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Original Article

Impacts of Fiscal Factors on Employment Growth in Tanzania: 1990- 2022

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ABSTRACT

This paper is based on a study examining fiscal macroeconomic factors' impacts on employment growth in Tanzania. Time series data spanning from 1990 to 2022 collected from the Bank of Tanzania and the World Bank were used. Prior to estimation, the stationarity tests were carried followed by co-integration of bound test and ARDL of long-run and short-run Error Correction Model. The findings indicated that total government revenue (ß =-0.025, P= 0.16) and inflation rate (ß = -0.002, P= 0.62) were not favorable in generating employment growth. Conversely total government expenditure ((ß = 0.01, P= 0.63), GDP growth (ß = 0.02, P= 0.06), domestic debt (ß = 0.0002, P= 0.89), and lending interest rate (ß = 0.05, P= 0.06) had a non-undesirable impact to employment growth in the long run. The study concluded that to ensure employment opportunities are generated, the government needs to increase government spending, especially on the multiplier employment projects. The study recommended, the re-examination of the government revenue and expenditure policies to ensure bases of revenue are expanded to allow more collection of revenue and the available tax revenue sources also need to favors investment in the country. To complement the newly introduced friendly tax revenue regime by the government, it is recommended that, subsidies have to be provided to the domestic projects which absorb the labour force and have the spillover effects on the economy. Friendly tax revenue bases and subsidies to the local investors will gear to higher local production, more exports that will stimulate the presence of foreign reserves and stabilize the exchange rate in the country.

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INTRODUCTION

Fiscal macroeconomic factors can have a significant impact on employment and economic growth therefore it have been employed by various countries worldwide as the primary tool for both economic and employment generation. Tanzania particularly has undergone several fiscal reforms to ensure the tax revenue increases in the country and improve employment growth in the country. Some initiatives included establishment of the Commission of Enquiry into Public Revenues, Taxation and Expenditure which was intended to analysis both local and central government tax system to control tax exemptions and increase the tax base. Establishment of Tanzania Revenue Authority in 1996 where the major reforms were made to allow efficiency of tax administrations. The first (2005/2006 – 2009/2010) and second (2010/2011 - 2014/2015) National Strategy for Growth and Reduction of Poverty (NSGRP) where it aimed to increase economic growth and decreasing the poverty through water, education, health, infrastructure, telecommunications and energy where collection of revenue were made possible. Connectedly in financial year 2012/2013 there were introduction of Electronic Fiscal Devices (EFDs), Block Management System and tax audit under (TRA).

It was noted by Mawejje and Odhiambo (2020) that Tanzania as well introduced several programs just to ensure the expenditures are well managed, controlled and minimizes the deficits in the country some for instance, in 1998 Public Financial Management Reform Program (PFMRP), TSA (Treasury Single Account), the 1999 (IFMS) Integrated Financial Management System, the Public Finance Act (PFA) of 2001, The MTEF (medium-term expenditure Framework of 1998/99), the Sub-National Open Budget Survey (SNOBS) in Tanzania 2020, PAC (Public Accounts Committee) and LAAC (Local Authorities Accounts Committee).

Regardless of the effort of tax revenue collection and management of allocated budget, Tanzania has been experiencing the up- down in revenue collection due to both domestic and global factors. Some for instance include prolonged drought in 2007 which lowered the production activities, global financial and economic crisis in 2009/2010, implementations of electronic fiscal device delays in 2014, the COVID-19, the recent 2023 Ukraine –Russia war, climatic condition and global financial activities challenges in 2023 to 2024.The URT reported in 2012/2013 the government deficit was about 6.2% of GDP, in 2013/2014 the deficit was 4.5% of GDP, in 2014/2015 was about 3.3 %, in 2015/2016 was about 3.6% and amounted to 3.9% of GDP in 2020/2021. Similarly in 2022/23 government recorded 4.2 per cent of GDP budget deficit to compare with 3.6 % of GDP in 2021/22. Equally URT report (2021/2022) indicated that the total employment status was about 77.4% in 2014, in 2020/2021 was about 75.4% while in June 2022 the employment was about 63.9%. Unemployment rate during 2014 was 10.5% and dropped to 9.3 % in 2020/2021 before numbered to 18.9% in 2022.

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Table 1: Tanzania Some Macroeconomic Indicators

Finance Year	Rev (Per cent of GDP)	Exp (Per cent of GDP)	GDP growth	Lending rates	Inflation rate	Domestic debt (TZS billions)
2002/2003	12	20	6.2	14.5	5.3	881.5
2010/2011	16.5	27.2	6.4	15.05	10.9	1244.3
2012/2013	17.1	26.8	6.9	14.84	11.5	5640.5
2019/2020	14.6	16.8	4.8	16	3.5	15515.7
2020/2021	13.3	17.2	4.9	16.60	3.3	18934.3
2022/2023	14.2	18.7	4.7	16.04	4.6	28927

Source: Bank of Tanzania Various Annual Reports (2010 - 2023)

Fiscal macroeconomic tools are very dynamic and there have been complex relationship existing between economic growth, employment growth, inflation rate and the budget deficit reflected through government revenue and expenditure as it has been said their relationship are more complex than usual (ILO, 2015; Islam 2018). Fiscal policy is a basic macroeconomic factor for employment creation but there are mismatch between total government spending and total government revenue. The paper hence fills the gap by examining how changes in total government revenue and expenditure affect employment growth in the country. It further examines the impacts of other macroeconomic factors (GDP growth, domestic debt, inflation rate and lending interest rate) on employment growth.

LITERATURE REVIEW

Theoretical Review

The paper draws insights from Keynesian theory where in 1936 Professor Keynes pointed effective demand as the foundation of employment theory. According to Keynes, demand generates its supply. Keynes determined the equilibrium of full employment using the aggregate supply and demand approach. Aggregate demand is the overall amount of demand for goods and services in an economy over a year. The monetary worth of all the goods and services produced in a nation over a year is referred to as aggregate supply or a national income. Keynes suggested three equilibrium levels, the equilibrium at full employment, equilibrium at less than full employment and equilibrium at more than full employment.

The theory proposed the society to effectively use (fiscal tools) measures like decreasing rate of tax, rising government spending, and (Monetary tools) measures like minimizing bank rates, minimizing reserve ratios, improve export activities and buying government assets in order to remedy deficient demand. On the other hand, Keynes added that in order to correct inflationary gap, society as well can use (Fiscal policy) like ensuring rate of tax increases, minimizing government spending, (Monetary policy) measures like increasing the bank rate, floating of reserve ratios, government securities selling and increasing import promotion.

Empirical Review

The paper employed the total government revenue and total government expenditure as the basses of fiscal factor for creating employment opportunities. Some literatures have found mixed argument as some provided direct relations and opposite direction between employment growth and total government revenue and expenditure. Onwuka (2021) used data from 1981 to 2020 experimentally investigating the effects of monetary and fiscal policy on the unemployment rate. By utilizing the Vector Autoregressive (VAR) model, the study concluded that government spending, interest and government taxes were undesirably associated with unemployment rate while money supply was directly related with unemployment. Alkhateeb et al. (2017) from 1991 to 2016 studied on the oil revenue and unemployment relationship where public spending and GDP were included. The co integration revealed presence of Vector Error Correction model and the results indicated that Saudi Arabia employment profile was increasing

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due to oil revenue, GDP and government spending. Additionally, Islam (2018) researched on the macroeconomic policy and employment from the standpoint of development in Switzerland. The study used empirical data from South Asian nations and the results showed that linkages between economic growth, inflation and budget deficit do not always support the traditional paradigm. It further revealed that public spending particularly on infrastructure had a bigger effect on employment than tax cuts.

In addition, Abdelkader at el. (2017) studied how Algeria's public spending affected the country's economic factors, where employment, prices and the distribution of income were considered from 2000 and 2012. The empirical study specified that public spending had a favourable effect on Algerian individuals' employment and cost of consumption. The study on how Egypt's fiscal policy affected the country's unemployment rate was carried by Omran and Bilan (2020). The research employed yearly time series data gathered from 1976 to 2018. Based on the Blanchard and Perotti technique, the study found that both in short run and long run, public spending increases employment growth while tax revenue found to decrease the unemployment rate in short run and increasing unemployment in long run. Furthermore, Maku and Alimi (2018) from 1980 to 2015 examined the impact of fiscal policy on employment creation. The study utilized Engel Granger co integration for estimating both short run and long run with ordinary least square method. The finding indicated that government expenditure and manufacturing sector exaggerated favourable impact on employment growth as were reducing unemployment rate. Nevertheless, it was found unemployment rate and government tax revenue were positively related. Hence it was suggested that spending on capital projects in both urban and rural can reduce migration and promote further employment creations.

However, Adegboye (2020) utilized a panel dataset for three sub-periods (1991-1999, 2000-2009, and 2010-2016) for 37 countries on the impact of macroeconomic policies on employment yields from output growth in Sub-Saharan African countries. With feasible generalized least squares method, it was found that government spending was inversely related with employment while GDP and trade openness affected positively employment yield. Similarly, Kamar et al. (2019) studied the effects of pro-growth policies on employment in Qatar. On average, across 76 nations, growth encourages the creation of jobs. The policies that promoted higher education spending, private sector loans, investments, openness, services, and a fixed currency rate were the ones that generated jobs. Greater government size hindered job creation, while FDI and industrial development strategies were found falls short of boosting employment.

Further Cvecic and Sokolic (2020) studied on the effects of active labour market policies on unemployment dynamics. Generalized Method of Moments was used to estimate dynamic panel data using 27 EU member states from 2005 to 2014 and the study explained that public spending on labour market reforms as a share of GDP had a statistically significant effect on unemployment rates with positive coefficients. Leshoro (2013) in South Africa employed a quarter data from 2000(Q 2012 (Q3) to explore how economic growth caused employment. It was found that economic growth was not translated by employment growth but economic growth caused employment growth.

The diversity argument of these some of recent finding provides the need to explore further the impact of fiscal macroeconomic factors on employment growth because there are inadequate body of empirical knowledge in Tanzania environment. The country has been experiencing higher government spending in comparison to its revenue collection, and fiscal factor is the primary tool for any economy existence hence it’s crucial to examine how their changes in total government revenue and expenditure impact the employment growth in the country.

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METHODOLOGY

Types, Sources and Measurement of Data

The annual secondary data from 1990 to 2022 were adopted from Bank of Tanzania and World Bank. Employment growth was measured in percentage, total government expenditure, total government revenue, domestic debt were measured in millions of Tanzania shillings and GDP growth, inflation rate and interest rate were both measured in percentages.

Theoretical Model Specification

According to the Keynesian general theory of employment, interest and money, national income is equal to employment growth. The paper intended to evaluate the impact of macroeconomic factors on employment growth. To do this, the analysis started by using a straightforward electric demand model for labour and employment as was adopted from Kumar et al. (2019), which were expressed in equation 1.

$$\ln E = f(\ln Y, \ln RW, TFP) \quad \ldots\ldots 1$$

Where ln (RW) was the natural log of the real wage, ln (E) was the log of the employment number, ln Y was the log of economic growth as measured by gross domestic product, and TFP was total factor productivity. Since it is believed that macroeconomic factors are what drive a country's economic growth, the study moved on the premise that aggregate demand, which in turn was influenced by both government revenue, government expenditure, interest rate and inflation rate and are determine output ln Y over the course of a cycle, Phipps and Sheen, (1995) creating the equation 2

$$\ln E = f \ln(RW, FF, MF) \quad \ldots\ldots 2$$

Where FF and MF are vectors comprising fiscal factor and monetary factors respectively.

Model Specification

The study analysed econometric model presented in equation 3 with other macroeconomic variables, GDP growth, domestic debt, inflation rate and lending interest rate.

$$Emp = \alpha_0 + \beta_1 GDP + \beta_2 \mathrm{Rev} + \beta_3 Exp + \beta_4 Ddt + \beta_5 Inf + \beta_6 Int + \varepsilon_0 \quad \ldots\ldots 3$$

Where; Emp was employment growth for fiscal macroeconomic factors, α was constant, GDP growth was Gross Domestic Product, Exp was total government expenditure, Rev is total government revenue, Ddt was domestic debt, Inf was inflation rate, Int was lending interest rate and ε_0 was stochastic term.

Time Series Data Quality Tests

Under Dickey and Fuller (1979), Onwuka (2021), Micheni and Muturi (2019), all variables in the model were tested for stationary with popular Augmented Dickey-Fuller (ADF) test for a methodological adoption.

$$\Delta C_t = \alpha_0 + \alpha_1 c_{t-1} + \Delta_{t-1} \alpha_2 C_{t-1} + \varepsilon_t \quad \ldots\ldots 4$$

Where C_t= Presence of non-stationary (unit root) at time t, $\Delta t-_1$= Indicate first difference with lags, ε_i=Adjustment variable of the errors of autocorrelation andα_0, α_1, α_2 indicated the estimates. The decision was under the null hypothesis, α_2 = 0 there is a unit root that the series is non stationary while alternative hypothesis, α_2< 0 for non unit root that the series is stationary.

An ARDL bound test for co-integration was used to examine the long run association ship of the studied variables. Awan and Qasim, (2020) and Alkhateeb et al, (2021), pointed in order to explore such relationship, F-statistic is used to test the null hypothesis of no long run relation against alternative hypothesis of presence of long run relationship pertain in the studied variables. The decision is reject the null hypothesis of no co integration if F statistic is smaller than lower and upper bound critical value and do not reject null hypothesis if the F-statistics is greater than the lower and upper bound critical value (Pesaran et al., 2001; Onifade et al., 2020; Sanjo et al., 2022).

Thereafter, Error Correction Model, (ECM) was used to estimate short-run parameters in multiple linear regression models. Mwamkonko (2023) and Onwuka (2021) indicated existence of co-integration test imply the association among the

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variables. Generally, the ECM with deterministic trend was written as in equation 5.

$$\Delta Y_t = \alpha + \theta Y_{t-1} + \pi_t + \sum \tau_t \Delta Y_t + \varepsilon_t \quad \ldots\ldots 5$$

Where $\alpha = \alpha_1 - y\alpha_2$ and $\pi = \pi_1 - y\pi_2$. Hence equation (5) can further be rewritten as

$$\Delta Y_t = \alpha = \alpha_1 + \pi_1 t + y\left(\beta \wedge' Y_{t-1} - \alpha_2 + \pi_2 t\right) + \sum \tau_t \Delta Y_{t-1} + \varepsilon_t \quad \ldots\ldots 6$$

The implication of equation (6) comes from the trend point where the summation expression sign basically is applied for serial correlation elimination. The compact forms of a VEC model that link employment growth together with other independent variables are in equation 7.

$$\Delta Z_t = \beta_0 + \sum Z_{t-1} + \sum \beta_1 \Delta X_{t-1} + \beta_2 \Delta X_{t-1} + \beta_3 \Delta X_{t-1} + \ldots\ldots + \sum \beta_n \Delta X_{t-n} + nECT_{t-1} + \varepsilon_t \quad \ldots\ldots 7$$

Where Z_t was exogenous variable, β_0 was constant parameter, $\beta_1, \beta_2, \beta_3, \beta_4 \ldots\ldots \beta_n$ are equilibrium convergence short-run dynamic coefficients, t was time trend, X_t selected explanatory variables and n was the speed of adjustment, ECT_{t-1} was the lagged error correction term and ε_t was a disturbance terms (Onwuka, 2021, Mwamkonko,2023).Now the new employment growth VEC model specification equation was written as in equation 8.

$$\Delta Emp_t = \beta_0 + \Delta Emp_{t-1} + \sum \beta_1 GDP_{t-1} + \sum \beta_2 Exp_{t-1} + \sum \beta_3 \Delta \mathrm{Re}v_{t-1} + \sum \beta_4 \Delta Ddt_{t-1} + \sum \beta_5 \Delta Inf_{t-1} + \sum \beta_6 \Delta Int_{t-1} + nECT_{t-1} + \varepsilon_t \quad \ldots\ldots 8$$

Where t-1 =lag length reduced by 1, $\beta_1 \ldots\ldots \beta_7$ =short-run dynamic coefficients of the model adjustment long-run equilibrium, n= speed of adjustment parameters with a negative sign, ECT_{t-1}= the error correction term was the lagged value of the residuals obtained from co integrating regression of the employment growth on the regressors.

Autoregressive Distributed Lag Model (ARDL) was utilized to estimate the long run relationship of the variables because it bring together lags of both regressors and regress and, it allowed the variables of several blend of integrated orders say at order one, I (1) and zero I (0) but does not capture the effect of variables at order two, I(2).It is very suitable with small size observation .In additional ,the ARDL capture long-run and short-run Error Correction Model (ECM). The ARDL then was used to capture the long run relationship, Alkhateeb et al, (2021), Sanjo et al. (2022) noted. Equation 9 presented an ARDL,

$$\Delta \log Emp_t = \beta_0 + \Delta \log Emp_{t-1} + \beta_1 GDP_{t-1} + \beta_2 Exp_{t-1} + \beta_3 \mathrm{Re}v_{t-1} + \beta_4 Ddt_{t-1} + \beta_5 Inf_{t-1} + \beta_6 Int_{t-1} + \sum_{y=1}^{r} \beta_9 \Delta Emp + \sum_{y=0}^{r} \beta_{10} \Delta GDP_{t-1} + \sum_{y=0}^{r} \beta_{11} \Delta Exp_{t-1} + \sum_{y=0}^{r} \beta_{12} \Delta \mathrm{Re}v_{t-1} + \sum_{y=0}^{r} \beta_{13} \Delta Ddt_{t-1} + \sum_{y=0}^{r} \beta_{14} \Delta Inf_{t-1} + \sum_{y=0}^{r} \beta_{15} \Delta Int_{t-1} + \varepsilon_t \quad \ldots\ldots 9$$

Where r stands for ARDL extreme lag length, Δ stands for first difference operator and model variables remained identical as previously defined.

A granger causality test was applied so as to discover the causality direction among the given variables of the study (Engle & Granger 1987). Or the test is simply utilized to know if one trend data can be used in prediction of another trend data. Following Sanjo et al. (2022), equation (10) has kept capturing the directional relationship between employment growth and other independent variables.

$$\Delta \begin{bmatrix} Emp \\ GDP \\ \mathrm{Re}v \\ Exp \end{bmatrix} = \begin{bmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \end{bmatrix} + \sum_{i=1}^{y} \begin{bmatrix} \beta_{1i}\sigma_{1i}\theta_{1i}\lambda_{1i} \\ \beta_{2i}\sigma_{2i}\theta_{2i}\lambda_{2i} \\ \beta_{3i}\sigma_{3i}\theta_{1i}\lambda_{3i} \\ \beta_{4i}\sigma_{4i}\theta_{4i}\lambda_{4i} \end{bmatrix} \mathrm{X} \begin{bmatrix} Emp_{t-1} \\ GDP_{t-1} \\ \mathrm{Re}v_{t-1} \\ Exp_{t-1} \end{bmatrix} + \begin{bmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \end{bmatrix} (ECT_{t-1}) + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \end{bmatrix} \quad \ldots\ldots 10$$

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Where by the variables were earlier defined, ECT_{t-1} is error correction lag term from long run, Δ is an operator lag, y represent number of lags while $\varepsilon_1 \ldots . \varepsilon_4$ are stochastic error term. The null hypotheses were, H_0: the lagged values of employment growth do not granger caused GDP growth, total revenue and total expenditure., $H_{0:}$ the lagged values of GDP growth do not granger caused employment growth, total revenue and total expenditure, $H_{0:}$ the lagged values of total revenue do not granger caused employment growth, GDP growth and total expenditure and $H_{0:}$ the lagged values of total expenditure do not granger caused employment growth, GDP growth and total revenue.

FINDING AND DISCUSSION

Descriptive Statistics

The behaviour of the figures in all studied variable were examined through statistical summary. Yusuf and Omar (2019) explained that statistical descriptive summary were very important since they give out the picture of how the data are in terms of their size and the respective signs and the goal is to assist in providing the clear spreading, movement and arrangement of data.

Table 2: Fiscal Factors Summary Statistics 1990 – 2022

Statistics	Emp	GDP	Rev	Exp	Ddt	Inf	Int
Mean	86.88	5.54	6178946	8072071	1093452	11.7	20.08
Maximum	90	7.9	2.44e+07	3.11e+07	2.00e+07	35.9	36
Minimum	84	0.4	94655	98429	3669	3.3	14.1
median	87	6.2	224843	3873254	226742.6	7.6	16.65
Standard deviation	2.2	1.96	7498892	9131165	3501354	9.55	6.58
Skewness	-0.21	-0.97	1.11	1.00	5.01	1.24	1.2
Kutorsis	1.46	3.09	2.83	2.78	27.58	3.40	3.20
Observations	33	33	33	33	33	33	33

Source: Authors compilation 2024, data from STATA

Table 2 indicate the mean value for employment growth was 87%, the standard deviation was 2.2%, and the mean value for GDP growth was 5.54% with 1.96 standard deviation. The mean value for total revenue and standard deviation was 6178946, 7498892 million of Tanzania shilling, respectively. Government expenditure had 8072071 mean and 9131165 million Tanzania shillings standard deviation. Domestic debt had 1093452 million of Tanzania shillings mean value and its standard deviation was 3501354.Inflation rate had 11.7% mean value and standard deviation was 9.55% and interest rate had 20.08% mean values and 6.58% standard deviation. The kurtosis of employment growth, GDP growth, total revenue, total expenditure, domestic debt, inflation rate and lending interest rate were estimated to 1.46, 3.09, 2.83, 2.78, 27.58, 3.40 and 3.20 respectively and signified the normal distributions since all kurtosis value were closer to 3, except for domestic deb. The skewness for employment growth was -0.21, GDP was -0.97, total revenue was +1.11, total expenditure was +1.00 positive, domestic debt +5.01, inflation rate was +1.24 and interest rate was +1.2 positive (Awan & Qasim , 2020).

Unit Root Test

Log of employment growth, GDP growth and total revenue, inflation rate and interest rate were integrated at first order I(1) while log of total expenditure and domestic debt was stationary at level I(0). The non stationary data were differenced and all were stationary at first difference (See table 3 for more details).

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Table 3: Unit Root Test at Level and at First Difference

Variables	At Level				At First Difference				
	With no trend		With trend		With no trend		With trend		
	ADF Calculated	ADF Critical at 5%	ADF Calculated	ADF Critical at 5%	ADF Calculated	ADF Critical at 5%	ADF Calculated	ADF Critical at 5%	Conclusion
lnEmp	-0.627	-2.980	-1.902	-3.572	-6.878	-2.983	-6.770	-3.576	I(1)
lnGDP	-2.186	-2.980	-2.827	-3.572	-5.518	-2.983	-5.426	-3.576	I(1)
lnRev	-2.497	-2.980	-1.489	-3.572	-5.116	-2.983	-5.569	-3.576	I(1)
lnExp	-3.421	-2.980	-1.097	-3.572	-4.100	-2.983	-5.179	-3.576	I(0)
InDdt	-1.603	-2.980	-4.101	-3.572	-7.185	-2.983	-7.074	-3.576	I(0)
lnIf	-1.886	-2.980	-2.119	-3.572	-5.678	-2.983	-5.642	-3.576	I(1)
lnInt	-1.336	-2.980	-1.292	-3.572	-5.353	-2.983	-5.342	-3.576	I(1)

Source; Author compilation 2024, Data from STATA

ARDL Bound Test Results

ARDL at first intends to check presence of co-integration among the studied variables. Pesaran et al. (2001), Onifade, et al. (2020) indicated presence of Co-integration is the sign that the variables have long-run relationship. F-statistics as table 4 indicate, was estimated to be 3.097 but unfortunately it was very lower than upper bound at 5% to confirm the existence of co integration but alternatively according to Alkhateeb et al. (2021) and Pesaran et al. (2001), the error correction term was adopted to prove the presence of co-integration. Error correction term was found to be negative and statistically significant at 5 per cent hence confirming that the entire studied variables were co-integrated, the variables had a significant long-run relationship and error correction model was used to estimate the data.

ARDL Long run and Short run Relationship Estimates

Impact of Total Government Revenue on Employment Growth

It was recorded in table 4 that the long run coefficient of total revenue in Tanzania hinders the growth of employment opportunities although the results were statistically insignificant. In long run, 1% rise in total revenue decreased employment growth by 2.5% holding other factors constant. In Addition, the coefficient of total revenue portrayed the reverse relationship with employment growth in short run at all 3 lags but at lag one it was statistically insignificant while at lag 2 and 3 the estimates were statistically significant at 10%. This inverse relationship coefficient in Tanzania both in short run and long run might be because Tanzania depends highly on taxes as the major source of total government revenue and in most of the cases the higher imposition of the taxes imposes the burden or cost to the producers who are the employment creators. High cost to the producer's means the production cannot be expanded as some profits has to be paid to the government in term of taxes hence diminish the employment possibilities. And also total revenue collected base are still lower making limited revenue collection for creations of further social and economic activities. With lower revenue base imply that the country cannot finance all its local investment hence hinder local employment opportunities. Kamar et al. (2019), Maku and Alimi (2018), Adegboye (2020), Islam (2018) and Omran and Bilan (2020) were in line with the findings but not with Onwuka (2021) and Alkhateeb at el. (2017), Attamah et al. (2015). Generally, the negative relationship between Rev and Emp in Tanzania, provides in order to attain full employment level, government has to reduce revenue in the sense of decreasing the taxes revenue to allow more income to the people and stimulate demand for goods and services as Keynes proposed.

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Table 4: ARDL Long run and short run Relationship Estimates

Variables	Co-efficient	Std Error	T-Statistic	Probability
InGDP	0.0244575	0.012025	2.03	0.061***
InRev	-0.0245884	0.0167115	-1.47	0.163
InExp	0.0097123	0.0197655	0.49	0.631
InDdt	0.000297	0.0021641	0.14	0.893
InIf	-0.0020417	0.005496	-0.51	0.616
InInt	0.0497772	0.0039858	2.03	0.062***
Constant	2.721528	.8647892	3.15	0.007**
$DlnGDP_1$	-0.0126625	0.0057799	-2.19	0.051**
$DlnGDP_2$	-0.0053816	0.0037521	-1.43	0.179
$DlnRev_1$	-0.009958	0.0145988	-0.68	0.509
$DlnRev_2$	-0.0294937	0.0156575	-1.88	0.086***
$DlnRev_3$	-0.0266346	0.0139209	-1.91	0.082***
$DlnExp_1$	0.0217852	0.0136487	1.60	0.139
$DlnExp_2$	0.0203248	0.0124035	1.64	0.130
$DlnDdebt_1$	0.0011483	0.0009111	1.26	0.234
$DlnInf_1$	0.0020934	0.0039056	0.54	0.603
$DlnInf_2$	0.00404	0.0031382	1.29	0.224
$DlnInf_3$	0.0083429	0.0031449	2.65	0.022**
ECT	-0.6805951	0.1893398	-3.59	0.004**
F-Statistic	3.097			

Dependent variable. employment growth (Emp) , ARDL(1,3,1,0,1,0,3) regression, Observation = 30, (*), (**) and (***) indicate 10 %, 5% and 1% level of significant, respectively. Durbin-Watson d-statistic= (2.286351), Heteroskedasticity Test (White's Test) = 0.4140, ARCH Test = 0.1210

Source: Authors compilation 2024, data from STATA

Impact of Total Government Expenditure on Employment Growth

Total government expenditure has been revealed to be certainly related with employment growth in long run and it was statistically insignificant. Holding other factors constant, 1% increase in total expenditure resulted to 1% increase in employment in long run. Similarly in short run total expenditure was direct related with employment growth at two lags but the results were statistically insignificant implying that results supported the theoretical framework. The direct relationship between government expenditure and employment growth may indicate that most of the developing countries like Tanzania suffer from involuntary unemployment where deficiency demand is the reasons for it. In order to overcome the situation, governments are required to opt for fiscal policy contraction that is cut taxes and increase government spending. Government expenditure involves the constructions of both social and economic projects. Building various infrastructures, the construction and expansion of economic projects like manufacturing, industrial sector, agriculture sectors, the creator of raw materials, mining and quarrying sector, tourism sectors which all these attract employment opportunities. Abdelkader et al. (2017), Alkhateeb et al. (2017), Maku and Alimi (2018), Islam (2018), Kamar et al. (2019), Omran and Bilan, (2020), Onwuka (2021), supported the findings while the study of Adegboye (2020, Cvecic and Sokolic (2020) and Attamah et al. (2015) were incompatible.

Impact of Other Macroeconomic Factors on Employment Growth

It has been revealed the long run coefficient of GDP growth was positive and statistically significant at 10% precision level under the studied period. It was exposed that 1% increase in GDP growth resulted to about 2.4% increase in employment growth in the long run, taking other factors been constant. In short run the estimated coefficients of GDP growth were inversely related with employment growth at all two lags and statistically significant at 5% level at lag one but it was insignificant at lag two. Adegboye (2020), Kamar et al. (2019), Alkhateeb at el. (2017) found

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GDP growth did promote employment through economic schemes increasing, and investment expansion of both public and private chances. Domestic debt coefficient exaggerated a positive relationship with employment growth but it was statistically insignificant both in short run and long run, indicating a 1% rise in domestic debt resulted to 0.03% increase in employment growth in long run holding other factors constant.

In long run inflation rate was inversely related with employment growth keeping other factors constant and it was found to be statistically insignificant in long run. It was estimated 1% increase in inflation rate caused 0.2% decrease in employment growth, keeping other factors been constant. In short run the estimated coefficient of inflation rate was positive related with employment growth in all 3 lags, but it was statistically insignificant at lag one and two while at lag 3 it was statistically significant at 5% precision level. Likewise, the reverse relation between employment growth and inflation rate in Tanzania under the studied period imply that rise in price level decreases the purchasing power of individuals, decreasing the profits to the producers which in the end caused the production to fall, Micheni and Muturi (2019) found inflation rate was increasing unemployment rate nevertheless Adegboye (2019) argued countries with inflating targeting stimulates employment growth.

Furthermore it was revealed a positive relationship between coefficient of interest rate and employment. In long-run ceteris peribus, 1% rise in interest rate implied 5% rise in employment growth in Tanzania. On the other hand rise in interest rate may mean more saving are created which accumulate more capital for further investment hence allowing creation of employment in the country, Onwuka (2021), Micheni and Muturi (2019).

Error correction term (ECT) had been estimated 68% negative and statistically significant at 5 %. Error correction mechanism term implies how quickly equilibrium can be restored in either occurrence of disturbances. The negative coefficient and statistically significant of 5% portrayed that in case disequilibrium shock occur of 1% in the previous period, about 68% correction can be made on the shock to adjust in employment growth.

Granger Causality

The results from table 5 validated that employment growth does not granger caused GDP growth, total revenue and total expenditure but all variables under the studied period were caused by employment growth. It has been pointed that GDP growth does not granger caused employment growth but GDP growth granger caused the total revenue and total expenditure and finally it was remarked that GDP growth was the best factor that elucidated all the variables under the studied period, Leshoro (2013) found unidirectional causality between employment growth and GDP growth running from GDP growth to employment growth.

The results have been revealed that total revenue was well explaining the employment growth, GDP growth and total expenditure in Tanzania remarking the existence of unidirectional present between total revenue and employment growth running from total revenue to employment growth, bi-directional causality between total revenue and GDP growth and in general total revenue was the favourable on causing the entire factors studied in Tanzania environment. Furthermore, the finding denoted that total expenditure does not cause employment growth in Tanzania but total expenditure elucidated well the growth of GDP growth and total revenue in Tanzania. The findings remarks presence of bi-directional causality existing between total expenditure with GDP growth and total revenue in Tanzania, Abdelkader et al. (2017) found existence of unidirectional causality between public spending and employment growth running from public spending to employment.

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Table 5: Granger Causality Wald Tests Results

Dependent variable: *ln-Emp*			
Excluded	**Chi-sq**	**Prob Value**	**Decision**
GDP	1.2997	0.522	Do not reject H_0
Rev	1.6337	0.442	
Exp	1.2041	0.548	
Ddt	9.3217	0.009	
Inf	4.3944	0.111	
Int	4.2368	0.120	
ALL	35.256	0.000	
Dependent variable: ***ln*-GDP**			
Emp	4.1046	0.128	Do not reject H_0
Rev	15.462	0.000	
Exp	24.783	0.000	
Ddt	19.217	0.000	
Inf	0.6888	0.709	
Int	9.9502	0.007	
ALL	72.173	0.000	
Dependent variable**: *ln*- Rev**			
Emp	62.165	0.000	Reject H_0
GDP	16.427	0.000	
Rev	45.734	0.000	
Ddt	1.3018	0.522	
Inf	12.178	0.002	
Int	9.4529	0.009	
ALL	163.57	0.000	
Dependent variable: *ln*- Exp			
Emp	0.91335	0.633	Do not reject H_0
GDP	6.2225	0.045	
Rev	4.9093	0.086	
Ddt	3	0.223	
Inf	0.35003	0.839	
Int	12.138	0.002	
ALL	40.056	0.000	

Source: Author's Compilation, 2024

CONCLUSION AND RECOMMENDATIONS

The estimated results indicated that total government revenue was inversely related with employment growth in Tanzania while total government expenditure had a direct impact on employment growth in both long run and short run. Generally, GDP growth, domestic debt and lending interest rate had a direct relationship with employment growth while inflation rate had an inverse relationship with employment growth in Tanzania. The study concluded that the results were consistent with the general theory of employment, interest and money hence in order to ensure employment opportunities are generated in the country, government revenue taxes have to be minimized and increases government spending especially to the multiplier employment projects.

It was recommended the government to conduct re-examination of the government revenue and expenditure policies to ensure sources of revenue are all incorporated to allow more collection of revenue and the available tax revenue sources need to favour investment in the country. In complement with friendly tax revenue bases in the country, the subsidies have to be provided to the local projects which absorb labour force and have the spillover effects to the economy. Friendly tax revenue sources and subsidies to the local investors will ensure higher local production,

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stimulating more exports and promote the presence of foreign reserves and stabilize the exchange rate in the country.

The study also recommended the government to safeguard the management of expenditure of collected revenue to avoid the unnecessary expenditure especially to the consumable projects which are claimed not to favour employment growth and prioritising to the projects that traps more employment creations.

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