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Austerity Measures and Its Effect on Net Investment and Export Capacity of Tanzania (1986 To 2018)

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Abstract: *This research work evaluated the effect of austerity measures on net investment, total export and gross domestic product of Tanzania from 1986 to 2018 as International Monetary Fund and other western financial institutions will always suggest reduction in government expenditure as one of the prerequisites for economic growth. The study employed Bond test (for long-run relationship) and ARDL short-run relationship to test for the relationship between the variables of interest, while the effect of government expenditure on selected macroeconomic variables of Tanzania was carried out using Granger Causality test. The result revealed that the Tanzanian government expenditure affects net investment and gross domestic product positively, but does not affect export; rather a negative relationship existed between government expenditure and export. The study concludes that Tanzania's government austerity measure toward export sustainability did not yield any positive result, again for the economy to keep growing; government has to spend more until the growth comes to a sustainable level. The researcher suggested that Tanzanian monetary authorities should channel government spending toward the real sector of the economy and also apply export promotion strategy to encourage the country's export capacity.*

Keywords: Austerity Measures, Net Investment, Total Export

1. INTRODUCTION

Lending and borrowing are economic activities of individuals, institutions and nations. It is generally believed that nobody grows in isolation. For a significant growth to exist; there is need for interaction with both external and internal bodies. The interaction could be in form of business transactions, lending and borrowing for economic activities. In a bid to attain economic growth and development, most African governments approached western financial institutions for development loans after they attained independence, (Abubakar, Anthony, Segun, Nelson, Femi & Benjamin, 2016). Most of those loans were not refunded when due, and that made most developing African countries to be heavily indebted to those Western Financial institutions. Those loans were contracted mainly as project tied loan, balance of payment support loan and loans for socio-economic needs, all to foster economic growth. Some of those debts were dated as far back as 1960's, yet till date, these countries are still regarded as developing or underdeveloped countries that are still sourcing for loans to boost their economic growth. More complicating, most of these loans were also obtained with some economic adjustment policies mainly to safeguard the extended credit facility (Buira, 2003). Currently these seven sub Saharan African countries; Nigeria, Cape Verde, Mozambique, Rwanda, Senegal, Tanzania, and Uganda have obtained Policy Support Instrument (PSI) of International Monetary Fund (IMF) which requires them to submit their biannual economic policy to IMF for review. The PSI is a non credit facility of IMF, yet it comes with conditions like reduction in government expenditure also known as austerity, privatization of government owned institution, exchange rate devaluation, trade liberalization etc (Amakor, 2018). To the country of Tanzania, there have been roughly three stages of the IMF's involvement in Tanzania: the first round of reform lasted from 1986 to 1995, the second round of reform lasted from 1996 to 2006, and the third round focused mainly on consolidating the reforms made from previous stages. According to Anyanwokoro (2004), government expenditure is always on increase during economic growth. This is because government spends money towards the supply of goods and services that are not provided by the private sector but are important for the nation's welfare. Government spending also goes to the nation's defence, infrastructure, health and welfare benefits. Furthermore, governments subsidize start-up industries or industries that cannot propel their operations with funding by the private sector, such as transportation or agriculture. To scholars, the position of government expenditure level to economic growth is still a debating issue, to researchers like Kelvin, Yapatake and Abeid (2017), Gifari (2015) and Josephat and Oliver (2000) government expenditure has no significant effect on economic growth. At the same time, other researchers like Majid (2017) and Taiwo and Taiwo (2011) had a conflicting opinion and believe that government expenditure grows with economic growth. To this effect, this study seeks to evaluate the effect of government expenditure on selected macro economic variables of Tanzania.

2. OBJECTIVES OF STUDY

The main objective of this research work is to evaluate the effect of government expenditure on selected macro-economic variables of Tanzania, while the specific objectives are;

1. To examine the effect of total government expenditure on Tanzanian export
2. To evaluate the effect of total government expenditure on Tanzanian net investment
3. To analyse the effect of total government expenditure on Tanzanian GDP

3. HYPOTHESES

The following hypotheses were developed from the formulated objectives and stated in null form to guide this study

1. Total government expenditure has no significant effect on Tanzanian export
2. Total government expenditure has no significant effect on Tanzanian net Investment
3. Total government expenditure has no significant effect on Tanzanian GDP

4. CONCEPTUAL REVIEW

Government spends money towards the supply of goods and services that are not provided by the private sector but are important for the nation's welfare. Government spending can be financed by government borrowing, seigniorage, or taxes. When government acquires goods and services for current use, it is called government final consumption expenditure (GFCE.) It is a purchase from the national accounts for goods and services that directly satisfy individual needs or collective needs of members of the community. On the other hand, government acquisition of goods and services intended to create future benefits, such as infrastructure investment or research spending, is called government investment (government gross capital formation). Another aspect of government expenditures is transfer payments. It comprises of expenditure that are not acquisition of goods and services, but transfers of money such as social security payments. These payments are considered to be exhaustive because they do not directly absorb resources or create output. In other words, transfers are made without an exchange of goods or services. According to Keynesian economics; increased government spending raises aggregate demand and increases consumption, that leads to increased production and faster recovery from recessions. So a change in government spending is a major component of fiscal policy used to stabilize the macroeconomic business cycle (Amakor, 2017)

Gross fixed capital formation (GFCF) can be seen as the net increase in physical assets such as building, plant, equipment, transport facilities, tools and instruments, machines, and all the various forms of real capital that can greatly increase the efficacy of productive effort within the measurement period (Kusmadi, 1997). Gross fixed capital formation (GFCF) is a macroeconomic concept used in official national accounts. It is called gross because the measure does not make any adjustments to deduct the consumption of fixed capital (depreciation of fixed assets) from the investment figures

4.1. IMF interaction with Tanzanian economy

According to Amakor (2017), IMF involvement in Tanzanian's economy can be dated as far back as 1970s. In 1979, the IMF proposed a series of major changes to Tanzania in response to its worsening economy; currency devaluation was the main focus of the proposed changes. However, Tanzania refused to devaluate its currency and requested the IMF to leave the country in November 1979. The IMF created the Tanzania Advisory Group (TAG) to improve the relationship between the IMF and Tanzania, the main goal of the TAG was to achieve the devaluation of the Shilling. The TAG's efforts had virtually no return until 1986 when Ali Hassan Mwinyi, replaced Julius Nyerere, the former president of Tanzania. Tanzania finally entered into a stand-by agreement with the IMF; under that agreement, a program was enacted to liberalize interest rate, eliminate price control, unify exchange rate etc. The amount of aid provided by the stand-by agreement was not a lot as it accounted only 60% of Tanzania's quota at that time. The main purpose behind that agreement was mainly to reconstruct investors' confidence in Tanzania by providing the country with an IMF's approval. Successfully, that agreement achieved its goal as many developed countries were willing to provide aids to Tanzania if the country followed the proposed reforms listed under the agreement. The first round of reform came to an end in 1996, and Tanzania achieved most of the reforms during this duration of time. From 1996 to 2006, the second round of reform which focused on areas like improving government financial services as well as strengthening the goals achieved from the previous reform started. One of the most difficult policy goals was the restructuring of the parastatals, but under the Poverty Reduction and Growth Facility (PRGF) programs implemented by the IMF, Tanzania successfully privatized most of the parastatals in manufacturing and agricultural sectors in 2005. The third round of reform focused mainly on creating fit policies to accommodate the economic reforms brought forth by the previous two reforms. From 2006 onwards, the IMF's interference switched to providing the country with policy advice. Under the operation of the Policy Support Instrument (PSI), the IMF continues to provide the country with economic advices fostering better economic growth rate and improving the situation of poverty. This greatly signals that the IMF has assumed a more passive role as a policy advisor in the case of Tanzania. From 2017 policy report of Tanzania, the IMF stated that the economy of Tanzania, with the implementation of the PSI-supported program, is looking strong with a moderate level of inflation.

4.2 THEORETICAL REVIEW

This work is anchored on Adolph Wagner's law of "increasing state activity". Wagner (1890), a German economist, in his law of increasing state activity argued that government expenditure growth is a function of increased industrialization and economic development. He stated that during the industrialization process, as the real income per capita of a nation increases, the share of public expenditures in total expenditures increases. He designed three focal bases for the increase in state expenditure. Firstly, during industrialization process, public sector activity will replace private sector activity. State functions like administrative and protective functions will increase. Secondly, governments need to provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions. Thirdly, increased industrialization will bring out technological change and large firms will tend to monopolize, then governments will have to offset these effects by providing social and merit goods. This is also supported by Anyanwaokoro in his book "Element of Public Finance" where he discussed reasons for increase in government expenditure, he asserted "as industries grow, one would expect a reduction in public expenditure so that the private sector will spend more, but this does not often happen. Instead government expenditure grows as industrial and economic developments grow" (Anyanwaokoro, 2004).

4.3. Review of Extant Literature

Few related literature on government expenditure and IMF interaction with African nations were reviewed to aid this research work. They include;

Gitana, Agne and Austra (2018) estimated the relationship between government spending and economic growth in European Union from 1995 to 2015 using correlation analysis. They discovered that government spending has a significant relationship among eight European Union countries.

Kelvin, Yapatake & Abeid (2017) examined the long-run and short-run relationship between government expenditure and Economic growth in Tanzania from 1996 to 2014 using Error Correcting Model (ECM) and granger causality test. In the long-run government expenditure is found to be statistically significant and has positive relationship with economic growth, while the short run analysis showed that there was no significant relationship between government expenditures and economic growth. The results of granger causality test show uni-directional causality running from economic growth to government expenditures.

Majid (2017) examined the impact of government expenditure on economic growth of Zanzibar using secondary data and simple OLS. The result revealed that increased government expenditure has significant relationship with the Zanzibar's GDP

Daryl (2015) determined the factors that affect IMF program design and implementation in borrower countries. He emphasised that understanding the problems programs are designed to address and the circumstances behind their interruption or completion, is essential for an accurate evaluation of their effects. He argued that a more nuanced approach which incorporates the interaction between these factors is required. Synthesizing theories of functionalism, structuralism, and principal-agent relationships with a domestic political economy approach, he offers a dynamic framework that evaluates the importance of political, institutional, and economic variables under varying circumstances. Applying this framework to the case of Argentina (1991-2002), he found that the IMF's institutional priorities gave Argentina enormous leverage over the IMF, that makes IMF to maintain support for Argentina despite non-compliance until deteriorating economic conditions indicated that collapse was inevitable.

Gifari (2015) studied the relationship between government expenditure and economic growth in Malaysia from 1970 to 2014. The government expenditure was divided into operating and development expenditure. Using the time series data and OLS, they discovered that there was a negative correlation between government expenditure and economic growth in Malaysia. Moreover, only housing sector expenditure and development expenditure significantly contribute to a lower economic growth, but expenditure on education, defence, healthcare, and operations did not show any significant impact on economic growth of Malaysia.

Ejigayehu and Person (2013) examined whether external debt affects the economic growth of selected heavily indebted poor African countries through the debt overhang and debt crowding out effect. The variables of study are Initial per capita GDP, growth rate of investment, population growth rate, trade balance, Debt service export ratio, Ratio of Total external debt to GNI and Net total Debt service of selected countries. This is carried out by using data for eight heavily indebted poor African countries from 1991 to 2010. These countries are Benin, Ethiopia, Madagascar, Mali, Mozambique, Senegal, Tanzania and Uganda. The result from estimation shows that external debt affects economic growth by the debt crowding out effect rather than debt overhang.

Jost and Seitz (2012) studied the role of the IMF in the European debt crisis. They described the rescue packages and the involvement of the IMF by discussing the pros and cons of the participation of the IMF in elaborating and monitoring the economic adjustment programs for the countries in crisis. They concluded that strict conditionality is crucial for the success of the programs and the credibility of the whole process, because softening of the programs could destroy the credibility and reputation of the IMF.

Taiwo and Taiwo (2011) examined the effects of government spending on the growth rate of real GDP in Nigeria from 1970-2008 using Ordinary Least Square (OLS) technique. The result showed that there was a positive relationship between real GDP and government expenditure.
Murray and King (2008) examined the effect of IMF programs on tuberculosis (TB) outcomes in post-communist countries. They argue that health outcomes suffer from reduced government spending on health care and on other inputs to health, such as food, as well as from the capping of public sector wages. The authors noted that the nature of many health interventions makes them especially sensitive to fiscal decisions, because of the imperative of ensuring continuity in services and drug supply for HIV/AIDS and tuberculosis and any temporary interruptions in funding can have very serious consequences for health outcomes.

Randall (2007) studied the politics of IMF on conditionality from 1992 to 2002 in order to ascertain the degree of the IMF autonomy. He used the probability of participation to test for effects of bargaining on the design of conditionality and concluded that the IMF does not impose a one-size-fits-all template of conditions to borrowers; lending to important recipients who received United State (U.S.) foreign aids is associated with narrower conditionality; that Fund as a bureaucratic agency pushes for influence and strives to maximize conditionality; and that the bargaining between the Fund and the borrowing member can be adversarial.

Axel (2004) ascertained the effects of different stakeholders bargaining power on IMF and World Bank lending and conditionality. Using panel data for 43 countries between 1987 to 1999, it is shown that the number of Fund conditions seems to be influenced by contemporaneous World Bank activity and bad policies.

Nancy, Geoffrey and Bruce (2004) determined the impact of International Financial Institutions (IFI) conditionality on privatization in countries that owe the IMF. They found that IMF conditionality, in particular, has an important indirect economic benefit to countries that owe the IMF, as that will attract foreign investors and the additional capital drawn into developing countries as a result of the IMF. Privatization nexus is no doubt helpful to these economies, though this may not justify the policy conditions typically imposed by the IMF

James (2003) examined whether IMF should impose specific policy prescription known as conditionality in other to promote economic growth of member nations. He studied the percentage change in GDP to foreign reserve, inflation, current account budget deficit etc. He concludes that IMF should focus on crisis prevention instead of providing loans with condition after the country has entered into crisis.

Giulio (2001) studied various rationales for conditionality which has been put forward since the inception of this practice in 1950s, and to analyse their mutual consistency and interaction by employing a principal-agent framework. The findings revealed that two of the basic functions which can be identified with IMF conditionality contracts: the protection of Fund resources and the provision of commitment technology to the recipient country are mutually compatible if the balance of payments disequilibrium (or capital outflow) which triggers IMF intervention is not too large; that IMF bail-outs can lead to debtor moral hazard if the IMF's commitment power is limited; and that if the crisis is large, ex-post Private Sector Involvement (PSI) in the form of debt-relief is a pre-condition for effective conditionality.

Josephat and Oliver (2000) examined the impact of government spending on economic growth of Tanzania from 1965 to 1996 using Tanzanian time series data. They disaggregated government expenditure into expenditure on investment, consumption spending and human capital investment. They concluded that increased expenditure on investment has a negative impact on growth, consumption expenditure relates positively to growth, while expenditure on human capital had an insignificant relationship with economic growth of Tanzania.

5. METHODOLOGY

This study is a developmental study that evaluates the effect of Austerity measures Tanzanian's export, net investment and GDP from 1986 to 2018. Secondary data were utilized, and data for analysis were obtained from data bank of World Bank. The normality of the data were tested using unit root test by ADF and PP, serial correlation and Heteroskedasticity test of the model were carried out with serial correlation LM test and ARCH Heteroskedasticity Test. The formulated hypotheses were tested using bound test (for long-run relationship) and ARDL short-run relationship, while the effect of government expenditure on selected macroeconomic variables of Tanzania was carried out using Granger Causality test. The study adapted the model of Taiwo and Taiwo (2011) who examined the effects of government spending on real GDP growth. Their model were stated as

$GDP = \alpha 0 + \beta 1 REC + \beta 2\ CAP + \mu$

Where $\alpha 0$ = Autonomous income, $\beta 1$ and $\beta\ 2$ = parameters, GDP = Gross Domestic Product, REC = Recurrent Expenditure, CAP = Capital Expenditure and μ = Error Term
The models of this study are presented thus;

Econometrics form of the models:

Model one: $Y_1 = ß_o + ß_1 \text{ x } 1 + \mu_t$
Model two: $Y_2 = \gamma_o + \gamma_1 \text{ x } 1 + \varepsilon_t$
Model three: $Y_3 = \alpha_o + \alpha_1 \text{ x } 1 + \xi_t$
Model one: $LTET_t = ß_o + (ß_1 LTGET) + \mu_t$
Model two: $LGFCFT_t = \gamma_o + (\gamma_1 LTGET) + \varepsilon_t$
Model three: $LGDPT_t = \alpha_o + (\alpha_1 LTGET) + \xi_t$

Explanation of the variables

LTET = log Total Export of Tanzania
LGFCFT = log Gross Fixed Capital Formation of Tanzania
LGDPT =log Gross Domestic Product of Tanzania
LTGET= Log Total Government Expenditure of Tanzania
$ß_o$, γ_o, and α_o = Intercepts of models 1, 2, and 3 respectively.
$ß_1$, γ_1 and α_1 = slope of the intercepts of the models
μ_t, ε_t, and ξ_t, = error terms of models 1, 2 and 3 respectively

6. DATA PRESENTATION AND ANALYSIS

Table 6.1: Selected macroeconomic data of Tanzania

Year	Total Exports ($ Million)	Government Expenditure ($ Million)	Gross Fixed Capital Formation ($ Million)	Gross Domestic Product ($ Million)
1986	361.0	170.5	444.1	3,530.6
1987	289.0	317.1	607.3	4,315.5
1988	275.0	463.7	770.5	5,100.4
1989	365.0	610.3	933.8	4,420.2
1990	331.0	756.9	1,097.0	4,258.7
1991	342.0	938.7	1,288.7	4,956.6
1992	416.0	903.6	1,240.7	4,601.4
1993	450.0	825.4	1,059.9	4,257.7
1994	519.0	772.1	1,102.4	4,510.8
1995	682.0	605.5	1,029.8	5,255.2
1996	784.0	750.6	1,070.0	6,496.2
1997	753.0	636.6	1,131.1	7,683.9
1998	589.0	1,143.4	1,827.2	9,345.2
1999	543.0	1,128.4	1,653.6	9,697.8
2000	733.7	1,190.0	1,665.6	10,185.8
2001	851.3	1,231.5	1,765.4	10,383.6
2002	979.6	1,420.2	1,811.3	10,806.0
2003	1,216.1	1,790.0	2,192.9	11,659.1
2004	1,479.1	2,168.4	2,841.7	12,825.8
2005	1,679.1	2,875.1	17,819.4	16,930.0
2006	1,864.7	3,321.6	5,161.3	18,610.5
2007	2,139.3	3,990.4	6,769.0	21,501.7
2008	3,121.1	4,406.7	9,213.7	27,368.4
2009	2,982.4	4,998.1	8,243.2	28,573.8
2010	4,050.5	4,622.6	9,007.8	31,407.9
2011	4,735.0	4,683.3	1,112.4	33,878.6
2012	5,075.0	5,761.4	11,952.6	39,087.7
2013	4,558.5	7,235.8	13,512.1	44,333.5
2014	4,627.5	6,648.5	15,700.6	48,197.2
2015	4,931.1	6,250.7	15,740.3	45,628.2
2016	5,071.7	6,020.2	8,277.2	47,431.0
2017	8,072.9	4,977.4	18,907.4	49,736.7
2018	8,072.9	4,977.4	18,907.4	52,323.0

Source: World Bank; www.worldbank.org

Table 1 portrays the relevant data of Tanzanian macroeconomic variables of interest being used for this study. The variables include; Tanzanian Total Government expenditure, Tanzanian Total export, Tanzanian gross fixed capital formation and Tanzanian Gross Domestic Product.

Descriptive Properties of the Data

Table 6. 2: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
EXP	2210.318	979.6000	8072.900	275.0000	2270.165	1.185008	3.414052	7.959071	0.0186	33
GFCF	5632.042	1811.300	18907.40	444.1000	6179.704	1.040933	2.612157	6.166313	0.0458	33
GDP	19372.69	10806.00	52323.00	3530.600	16665.30	0.794140	2.092714	4.600478	0.1002	33

TGEXP	2684.609	1420.200	7235.800	170.5000	2241.247	0.578899	1.818839	3.761502	0.1524	33

Source: E-views 10.0

Table 6.3: Shapiro-Wilk Test of Normality

Variables	**Shapiro-Wilk Test Statistic**	**P-value**
EXP	0.797140	0.0000
GFCF	0.821748	0.0000
GDP	0.768032	0.0000
TGEXP	0.856712	0.0000

Source: Output Data from Gretl

The descriptive properties featured the mean, median, maximum, minimum, standard deviation, skeweness, kurtosis, Jarque-Bera and number of observations. In ascertaining the normality of the data, the Jarque-Bera was utilized. As can be seen in Table 2, the p-values of the Jarque-Bera statistics for exports and gross fixed capital formation that are significant at 5% significance level showing that it is only exports and gross fixed capital formation that followed normal distribution. Owing to the weakness in Jarque-Bera power to identifying the normality of the data, the Shapiro-Wilk normality test was employed and presented in Table 3. The result of the Shapiro-Wilk normality test (at 5% significance level) entails that the data were normally distributed and inference from model estimations are reliable in statistical term.

Table 6.4: Unit Root Test by ADF

Variables	**Intercept**	**Trend and Intercept**	**None**	**Remark**
EXP	-6.515948 (0.00)*	-6.172972 (0.00)*	-1.109941 (0.23)	1(2)/Stationary
GFCF	-0.608657 (0.85)	-4.735501 (0.00)*	0.349354 (0.78)	1(0)/Stationary
GDP	-3.511907 (0.01)*	-4.462177 (0.01)*	-2.437369 (0.02)**	1(1)/Stationary
TGEXP	-0.671910 (0.84)	-4.070205 (0.02)**	0.911633 (0.89)	1(0)/Stationary

Source: E-views 10.0

(*) and (**) represent 1% and 5% level of significance respectively
1(0), 1(1) and 1(2) represent level, first difference and second difference stationarity respectively

Table 6. 5: Unit Root Test by PP

Variables	**Intercept**	**Trend and Intercept**	**None**	**Remark**
EXP	-5.609106 (0.01)*	-7.287648 (0.00)*	-4.874811 (0.00)*	1(1)/Stationary
GFCF	-1.526721 (051)	-4.721983 (0.00)*	-0.375412 (0.54)	1(0)/Stationary
GDP	-3.511907 (0.01)*	-4.417641 (0.01)*	-2.437369 (0.02)**	1(1)/Stationary
TGEXP	-5.609106 (0.00)*	-7.287648 (0.00)*	-4.874811 (0.00)*	1(1)/Stationary

Source: E-views 10.0

(*) and (**) represent 1% and 5% level of significance respectively
1(0), 1(1) and 1(2) represent level, first difference and second difference stationarity respectively

The data were checked for stationarity in a bid to ensure that the outputs of the regression were not influenced by stationarity defect which characterise with most time series data. In this regard, ADF and PP were the tests of unit root employed. The results in Tables 4 and 5 discloses that the data were stationary, hence permitting for the determination of the co-integration relationship between the variables.

Sensitivity Analysis Test

Table 6.6: Serial Correlation LM Test

Models Estimated	**F-statistic**	**P-value**

EXPT →TGEXP	0.961601	0.4011
GFCF →TGEXP	0.646219	0.5319
GDP →TGEXP	1.059809	0.3652

Source: E-views 10.0

Table 6.7: ARCH Heteroskedasticity Test

Models Estimated	**F-statistic**	**P-value**
EXPT →TGEXP	2.711618	0.1117
GFCF →TGEXP	0.214242	0.6469
GDP →TGEXP	0.116360	0.7358

Source: E-views 10.0

Table 6.8: Ramsey Reset Specification

Models Estimated	**F-statistic**	**Df**	**P-value**
EXPT →TGEXP	2.599280	(3, 17)	0.0859
GFCF →TGEXP	0.294517	(1, 28)	0.5916
GDP →TGEXP	3.229400	(1, 21)	0.0867

Source: E-views 10.0

Sensitivity analysis was utilized to ascertain the residual and stability properties of the models. To this end, the serial correlation LM test, heteroskedasticity test and Ramsey RESET executed. The result of the serial correlation LM test in Table 6 absolves the model of any issue of serial correlation. Similarly, Table 7 presented that the models were not associated with heteroskedasticity issues, while Table 8 provided evidence that the models were well-specified. The argument to the three residual and stability tests hinge on the fact that the p-values of the specified models were insignificant at 5% significance level.

7. TEST OF HYPOTHESES

The formulated hypotheses in introduction are restated in both null and alternate forms as follows:

1. ***No:*** *Total government expenditure has no significant effect on Tanzanian export*
   Ni: *Total government expenditure has no significant effect on Tanzanian export*
2. ***No:*** *Total government expenditure has no significant effect on Tanzanian net Investment*
   Ni: *Total government expenditure has no significant effect on Tanzanian net Investment*
3. ***No:*** *Total government expenditure has no significant effect on Tanzanian GDP*
   Ni: *Total government expenditure has no significant effect on Tanzanian GDP*

Bound Test

Table 7. 9: Bound Test

	EXPT	**GFCF**	**GDP**
F-Statistic	12.57518	8.193475	18.10885
Lower Bound @ 5% Critical Value Bound	3.62	3.62	3.62
Upper Bound @ 5% Critical Value Bound	4.16	4.16	4.16

Source: E-views 10.0

This study estimated the long run relationship between exports, gross fixed capital formation, gross domestic product and government expenditure in Tanzania following the Bound Test approach. In the bound test framework, the bias that may be linked with the different order of integration of time series data are carefully taken care of. The result in Table 9 shows that in Tanzania, exports, net investment as measured by gross fixed capital formation, gross domestic product and total government expenditure are related in the long. The decision is arrived on the basis that the f-statistics of 12.57, 8.19 and 18.11 respectively for exports, gross fixed capital formation and gross domestic product estimation are higher the upper and lower bound test of 4.16 and 3.62 respectively.

Short Run Relationship

Table 7.2: ARDL Short Run Relationship

Variables	**EXPT**		**GFCF**		**GDP**	
	Coefficient	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
TGEXP	-0.318866	0.1000	2.115550	0.0002	1.688465	0.0020
C	-61.69396	0.6174	-407.9567	0.7055	288.7255	0.4530
Adjusted R-squared	0.976931		0.635840		0.995209	
F-statistic	149.2198		28.06365		970.3947	
Prob(F-statistic)	0.00000		0.00000		0.00000	

Durbin-Watson stat	2.266750	1.964411	2.412227

Source: E-views 10.0

Following the ARDL framework, the relationship between the variables in the short run were equally estimated. In Table 10, it was observe that total government expenditure in Tanzania has a negative insignificant relationship with total exports: total government expenditure has positive significant relationship with gross fixed capital formation; total government expenditure has positive significant relationship with gross domestic product. Again, judging by the coefficient of the adjusted R-squared, total government expenditure explained 97.69% variation in total exports, 63.58% variation in gross fixed capital formation; and 99.52% variation in gross domestic product. Increasing total government expenditure by a unit has the capacity to increasing gross fixed capital formation and gross domestic product by factors of 2.11 and 1.69 respectively but would decrease total exports by the tune of 61.69. This is not in line with a priori expectation of a positive nexus between government expenditure and export promotion. The result would be as a result of volatility in the macroeconomic environment of Tanzania. The Durbin Watson values of 2.26, 1.96 and 2.41 for total exports, gross fixed capital formation and gross domestic product estimation supports no autocorrelation in the models.

Granger Causality Test

Table 7.1: Granger Causality Test

Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**	**Remarks**
TGEXP does not Granger Cause EXPT	31	1.81764	0.1824	No Causality
EXPT does not Granger Cause TGEXP		1.81764	0.0190	Causality
TGEXP does not Granger Cause GFCF	31	5.55460	0.0098	Causality
GFCF does not Granger Cause TGEXP		1.07144	0.3572	No Causality
TGEXP does not Granger Cause GDP	31	3.67551	0.0393	Causality
GDP does not Granger Cause TGEXP		1.32892	0.2822	No Causality

Source: E-views 10.0

8. DISCUSSION AND FINDINGS

With the aid of the granger causality test, the effect of government expenditure on exports, gross fixed capital formation and gross domestic product of Tanzania was ascertained. In Table 11, there is a causal relationship between exports and government expenditure, running from exports to government expenditure. In essence, it is the level of exports that determine the expenditure pattern of the Tanzania government as against government expenditure influencing the level of exports. On the other hand, total government expenditure was found to have exerted significant effect on gross fixed capital formation and gross domestic product of Tanzania within the period covered by this study. This is to say that gross fixed capital formation and gross domestic product are greatly influenced by government expenditure.

9. CONCLUSION AND RECOMMENDATIONS

The result of the analysis showed significant positive relationship between Tanzanian government expenditure and Tanzanian export, net investment and gross domestic product at long run. While at short run, Tanzanian government expenditure has a significant negative relationship on export, but positive relationship on net investment and gross domestic product. On the other hand, the result of the granger causality test also confirms that Tanzanian government expenditure affects net investment and gross domestic product, but does not affect export. This is an indication that Tanzania's government austerity measure toward exports sustainability did not yield any positive result, again for the economy to grow, the government has to spend more until the growth comes to a sustainable level. Tanzanian monetary authorities should channel government spending toward the real sector of the economy and also apply export promotion strategy to encourage the country's export capacity.

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