

Public Debt and Unemployment in Low Income Sub-Saharan African Countries

BY

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ABSTRACT

With rising public debt and unemployment in different parts of the globe, this study examined how the two macro issues play out in low income sub-Saharan Africa where the workforce is growing remarkably. Six countries were selected on the basis of income - Burundi, Central African Republic, Chad, Guinea, Guinea-Bissau and Mali. Data was obtained from World Bank's World Development Indicators (WDI) as well as World Economic Outlook (WEO). A panel data analytical approach was adopted. The result revealed, among others, that although the desired negative relationship existed between public debt and unemployment, such relationship turned out to be both economically and statistically insignificant. This was attributed to either a very low employment generation potential of the projects embarked upon with the borrowed funds or the inefficient application/deployment of such funds. The study recommended the establishment of an employment generation potential (EGP) benchmark for any project/borrowing as a basis for evaluating its feasibility, going forward.

KEY WORDS: Unemployment, Public debt, Employment generating potential, Sub-Saharan Africa, Low-income countries

INTRODUCTION

Unemployment is a challenge in most developing countries and clearly so in sub Saharan Africa. Its recent rise world over is a testimony to the less than full utilisation of available resources, especially human. This often contributes to poor economic performance and promotes discontent that easily spreads among the citizenry. Every government therefore strives to achieve full employment through various policies and strategies. A popular strategy is the provision and renewal of infrastructure, an option that is believed to strongly contribute to employment generation (Henckel & McKibbin, 2010). It contributes directly to employment as the specific facility is introduced or constructed, operated, renewed or upgraded. For example, the building of an airport, its operation, expansion or upgrading is a veritable source of direct employment. It further contributes indirectly as it stimulates investments, which in turn provides employment. For these reasons, infrastructural development is a top employment generation agenda for most governments especially the poor ones.

Unfortunately, the provision of modern infrastructure is a big challenge in sub-Saharan Africa. This is traceable to the inevitable foreign content of most inputs (steel, technology, machinery, etc.), all requiring importation and therefore payment in foreign currency; also there is the general structural

underdevelopment of the economies resulting to very low level of internally generated revenue, and the reality of widespread poverty. The African Development Bank (AfDB, 2018) observed that the continent's infrastructure needs amount to \$130–\$170 billion a year, with a financing gap in the range of \$68–\$108 billion.

Because infrastructure is widely regarded as a critical factor in enabling private businesses to produce goods and services more efficiently, while increased public infrastructure spending is seen as leading to higher economic output (Weinstock, 2021), governments consider it rational to borrow to finance infrastructure. Understandably, public debts increased for most former colonies soon after independence, leading to debt entanglements in some cases, and eventual debt relief for some. Sub Saharan African countries have plunged themselves into more and more debt after about two decades of debt relief which came under the Highly Indebted Poor Countries (HIPC) and the Multilateral Debt Relief Initiative (MDRI) programmes. The causes of their increased debt include the financial crisis of 2008/2009, the trade shocks of 2014, the 2020 pandemic (COVID 19) and the recent commodity price shock as a result of the Russian – Ukrainian war. In the low income countries, debt to GDP ratio rose from 46.9 percent in 2014 to 63.1 percent in 2019 and in 2020 it rose to 71.9 percent (Heitzig et al, 2021). The economic effects of the pandemic led to increased deficit financing in most Sub Saharan African countries which rose from 1.5 percent in 2019 to 3.5 percent in 2021 and beyond (AfDB, 2024).

Several interventions have been made by local and international organisations and authorities to boost employment in Africa and especially in sub Saharan Africa. These interventions include: African Continental Free Trade Area (AfCFTA) which was established to boost trade relations and increase employment opportunities and wages; African Development Bank (AfDB) Strategy for Jobs for Youth in Africa between 2016 and 2025 through manufacturing which was expected to generate economies of scale and encourage industrial and technological upgrading, fostering innovation and creating multiplier effects; African Union (AU) Plan of Action on Employment, Poverty Eradication and Inclusive Development in Africa (2019–2023) to reduce unemployment rate by at least 25 per cent, reduce youth and women's unemployment rate by two per cent per annum and increase the share of labour-intensive manufacturing output by 50 per cent; Food and Agricultural Organisation (FAO) Youth Employment for Sustainability (YES) in Africa, to boost job creation and reduce rural poverty

by encouraging entrepreneurial opportunities and programmes development for youth to build systemic capacity for youth employment in agriculture and agribusiness; International Labour Organisation (ILO) Programme: Employment Policies for Inclusive Structural Transformation, which aimed at developing policies for the creation of decent work through four principles: adaptability, employability, equal opportunities and entrepreneurship.

IMF(2018) insists that governments should invest in infrastructure to provide basis for the region to leverage opportunities from the Fourth Industrial Revolution; develop flexible education systems; and urbanise smartly. It encourages them to move forward with trade integration through the AfCFTA and expand social safety nets. Social safety nets can smooth transitions between jobs for individuals and buffer income volatility. United Nations Commission for Trade and Development (UNCTAD) urged countries to specialise in producing and exporting commodities for which they have comparative advantage, while importing those in which they are lacking. Export specialisation was deemed preferable to diversification, economically. United Nations International Development Organisation (UNIDO) in their Third Industrial Development Decade for Africa (IDDA3) emphasized the central role of agriculture and food value chains in Africa's growth, development and full employment. United Nations Economic Commission for Africa (UNECA) urged the creation of an environment of good governance for investment, growth of agricultural sector and full employment.

In spite of these interventions and views, as well as the borrowings to implement them, unemployment has remained on the rise. A pertinent question would then be how, if at all, the borrowings impacted employment. The question is urgent now that sub-Saharan African labour force is becoming even more youthful and growing rapidly, and unemployment has once again reared its head, not just in sub-Saharan Africa but in many regions of the world. Six low income sub Saharan African countries were chosen. These are Burundi, Central African Republic, Chad, Guinea, Guinea-Bissau and Mali with a per capita GDP of \$1,085 or less (IMF, 2021). The study set out to find the

effect of public debts on unemployment in these countries. The rest of the paper is structured as follows: The next section reviews extant literature. This is followed by the methodology and analysis, and findings. The final section concludes with recommendation.

BRIEF REVIEW OF LITERATURE

How public debt has impacted unemployment in sub Saharan Africa has not strongly featured in the endeavors of researchers, especially this lower income group. However, country studies do exist, a close look at which hint at the appropriateness of some expectation regarding public debt and unemployment, especially youth unemployment. According to Bušelić and Bosna (2019) public debt as a macroeconomic variable has a significant impact on unemployment growth. Kurečić and Kokotović (2016) earlier concluded that there is statistically significant correlation between public debt-to-GDP ratio and the rate of unemployment.

For Burundi, Niyongabo¹ and Zhong (2023) already established that unemployment impacts negatively on growth and development of the economy. Destatis (2024) relying on ILOSTAT database puts unemployment in Burundi at 1.8% in 2021, 0.9% for ages 15+, and 1.7% for ages 15 to 24 in 2022. These values when juxtaposed with the economic reality in Burundi raise worrisome impressions. Such reality includes self-employment at 88.2% in 2021, the proportion of informal employment in nonagricultural employment at 98% (DTUDA, 2024); employment in agriculture consisting mainly of subsistence self-employment, which speaks volumes for quality of work. The country ranked 187 in human development index (HDI) in 2022, down from 184 in 2018. Public debt as a proportion of GDP has grown consistently since 2018 and was 68% of GDP in 2022 (Focus Economics 2024). 60% of those seeking new employment are the youth; the population remains dense and growing at the rate of 2.7% (World Bank 2024). There is clear need to inquire into the specific effect of the increasing public borrowing on unemployment.

The story is essentially the same with Mali. 73% of the economically active population is engaged in the informal economy (ILO 2024). It has the fourth highest fertility rate in the world as of 2022 (5.5%) and a population growing at 2.9% in 2023, and expected to double by 2035. Youth unemployment is among the highest in the country at 12%, and 32% in Barmako the State capital. Overall, unemployment rate is estimated at 7.72% in 2021 having increased by 0.02% from 2020 (WFB 2024).. Public debt which stood at 51.7% of GDP in 2022 was expected to rise above 53% in 2023 and beyond (AfDB, 2023). It is clear that it would be helpful to investigate how the increasing

public debt has impacted the scourge of unemployment especially among the rapidly growing youthful population.

Although not strictly applicable here, Nigeria, other developing countries and even developed economies exhibit some relationship with public borrowing in regard to unemployment. Elekwa and Onyenama (2022) found a highly positive and significant relationship between unemployment and external debt in Nigeria while Marire (2022) found that in South Africa fiscal deficits reduced unemployment in the short-run but increased it in the long run. Soukaina and Hammami (2021) found evidence to confirm the results of the model estimation for the six countries of the Euro zone that there is a two-way relationship between unemployment and debt. For Nigeria in particular, while Iwuoha (2020) found an inverse relationship between public debt and unemployment, the analysis of Shuaibu et al (2021) showed that increased public debt caused more unemployment, but that external debt caused more unemployment than domestic debt. Nwokoye et al. (2016) show that external debt stock negatively and significantly affected unemployment through domestic investment. Igberi et al. (2016) revealed that public debt had a positive and significant effect on unemployment in Nigeria. Eze and Nwambeke (2015) discovered that external source of deficit financing had negative and insignificant implications on economic stability through unemployment level in Nigeria.

For the lower income sub-Saharan African countries whose debt burden continues to increase, forced to do so by recent and long lasting developments in the global economic landscape, developments such as the global pandemic and Russia-Ukraine war, it would be of immense support to establish what effects the increasing burden has on unemployment. This study addresses this need.

METHODOLOGY AND ANALYSIS

The study adopted a single linear equation model as follows:

$$\Delta unemp_{it} = \delta_{it} + \beta_0 unemp_{it-1} + \beta_1 gd_{it} + \beta_2 Z_{it} + \eta_i + \epsilon_{it}$$

Where *unemp* is unemployment as a percentage of the total labour force and *gd* is gross public debt as a percentage of GDP; *Z_{it}* is a set of control variables; η_i is an unobserved time-invariant, country-specific effect and ϵ_{it} is an observation-specific error term. Δ is the first difference operator. $\Delta unemp_{it} = unemp_{it} - unemp_{it-1}$ is the first difference of *unemp*, proxy for growth rate of unemployment. *Unemp_{it-1}* is proxy for initial level of unemployment. *Z_{it}* includes the following variables which, from theory, are known to impact unemployment: debt servicing (DS), gross savings as a percentage of gross domestic product (GS), broad money as a

percentage of gross domestic product (BM), and gross domestic product growth rate (GDP). β_0 to β_i are parameters to be estimated.

A priori, unemployment is expected to relate inversely with public debt and control variables – savings, broad money and GDP growth rate - with the possible exception of debt service.

Data came from World Economic Outlook (WEO 2022) and World Development Indicators (WDI 2022)

A panel data analytical approach was selected and carried out using Stata 13. Test for multicollinearity was conducted using VIF (Variance inflation factor). With VIF mean value of 1.05 (Appendix 1) no evidence of multicollinearity was found. The test for heteroscedasticity was conducted using Breusch-Pagan / Cook-Weisberg procedure. The result shows no presence of heteroscedasticity (Appendix 11).

Table 1: Result of Ordinary Least Squares (OLS)

UNEMP	Coef.	Std. Err	t	P> t	[95% Conf. Interval]
GD	-8.60e-06	.00002	-0.43	0.668	-.0000485 .0000314
DS	-.257238	.4731486	-0.54	0.589	-1.204006 .6895301
GS	-.0048003	.002211	-2.17	0.034	-.0092245 -.0003761
BM	-.0066853	.0316337	-0.21	0.833	-.0699841 .0566135
GDP	.0137063	.04685	0.29	0.771	-.0800402 .1074528
Cons	5.75949	1.058248	5.44	0.000	3.641941 7.87704

Source: Authors' computation

FINDINGS

The result of the analysis shows that all the variables have negative impact on unemployment except GDP growth rate. This positive outcome of output growth hints at the likelihood of non-inclusive growth for sub Saharan African countries. However, for public debt to relate negatively with unemployment is the much desired relationship and firmly agrees with *a priori* expectations, unlike the growing research outcomes from some other countries such as Nigeria. Of the explanatory variables, only gross saving has a statistically significant effect at the 5% level. Public debt has a statistically insignificant effect on unemployment. This suggests that the projects undertaken with the borrowed funds did not have high employment generation potential *ab initio*, otherwise their effects would have significantly affected unemployment upon realisation. A different but related possibility is that a significant portion of the borrowed funds were not channeled effectively to employment generating investments. This later view is supported by the economically trivial coefficient of public debt.

A Granger causality test was conducted between the variables. From the result (Appendix III) neither public debt nor unemployment Granger caused each other. This outcome calls further attention to the employment generating capacities of projects funded with public borrowing by the governments.

CONCLUSION AND RECOMMENDATION

Government borrowing is, and continues to be, one of the major ways of financing government budget deficit. With the severe economic challenge of a rapidly growing population, and the prevailing poverty, public borrowing is an important source of supplementing capital. Although the problem of low economic development is compounded by the lack of efficient institutions which can ensure the realization of the objectives of these borrowings, an important consideration that should always arise in the process of borrowing is the capacity of the borrowed funds to generate employment, given their effective and efficient use. The policy recommendation of this study is thus for the governments of the low income countries to establish a benchmark for the employment generating potential (EGP) of every public borrowing as condition precedent for borrowing, irrespective of the project. Such benchmark would henceforth form an integral part of feasibility consideration. It is worth repeating that leakages whether through outright diversion of borrowed funds or their inefficient application only prolong the economic ill health of the country. Also that unemployment is one of the direct causes of poverty and, in particular, discontent.

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APPENDIX I: VARIANCE INFLATION FACTOR (VIF)

Variable	VIF	1/VIF
GD	1.10	0.912461
GDP	1.07	0.932549
BM	1.05	0.951453
GS	1.03	0.973266
DS	1.01	0.988496
Mean VIF	1.05	

Appendix II

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance
Variables: fitted values of UNEMP
chi2(1) = 0.73
Prob > chi2 = 0.3915

Appendix III: Pairwise Granger Causality Tests

Sample: 2008 2020

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GD does not Granger Cause UNEMP	66	0.09428	0.9102
UNEMP does not Granger Cause GD		0.05500	0.9465
GS does not Granger Cause UNEMP	55	0.11774	0.8892

UNEMP does not Granger Cause GS		3.44193	0.0398
DS does not Granger Cause UNEMP	66	0.03528	0.9654
UNEMP does not Granger Cause DS		0.81586	0.4470
GDP does not Granger Cause UNEMP	66	0.23063	0.7947
UNEMP does not Granger Cause GDP		0.24667	0.7822
BM does not Granger Cause UNEMP	66	0.81798	0.4461
UNEMP does not Granger Cause BM		0.13413	0.8747
GS does not Granger Cause GD	55	0.00051	0.9995
GD does not Granger Cause GS		0.15546	0.8564
DS does not Granger Cause GD	66	4.14237	0.0206
GD does not Granger Cause DS		2.52386	0.0885
GDP does not Granger Cause GD	66	0.09508	0.9094
GD does not Granger Cause GDP		0.06786	0.9345
BM does not Granger Cause GD	66	0.86977	0.4242
GD does not Granger Cause BM		0.78740	0.4596
DS does not Granger Cause GS	55	0.13557	0.8735
GS does not Granger Cause DS		0.55561	0.5772
GDP does not Granger Cause GS	55	0.00805	0.9920
GS does not Granger Cause GDP		0.22434	0.7998
BM does not Granger Cause GS	55	0.09159	0.9126
GS does not Granger Cause BM		0.18511	0.8316
GDP does not Granger Cause DS	66	0.00193	0.9981
DS does not Granger Cause GDP		0.35509	0.7026
BM does not Granger Cause DS	66	0.16945	0.8445
DS does not Granger Cause BM		0.11864	0.8883
BM does not Granger Cause GDP	66	0.63146	0.5353
GDP does not Granger Cause BM		0.12620	0.8817