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Covid-19 Pandemic and Optimal Debt-to-GDP Ratio Threshold in Sub-Saharan Africa

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Abstract

The empirical data on the effect of a high debt-to-GDP ratio on economic growth is conflicting. The article used the GDP Indicator to investigate the trajectory in the debt-to-GDP ratio in 45 nations in Sub-Saharan Africa during the COVID-19 Pandemic and to determine whether there is a point at which public debt becomes damaging to the region's economy. The major results demonstrated that as long as the economies of Sub-Saharan Africa continue to expand, a high debt-to-GDP ratio is not always negative; in fact, the majority of nations with a debt-to-GDP ratio greater than the 77 percent threshold had increased economic growth. Additionally, the paper discovered that countries in the region may face a high debt-to-GDP ratio as a result of excessive spending prompted by the Covid-19 pandemic, as well as an unpredictable slowdown in economic activity as a result of movement restriction policies imposed by subregional governments. Another intriguing conclusion is that Sub-Saharan Africa's average debt-to-GDP ratio of 56.6 percent in 2020 is much lower than the suggested limit of 77 percent. However, the report advised that governments reduce wasteful spending without jeopardizing the region's economic development rate. Finally, fiscal policies should be accompanied by monetary policies to promote effective public investment, simplified tax expenditures, increased public financial management, and better debt management and transparency.

Introduction

Zoonotic illnesses have often had a detrimental effect on the global economy. Zoonosis is defined as any illness that may be transmitted spontaneously from vertebrate animals to humans. Throughout history, several zoonotic illnesses have wreaked havoc on the global economy. Among these is bovine spongiform encephalopathy, which occurred in 2000 and 2001 in parts of Europe. There was avian influenza, most often referred to as "bird flu," which was initially identified in Hong Kong in 1997 (Butel, 2010). The 1918–1919 Spanish flu resurfaced in 1977 as Russian flu and again in 2012 as swine flu. The Severe Acute Respiratory Syndrome (SARS) outbreak throughout Asia from November 2002 to July 2003. Later, in Africa, a zoonosis known as Ebola illness emerged. These illnesses' predatory repercussions eventually wreak havoc on many sectors of the global economy, especially in less developed nations.

The latest in a series of outbreaks, Coronavirus Disease, has thrown the world economy to a halt, with many countries battling to survive. Coronavirus's first known patient began exhibiting symptoms on 1 December 2019 in Wuhan, China. According to Greenidge et al.

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(2012), global economic crises such as the COVID-19-induced economic crisis provide an impetus for countries, particularly developing ones, to borrow, as they are frequently confronted with the need for increased expenditure levels and declining capital inflows. For example, government debt as a percentage of GDP in Sub-Saharan Africa has been increasing steadily since 2012, going from an average of 37% of GDP in 2012 to 59% in 2019 and 70% in 2020. (IMF 2020d). Fiscal deficits are expected to worsen as a consequence of COVID-19's falling government income. With worsening fiscal balances and a drop in regional economic activity, debt repayment will be challenging. As a result, governments in the area will have challenges enacting effective measures to combat COVID-19 while maintaining macroeconomic stability.

High levels of debt are connected with significant negative consequences on growth, according to empirical research. For instance, Mehmet (2015) said that if the debt-to-GDP ratio above the 77 percent level, economic development is slowed. However, there is little indication that any specific level of debt jeopardizes medium-term economic prospects (IMF, 2014). As a result, an analysis of the ideal debt-to-GDP ratio for maximum growth in Sub-Saharan African nations during the COVID-19 Pandemic becomes important. The remainder of the essay is divided into five parts. The following section provides an overview of the research on the optimal debt-to-GDP ratio based on the public debt-growth nexus and fiscal/debt sustainability. Sections three and four provide the methodology and data from the study. Section 4 includes an overview of Sub-Saharan African economies and information on debt-to-GDP ratios in Sub-Saharan African nations. Section five concludes the report with closing observations and policy recommendations.

Literature Review on Optimal Debt-to-GDP Ratio Threshold

The threshold level of debt-to-GDP ratio has been described in the literature using two strands of thought: the link between public debt and economic growth and the fiscal/debt sustainability viewpoint in various nations across time. The article summarizes current literature on each of the lines of thinking. Bahri & Singh (2021) used a survival analysis model to analyze COVID-19 and its effect on debt. The study stated that nations suffering from debt will spiral into recession if their debt commitments were not adjusted or relieved to account for the pandemic's extraordinary effects. The Authors gave examples of instances in which such restructuring has been successful and urged against reverting to the traditional practice of accruing more debt to pay off existing debt. Rather than that, the argument is made for using deficit spending to alleviate the economic crisis while simultaneously preparing governments for prospective climatic calamities via green fiscal policy financing.

Tamborini & Tomaselli (2020) emphasized the importance of country-specific factors, situations, and events that influence the debt–growth connection and its drivers considerably. The Authors contended that no meaningful evaluation of debt and its impact on growth at any moment in time is feasible without taking into account the complete debt trajectory and the unique situation of the economy along the way. Thus, they argue, there is no way to develop a single universal rule that describes the relationship between debt and growth and establishes a key threshold.

Schiliro (2019) conducted a review of the literature on the debt–growth nexus and debt sustainability. It emphasizes in particular the evidence from certain empirical literature that excessive public debt impairs development and makes economies susceptible to unfavorable shocks. Additionally, the paper concentrates on Italy, a nation with a large public debt, poor growth, and other economic difficulties, in order to assert a strategy and suggest policy options.

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Tilles (2020) forecasts that in the present environment, the debt-to-GDP ratio in Switzerland may be maintained while maintaining a primary fiscal deficit of CHF 2.8 billion (0.4 percent of GDP). He maintains that growth would eventually alleviate the debt load associated with COVID-19 spending, and that in the worst-case scenario, the debt burden could be erased entirely by running minor primary surpluses of 0.2-0.7 percent of GDP over a 20-year period. The debt brake would avoid bad debt dynamics after the one-time surge in debt caused by Covid-19.

Burriel et al (2020) found that high public debt poses significant economic challenges in the euro area because it weakens the economy's resilience to shocks and reduces the scope for countercyclical fiscal policy, and that debt overhangs can exert adverse pressure on the economy over time via a variety of channels. Debt and growth are bidirectional, with economic, financial, and governmental debt crises all compounding each other's negative influence on production. Additionally, their models indicate that high-debt economies suffer negative effects on potential (long-term) production.

Kapoor & Buiter (2020) is skeptical of fiscal stimulus, whether funded by debt or central bank money creation, since both leave unpaid liabilities in the future. Quantitative Easing (QE) in particular has the unintended consequence of preventing the Central Bank from raising interest rates without paying interest on the large amount of electronic money that banks have parked with it. The greater the outstanding QE as a percentage of overall government debt, the more vulnerable the government is to short-term interest rate changes, which is especially troublesome for nations with a high public debt/GDP ratio. Then, in a low inflation environment, the challenge for monetary policy is to overcome the zero lower limit on nominal interest rates. According to this idea, one conceivable remedy is to make interest rates negative.

Presbitero & Wiriadinata (2020) questioned Blanchard's (2019) perspective of fiscal expansions to promote growth in a low interest rate environment with heavy debt. They cautioned that despite low interest rates, the hazards associated with excessive public debt continue, particularly since interest rate–growth differentials are endogenous to the size and dynamics of public debt. The report contended that public debt levels were already historically high before to the COVID-19 pandemic, and growth rates had stalled in many countries; hence, the fiscal expansion pursued by the majority of nations in response to the COVID-19 issue implies considerable dangers. Due to the important nature of refinancing risks when governments borrow from financial markets, a significant danger is the possibility of a feedback loop between excessive public debt and the risk premium.

Lian et al (2020) demonstrated that a higher level of current public debt is associated with an increased likelihood of an exceptionally large difference between interest rates (r) and growth rates (g) in the future, based on a large sample of 56 advanced economies and emerging markets. High-debt countries are more susceptible to unfavorable shocks. As a result, they conclude that large public debt may increase the likelihood that the difference r-g will increase and become positive, thereby increasing the influence of bad shocks on r-g. As Mauro & Zhou (2020) demonstrate, an increase in r-g results in national financial hardship and raises concerns about future debt sustainability (2020).

Mauro & Zhou (2020) observe that negative interest-growth differentials have been more widespread since the global financial crisis and wonder if this means we may sleep better despite large government debt. They conduct an empirical examination of historical interest growth differentials and demonstrate that negative differentials have happened more often than not, in both advanced and developing nations, and have frequently lasted for extended periods of time. Additionally, they demonstrate that differentials are no greater in the run-up to

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sovereign defaults than in normal periods. However, since marginal (rather than average) government borrowing costs often increase unexpectedly and steeply immediately before to failure, their response to the issue of sleeping more peacefully is "not really."

Debrun et al (2019) noted that debt sustainability is inextricably linked to the government's capacity to meet all of its present and future commitments; it is solely forward-looking, and measuring it entails forecasting an uncertain future. Generally speaking, macroeconomic theory connects debt sustainability with public sector solvency. Government solvency requires that public debt be equal to the present value of all future primary balances under normal growth and interest rate circumstances. Alternatively, primary deficits must eventually be completely offset by surpluses. As a result, any governmental pledge to create sufficiently large primary surpluses in the future should be seen as credible. In other words, solvency is only a subjective evaluation of a government's legitimacy. Assessing solvency in practice entails forecasting future fiscal policies (primary balances) over an indefinite horizon. Regrettably, such forecasting is very unpredictable in terms of (nominal) economic growth, borrowing costs, and the primary balance itself. Additionally, the present climate of ultra-low interest rates and apparently insatiable demand for safe assets complicates the trade-off between relevance and the ease/transparency with which stakeholders, particularly those with minimal public financial literacy, can evaluate sustainability (e.g. taxpayers, voters and small investors)

Nersisyan & Wray (2010) conducted studies to see if there is a correlation between repeated years of elevated governmental debt-to-GDP ratios. The article found that excessive debt has a positive correlation with the length of depressions, but inflation has a negative correlation with such duration. Additionally, the article discovers a significant correlation between bouts of excessive debt and the duration of economic crises. Interestingly, "the major findings were not rejected when economic, political, cultural, and financial crises were included as controls."

Blanchard (2019) has claimed that in a low-interest economy, increasing debt may have very minor budgetary consequences. Blanchard acknowledges, however, in this work, that there are legitimate counter-arguments implying higher fiscal and welfare costs. He is referring specifically who investigate the presence of self-fulfilling equilibria: investors' fear of future default results in higher interest rates, which in turn results in a slow but quicker buildup of debt and eventual default. As a result, investors' anxieties become self-fulfilling. Lorenzini & Werning demonstrate that self-fulfilling equilibria can be avoided if debt levels are kept low, fiscal rules are sufficiently aggressive in reducing deficits when debt levels rise (the presence of default risk necessitates a more aggressive rule), and debt maturities are sufficiently long (a short maturity requires constant refinancing, exposing the borrower to increases in interest rates). They discovered, however, that even when the equilibrium is unique, there is a debt threshold that separates the good and bad debt trajectories, below which debt declines and stabilizes and beyond which debt and default rates climb.

Leith et al (2019) argued, using an overlapping generations model in which agents do not care about their children (or not enough), causing the real interest rate to exceed the rate of time preference, that it may be worthwhile to sacrifice some current utility in order to achieve a steady state with lower distortionary taxes (even if the current generation may lose out as a result). Second, the amount of capital in these countries (and hence production and consumption) is likely to be suboptimal, and decreasing government debt will crowd in extra capital. Thus, it may be advantageous to decrease debt now in order to avoid future distortionary taxes. They conclude that it is much more optimum for the government to eliminate debt and retain assets.

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Romer (2021) shown that across the 1980–2017 period in the OECD, nations with lower debt-to-GDP ratios reacted to financial instability with far more expansionary fiscal policy and hence experienced far less severe consequences. They argue that implementing policy in normal times in order to preserve budgetary space offers important protection against financial disasters.

Guex & Guex (2018) analyzed the links between public debt, economic growth, and long-term interest rates in Switzerland from 1894 to 2014 and concluded that public debt had no adverse effect on economic growth or increased long-term interest rates over this time period. However, across the time reviewed, Switzerland's debt-to-GDP ratio averaged 49.2 percent, indicating that, although there were short periods of greater debt, the average was lower than the aforementioned benchmarks.

Mehrotra & Crouzet (2017) examined how the cost of repaying public debt varies experimentally and conceptually in a low interest rate, low growth scenario. He discovered that real interest rates on government debt (r) regularly fall below the growth rate of real GDP (g) in industrialized nations. However, the article indicates a low chance of reverting to circumstances where r > g over a five- or ten-year horizon, implying that a strategy of massive public debt accumulation may be economically disastrous. Concerning the optimal level of debt, he notes that it is determined not only by r g, but also by a variety of other factors: the level and type of distortionary taxes, the type of financial frictions encountered by households and firms, the manner in which taxes redistribute income among households, the degree of crowding out, and the government's valuation of current versus future generations' utility.

India's debt-to-GDP ratio during a ten-year period from 2007 to 2016. Additionally, the study discusses the G-20 nations' newest debt-to-GDP ratio, which ranges from roughly 6% to as high as 250%. The G-20 is mainly a platform for members to discuss economic challenges and collaboration. It was founded in 1999 in response to the Asian financial crisis. To accomplish fiscal consolidation, it is critical to reduce this percentage. The study advocated that wasteful government spending be curtailed and that a clear fiscal policy framework, in conjunction with the already-adopted monetary policy framework, might serve as a forceful signal of commitment to macroeconomic stability.

According to Chuddik et al. (2013), a growing and then permanently greater debt-to-GDP ratio will eventually have a detrimental influence on economic growth. If the rise is transitory, there are no long-run growth consequences as long as the debt to GDP ratio returns to normal. They discovered statistically significant threshold effects, however, in the case of nations with growing debt-to-GDP ratios, indicating that the debt trajectory may be as relevant as the debt level itself.

Greenidge et al (2012) examine the Caribbean's public debt-economic growth threshold impacts. The fundamental conclusion is that a debt-to-GDP ratio of 55–56 percent exists. Additionally, debt dynamics begin to shift far before this barrier is crossed. Increases in the debt-to-GDP ratio are related with higher economic growth for debt levels less than 30% of GDP. However, once debt exceeds 30% of GDP, the effect on economic growth quickly reduces, and at debt levels of 55–56% of GDP, the growth effects shift from positive to negative. Thus, debt becomes a drag on growth over this point.

Reinhart & Rogoff (2010) demonstrated that growth rates in both developed and developing nations with a public debt to GDP ratio more than 90% are around 1% lower than growth rates in less indebted countries. When foreign debt exceeds 60% of GDP, growth in emerging markets (EMs) slows by two percentage points annually, and the fall is considerably more pronounced when external debt exceeds 90% of GDP.

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From a cursory examination of the current literature on each of the strands of thinking, it is difficult to identify a critical debt level at which medium-term development is jeopardized. However, empirical data suggests that excessive public debt tends to stifle development by creating uncertainty about future taxes, crowding out private investment, and reducing a country's resilience to shocks (Schiliro, 2019).

Methods

The research used the GDP Indicator to illustrate the trajectory of 45 economies in Sub-Saharan Africa from 2010 to 2021, depending on data availability. The GDP Indicator was used to analyze the appropriate debt-to-GDP Ratio Threshold in Sub-Saharan Africa owing to the limitations associated with the use of other measures. There are three primary categories of indicators identified in the methodological literature (vulnerability, sustainability and financial). These indicators enable governments to comprehend the public debt phenomenon from a variety of angles, enabling them to monitor and manage public debt in accordance with solid credit practices. The time series data on the debt-to-GDP ratio, on the other hand, were provided in the form of tables for ease of comprehension. The analysis drew on secondary data from the World Bank Development Indicators, the International Monetary Fund and the African Development Bank, as well as material gleaned from the internet, academic papers, and media stories

Results and Discussion

The Sub-Saharan Africa Economies

Sub-Saharan Africa is a word that refers to the African nations that are not regarded to be part of North Africa. According to the United Nations Development Program, 45 of Africa's 54 nations are classified as "sub-Saharan," omitting Algeria, Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, and Tunisia. The nations of Sub-Saharan Africa are further classified into three distinct (though non-overlapping) groups: oil exporters, other resource-intensive countries, and non-resource-intensive countries. Oil exporting nations are those in which net oil exports account for 30% or more of total exports. Other resource-intensive nations are those in which nonrenewable natural resources account for at least 25% of total exports. Non-resource-intensive nations are those that are neither oil exporters nor resource-intensive. Furthermore, nations are classified into four (overlapping) categories: oil exporters, middle-income countries, low-income countries, and those in precarious circumstances. Greater precisely, middle-income nations had a per capita gross national income of more than $1,035.00 in the years 2017–19. (World Bank, using the Atlas method). In the years 2017–19, low-income nations had an average per capita gross national income equal to or less than $1,035.00. (World Bank, Atlas method). Countries in unstable circumstances had an average Country Policy and Institutional Assessment score of 3.2 or below in 2016–18 and/or were host to a peacekeeping or peace-building operation in the preceding three years.

Countries in the crude oil export categories are as follows: Angola, Cameroon, Chad, Congo, Equatorial Guinea, Gabon, Nigeria and South Sudan. While the resource intensive countries are: Botswana, Burkina Faso, Central African Rep, Congo, Dem. Rep, Ghana, Guinea, Liberia, Mali, Namibia, Niger, Sierra Leone, South Africa, Tanzania, Zambia and Zimbabwe

Benin, Burundi, Cabo Verde, Comoros, Côte d'Ivoire, Eritrea, Eswatini, Ethiopia, Gambia, Kenya, Guinea-Bissau, Lesotho, Malawi, Mauritius, Mozambique, Rwanda, São Tomé & Príncipe, Senegal, Seychelles, Togo and Uganda. Middle income countries: Angola, Botswana, Cabo Verde, Cameroon, Comoros, Congo, Côte d'Ivoire, Equatorial Guinea, Eswatini, Gabon, Ghana, Kenya, Lesotho, Mauritius, Namibia, Nigeria, São Tomé & Príncipe, Senegal,

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Seychelles, South Africa and Zambia. Low-income countries: Benin, Burkina Faso, Burundi, Central African Rep, Chad, Congo, Dem; Rep. of Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Sierra Leone, South Sudan, Tanzania, Togo, Uganda and Zimbabwe. Countries in fragile situations are Burundi, Central African Rep; Chad, Comoros, Congo, Dem, Rep. of Congo, Côte d'Ivoire, Eritrea, Gambia, The Guinea, Guinea-Bissau, Liberia, Malawi, Mali, São Tomé & Príncipe, Sierra Leone, South Sudan, Togo and Zimbabwe.

Debt-to-GDP Ratio Statistics in Sub-Saharan Africa Economies

Table 4.1 illustrates the public debt-to-GDP ratio of Sub-Saharan Africa's economies for different years, from 2010 to 2016, when the ratio was 32.9 percent. The chart indicates that the debt-to-GDP ratio started to rise subsequently, reaching 50.4 percent in 2019. Following the breakout of Covid-19 in 2020, the percentage increased to 56.6 percent. By the end of June 2021, the region's public debt is expected to reach 57.8 percent. By and large, the table reveals that the SSA state finances were in poor shape throughout the research period and that the debt position was already precarious before to the COVID-19 issue. Indeed, in 2019, the majority of nations in the area have already exceeded the 77 percent suggested debt-to-GDP ratio (see Angola, Cabo Verde, Eritrea, Gambia, Mauritius, Mozambique, and Zambia).

Additionally, as seen in Table 4.1, the debt-to-GDP ratio varies from 2.2 to 173.5 percent in 2021. The high debt-to-GDP ratio in SSA may be a result of substantial fiscal deficits (relative to GDP), which have a detrimental effect on savings and investment, and therefore on growth. Government borrowing that is excessive and unsustainable is hardly modest, since it imposes a penalty on future generations while crowding out private investment. The COVID-19 Pandemic created a push for governments, particularly developing ones, to borrow, since they are often challenged with the necessity to boost spending levels while capital inflows are diminishing. Another issue that might explain the region's increasing public debt is an unforeseen halt in economic activity as a consequence of governments' mobility restriction regulations.

Table 1. Sub-Saharan Africa Economies Debt-to GDP Ratio (Percent of GDP)

S/N	Countries	2010–16	2017	2018	2019	2020	2021
1	Angola	42.7	69.3	89.0	109.2	120.3	107.5
2	Benin	24.3	39.6	41.1	41.2	41.8	41.4
3	Botswana	18.2	13.4	14.2	15.1	20.6	24.0
4	Burkina Faso	27.8	33.5	37.7	42.7	46.6	48.1
5	Burundi	40.8	44.7	50.5	57.4	65.0	68.9
6	Cabo Verde	102.2	127.2	125.6	125.0	136.8	137.6
7	Cameroon	21.5	37.7	39.5	42.7	44.7	45.0
8	Central African Rep.	42.7	50.3	50.0	47.2	46.6	44.0
9	Chad	36.4	50.3	49.1	44.3	46.4	44.4
10	Comoros	19.8	18.4	21.1	25.2	30.4	32.4
11	Congo, Dem. Rep.	21.7	19.1	15.3	14.7	16.1	13.4
12	Congo, Rep. of	49.9	94.2	78.6	83.7	104.5	98.4
13	Côte d'Ivoire	37.4	36.9	39.7	37.9	41.7	42.6
14	Equatorial Guinea	16.3	36.2	39.2	41.1	51.2	48.2
15	Eritrea	169.4	202.5	185.6	189.4	185.8	173.5
16	Eswatini	6.0	25.1	33.8	38.0	47.9	49.9
17	Ethiopia	47.5	57.7	61.1	57.6	56.1	58.5
18	Gabon	34.0	62.9	60.9	62.4	73.9	70.5

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19	Gambia	60.2	87.0	84.6	80.0	83.1	77.0
20	Ghana	44.0	58.3	59.1	62.8	76.7	74.7
21	Guinea	43.9	40.5	38.0	34.5	44.9	45.9
22	Guinea-Bissau	53.5	50.7	60.2	67.6	79.8	79.0
23	Kenya	45.3	56.9	60.2	62.1	66.4	70.5
24	Lesotho	39.1	38.0	46.5	46.5	47.2	45.8
25	Liberia	22.9	33.9	39.4	53.3	61.7	63.6
26	Madagascar	35.9	40.0	39.9	38.4	44.2	45.0
27	Malawi	48.7	61.5	63.1	63.4	70.7	75.1
28	Mali	27.8	36.0	37.7	40.5	44.8	46.2
29	Mauritius	59.1	64.3	66.2	82.8	85.7	84.2
30	Mozambique	61.9	102.4	106.2	104.4	121.3	123.5
31	Namibia	29.1	43.5	49.8	54.7	67.6	68.2
32	Niger	21.7	39.5	38.9	41.7	48.3	48.6
33	Nigeria	17.7	25.3	27.7	29.1	35.0	35.5
34	Rwanda	25.6	41.3	45.0	51.4	61.6	69.4
35	São Tomé & Príncipe	80.0	85.8	83.1	73.1	73.6	66.7
36	Senegal	38.1	61.1	63.2	64.1	65.4	65.4
37	Seychelles	74.5	62.3	57.7	55.3	88.6	85.0
38	Sierra Leone	42.9	69.2	69.1	70.0	77.4	78.5
39	South Africa	43.7	53.0	56.7	62.2	78.8	82.8
40	South Sudan	39.6	65.2	48.2	65.4	71.7	56.7
41	Tanzania	32.0	37.7	38.7	38.2	38.5	39.2
42	Togo	59.3	76.0	76.2	70.9	73.5	71.1
43	Uganda	23.2	33.8	35.1	38.2	46.0	50.9
44	Zambia	36.4	65.5	77.2	91.9	120.0	119.6
45	Zimbabwe	43.3	52.9	37.3	10.8	2.4	2.2
	Sub-Saharan Africa	32.9	45.7	48.5	50.4	56.6	57.8

Source: IMF, World Economic Outlook database, October 2020.

Next, the study in Table 4.2 presented Sub-Saharan Africa economies real GDP growth (in percent) from 2010 to 2021. The sole purpose is to compare debt-to-GDP ratio and real GDP growth data in the region in order to draw valid and informed conclusion.

Table 2. Sub-Saharan Africa Economies Real GDP Growth (Annual percent change)

S/N	Countries	2010–16	2017	2018	2019	2020	2021
1	Angola	3.6	–0.2	–1.2	–0.9	-4.0	3.2
2	Benin	4.1	5.7	6.7	6.9	2.0	5.0
3	Botswana	5.3	2.9	4.5	3.0	-9.6	8.7
4	Burkina Faso	5.9	6.2	6.8	5.7	-2.0	3.9
5	Burundi	2.8	0.5	1.6	1.8	-3.2	3.1
6	Cabo Verde	1.9	3.7	4.5	5.7	-6.8	4.5
7	Cameroon	4.8	3.5	4.1	3.9	-2.8	3.4
8	Central African Rep.	–1.9	4.5	3.8	3.0	-1.0	3.0
9	Chad	4.5	–2.4	2.3	3.0	-0.7	6.1
10	Comoros	3.2	4.2	3.6	1.9	-1.8	2.9
11	Congo, Dem. Rep.	6.9	3.7	5.8	4.4	-2.2	3.6
12	Congo, Rep. of	2.0	–4.4	–6.4	–0.6	-7.0	-0.8

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13	Côte d'Ivoire	6.0	7.4	6.8	6.5	1.8	6.2
14	Equatorial Guinea	–2.2	–5.7	–5.8	–6.1	-6.0	2.2
15	Eritrea	6.5	–10.0	13.0	3.8	-0.6	5.7
16	Eswatini	2.8	2.0	2.4	1.1	-3.5	1.4
17	Ethiopia	9.9	10.2	7.7	9.0	1.9	0.0
18	Gabon	4.9	0.5	1.0	3.8	-2.7	2.1
19	Gambia	1.5	4.8	7.2	6.1	-1.8	6.0
20	Ghana	6.6	8.1	6.3	6.5	0.9	4.2
21	Guinea	5.4	10.3	6.2	5.6	1.4	6.6
22	Guinea-Bissau	3.9	4.8	3.4	4.5	-2.9	3.0
23	Kenya	6.0	4.8	6.3	5.4	1.0	4.7
24	Lesotho	4.5	–1.0	0.4	1.0	-4.8	3.9
25	Liberia	4.3	2.5	1.2	–2.5	-3.0	3.2
26	Madagascar	2.6	3.9	4.6	4.8	-3.2	3.2
27	Malawi	4.2	4.0	3.2	4.5	0.6	2.5
28	Mali	4.1	5.0	5.2	5.1	-2.0	4.0
29	Mauritius	3.8	3.8	3.8	3.0	-14.2	9.9
30	Mozambique	6.6	3.7	3.4	2.3	-0.5	2.1
31	Namibia	4.5	–0.3	0.7	–1.0	-5.9	3.4
32	Niger	6.2	5.0	7.2	5.9	0.5	6.9
33	Nigeria	4.7	0.8	1.9	2.2	-4.3	1.7
34	Rwanda	7.4	4.0	8.6	9.4	2.0	6.3
35	São Tomé & Príncipe	4.8	3.9	3.0	1.3	-6.5	3.0
36	Senegal	4.6	7.4	6.4	5.3	-0.7	5.2
37	Seychelles	5.0	4.4	3.8	3.9	-13.8	4.2
38	Sierra Leone	5.4	3.8	3.5	5.4	-3.1	2.7
39	South Africa	2.1	1.4	0.8	0.2	-8.0	3.0
40	South Sudan	–6.8	–5.8	–1.9	0.9	4.1	-2.3
41	Tanzania	6.6	6.8	7.0	7.0	1.9	3.6
42	Togo	6.1	4.4	4.9	5.3	0.0	3.0
43	Uganda	4.9	7.3	6.1	6.7	-0.3	4.9
44	Zambia	5.7	3.5	4.0	1.4	-4.8	0.6
45	Zimbabwe	8.2	4.7	3.5	–6.5	-10.4	4.2
	Sub-Saharan Africa	4.6	3.1	3.3	3.2	-3.0	3.1

Source: IMF, World Economic Outlook database, October 2020.

According to Table 4.2, real GDP growth in 2021 will range between 9.9 percent and -2.3 percent, with the majority of nations in the area entering economic recession in 2020 as a consequence of the Covid-19 epidemic. Sub-Saharan Africa's real GDP growth rate is estimated to be 3.1 percent by the end of June 2021, based on the statistics in Table 4.2.

From the region's debt-to-GDP ratio and real GDP growth statistics from 2010 to 2021, it would be unwise to conclude that a high debt-to-GDP ratio is detrimental to growth; as some countries with debt-to-GDP ratios above the 77 percent threshold experienced improved economic growth (see Eritrea and Mauritius, which had debt-to-GDP ratios of 173.5 percent and 84.2 percent, respectively, compared to 5.7 percent and 9.9 percent real GDP growth in While some nations, such as Zambia and the Congo Republic, have a greater debt-to-GDP ratio than the World Bank's suggested 77 percent. As a result, concluding that there is evidence of a debt ceiling over which medium-term economic prospects are jeopardized is challenging. The study

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findings are consistent with the IMF's (2014) assertion that there is no evidence of a specific debt threshold above which medium-term growth prospects are jeopardized, but they contradict a World Bank study by Mehmet (2015), which asserts that if the debt-to-GDP ratio remains above the 77 percent threshold for an extended period of time, economic growth is slowed. Each percentage point over this threshold increases the country's yearly real growth by 0.017 percentage points. And the situation is more worse in developing economies, where each additional percentage point over 64 percent slows GDP by 0.02 percentage points per year. Cumulatively, the impact on real GDP might be significant ("World Bank, "Finding the Tipping Point").

With high public debt and a low growth rate caused by revenue shortfalls during the COVID-19 outbreak, Sub-Saharan African countries' capacity to support their debt burdens is becoming increasingly strained, as a result of weaker economic activity and insufficient government support for the private sector during the COVID-19 outbreak; as most countries' debt-carrying capacity has clearly been diminished—with a bleak outlook for growth. Nonetheless, the debt load issue is really a matter of obtaining an increasing national revenue (Domar, 1944). Similarly, the right response to the debt crisis is not to shackle ourselves financially, but to accelerate GNP development (Domar, 1994). Nonetheless, it is said that high debt-to-GDP ratios result in macroeconomic instability, which is detrimental to growth, rendering debt unsustainable. However, a comprehensive examination of current data reveals that nations with a debt-to-GDP ratio greater than the 77 percent mark saw superior economic development. For example, Eritrea and Mauritius have debt to GDP ratios of 173.5 percent and 84.2 percent, respectively, compared to 5.7 percent and 9.9 percent growth in real GDP in 2021.

Conclusion

In light of the COVID-19 epidemic, the research analyzed the best debt-to-GDP ratio for optimizing growth in Sub-Saharan African nations. The article used the GDP Indicator to assess the trend in the debt-to-GDP ratio in 45 nations in Sub-Saharan Africa and to determine whether there is a point at which public debt becomes damaging to the region's economy. The GDP Indicator was used to analyze the appropriate debt-to-GDP Ratio Threshold in Sub-Saharan Africa owing to the limitations associated with the use of other measures. There are three primary categories of indicators identified in the methodological literature (vulnerability, sustainability and financial). The study's results aided in the economic debate about the appropriate public debt policy for Sub-Saharan Africa's economy during and after the COVID-19 Pandemic. Additionally, the study's findings identified the best policy measures required to maintain macroeconomic stability in Sub-Saharan Africa.

The study's major findings indicated that as long as Sub-Saharan Africa's economies continue to grow, a high debt-to-GDP ratio is not necessarily bad; as most countries with debt-to-GDP ratios above the 77 percent threshold experienced improved economic growth (see Eritrea and Mauritius, which had debt-to-GDP ratios of 173.5 percent and 84.2 percent, respectively, compared to 5.7 percent and 9.9 percent growth in real GDP as of the end of June As a result, as Domar (1994) observed, the issue of debt load is ultimately a matter of obtaining an increasing national income. That is, generating a quicker rate of GDP growth. Additionally, the paper discovered that countries in the region may face a high debt-to-GDP ratio as a result of excessive spending prompted by the Covid-19 pandemic, as well as an unpredictable slowdown in economic activity as a result of movement restriction policies imposed by subregional governments. Another intriguing conclusion is that Sub-Saharan Africa's average debt-to-GDP ratio, which increased from 32.9 percent in 2010 to 50.4 percent in 2019 and 56.6 percent in 2020, is much less than the maximum advised level of 77 percent. This necessitates a greater emphasis on credible fiscal consolidation in order to guard against adverse debt

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dynamics should the interest rate-growth differential narrow, taking into account the fact that the majority of the region's economies are in recession as a result of the Covid-19 pandemic outbreak. However, the report offers the following policy measures for addressing the region's high debt-to-GDP ratio: (1) Cutting down the unnecessary government expenditure. However, this should not be at the cost of economic growth in the region; (2) Strong role for fiscal stimulus to support aggregate demand. However, Sub-Saharan African countries need to proceed cautiously. Individual circumstances will differ, but most countries will be constrained in their ability to boost spending; (3) Fiscal measures should be complemented with monetary policies measures to ensure efficient public investment, streamlined tax expenditures, strengthened public financial management, and improved debt management and transparency

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