O6	21.99Z+6	Z4.56073	JB.729B6	8.627654	3.B828'iJ	-4.0972	10.69229	8.A+4565	
2015Q4	37.41007	144.2092	16.1224S	27.25+71	21.78072	32.45614	8.525253	4.264392	0.516351	28.125	14 .056B2	
201601	30.7GO8	110.4J3G	8.5329+2	42.77359	21.87935	25.83217	B.7ZO127	Z262711	6.337505	2@O2O58	5.109897	
201602	2N.07153	76.61761	0.943474	58.29246	21.97797	J9.2082	8.935002	10.Z61O3	12.15886	29.9161B	-3.82703	
20J6Q3	J7.A0226	42.82J81	-6.+46O1	73.81Jsc	22.0756	12.50A23	9J39876	13.259Z5	17.98012	30.8JJ74	-12.76z+	
20J6QA	10.7Z298	9.026007	-J4.2ZS5	89.3ZO22	22.17523	s.9+0265	9.Z++751	J6.25767	2Z.80J37	31.70732	-21.7009	
20J7OJ	16.73768	8.8SOB9	-16.0557	BS.82736	JZ.28078	9.782699	9.66433	15.82782	23.60829	A6.OO27J	15.34055	
2017Q2	22.74238	8.d7577Z	-1T6759	82.Z24S1	4.3Bd327	13.60513	9.983918	15.Z979d	2Z.41S21	d0.29 1	53.ZB177	
201703	28.74708	8.SOO6S5	-19.6952	78.82165	-4.50812	17.427S7	10.3035	14.96811	23.22213	'5935	90.92309	
2017Q4	3A.75177	8.325538	-21.5164	75.3186	-13.4026	21.25	10.62308	14.53826	23.02905	88.88889	128.4644	
2018Q1	21.94102	13.5S661	-1Z.526Z	Z+8.62894	-10.366	5.37049	12.88G21	13.6III47	18.0728	66.81373	92.9A665	
201802	9.130272	18.76769	-5.5Z626	21.'29OB	-7.3295	-10,509	15.14534	12.824&8	13.11+55	A4.73856	57.428g3	
20J803	-1.88ot8	23.98877	2.4538	-4.75078	-4.29296	-26.3885	17.4OSA6	11.9679	8.150297	22.6634	21.91119	
20I8O4	—16.4912	29.20984	1o,cc386	-31.4 O+	-1.25643	-42.2dg	19.667ss	11.fluff	3.2O4O+7	0.588235	-13.6o66	
2o19e1	2.es2s7t	z2.Plus	13.21115	-1N.8878	1.241024	-1O.9421	17.90784	8*88w•	4.3s+s8	0.294978	-12.Jz+99	
2019Q2	22,21657	35.62414	15.9784Z	1.665033	3.7Z8473	20.38384	16.1481	4.588037	5.469126	0.00172	-10.6932	
2o1sez	«i.57067	38.85428	48.7fi572	1C.247B7	6.23S923	S4.7097a	is.3g835	4,52éGs9	6.604665	-0.294SS	-9.236S5	
2019Q4	60.92437	42.03843	21,513	34.FROM	8.733372	83.03571	12.6266	-1.93SO4	2734205	0.5848	-7.77989	
2020Q1	55.J2539	25.68833	16.28957	27.85S5B	10.61918	66.78B98	8.997598	—0.7B179	5.788015	3.041796	6.459325	
2020Q2	49.32541	9.33823+	11.05833	20.94Oc6	12,5Oe98	SO.S4225	S.3++595	O.371452	3.841824	0.66°8387	20.69853	
2020Q3	43.527AA	-7.01186	5.B1S99A	14.O2SZ3	1N.39079	34.2955I	1.735S93	1.52+697	1.895+3A	JO.29498	34.e3774	
2020Q4	37.728A6	-23.362	0.583658	7.110208	16.27dd	18.0487e	-j.gg541	2.d77942	—0.0SOS6	13.9215	49.1760S	

	DEPENDENT VARIABLE												
2011/12	55.1	PB.6	210	7.0	7e.s	toe.I	7s.z	14.8	178.9	78.7	97.1	za	33.7
2012/13	75.1	mO.Z	2A0	It.1	29,1	95	7B.8	14.7	2272	91.3	IN+1.6	27.4	2.2%
2013/14	27.B	11?2	EB	15.+	G9	J00.9	138.9	11.4	2G.5	VJJB	116.2	16	29.0
2014*15	38.2	J8.6	80.2	33.3	sa.9	128.4	Ie's.s	Is.I	268.6	07.8	116.8	zo.s	34.1
2015D6	AZ.Z	249.0	3i0	42.6	48.8	243.1	2022	la	293.7	113.7	144.6	27	2.67
2016/d7	57	26T6	37.Z	SB.4	38.3	42.62	175.1	19.4	3M.9	J30.23	177.9	51	61
2g17/1g	4*7d	277.9	529.0	BI.+	C2.3	292.2	172.9	11.2	388.8	144.7	1B3s	51.S	SZ.7
2018/19	76.6	481.6	265.1	103.4	st.4	393.8	188	20.5	4379	1419	1W.B	st	4a.6
2010/20	+Ov5	nZao	101.6	1218	51.7	421.8	218.B	24.2	€29.6	145.7	1P7.7	sa.1	72.5

Appendix 4: Models

1. Model (Equation 4): OLS, using observations 2014:1-2020:4 (T = 32)

Dependent variable: Health expenditure growth rate

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
CONS	4.795328	3.305473	1.450724	0.1632	
D2DDEBTFIN	0.658116	0.260541	2.525961	0.0206	*
D2DAGR	-0.030535	0.264458	-0.115461	0.9093	
D1EDUC	0.996512	0.671734	1.483491	0.1543	
D1NS	0.921590	1.117306	0.824832	0.4197	
D2DEIICT	0.458033	0.498503	0.918817	0.3697	
D2DENVRN	0.118243	0.094954	1.245266	0.2282	
D2DGECA	0.171428	0.430355	0.3983341	0.6948	
GJLO	-0.483703	0.180721	-2.676518	0.0149	**
PAIR	-0.007573	0.105367	-0.071873	0.9435	
SPCR	0.042875	0.083760	0.511878	0.6146	

R-squared	0.878033	Mean dependent var	-3.44539
Adjusted R-squared	0.813840	S.D. dependent var	16.21896
S.E of regression	6.997874	Sum squared resid	930.4346
F-statistic	13.67800	Durbin-Watson	2.419313
Prob (F-statistic)	0.000001		

2. Equation 5

Regression Output: OLS, using observations 2013:1-2020:4 (T = 32)

Dependent variable: Health expenditure growth rate

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	1.64014	1.730215	0.9489	0.3587	
D2TDDS	13.7086	3.54031	-1.4026	0.0052	*
EXT_PRI	1.1892	1.52479	-2.2386	0.0432	**
EXT_INT	-23.3967	4.07268	1.92351	0.0043	*
AGR	-3.7002	9.48126	1.18806	0.2546	
D2EDUC	-2.6237	2.01647	-1.30160	0.0237	**
D2GECA	1.3152	4.28168	3.06356	0.0402	**
GJLO	-2.2093	1.24567	-1.75665	0.1008	***
NS	2.3396	1.87016	1.214441	0.2447	
PAIR	-2.4321	1.11647	-2.12678	0.0517	***
D2EIICT	-1.2497	5.75016	-2.02647	0.0051	*
D2ENVRN	-0.7926	2.88024	-2.92064	0.0782	***

R-squared	1.000000	Mean dependent var	0.704485
Adjusted R-squared	0.9989612	S.D. dependent var	14.76676
S.E of regression	-16.21156	Sum squared resid	0.8507427
F-statistic	0.778629	Durbin-Watson	2.195891
Prob (F-statistic)	0.082841		

3. Equation 6

Model 3 (Equation 6): OLS, using observations 2014-2020 (converted into monthly)
Dependent variable: Health expenditure growth rate

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	13.65374	1.399726	9.754580	0.000	
DEBFIN	-0.186764	0.047157	-3.960436	0.0003	*
OTHERDEPTEXP	0.323455	0.139469	2.319192	0.0249	**

R-squared	0.287209	Mean dependent var	12.73804
Adjusted R-squared	0.256218	S.D. dependent var	5.786074
S.E of regression	4.990073	Sum squared resid	1145.438
F-statistic	9.267512	Durbin-Watson	0.362810
Prob (F-statistic)	0.000415		

4. Equation 7

Model 4 (Equation 7): OLS, using observations 2014-2020 (converted into monthly)
Dependent variable: Health expenditure growth rate

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	0.590646	0.223921	2.637737	0.0117	
D2TDDS	-0.186764	0.144404	-0.786478	0.4360	
DEXT_PRINC	0.021415	0.009607	2.229027	0.0312	**
D2EXT_INT	-0.106176	0.609539	-1.814774	0.0767	*
OTHERDEPTEXP.	-0.131723	0.028436	-4.632210	0.0001	***

R-squared	0.395431	Mean dependent var	-0.327563
Adjusted R-squared	0.337853	S.D. dependent var	0.779841
S.E of regression	0.634576	Sum squared resid	16.91283
F-statistic	6.867745	Durbin-Watson	0.155293
Prob (F-statistic)	0.000239		



OXFAM



OPPORTUNITY COST ANALYSIS OF DEBT FINANCING AND PROVISION OF HEALTH CARE AND SERVICES



Norad

This report was made possible through the financial support of the Norwegian Agency for Development Cooperation (Norad).