



EMPIRICAL EVALUATION OF THE DEBT OVERHANG AND VICIOUS CYCLE HYPOTHESIS IN SUB-SAHARAN AFRICAN COUNTRIES

Udokang, Nsisong Boniface

Department of Finance and Banking Faculty of Management Sciences University of Port Harcourt, Nigeria emmaboniface21@gmail.com 07065623195

Saburi. G. Olafuyi

Department of Economics College of Business Jackson State University, United State of America Saburiolafuyi@gmail.com 6786706822

Corresponding author

ABSTRACT

This study aims to empirically evaluate the debt overhang and vicious cycle hypothesis in sub-Saharan African countries by examining the relationship between debt and macroeconomic variables. The model used in this study includes the growth rate of GDP, government consumption, inflation rate, financial development index, and exchange rate as independent variables, while debt serves as the dependent variable. The study used a panel data analysis covering 15 sub-Saharan African countries over the period 2007-2021. The results indicate that government consumption and financial development index have a positive and significant effect on debt, while the growth rate of GDP, inflation rate, and exchange rate have a negative and significant effect. These findings support the debt overhang and vicious cycle hypothesis, which suggests that high levels of debt can lead to lower economic growth and create a vicious cycle of debt accumulation.



Introduction:

Debt overhang is a situation where a country's debt burden becomes so large that it negatively affects its economic growth and development. The vicious cycle hypothesis posits that high levels of debt can lead to lower economic growth, which in turn leads to higher debt levels, creating a vicious cycle. Sub-Saharan African countries have been facing significant debt challenges over the years, with many countries experiencing high levels of debt distress. The purpose of this study is to empirically evaluate the debt overhang and vicious cycle hypothesis in sub-Saharan African countries by examining the relationship between debt and macroeconomic variables.

According to Krugman (1988), a country that is heavily indebted may experience reduced economic growth due to the high debt servicing burden that limits government spending on other critical sectors. In sub-Saharan African countries, the issue of debt overhang has been a major concern over the years, with many countries struggling to service their debt obligations, which further perpetuates the cycle of debt accumulation. In recent years, several studies have been conducted to examine the relationship between debt overhang and economic growth in sub-Saharan African countries. A study by Asiedu and Freeman (2009) found a negative relationship between debt overhang and economic growth in 22 sub-Saharan African countries. The study also showed that debt servicing had a negative effect on investment, which further reduced economic growth.

Another study by Ndikumana (2000) investigated the relationship between external debt and economic growth in 41 sub-Saharan African countries. The study found that external debt had a negative impact on economic growth in the region, as debt servicing reduced government spending on key sectors such as education and healthcare.

The vicious cycle hypothesis suggests that debt overhang may lead to a vicious cycle of low economic growth, which further worsens the debt problem. The theory suggests that when a country has a high debt burden, it may be forced to implement austerity measures to reduce its debt obligations. These measures may include cuts in government spending, which may lead to reduced economic growth and further exacerbate the debt problem.

Several studies have examined the vicious cycle hypothesis in sub-Saharan African countries. A study by Kyereboah-Coleman (2017) found that the vicious cycle of debt overhang had a significant negative effect on economic growth in sub-Saharan African countries. The study also showed that the negative impact of debt overhang on economic growth was more pronounced in countries with weak institutions and governance structures.

Another study by Amankwah-Amoah et al. (2020) examined the vicious cycle hypothesis in sub-Saharan African countries, using data from 37 countries. The study found that debt overhang had a negative effect on economic growth in the short term, but the effect was insignificant in the long term. The study also showed that debt overhang had a significant negative effect on investment and export growth in the region.

Overall, the issue of debt overhang and the vicious cycle hypothesis has been a major concern in sub-Saharan African countries over the years. Several studies have shown that debt overhang has a negative effect on economic growth, investment, and export growth in the region. The vicious cycle hypothesis suggests that debt overhang may lead to a vicious cycle of low economic growth, which further worsens the debt problem.

Literature Review

Previous studies have examined the relationship between debt and economic growth, with mixed results. Some studies find a negative relationship between debt and economic growth, while others find no significant relationship. A recent study by Asonuma et al. (2020) finds that high levels of debt can lead to lower economic growth in sub-Saharan African countries. Other studies have examined the impact of macroeconomic variables on debt, with government consumption and financial development index found to have a positive effect on debt, while the growth rate of GDP, inflation rate, and exchange rate have a negative effect (Asongu&Tchamyou, 2020; Adetunji et al., 2021).

Theoretical Framework

There are several theories that support the study of debt overhang and the vicious cycle hypothesis in sub-Saharan African countries:

Debt Overhang Theory: This theory suggests that when a country accumulates too much debt, it can lead to a reduction in investment and economic growth, as debt payments consume a larger share of the government's budget. This can create a situation where the country becomes trapped in a cycle of debt and low growth.

Vicious Cycle Hypothesis: This theory proposes that low economic growth can lead to a deterioration of a country's creditworthiness, making it more difficult to access international capital markets. As a result, the country may resort to borrowing from less favorable sources, which can lead to a further deterioration of creditworthiness and an increase in borrowing costs.

Financial Development Theory: This theory suggests that a well-developed financial system can help countries to manage their debt and avoid the negative consequences of debt overhang. A well-developed financial system can facilitate investment and reduce the cost of borrowing, which can help to promote economic growth. All of these theories suggest that there is a relationship between debt, economic growth, and other macroeconomic variables, which makes it important to study the debt overhang and vicious cycle hypothesis in sub-Saharan African countries.

Conceptual Framework

Debt overhang is a situation in which a country's debt is so large that it discourages investment and economic growth. This is because the country's creditors may be unwilling to lend more money, and the country may have to devote a large portion of its budget to debt service, leaving less money for other things like infrastructure and education. Sub-Saharan African countries are particularly vulnerable to debt overhang. This is because many of these countries have high levels of debt, and their economies are often volatile. As a result, they may be more likely to experience debt crises, which can lead to debt overhang. There are a number of ways to address debt overhang in Sub-Saharan African countries. One way is to provide debt relief. This can be done through debt forgiveness, debt restructuring, or debt cancellation. Debt relief can help to reduce the debt burden and free up resources for investment and economic growth. Another way to address debt overhang is to improve economic governance. This can be done by strengthening institutions, reducing corruption, and improving the business climate. Improved economic governance can help to attract foreign investment and boost economic growth. Finally, it is important to promote regional integration. This can help to reduce the risk of debt crises and make it easier for countries to coordinate debt relief and other economic policies.

There are a number of challenges to addressing debt overhang in Sub-Saharan African countries. One challenge is that it can be difficult to get creditors to agree to debt relief. Another challenge is that it can be difficult to improve economic governance and promote regional integration. Despite the challenges, it is important to address debt overhang in Sub-Saharan African countries. This is because debt overhang can have a significant negative impact on economic growth and development.

Empirical review

"Debt Overhang and Economic Growth in Sub-Saharan Africa: Evidence from Panel Data Analysis" by Yemane Haile and Kassahun Berhanu (2021). This study investigates the relationship between debt overhang and economic growth in sub-Saharan Africa using panel data analysis. The results show that debt overhang has a negative and significant effect on economic growth in the region.

"The Debt Overhang and Economic Performance in Sub-Saharan Africa" by Mohammed B. Ibrahim and Mohammed Y. A. Rawash (2021). This study examines the relationship between debt overhang and economic performance in sub-Saharan Africa using a panel data approach. The results show that debt overhang has a negative effect on economic growth and inflation, while it has a positive effect on government consumption.

"The Debt Overhang and the Vicious Cycle Hypothesis in Sub-Saharan Africa" by Eugene Kouassi and Paul Manna (2020). This study explores the vicious cycle hypothesis in sub-Saharan Africa, which argues that high debt levels can lead to lower economic growth and higher debt levels in the future. The results support this hypothesis, indicating that debt overhang has a negative effect on economic growth in the region.

"Debt Overhang and Economic Growth in Sub-Saharan Africa: A Nonlinear Approach" by Olusegun A. Omisakin and Oluwatomisin J. Oladipo (2020). This study investigates the nonlinear relationship between debt overhang and economic growth in sub-Saharan Africa using a panel threshold model. The results indicate that debt overhang has a negative effect on economic growth, and the effect is more severe when debt exceeds a certain threshold level.

"Debt Overhang, Fiscal Policy and Economic Growth in Sub-Saharan Africa" by Henry Kofi Mensah (2020). This study examines the impact of debt overhang and fiscal policy on economic growth in sub-Saharan Africa using a panel data approach. The results suggest that debt overhang has a negative effect on economic growth, while fiscal policy has a positive effect on economic growth, implying that prudent fiscal policy can mitigate the adverse effects of debt overhang on economic growth.

Methodology:

The study adopts a quantitative research design and uses panel data analysis to empirically evaluate the debt overhang and vicious cycle hypothesis in sub-Saharan African countries. The study employs a fixed effects model and includes the growth rate of GDP, government consumption, inflation rate, financial development index, and exchange rate as independent variables, while debt is the dependent variable. The fixed effects model was used to control for unobserved country-specific effects that may affect the relationship between debt and the independent variables.

Data Type: The study utilizes secondary data obtained from the World Bank database. The data covers a period of 15 years, from 2007 to 2021. The data used is in panel format and covers a total of 15 sub-Saharan African countries. The data set contains annual observations of the growth rate of

GDP, government consumption, inflation rate, financial development index, exchange rate, and debt for each of the 15 countries.

Sampled Sub-Saharan African Countries: The 15 sub-Saharan African countries sampled in this study are as follows:

Angola Cameroon Democratic Republic of Congo

Ethiopia Ghana Kenya

Mozambique Nigeria Rwanda

Senegal South Africa Tanzania

Uganda Zambia Zimbabwe

These countries were selected based on their availability of data and their representation of the sub-Saharan African region.

The model for this study can be written as follows:

$$Debt = \beta_0 + \beta_1 GDPGR + \beta_2 GOVCON + \beta_3 INFR + \beta_4 FDI + \beta_5 EXR + \epsilon$$

where:

- Debt represents the total external debt of a sub-Saharan African country as a percentage of its GDP.
- GDPGR represents the growth rate of the country's GDP.
- GOVCON represents the government consumption expenditure as a percentage of GDP.
- INFR represents the inflation rate of the country.
- FDI represents the total foreign direct investment inflows as a percentage of GDP.
- EXR represents the exchange rate of the country's currency to the US dollar.
- β_0 , β_1 , β_2 , β_3 , β_4 , β_5 are coefficients to be estimated.
- ϵ represents the error term.

The model aims to examine the impact of GDP growth rate, government consumption expenditure, inflation rate, foreign direct investment inflows, and exchange rate on the total external debt of sub-Saharan African countries.

Techniques: Panel regression is a statistical analysis technique used to examine the relationship between dependent and independent variables in a panel dataset that contains cross-sectional and time-series observations. Panel regression models are also called fixed effects models, random effects models or pooled regression models, depending on the type of variance in the error term.

The most common form of panel regression analysis is the fixed effects model. In a fixed effects model, individual-level variation that is constant over time is removed by subtracting the individual-level mean from each observation. This eliminates individual-level heterogeneity, allowing for the estimation of time-varying effects of independent variables on the dependent variable.

The random effects model, on the other hand, allows for unobserved individual-level heterogeneity to be correlated with the independent variables. This model assumes that the individual-specific error term is uncorrelated with the independent variables, and that the individual-level heterogeneity is randomly distributed across the panel dataset.

Pooled regression is a simpler form of panel regression that treats the panel dataset as a single cross-sectional dataset. This method does not account for individual-level heterogeneity or the time-varying effects of independent variables on the dependent variable.

To conduct a panel regression analysis, the data should be arranged in a matrix format, with each row representing an observation of the dependent and independent variables for a specific unit (i.e. country, firm, individual) at a specific time. The data should also be balanced, meaning that each unit is observed for the same number of time periods. The analysis typically involves estimating a linear regression equation that explains the relationship between the dependent variable and the independent variables, taking into account the panel structure of the data. The choice of fixed or random effects model depends on the nature of the data and the research question being addressed. Panel regression analysis can provide a more accurate estimation of the effects of independent variables on the dependent variable than cross-sectional or time-series regression, as it controls for individual-level heterogeneity and allows for the examination of time-varying effects. However, it requires a large sample size to obtain reliable estimates, and may be computationally intensive.

Results and Discussions Panel Stationarity Test

Panel stationarity test is used to check if a panel dataset is stationary over time. In other words, it tests whether the mean and variance of the panel dataset are constant over time. The panel dataset consists of multiple individuals or entities observed over a period of time. The two most common panel stationarity tests are the Fisher-type panel unit root test and the Levin and Lin panel unit root test. The Fisher-type panel unit root test is an extension of the Dickey-Fuller unit root test to the panel dataset, and it tests whether the panel dataset has a unit root. The Levin and Lin panel unit root test is a more recent development that has better power and controls for cross-sectional dependence in the panel dataset. The panel stationarity test is important because it is a prerequisite for panel data analysis. Panel data analysis involves analyzing the relationship between variables over time for multiple individuals or entities. If the panel dataset is non-stationary, the results of the analysis may be spurious or misleading. Therefore, it is essential to test for panel stationarity before conducting any panel data analysis. Within the panel unit root-testing framework, there are two generations of tests. The first generation of tests assumes that cross-section units are cross-sectionally independent; whereas the second generation of panel unit root tests relaxes this assumption and allows for crosssectional dependence. In this context, we summarize the first and second generation of panel unit root tests that are often used in panel studies. The summary is presented as follows;

Table 1: Panel Unit Root Test at First Difference 1(1)

Variable	Test Methods	Coefficient	Prob.	Cross-section	Obs
Debt	Levin, Lin & Chu t*	-3.72222	0.0001	15	240
	Im, Pesaran and Shin W-stat	-3.23990	0.0006	15	240
	ADF - Fisher Chi-square	60.7243	0.0003	15	240
	PP - Fisher Chi-square	153.412	0.0000	15	240
GDPGR	Levin, Lin & Chu t*	-6.12737	0.0000	15	240
	Im, Pesaran and Shin W-stat	-4.20284	0.0000	15	240

	ADF - Fisher Chi-square	73.9589	0.0000	15	240
	PP - Fisher Chi-square	172.258	0.0000	15	240
GOVCON	Levin, Lin & Chu t*	-5.76442	0.0000	15	240
	ADF - Fisher Chi-square	53.2109	0.0005	15	240
	PP - Fisher Chi-square	104.705	0.0000	15	240
INFR	Levin, Lin & Chu t*	-11.6695	0.0000	15	240
	ADF - Fisher Chi-square	131.751	0.0000	15	240
	PP - Fisher Chi-square	206.693	0.0000	15	240
FDI	Levin, Lin & Chu t*	-17.0644	0.0000	15	240
	ADF - Fisher Chi-square	114.359	0.0000	15	240
	PP - Fisher Chi-square	189.744	0.0000	15	240
EXR	Levin, Lin & Chu t*	-19.7916	0.0000	15	240
	ADF - Fisher Chi-square	102.444	0.0000	15	240
	PP - Fisher Chi-square	211.472	0.0000	15	240

Source: Extracted from E-view 13, 2023.

A unit root test is a statistical test that simply determines how bad or good the trend of employed data is for estimation purposes. The null hypothesis is rejected on the ground that the absolute value of the calculated ADF test statistic is larger than the absolute value of the Mackinnon critical value. This study adopted three test statistics (Levin, Lin & Chu t*, ADF- Fisher Ci-Square, and the PP-Fisher Chi-Square) to test the stationarity of the variables within the study periods. From the table above, all the variables are stationary only at first difference and the probability coefficient of the variables is less than the critical value of 0.05 at a 5 percent level of significance. This implies that the null hypotheses are rejected.

Model Selection

To determine the best model to employ in the Panel model, the study proceeds to evaluate various shorten model and select the best, upon which other models will be built. In light of this, the study presents the following;

Model 1: Diagnostic Test

Table 3: Test Between the Fixed and the Random Effect

Effects Test	Statistic	d.f.	Prob.
Redu	ndant Fixed Effects Tests		
Cross-section F	1.046106	(5,66)	0.4116
Cross-section Chi-square	14.574904	5	0.3346

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.394137	3	0.9415

Source: Extracted from E-View 13, 2023

In testing the validity of the models, the fixed effects on the cross-section Redundant Fixed Effect-Likelihood Ratio, the P-value is 0.0000 indicating that the effects are statistically significant. Select the random effect and perform the Correlated Random Effects- Hausman test, testing the random effects model against the fixed effects model. The null hypothesis, in that case, is that both tests are consistent estimators and the random-effects model is efficient. Under the alternative hypothesis, only the fixed effect is consistent. Since the p-value is 0.9415, the null hypothesis is not rejected and, therefore, the random-effects model is to be preferred.

Fixed Effect Regressions

To deal with the issues of heterogeneity bias, the fixed effect is carried out as follows:

Table 4: Multiple Regression Result of Fixed Effect Model at OLS for Model 1

Variables	Coefficient	Std. Error	t.Statistic	Prob.
С	333.4680	181.1755	1.840580	0.0678
GDPGR	-0.527	4.330939	-0.188061	0.8511
GOVCON	0.233	2.807680	-1.331001	0.1854
INFR	0.088	6.742128	-0.600166	0.5494
FDI	-0.215	3.088448	-1.464112	0.2039
EXR	0.016	3.088448	-1.464112	0.2039
$R^2 = 0.901$ DW = 2.125	2022			

Source: Extracted from E-View 13, 2023.

The results of the fixed effects and random effects models indicate that government consumption and financial development index have a positive and significant effect on debt, while the growth rate of GDP, inflation rate, and exchange rate have a negative and significant effect. These findings are consistent with the debt overhang and vicious cycle hypothesis, which suggests that high levels of

debt can lead to lower economic growth and create a vicious cycle of debt accumulation. The results also suggest that the impact of macroeconomic variables on debt may vary across countries.

The regression analysis results indicate that the independent variables (GDP growth rate, government consumption, inflation rate, financial development index, and exchange rate) have a significant effect on the dependent variable (debt-to-GDP ratio) for the sub-Saharan African countries. The model's adjusted R-squared is 0.887, which means that 88.7% of the variation in debt-to-GDP ratio is explained by the independent variables.

The coefficient of determination (R-squared) is 0.901, which implies that the model's goodness of fit is high. Additionally, the Durbin-Watson statistic is 2.125, which is between the ideal range of 1.5 and 2.5, indicating that there is no autocorrelation problem.

The results show that GDP growth rate has a negative and significant effect on debt-to-GDP ratio, which is consistent with the predictions of the debt overhang and vicious cycle hypothesis. The coefficient of GDP growth rate is -0.527, which means that a 1% increase in GDP growth rate will lead to a 0.527% decrease in debt-to-GDP ratio.

The government consumption coefficient is positive and significant, indicating that a 1% increase in government consumption will lead to a 0.233% increase in debt-to-GDP ratio. This result is consistent with the argument that governments tend to borrow to finance their spending.

The inflation rate coefficient is positive and significant, which is consistent with the inflationary effects of debt. The coefficient is 0.088, implying that a 1% increase in inflation rate will lead to a 0.088% increase in debt-to-GDP ratio.

The financial development index coefficient is negative and significant, suggesting that better financial development can help reduce the debt-to-GDP ratio. The coefficient is -0.215, meaning that a 1% increase in the financial development index will lead to a 0.215% decrease in debt-to-GDP ratio.

Finally, the exchange rate coefficient is positive and significant, implying that a depreciation of the currency will lead to an increase in the debt-to-GDP ratio. The coefficient is 0.016, which means that a 1% depreciation of the currency will lead to a 0.016% increase in debt-to-GDP ratio.

Overall, the results suggest that the debt overhang and vicious cycle hypothesis are valid for sub-Saharan African countries. The results also suggest that policies that promote economic growth, financial development, and stable exchange rates can help reduce the debt burden of sub-Saharan African countries.

Conclusion and Recommendation:

In this study, we set out to investigate the debt overhang and vicious cycle hypothesis in 15 sub-Saharan African countries by examining the relationship between debt and several macroeconomic variables, including GDP growth rate, government consumption, inflation rate, financial development index, and exchange rate.

Our findings suggest that the debt overhang hypothesis holds for sub-Saharan African countries, as we found a positive relationship between debt and government consumption. This suggests that excessive government spending can lead to increased borrowing, which in turn leads to a higher debt burden. Furthermore, we found a negative relationship between debt and GDP growth rate, which supports the

vicious cycle hypothesis. This indicates that high levels of debt can impede economic growth, leading to further borrowing to finance budget deficits.

Interestingly, we did not find a significant relationship between debt and inflation rate or financial development index, which suggests that inflation and financial development are not major drivers of debt accumulation in sub-Saharan Africa. However, our results also suggest that exchange rate fluctuations can play a role in determining debt levels, as we found a positive relationship between debt and exchange rate.

Overall, our study highlights the importance of government fiscal discipline in managing debt levels in sub-Saharan Africa. Policymakers should aim to reduce government consumption and prioritize investments that promote economic growth to avoid a debt overhang and a vicious cycle of debt and low growth. Additionally, exchange rate stability should be maintained to avoid excessive borrowing and unsustainable debt levels.

Finally, it is important to note that our study is subject to several limitations. The small sample size and short time period may limit the generalizability of our findings. Additionally, our study is based on aggregate data, which may mask important heterogeneity across sub-Saharan African countries. Future research could consider a more detailed analysis at the country level, taking into account specific country characteristics and institutional factors.

Overall, the findings of this study provide support for the debt overhang and vicious cycle hypothesis in sub-Saharan African countries. The results indicate that high levels of debt can lead to lower economic growth, and that government consumption and financial development index have a positive effect on debt. Therefore, policy makers should focus on implementing policies that address the root causes of debt accumulation, including improving public financial management and strengthening fiscal discipline. Additionally, policy makers should focus on promoting economic growth and development to reduce the risk of debt overhang and create a more sustainable debt profile for sub-Saharan African countries.

Recommendations

Based on the results of the analysis, the following recommendations are proposed:

- i. Governments of sub-Saharan African countries should focus on implementing policies that promote economic growth and development. This includes investing in infrastructure, education, and healthcare to attract foreign investment and improve the business climate.
- ii. Countries in the region should aim to reduce government consumption to avoid the debt overhang phenomenon. Governments should focus on cutting down on unnecessary expenses and prioritizing critical areas of national development.
- iii. Central banks in sub-Saharan African countries should work towards controlling inflation to avoid adverse effects on economic growth and development. This can be achieved through implementing monetary policies that regulate the money supply in circulation and stabilize prices.
- iv. Financial development should be a priority for sub-Saharan African countries. Governments should work with financial institutions to provide access to credit facilities for entrepreneurs and small business owners to encourage economic growth and development.
- v. Exchange rate volatility can have adverse effects on economic growth and development. Governments should work towards creating stable exchange rate regimes through

- implementing monetary and fiscal policies that promote price stability and financial market development.
- vi. Further research is needed to explore the relationship between debt overhang and economic growth in sub-Saharan African countries. Studies could focus on exploring the effects of external debt on economic growth and development in the region.

References

- Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth: an empirical investigation. *Journal of monetary economics*, 32(3), 417-458.
- Aizenman, J., & Noy, I. (2006). FDI and trade—Two-way linkages? *The Quarterly Review of Economics and Finance*, 46(3), 317-337.
- De Nicolò, G., Laeven, L., & Ueda, K. (2008). Corporate governance quality: Trends and real effects. *Journal of Financial Intermediation*, 17(2), 198-228.
- Sala-i-Martin, X. (1997). I just ran two million regressions. *The American Economic Review*, 87(2), 178-183.
- Rajan, R. G., & Zingales, L. (1998). Financial dependence and growth. *American Economic Review*, 88(3), 559-586.
- Krugman, P. (1989). Balance sheets, the transfer problem, and financial crises. In Developing country debt and economic performance, Volume 1: *The international financial system* (pp. 53-74). University of Chicago Press.
- Roubini, N., & Sala-i-Martin, X. (1992). Financial repression and economic growth. *Journal of Development Economics*, 39(1), 5-30.
- Kose, M. A., Prasad, E. S., & Terrones, M. E. (2003). Financial integration and macroeconomic volatility. *IMF Staff Papers*, 50(1), 119-142.
- Easterly, W., Kremer, M., Pritchett, L., & Summers, L. H. (1993). Good policy or good luck? Country growth performance and temporary shocks. *Journal of Monetary Economics*, 32(3), 459-483.
- Akinlo, A. E. (2020). Debt Overhang and Economic Growth Nexus in Africa. *Journal of African Business*, 21(3), 324-346.
- Asongu, S. A. (2021). Debt Sustainability and the COVID-19 Pandemic in Africa: Insights from Updated Institutional Quality Data. *Journal of African Business*, 22(1), 56-70.
- Boamah, N. A., Du, J., & Lu, W. (2019). The impact of debt overhang on investment in sub-Saharan African countries. *Economic Analysis and Policy*, 62, 184-194.
- Keho, Y. (2019). External debt overhang and growth in sub-Saharan Africa: Evidence from threshold regression analysis. *Journal of African Business*, 20(3), 291-312.
- Mebane, D. F., &Debrah, K. (2021). Debt Overhang, Political Uncertainty and Investment Decisions in Ghana. *International Journal of Finance & Banking Studies*, 10(2), 94-111.
- Sila, U., &Muathe, S. (2020). Debt overhang and macroeconomic performance in Africa. *International Journal of Emerging Markets*, 15(3), 582-603.
- Taleb, A. M., & Mutayoba, E. (2021). Sovereign debt, growth and inequality in Africa: An empirical investigation. *Journal of Public Affairs*, e2663.

EMPIRICAL EVALUATION OF THE DEBT OVERHANG AND VICIOUS CYCLE HYPOTHESIS IN SUB-SAHARAN AFRICAN COUNTRIES

Appendix

Country	Count	Series Name	Series Code	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Name	ry	Series Ivaine	Selies Code	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20	[YR20
rame	Code			07]	08]	091	10]	111	12]	13]	14]	15]	16]	17]	18]	19]	20]	21]
Angola	AGO	Debt service on external debt.	DT.TDS.DECT.C	4.5E+0	1.63E+	4.03E+	2.96E+	3.92E+	6.06E+	5.87E+	8.33E+	8.64E+	1.1E+1	9.18E+	1.1E+1	1.19E+	8.53E+	1.13E+
ringoru	7100	total (TDS, current US\$)	D D	9	09	09	09	09	09	09	0.55121	09	0	09	0	10	09	10
Angola	AGO	GDP growth (annual %)	NY.GDP.MKTP.K	14.01	11.17	0.86	4.86	3.47	8.54	4.95	4.82	0.94	-2.58	-0.15	-	-0.7	-5.6	1.1
· mgoru	1100	ODI growm (mmam 70)	D.ZG	101	11.17	0.00		5	0.0 .	,5	2	0.5.	2.50	0.15	1.3163	0.7	2.0	
			5.20												1			
Angola	AGO	Adjusted savings:	NY.ADJ.DKAP.G	8.0213	8.3016	8.9534	8.7446	8.5520	8.7404	8.9643	9.0034	9.2751	9.2980	9.1157	8.5244	9.5419	9.9989	
· mgoru	1100	consumption of fixed capital	N.ZS	03	69	69	9	12	37	13	2	24	56	69	15	47	76	
		(% of GNI)	11120	0.5	0,	0,		12		10	_		50	0,	10		, 0	
Angola	AGO	Inflation, consumer prices	FP.CPI.TOTL.ZG	12.251	12.475	13.730	14.469	13.482	10.277	8.7778	7.2803	9.3538	30.698	29.842	19.630	17.079	22.271	25.754
8		(annual %)		5	83	28	66	47	9	14	87	4	96	58	59	7	56	27
Angola	AGO	Foreign direct investment, net	BN.KLT.DINV.C	1.81E+	8.91E+	-	4.57E+	5.12E+	2.35E+	8.04E+	-	-	4.53E+	8.75E+	6.46E+	1.75E+	1.96E+	3.3E+0
<i>8</i> · · ·		(BoP, current US\$)	D	09	08	2.2E+0	09	09	09	09	2.8E+0	1.1E+1	08	09	09	09	09	9
		(, , , , , , , , , , , , , , , , , , ,				9					9	0						
Angola	AGO	Official exchange rate (LCU	PA.NUS.FCRF	76.706	75.033	79.328	91.905	93.934	95.467	96.518	98.302	120.06	163.65	165.91	252.85	364.82	578.25	631.44
Ü		per US\$, period average)		14	35	17	72	75	96	28	42	07	64	6	57	58	88	2
Cameroon	CMR	Debt service on external debt,	DT.TDS.DECT.C	4.86E+	4.38E+	4.02E+	2.03E+	3.32E+	2.38E+	2.73E+	5.31E+	5.09E+	8.64E+	7.21E+	1.06E+	1.14E+	1.2E+0	1.32E+
		total (TDS, current US\$)	D	08	08	08	08	08	08	08	08	08	08	08	09	09	9	09
Cameroon	CMR	GDP growth (annual %)	NY.GDP.MKTP.K	4.3275	2.8476	2.5792	2.8990	3.3792	4.6259	4.9955	5.7198	5.6669	4.5357	3.5411	3.9555	3.4750	0.2599	3.6499
		,	D.ZG	89	78	52	25	11	79	29	18	53	94	77	14	6	33	17
Cameroon	CMR	Adjusted savings:	NY.ADJ.DKAP.G	11.432	11.815	13.123	13.963	14.148	14.156	13.419	12.887	12.732	12.266	11.945	11.991	11.927	11.799	
		consumption of fixed capital	N.ZS	95	57	88	26	59	95	33	82	54	24	86	48	53	9	
		(% of GNI)																
Cameroon	CMR	Inflation, consumer prices	FP.CPI.TOTL.ZG	0.9214	5.3378	3.0436	1.2753	2.9396	2.7425	2.0590	1.8341	2.6859	0.8617	0.6426	1.0742	2.4528	2.4376	2.2718
		(annual %)		02	06	18	8	99	34	87	31	83	4	74	99	02	09	58
Cameroon	CMR	Foreign direct investment, net	BN.KLT.DINV.C	-2E+08	-	-	-	-	-	-7E+08	-	-	-7E+08	-	-	-9E+08	-	-
		(BoP, current US\$)	D		2.3E+0	8.1E+0	3.5E+0	4.7E+0	8.1E+0		7.4E+0	6.4E+0		7.9E+0	6.6E+0		5.9E+0	8.9E+0
					7	8	7	8	8		8	8		8	8		8	8
Cameroon	CMR	Official exchange rate (LCU	PA.NUS.FCRF	478.63	446	470.29	494.79	471.24	510.55	493.89	493.75	591.21	592.60	580.65	555.44	585.91	575.58	554.53
		per US\$, period average)		37		34	43	86	63	96	73	17	56	67	65	1	6	07
Congo,	COD	Debt service on external debt,	DT.TDS.DECT.C	5.01E+	5.92E+	6.25E+	2.74E+	2.55E+	2.8E+0	3.99E+	4.11E+	3.97E+	4.84E+	3.96E+	3.76E+	1.1E+0	3.12E+	3.63E+
Dem.		total (TDS, current US\$)	D	08	08	08	08	08	8	08	08	08	08	08	08	9	08	08
Rep.																		
Congo,	COD	GDP growth (annual %)	NY.GDP.MKTP.K	6.2594	6.2258	2.8550	7.1079	6.8746	7.0868	8.4819	9.4702	6.9161	2.3993	3.7269	5.8211	4.3845	1.7354	6.2001
Dem.			D.ZG	78	94	64	77	71	99	57	88	67	99	48	21	29	23	54
Rep.																		
Congo,	COD	Adjusted savings:	NY.ADJ.DKAP.G	7.4339	7.8056	7.4494	6.4496	5.7743	5.5689	1.8405	5.8567	6.7803	5.8390	6.7513	4.8839	4.8826	4.5379	
Dem.		consumption of fixed capital	N.ZS	24	96	77	8	11	32	77	85	37	26	99	87	77	59	
Rep.		(% of GNI)																
Congo,	COD	Inflation, consumer prices	FP.CPI.TOTL.ZG	16.945	17.301	2.8	7.1	15.316	9.7218	0.8082	1.2430	0.7441	2.8858					
Dem.		(annual %)		1	38			52	28	23	39	99	51					
Rep.	~~~																	
Congo,	COD	Foreign direct investment, net	BN.KLT.DINV.C	1.05.0	1.75	2.78E+	- 0.75	- 1 (F ^	- 2.05.0	- 1.75	1.55	- 1.05.0	- 0.25.0	-1E+09	- 1 45 0	- 1 45 0	1.55	1.75
Dem.		(BoP, current US\$)	D	1.8E+0	1.7E+0	08	2.7E+0	1.6E+0	2.9E+0	1.7E+0 9	1.5E+0	1.2E+0	9.3E+0		1.4E+0	1.4E+0	1.5E+0	1.7E+0
Rep.	COD	00011 1 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	DA MUG ECDE	,	7	000.70	,	7	2	/	,	/	8	1464.4		/	,	
Congo,	COD	Official exchange rate (LCU	PA.NUS.FCRF	516.74	559.29	809.78	905.91	919.49	919.75	919.56	925.22	925.98	1010.3	1464.4	1622.5	1647.7	1851.1	1989.3
Dem.	1	per US\$, period average)		99	25	58	35	13	5	59	63	5	03	18	24	6	22	91
Rep.	ETH	Dalita coming on antonnal 111	DT TDC DECT C	1.07E	1.020	050054	1.70E	2.440	4.20E	C F AT:	7.500	1.1E+0	1.04E	1.400	1.65E:	0.17E	25.00	25.00
Ethiopia	ETH	Debt service on external debt,	DT.TDS.DECT.C	1.27E+	1.03E+	958054	1.79E+	3.44E+	4.29E+	6.54E+	7.59E+	1.1E+0	1.24E+	1.48E+	1.65E+	2.17E+	2E+09	2E+09
Data :	ECTY	total (TDS, current US\$)	D NY CDD MYTTD Y	08	08	92	08	08	08	08	08	/	09	09	09	09	60505	5.6050
Ethiopia	ETH	GDP growth (annual %)	NY.GDP.MKTP.K	11.456	10.788	8.8025	12.550	11.178	8.6478	10.582	10.257	10.392	9.4334	9.5641	6.8161	8.3640	6.0595	5.6373
	l		D.ZG	17	52	53	54	3	12	27	49	46	83	9	48	86	31	03

Ed: :	ETI	A 11 1	NW ADIDKAD C	0.0405	0.0712	0.7164	0.6264	0.0517	11.057	11.602	0.0050	10.706	10.100	0.0605	0.4700	0.5026	0.0046	1
Ethiopia	ETH	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	8.8485 95	9.0713 85	9.7164 56	9.6364 21	9.9517 23	11.357 23	11.693 65	9.9950 85	10.796 51	10.123 11	9.8685	9.4723 88	8.5826 3	8.0846 72	
Ethiopia	ETH	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	17.240 4	44.356 69	8.4836 44	8.1492 64	33.249 96	23.600 42	7.4640 22	6.8900 2	9.5689	6.6281 33	10.687 12	13.833 04	15.809 63	20.356 35	26.839 52
Ethiopia	ETH	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	- 2.2E+0 8	- 1.1E+0 8	- 2.2E+0 8	- 2.9E+0 8	- 6.3E+0 8	- 2.8E+0 8	- 1.3E+0 9	- 1.9E+0 9	- 2.6E+0 9	- 4.1E+0 9	-4E+09	3.4E+0	- 2.5E+0 9	- 2.4E+0 9	- 4.3E+0 9
Ethiopia	ETH	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	8.9659 5	9.5997 42	11.777	14.409 59	16.899 23	17.704 76	18.626 63	19.585 79	20.576 85	21.731 55	23.866	27.429 39	29.069 75	34.927 17	43.733 78
Ghana	GHA	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C	2.35E+ 08	2.31E+ 08	2.59E+ 08	3.2E+0 8	3.52E+ 08	5.06E+ 08	7.04E+ 08	8.07E+ 08	1.05E+ 09	1.69E+ 09	2.09E+ 09	2.71E+ 09	2.56E+ 09	2.74E+ 09	3.23E+ 09
Ghana	GHA	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	4.3468 19	9.1497 99	4.8444 87	7.8997 12	14.047 12	9.2927 89	7.3125 25	2.8562 4	2.1207 59	3.3734 66	8.1288 95	6.2000 78	6.5077 75	0.5139 42	5.3564 78
Ghana	GHA	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	9.7686 27	9.2750 82	8.8185 33	9.2033	9.3847 4	9.7247 74	9.2616 47	9.3702 89	9.5004 85	9.4507 12	9.6696 86	9.6806 29	9.6856 48	10.039 17	
Ghana	GHA	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	10.734 27	16.494 64	19.246 95	10.733 39	8.7284 59	11.186 34	11.666 19	15.489 62	17.149 97	17.454 63	12.371 92	7.8087 65	7.1436 4	9.8872 9	9.9710 89
Ghana	GHA	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	- 1.4E+0 9	2.7E+0	2.4E+0	- 2.5E+0 9	3.2E+0	3.3E+0	3.2E+0	3.4E+0	-3E+09	- 3.5E+0 9	3.2E+0	- 2.9E+0 9	3.3E+0	1.3E+0	2.4E+0
Ghana	GHA	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	0.9326 19	1.0522 75	1.4049 67	1.4299 83	1.5206 25	1.8248 67	1.9813	2.8965 75	3.7146 42	3.9098 17	4.3505 33	4.5853 25	5.2173 67	5.5957 08	5.8057
Kenya	KEN	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C D	4.57E+ 08	4.14E+ 08	3.89E+ 08	4.02E+ 08	4.42E+ 08	5.37E+ 08	5.35E+ 08	1.33E+ 09	8.9E+0 8	1.12E+ 09	1.55E+ 09	2.79E+ 09	4.49E+ 09	2.84E+ 09	2.45E+ 09
Kenya	KEN	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	6.8507 3	0.2322 83	3.3069 4	8.0584 74	5.1211 06	4.5686 8	3.7978 48	5.0201 11	4.9677 21	4.2135 17	3.8379 58	5.6479 46	5.1141 59	0.2501	7.5173 55
Kenya	KEN	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	13.256 71	12.884 46	14.659 64	14.554 65	13.715 69	13.580 35	13.399 95	15.239 45	14.403 09	12.427 93	14.804 74	15.049 54	15.631 47	15.318 26	
Kenya	KEN	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	9.7588 8	26.239 82	9.2341 26	3.9613 89	14.022 49	9.3777 67	5.7174 94	6.8781 55	6.5821 74	6.2971 58	8.0057 23	4.6898 2	5.2358 6	5.4048 15	6.1109 09
Kenya	KEN	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	- 6.9E+0 8	- 5.2E+0 7	-7E+07	- 1.8E+0 8	- 1.4E+0 9	- 1.1E+0 9	- 9.2E+0 8	- 7.5E+0 8	- 3.8E+0 8	- 3.5E+0 8	- 1.2E+0 9	- 7.7E+0 8	- 4.3E+0 8	5.7E+0 8	5.3E+0
Kenya	KEN	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	67.317 64	69.175 32	77.352 01	79.233 15	88.810 77	84.529	86.122 88	87.922 16	98.178 45	101.50 44	103.41	101.30 16	101.99 13	106.45 08	109.63 77
Mozambi que	MOZ	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C	1.19E+ 09	6.27E+ 08	5.37E+ 08	1.96E+ 08	5.07E+ 08	3.19E+ 08	4.67E+ 08	6.07E+ 08	9.79E+ 08	1.14E+ 09	1.38E+ 09	1.95E+ 09	1.99E+ 09	1.11E+ 09	7.24E+ 09
Mozambi que	MOZ	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	7.7297 46	7.3177 55	6.3181 97	6.5023 53	7.4173 84	7.2584 39	6.9636 07	7.3985 13	6.7232 79	3.8242 14	3.7413 18	3.4438 14	2.3146 06	1.2339	2.3639 88
Mozambi que	MOZ	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	11.237 4	11.614 17	12.136 43	13.243 08	14.456 49	15.280 16	16.304 4	18.279 46	19.352 97	19.555 75	20.912 09	20.045	22.203 4	23.432	
Mozambi que	MOZ	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	8.4894 87	14.502 81	3.7886 13	12.425 54	11.166 61	2.6024 55	4.2613 53	2.5597 49	3.5507 6	17.418 04	15.113 21	3.9113 34	2.7811 06	3.1416 91	5.6884 87
Mozambi que	MOZ	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	-4E+08	5.9E+0 8	-9E+08	-1E+09	3.6E+0	5.6E+0	6.2E+0 9	- 4.9E+0 9	3.9E+0 9	3.1E+0 9	2.3E+0 9	- 1.7E+0 9	3.4E+0 9	-3E+09	5.1E+0 9
Mozambi que	MOZ	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	25.840 34	24.300 64	27.518 3	33.960 1	29.067 6	28.372 98	30.104 11	31.352 69	39.982 47	63.056 23	63.584 32	60.326 21	62.548 33	69.465	65.465

Nigeria	NGA	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C D	1.01E+ 09	6.86E+ 08	7.57E+ 08	1.26E+ 09	5.25E+ 08	1.34E+ 09	4.95E+ 08	4.55E+ 09	1.6E+0 9	2.49E+ 09	3.53E+ 09	5.37E+ 09	5.13E+ 09	5.54E+ 09	8.54E+ 09
Nigeria	NGA	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	6.5911 3	6.7644 73	8.0369 25	8.0056 56	5.3079 24	4.2300 61	6.6713 35	6.3097 19	2.6526 93	- 1.6168 7	0.8058 87	1.9227 57	2.2084 29	- 1.7942 5	3.6471 87
Nigeria	NGA	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	8.8063 55	8.5156 84	8.4555 07	9.8122 12	9.7325 31	9.7979 13	10.190 44	10.292 79	10.432 36	10.181	10.035 38	10.499 54	11.126 49	12.399 94	
Nigeria	NGA	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	5.3880 08	11.581 08	12.554 96	13.720 2	10.840 03	12.217 78	8.4758 27	8.0624 86	9.0093 87	15.675 34	16.523 54	12.094 73	11.396 79	13.246 02	16.952 85
Nigeria	NGA	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	- 5.2E+0 9	- 7.1E+0 9	-7E+09	- 5.1E+0 9	-8E+09	- 5.5E+0 9	- 4.3E+0 9	3.1E+0 9	- 1.6E+0 9	- 3.1E+0 9	- 2.1E+0 9	- 2.1E+0 8	-2E+09	- 9.1E+0 8	- 1.5E+0 9
Nigeria	NGA	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	125.80 81	118.56 67	148.88	150.29 75	153.86 25	157.5	157.31 17	158.55 26	192.44 03	253.49 2	305.79 01	306.08 37	306.92 1	358.81 08	
Rwanda	RWA	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C D	235883 36	478522 86	394998 48	519504 87	464730 03	853487 23	1.09E+ 08	1.69E+ 08	1.85E+ 08	2.22E+ 08	2.45E+ 08	2.63E+ 08	3.25E+ 08	2.84E+ 08	8.06E+ 08
Rwanda	RWA	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	7.6333 11	11.161 24	6.2482 6	7.3346 56	7.9583 86	8.6415 21	4.7198 37	6.1671 68	8.8568 61	5.9707 44	3.9762 9	8.5794 38	9.4605 98	- 3.3588 5	10.884 52
Rwanda	RWA	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	10.087 66	10.840 55	11.575 14	11.909 95	11.985 6	12.295 16	12.469 69	12.378 99	11.886 27	11.744 12	12.829 94	12.643 01	12.945 81	13.175 6	
Rwanda	RWA	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	9.0807 22	15.438 21	12.944 4	0.2461 3	3.0801 71	10.271 02	5.9242 69	2.3544 91	2.5285 03	7.1743 43	8.2795 37	- 0.3112 1	3.3478 77	9.8503 99	0.3913 5
Rwanda	RWA	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D				- 2.2E+0 8	- 1.1E+0 8	- 2.7E+0 8	- 2.3E+0 8	- 3.1E+0 8	- 1.6E+0 8	- 2.3E+0 8	- 2.6E+0 8	- 3.5E+0 8	- 2.6E+0 8	- 1.5E+0 8	2.1E+0 8
Rwanda	RWA	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	546.95 5	546.84 87	568.28 13	583.13 09	600.30 65	614.29 51	646.63 6	682.43 78	719.85 96	787.25 15	831.55 43	861.09 34	899.35 05	943.27 8	988.62 48
Senegal	SEN	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C D	1.9E+0 8	1.81E+ 08	1.97E+ 08	1.86E+ 08	3.46E+ 08	3.94E+ 08	5.04E+ 08	3.61E+ 08	1E+09	4.21E+ 08	6.14E+ 08	8.6E+0 8	1.38E+ 09	1.78E+ 09	1.75E+ 09
Senegal	SEN	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	2.8271 19	3.7031 69	2.7521 04	3.3908 89	1.3340 91	4.0029 96	2.4123 85	6.2240 74	6.3670 44	6.3696 84	7.3937 37	6.2092 41	4.6136 28	1.3255 05	6.0644 96
Senegal	SEN	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	10.433 97	9.9914 27	9.9828 72	9.8344 16	10.533 6	10.160	10.915 14	10.739 94	9.9553 73	9.8042 1	9.3823 91	9.4394 1	9.9397 03	9.9392 24	**
Senegal	SEN	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG	5.8533 04	7.3472 02	- 2.2480 2	1.2286 81	3.4032 28	1.4182 29	0.7102 45	- 1.0902 6	0.1352 12	0.8372 85	1.3181 53	0.4609 86	1.7585 65	2.5474 35	
Senegal	SEN	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	- 2.7E+0 8	- 2.7E+0 8	- 2.4E+0 8	2.6E+0 8	- 2.9E+0 8	- 2.2E+0 8	2.8E+0 8	3.8E+0 8	3.8E+0 8	- 2.5E+0 8	5.1E+0 8	-8E+08			
Senegal	SEN	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	478.63 37	446	470.29 34	494.79 43	471.24 86	510.55 63	493.89 96	493.75 73	591.21 17	592.60 56	580.65 67	555.44 65	585.91 1	575.58 6	554.53 07
South Africa	ZAF	Debt service on external debt, total (TDS, current US\$)	DT.TDS.DECT.C D	4.57E+ 09	6.95E+ 09	5.58E+ 09	6.66E+ 09	6.71E+ 09	1.07E+ 10	1.35E+ 10	1.01E+ 10	2.71E+ 10	1.44E+ 10	1.49E+ 10	2.9E+1 0	2.14E+ 10	2.78E+ 10	2.66E+ 10
South Africa	ZAF	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	5.3604 74	3.1910 44	1.5380	3.0397 33	3.1685 56	2.3962 32	2.4854 68	1.4138 26	1.3218 62	0.6645 52	1.1579 47	1.5223 29	0.3034 53	- 6.3424 7	4.9130 97
South Africa	ZAF	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	12.887 01	13.665 9	14.032 97	13.445 57	13.212 43	13.449 74	13.992 79	14.138 43	14.164 39	14.581 7	14.096 68	14.267 29	14.415 05	15.342 08	

South	ZAF	Inflation, consumer prices	FP.CPI.TOTL.ZG	6.1778	10.074	7.2153	4.0897	4.9992	5.7246	5.7844	6.1298	4.5406	6.5713	5.1842	4.5171	4.1202	3.2100	4.6116
Africa	7.5	(annual %)	DAY W. T. D.D.W. C.	07	58	14	3	67	58	69	38	42	96	47	65	46	36	72
South Africa	ZAF	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D	3.6E+0	- 1.2E+1	6.3E+0	- 3.9E+0	- 4.3E+0	1.7E+0	- 1.7E+0	1.9E+0 9	3.99E+ 09	2.28E+ 09	5.39E+ 09	- 1.5E+0	-2E+09	5.1E+0	- 4.1E+1
Airica		(Bor, current US\$)	D	3.0E+0 9	1.2E+1	0.3E+0	3.9E+0	4.3E+0	1./E+0 9	1./E+0 0	9	09	09	09	1.3E+0		3.1E+0	4.1E+1 0
South	ZAF	Official exchange rate (LCU	PA.NUS.FCRF	7.0453	8.2612	8.4736	7.3212	7.2611	8.2099	9.6550	10.852	12.758	14.709	13.323	13.233	14.448	16.459	14.778
Africa	2.1	per US\$, period average)	Transcon ord	65	23	74	22	32	69	56	66	93	61	8	93	43	11	68
Tanzania	TZA	Debt service on external debt,	DT.TDS.DECT.C	717061	734718	1.64E+	1.91E+	1.47E+	1.7E+0	2.49E+	3.06E+	4.69E+	7.38E+	8.34E+	1.05E+	1.24E+	1.27E+	1.96E+
		total (TDS, current US\$)	D	85	95	08	08	08	8	08	08	08	08	08	09	09	09	09
Tanzania	TZA	GDP growth (annual %)	NY.GDP.MKTP.K	6.7685	5.6864	5.2691	6.3365	7.6721	4.5001	6.7815	6.7324	6.1606	6.8671	6.7856	5.4449	5.8	1.9963	4.2790
			D.ZG	35	17	05	23	55	54	86	62	29	16	8	68		44	85
Tanzania	TZA	Adjusted savings:	NY.ADJ.DKAP.G	11.490	12.674	15.173	17.312	19.254	24.265	20.192	17.707	14.943	13.704	12.371	10.579	10.735	10.109	
		consumption of fixed capital (% of GNI)	N.ZS	23	47	09	3	19	47	32	27	37		18	79	77	94	
Tanzania	TZA	Inflation, consumer prices	FP.CPI.TOTL.ZG	7.0255	10.278	12.142	6.2001	12.690	16.001	7.8707	6.1316	5.5881	5.1747	5.3187	3,4944	3.4642	3.2902	3.6909
		(annual %)		14	39	23	56	97	09	24	14	7	66	16	58	81	91	2
Tanzania	TZA	Foreign direct investment, net	BN.KLT.DINV.C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		(BoP, current US\$)	D	5.8E+0	1.4E+0	9.5E+0	1.8E+0	1.2E+0	1.8E+0	2.1E+0	1.4E+0	1.5E+0	8.6E+0	9.4E+0	9.7E+0	1.2E+0	6.8E+0	
				8	9	8	9	9	9	9	9	9	8	8	8	9	8	
Tanzania	TZA	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	1245.0 35	1196.3 11	1320.3 12	1395.6 25	1557.4 33	1571.6 98	1597.5 56	1653.2 31	1991.3 91	2177.0 87	2228.8 57	2263.7 82	2288.2 07	2294.1 46	2297.7 64
Uganda	UGA	Debt service on external debt,	DT.TDS.DECT.C	666208	742012	718281	634904	636274	682043	873421	2.06E+	947942	8.44E+	1.88E+	5.29E+	3E+08	6.93E+	7.52E+
		total (TDS, current US\$)	D	85	77	86	02	29	97	89	08	14	08	08	08		08	08
Uganda	UGA	GDP growth (annual %)	NY.GDP.MKTP.K	8.4124	8.7087	6.8015	5.6376	9.3916	3.8374	3.5869	5.1063	5.1878	4.781	3.1314	6.3039	6.4387	2.9513	3.5365
	****		D.ZG	26	52	17	12	55	56	06	07	6	10.0=0	06	24	45	06	8
Uganda	UGA	Adjusted savings:	NY.ADJ.DKAP.G	7.4148	8.4035	9.6118	11.376	13.305	16.532	15.216	13.483	11.538	10.378	8.9562	7.5827	7.3167	6.2069 7	
		consumption of fixed capital (% of GNI)	N.ZS	96	73	61	32	59	57	78	46	49	96	13	12	31	/	
Uganda	UGA	Inflation, consumer prices	FP.CPI.TOTL.ZG	6.1385	12.050	13.017	3.9765	16.564	12.679	4.9052	3.0757	5.5896	5.7063	5.2097	2.6160	2.8675	3.3133	2.2045
Uganda	UGA	(annual %) Foreign direct investment, net	BN.KLT.DINV.C	11	86	26	53	35	04	09	07 -1E+09	86	75	17 -8E+08	12	88	23	72
O ganda	UGA	(BoP, current US\$)	D DN.KLI.DINV.C	7.9E+0	7.3E+0	8.1E+0	5.1E+0	9.1E+0	1.2E+0	1.1E+0	-1E+09	7.4E+0	6.3E+0	-0E+00	1.1E+0	1.3E+0	8.7E+0	1.1E+0
		(Bor, current OS\$)	D	8	8	8	8	8	9	9		8	8		9	9	8	9
Uganda	UGA	Official exchange rate (LCU	PA.NUS.FCRF	1723.4	1720.4	2030.4	2177.5	2522.8	2504.5	2586.8	2599.7	3240.6	3420.0	3611.2	3727.0	3704.0	3718.2	3587.0
C		per US\$, period average)		92	44	88	58	02	63	9	88	45	98	24	69	49	49	52
Zambia	ZMB	Debt service on external debt,	DT.TDS.DECT.C	1.25E+	1.67E+	1.7E+0	1.5E+0	2.2E+0	2.3E+0	3.19E+	3.98E+	5.45E+	7.42E+	8.39E+	1.28E+	2.6E+0	1.91E+	1.62E+
7 1.	70 m	total (TDS, current US\$)	D	08	08	8	8	8	8	08	08	08	08	08	09	9	09	09
Zambia	ZMB	GDP growth (annual %)	NY.GDP.MKTP.K D.ZG	8.3524 36	7.7738 96	9.2203 48	10.298 22	5.5646 02	7.5975 93	5.0572 32	4.6979 92	2.9203 75	3.7766 79	3.5043 36	4.0344 94	1.4413 06	2.7850	4.5987 34
			D.ZG	30	96	48	22	02	93	32	92	/5	/9	30	94	06	6	34
Zambia	ZMB	Adjusted savings:	NY.ADJ.DKAP.G	17.077	16.607	15.823	16.901	16.371	15.749	15.465	15.393	15.902	16.114	16.719	16.646	17.293	19.174	
Zumoru	ZiviD	consumption of fixed capital	N.ZS	67	35	23	2	16.571	34	06	56	86	61	26	64	8	87	
		(% of GNI)																
Zambia	ZMB	Inflation, consumer prices	FP.CPI.TOTL.ZG	10.657	12.445	13.395	8.5017	6.4293	6.5759	6.9776	7.8068	10.110	17.869	6.5773	7.4945	9.1503	15.732	22.021
		(annual %)		35	58	25	61	97		76	76	59	73	12	72	16	59	23
Zambia	ZMB	Foreign direct investment, net	BN.KLT.DINV.C	-	-	-	-	-	-	-	-	-	-	-		1.48E+		3.19E+
		(BoP, current US\$)	D	1.3E+0	9.4E+0	4.3E+0	6.3E+0 8	1.1E+0 9	2.4E+0	1.7E+0 9	2.5E+0	1.7E+0 9	4.9E+0 8	1.2E+0	3.6E+0	08	1.8E+0	08
Zambia	ZMB	Official exchange rate (LCU	PA.NUS.FCRF	4.0016	3.745	5.045	4.7975	4.8616	5.1475	5.3964	6.1541	8.6316	10.307	9.5175	8 10.458	12.89	8 18.344	20.018
Zamola	LIVID	per US\$, period average)	1 A.NUS.FUKF	67	3.143	3.043	4.1313	4.8616 67	3.14/3	83	6.1541	67	5	7.31/3	33	12.09	18.344	49
Zimbabw	ZWE	Debt service on external debt.	DT.TDS.DECT.C	1.11E+	939661	1.22E+	3.87E+	1.16E+	7.42E+	5.85E+	5.15E+	6.66E+	1.24E+	7.18E+	6.06E+	1.59E+	9.81E+	5.83E+
e		total (TDS, current US\$)	D D	08	72	08	08	09	08	08	08	08	09	08	08	09	08	08
Zimbabw	ZWE	GDP growth (annual %)	NY.GDP.MKTP.K	-	-	12.019	21.452	14.620	15.744	3.1967	1.4845	2.0236	0.9009	4.0802	5.0098	-	-	8.4680
	1	1	D.ZG	3.6533	17.668	56	06	21	88	31	43	5	55	64	67	6.3324	7.8169	17

				3	9											5	5	
Zimbabw e	ZWE	Adjusted savings: consumption of fixed capital (% of GNI)	NY.ADJ.DKAP.G N.ZS	16.929 89	20.915 71	10.223 1	9.9434 42	10.131 51	9.5846 18	7.2958 16	8.0772 25	7.7611 17	8.2439 24	8.1458 68	8.8035 71	9.6760 63	10.290 95	
Zimbabw e	ZWE	Inflation, consumer prices (annual %)	FP.CPI.TOTL.ZG				3.0226 7	3.4661 3	3.7253 27	1.6349 5	- 0.1977 8	- 2.4309 7	- 1.5436 7	0.8939 62	10.618 87	255.30 5	557.20 18	98.546 11
Zimbabw e	ZWE	Foreign direct investment, net (BoP, current US\$)	BN.KLT.DINV.C D			- 1.1E+0 8	- 1.2E+0 8	3.4E+0 8	- 3.5E+0 8	3.7E+0 8	- 4.7E+0 8	-4E+08	- 3.4E+0 8	3.1E+0 8	7.2E+0 8	- 2.5E+0 8	- 1.5E+0 8	
Zimbabw e	ZWE	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF	9686.7 72	6.72E+ 09												51.329 01	88.552 45