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## A Study on the Impact of Foreign Aid on Economic Growth: The Case of Zanzibar – Tanzania

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### Abstract:

*Foreign aid brings large contribution to economic growth in most of less developed countries. The intention of this research is to scrutinize the effect of ODA on economic growth of Zanzibar. Specifically, the study analyzed the relationship between ODA and domestic investment as well as its effect on government expenditure. The analysis of the study was done on time series data from 1980 to 2015. The data was analyzed using OLS model. The paper applied the Augmented Dickey Fuller (ADF) test to test stationary of data and the data were found to be stationary. The study also used Johansen co-integration to test for long run outcome of the variables on country's economic growth. The outcomes under Johansen co-integration noted that ODA has positive effect on economic growth in the long run and it has long run impact of government expenditure. The results from OLS showed that ODA is not significant to economic growth but it is positively and significantly impacts government expenditures in Zanzibar. Moreover, the OLS results indicated the insignificance connection between ODA and local investment in Zanzibar. The study therefore recommends that since the results shows the ODA and domestic investment negatively related, it is the time for the government of Zanzibar to rethink the issue ODA and its impact on domestic investment and new policies and strategies are highly important to ensure that the foreign assistances are directly focused to direct investment activities that may respond quickly to economic growth and improving the welfare of people.*

**Keywords:** *Economic growth, domestic investment, Official Development Assistance and government expenditures*

### 1. Introduction

The external aid is defined as an intentional transfer of resources from one country to another country, given by individuals, private organizations, or government to provide support for the recipient's economic development (Bhavan et al, 2010). The least developed countries depend on foreign aid in funding their development projects and programs. Therefore, foreign aid resources perform a vital stake in achieving country growth and inspiring reduction of poverty to the recipient countries.

The concept of Official Development Assistance (ODA) as one of a major popular system of foreign assistance, takes roots in the United Nations charter agreed throughout the forum in June 26<sup>th</sup>, 1945 at San Francisco. Members of the United Nations were dedicated to promoting socio-economic development and providing a good standards of life with higher sovereignty to all people (Aime, 2010). In last 50 years, the estimates of trillion dollars went in Africa as ODA in addition to other types of aid flows. A main donor is USA together with many other European countries such as England, and France. The Asian countries such as Japan, China or South Korea today also have been in forefront in providing aid to Africa. According to IMF (2007), by the end of 2005, G-8 countries were devoted to emotionally increasing the volume of ODA they provide to underprivileged countries and doubled aid to Sub-Saharan Africa by 2010.

Although Sub-Saharan Africa has received aid for many decades, the efficiency of aid on national development is still controversy. Various studies have been considered to analyze the consequence of development assistance on economic development and scholars found different results. Papanek (1973), conducted research on effectiveness of aid to economic development and results indicating the beneficial output on achieving the national growth. Furthermore, a study conducted by Harrod & Domar (1930, 1940) found that foreign assistance can improve investment as the result of stimulating economic development and fill the saving gap in least developing economies. Yet, other studies demonstrated that aid has undesirable effects on economic growth. For example, Sabra & Eltalla (2016) found the negative characteristics of aid to recipient country. Moreover, the study conducted by Burke & Ahmadi-Esfahani (2006) shows that there is unsatisfactory proof to validate the ongoing debate. In addition to that, some researchers suggested that ODA support development only in the short term but it is bringing harmful damage in the long run (Adams & Atsu, 2014).

In case of Zanzibar, the country has been a recipient of ODA since its independence of 1964. Zanzibar external financing policy is guided by Strategy for growth and Reduction of Poverty (ZSGRP, 2005), Zanzibar Poverty Reduction Plan

(ZPRP, 2002), and the Vision 2020. Due to inadequate ability of Zanzibar to make sufficient inland resources (i.e. financial, physical and human resources), foreign direct inflows are stimulated to supplement the internal funds to bring the planned societal and national plans of Zanzibar. So, external aid is a crucial resource and takes a critical part in promoting the development of Zanzibar. It supports about 40% of the government budget while it constitutes the main external sources of finance for development projects. According to Bank of Tanzania economic review (BOT, 2014), 98.1% of the money for financing development projects in Zanzibar as in November 2013 was from foreign aid.

Zanzibar receives external fund in terms of gifts and concessional loans from both international agencies and international Financial Institutions to finance several development plans and programs such as investment projects, technical assistance and general budget support. Over 50 years now, African Development Bank (AfDB), The World Bank, JAICA, UNDP, KOICA, Exim Bank of Korea, IMF, USAID, EU, Exim Bank of China and BADEA have been the main sources of external financial assistance in Zanzibar.

Although various researches have been conducted to inspect the external support and economic growth across the countries, few of them have examined the effect of aid in Tanzania. Specifically, little investigation was done to study the aid and its contribution in Zanzibar, which is the large beneficiary of foreign aid within the United Republic of Tanzania. Therefore, this paper examined the instant of donor funds in Zanzibar. The result of this study is expected to help the Revolutionary Government of Zanzibar, policy makers, planners, and other international organizations to develop clear understanding about the aid effectiveness and its contribution to Zanzibar in order to improve the existing policy and guide lines that can benefit the people in the area. It will also help the policy makers to identify strategies by which ODA can contribute to the development process of Zanzibar.

## 2. Literature Review

Foreign aid is a broad conceptual term defined differently by various scholars. Wells (2015) defined foreign aid in its broad sense which refers to financial or technical assistance given by one country to another to support social and economic development or to respond to a catastrophe in the recipient country. It may be provided in the form of financial or nonfinancial assistances. On the other hand, Bhavan et al (2010) defined as a intended allocation of money between countries, agreed by individuals, private organizations, or government to provide support for the recipient's economic development.

It is classified in different forms, according to types, sizes and patterns. These classifications include private market flows (which include loans, private grants, FDI); Official Development Assistance (ODA); International remittances, and Philanthropy Assistance. For the purposes of this study Foreign aid refers to mean ODA.

ODA is demarcated as a support given to alleviate poverty over a longer term. Normally, it is given as technical or financial support that is designed to improve physical infrastructure of given a country namely; education and health sector (Sethi, 2010). According to OECD (2007), ODA is official support from developed countries and international agencies to developing countries, of which at least 25 percent constitutes a grant element to promote the economic prosperity and welfare of the developing world. It can be money or in kind. ODA is classified into two types; Bilateral ODA (aid from individual country to least developed countries and to international organization. it includes grants, loans/credits, or contribution to Intergovernmental Organization); the second type is Multilateral ODA (aid from international organizations to least developed countries)

### 2.1. The Empirical Review

Economic growth is demarcated as a growth in the production capacity of a country or state indicated and annually measured by the country's GDP and GNP. Other scholars have defined Economic growth as a rise in the capacity of economic situation to produce goods and services which is compared from one period to another ("Economic Growth,"2017).

Zanzibar is a low-income state whose economy is dominated by service sector. The mean average growth of Zanzibar economic is reached to 6.0 % between 2003 to 2009, with fluctuating growth rates between 6.5 % and 4.9 % (RGZ, 2010).Zanzibar has noticed a remarkable growth in GDP; from 6.0 % noted in 2006 to 6.5 % in 2007 and 7.2 % in 2013 to 7.0 percent in 2014 with decreasing rate to 6.6 percent in 2015. The growth rate of the major sectors are industry and services grew up by 10.6 and 8.9 percent respectively while agriculture and fishing and forestry grew by 2.7 percent in 2015. Service area is the key driver for GDP growth in Zanzibar accounting for about 49.1% of GDP (Zanzibar Socio-Economic Survey, 2015).

Financial aid acts as a champion in achieving the development of emerging country. According to Chheang (2009), foreign aid flow is the major resources for boosting economy of the country. Thus, foreign aid helps to raise the GDP growth, set the basics of the business and agricultural sectors, provide technical assistance, implementing several development plans and programs of the country, bring numerous advice on country policy and recent technology, assist to overcome the budget deficit, act as a supplement to scarce domestic resources and assist as a major means of foreign exchange earnings to the recipient countries. The World Bank published of 1998 also scripts an imperative incident in the continuous progressive sign in the development of foreign aid practices and its performance in terms of donating food, cash or dropping out the amount of debts of poor countries (World Bank, 1998). External finance signifies a key source of funding for least developed countries. In the age of traditional macroeconomic, these movements subsidize to strengthening development by releasing blocks associated with low incomes. For instance, the fast growth may need an investment rate that is too high to be funded by existence saving. Foreign aid offers the supplementary funding. On the other hand, given the contracted export and tax bases

related with low returns, imports or government expenditure may be the requisite limitation. By improving local resources, allocations from donors enable the attainment of short-term goals. (Azam, Devarajan & O'Connell, 1999)

Although foreign aid plays a vital role on promoting economic growth and development, its flows also have many drawbacks such as increasing level of dependency and high debt to aid recipient countries. Underutilization and unproductive use of foreign resources can raise the fear of debt in the future (Chheang, 2009). Foreign aid results in gratitude of real exchange rate of the beneficiary countries which may result increasing domestic inflation. Moyo and Ndi (2010) blamed on foreign aid as a major cause of lack of progress in Africa. According to them, the foreign aid did not take Africa out of poverty but rather embedded the continent into larger depth of underdevelopment. Many peoples in Africa remain poorer and poverty have not terminated but enlarged (Moyo, 2010). On the other hand, several researchers reasoned that support from foreign countries is occasionally destructive to recipient countries, in term of political stability and social welfare development. According to Esman and Herring (2003), Foreign aid can promote conflicts and political uncertainty especially in the countries where tribalism problems are profound

The enquiry of either the aid money is real effective in encouraging economy of the country raises an argumentative debate among economic scholars. Foreign aid may have negative or positive effect on growth. The sound policy environment, government participation, business environment and good governance may contribute optimistic affiliation between ODA and economic growth. Currently, no convincing indicators on observed literature related to the linkage of foreign development assistance national development. Several literatures evidenced that, foreign aid is negatively impacting the economic growth (Albaman, 2016, p.6). For example, the study conducted by Burke & Ahmadi-Esfahani (2006) showed the evidence in South East Asia from 1970 to 2000. Their survey showed the unsatisfactory proof to conclude that aid effect on these countries. These researchers indicated that foreign direct assistance is insignificant among the country of study. Moreover, Albiman (2016) investigated the effect of foreign aid in Tanzania and found out the negative result on long run. The researcher reasoned the adverse effect to country is an implication that foreign money can distort domestic reserve, increase public consumptions as far as discourage tax collection of the country. Besides, many scholars come with arguments that the arrangement of external resource in the past eras was unsuccessful achieved the intended goals in many developing countries (Bauer, 1991; Bandow and Vasquez, 1994; Easterly, 2006). They continued to argue that Foreign aid has increased corruption, economic breakdown, and aid reliance in many low-income countries. Similarly, some researchers propose that aid and growth is no longer related, nevertheless that aid is positively impact growth under certain conditions (Jakob Svensson, 1995). Not all aid promotes growth (or reduces poverty). Aid becomes effective (promote growth) with comprehensive economic management (policies and institutions) (World Bank, 1998). The study conducted by Azam, Devarajan & O'Connell (1999) highlighted that foreign aid can benefit the recipient countries only on the short term but it might hinder the public services.

Additionally, Burnside and Dollar (2000), conducted study on Aid and Policies and they said that aid is relevant for growth if there is sound framework and institutions (governance or management). In addition to that, Juselius et al. (2014) conducted a study to examine the long-term role of ODA in 36 African countries. In their study, they discovered that ODA has a long term positive signal on GDP and investment. The study conducted by Sethi and Sahoo (2010) showed that foreign aid is a most significant factor that contributes the economic growth and stimulating strategic changes in India. The study also indicated that aid promotes growth but that growth is insignificant to development. This insufficient may possibly be there due to improper allocation and distribution of wealth and income, poor macroeconomic and fiscal policies, poverty as well as corruption. Levy (1988) conducted study to test the empirical implication between outside financing and economic program of sub-Saharan Africa. The outcomes of his research discovered a substantial positive connotation concerning aid and investment Africa. On similar case for Singh (1985), Hadji Michael et al. (1995).

Most importantly, investment is the most important aspect in promoting the country growth. The country with stronger investment strategies grow faster than those with poor investment strategies. Many developing countries acknowledged their purpose to keep on strengthening their national policies, institutions and governance so as to develop their investment environment. The external finances play essential role on promoting domestic investment of the recipient country. In most African countries, investment is a key factor of the capital output of economy. The study conducted by Sethi (2010) showed that ODA has great role in promoting domestic investment in Sri Lanka as it built the good impression. Although in some country like India, external funds did not bear on domestic asset, the researcher continued to propose that the government should focus more on the proper use of foreign inflows to ensure that its rate of return is greater than that of investment. However, in a separate study Boone (1996) commented that aid does not expressively increase the level of private investment. Furthermore, the study showed by Heller (1975), discovered that foreign aid in general enhance investment and cut down borrowing. According to Heller, the degree of these effects and the reaction of government consumption and investment differ depending on the form of aid, aid with grants element are spent more on government consumption while loans are mostly spent on investment. This means that foreign aid with grant element has more influence on stimulating government spending and it harm investment while those inflows in the form of loan has positive and direct impact in stimulating domestic investment due to donor's conditionality. Other scholars conducted the studies on the role of feign aid on boosting up the public spending. Different scholars come up with different results showing the relationship between aid and government spending. For example, Remmer (2004) conducted his study to evaluate the roles of overseas funds on the country expenditure. Remmer decided that foreign aid has an effect on the government expenditure in developing countries, which are mostly more depends on foreign aid. Heller (1975) found the unsatisfactory proof that

international resources raises government expenditure relatively increases public investment. This means that financial assistance might motivate investment, plummeting spending on the other side. In a normal sense, little efficiency of government spending or investment aid may cause ineffectiveness of aid.

### 3. Methodology

This study was based on the growth theories of the Harold-Dormar and Solow model where the investment is considered as one among the determinant of growth. Although the hypothetical model and contemporary empirical aid-growth effort has stimulated further than the Harold-Dormer model, aid is anticipated to have a greater influence on development through gross fixed capital formation (GFCF) which leads to growth. The study also intends to have empirical analysis on whether aid facilitates the investment. Based on various literatures, this study helped the author to broaden his scope knowledge to know various empirical analyses of different methodologies and research techniques related with ODA and growth among countries. Moreover, based on different research gaps of cross country studies, this paper employed a single country study because the cross-country study usually proves a general result and compare that result to a given countries under the studies rather than having specific result to a specific country. Therefore, this study was undertaken to provide the specific time series analysis related to Zanzibar as an aid recipient country.

#### 3.1. Empirical Model Specification

To assess the general findings of the paper, the growth-aid relationship was structured in the form of equations. The advantage of this method enables for the valuation on complexity impacts of aid to growth (Juselius et al. 2011). The study was followed the model of Adamu.P. A (2013) simultaneous-equations model to test for the hypothesis of the study. Generally, simultaneous-equations model is made up by three equations as explained bellow;

The first regression equation to prove whether foreign aids affect economic growth is drawn by the following equation;

$$\text{InGDPPC}_t = \beta_0 + \beta_1 \text{InODA}_t + \beta_2 \text{InSAV}_t + \beta_3 \text{InPOP}_t + \beta_4 \text{InTRADE}_t + \beta_5 \text{InFDI}_t + \beta_6 \text{InEXR}_t + \varepsilon_t \quad (1)$$

From the equation above, the dependent variable is GDP per capita which indicate the country economic growth and independent variables are ODA, gross domestic savings, foreign direct investments (FDI), population, trade, and exchange rate. The ODA is expected to show positive and significant sign with economic growth as a measure of GDP per capita.

The second equation structured to test hypothesis whether ODA can have impact on gross domestic investment. From economic theory perspective and previous empirical studies, this research assumed that ODA has positive impacts on the country's gross domestic investment. However, the gross domestic investment depends positively on other factors like, FDI, population, imports and exports, exchange rate and other variables like interest rate and inflation.

Accordingly, to test empirically the hypothetical statement whether foreign aid affects domestic investment, the study presented the following regression equation;

$$\text{InINV}_t = \beta_0 + \beta_1 \text{InODA}_t + \beta_2 \text{InPOP}_t + \beta_3 \text{InTRADE}_t + \beta_4 \text{InFDI}_t + \beta_5 \text{InEXR}_t + \beta_6 \text{InINFL}_t + \beta_7 \text{InINTR}_t + \beta_8 \text{InG.EXP}_t + \varepsilon_t \quad (2)$$

Under this model, domestic investment is dependent variable and independent variables are ODA, population, trade, FDI, inflation, and other controllable variables.

Finally, the third equation included government expenditure. Under this equation, government expenditure is dependent variable and it was assumed to depend on other independent variables such as foreign aid, population, tax revenue, public debts, domestic saving and other variables like inflation rate, exports and imports. Moreover, from various literatures of determinants of foreign aid, it was guessed that the flows of external assistance will positively depend on investment.

The regression model to prove whether foreign aids affect government expenditure was drawn as follow;

$$\text{InG.EXP}_t = \beta_0 + \beta_1 \text{InODA}_t + \beta_2 \text{InSAV}_t + \beta_3 \text{InPOP}_t + \beta_4 \text{In TAX}_t + \beta_5 \text{InFDI}_t + \beta_6 \text{InTRADE}_t + \beta_7 \text{InINFL}_t + \beta_8 \text{InEXR}_t + \beta_9 \text{InDEBT}_t + \varepsilon_t \quad (3)$$

### 3.2. Definition of Variables

SN	Variable name	Definition
1	InGDPPC	Log of GDP per capita. It is measured at a constant price of the country
2	InODA	Log of Official Development Assistance, it is an overseas development assistant disbursed by means of only grants and concessionary loans from multilateral and bilateral agencies.
3	InINV	Log of investment. For this study, it refers to Domestic Investment level of the country. The level of domestic investment might increase or decrease depending on the effect of various factors. For example, the increase in ODA might boost investment if it is not misused.
4	InSAV	Log of domestic saving
5	LnFDI	Log of Foreign Direct Investment. It measures the flow of wealth from developed countries to Zanzibar in the form of overseas investors. It comprises reinvestment of incomes, the sum of equity capital, and other long-term and short-term capital in Zanzibar
6	InEXRT	Log of Real Exchange rate, it measures macroeconomic stability of the country
7	InIFL	Log of Inflation rate, it measures macroeconomic stability of the country. It measures the overall movement of price of goods and services in the economy.
8	InPOPU	It indicates the Log of Population of the country.
9	InG.EXP	Log of Government Expenditures
10	InDEBT	Log of total government debts, it includes external and domestic debts.
12	InTRADE	Log of imports plus exports
13	InTAX	Log of Tax revenue

Table 1: Definition of Variables applied in the regression models

Source: Author's compilation

### 3.3. Applied Methodology

To analyze the impact of foreign aid on economic growth in Zanzibar, the study used the Ordinary Least Square method (OLS) to test for hypothesis. The study followed the Hussein and Lee (2012) empirical analysis based on the aid-growth equation. Hussein and Lee conducted a time Series study on Ethiopia to examine the country outcomes which is improbable to cross country study and more realistic with deference to empirical data and model. According to them, the study findings from various methodological techniques of different countries are stereotypically conditions regarding aid-growth relationship. The analysis from different studies showed that aid and economic growth has long run direct relationship. Accordingly, using time series data analysis will give the genuine results while having helpful data and realistic empirical model respectively. The Ordinary least square method is commonly econometrics regression model used to approximate the arithmetical values of the variables to analyze data and to illustrate the geometrical characteristics of estimation. The effectiveness of this method preserves to a great extent with the use of dummy variables to incorporate grouping descriptive (explanatory) variables (Hutcheson and Moutinho, 2008). The OLS model is mostly influential as it moderately simple to verify the hypothetical model.

### 3.4. Unit Root Test

Because the study used time series data from 1980 to 2015, it would be sensible to check for stationarity or static and covariance amongst the two-time episodes be determined by only remoteness or gap and not the real time, then the series is believed to be static or fixed. The static or stationary test was done by using Augmented Dickey-Fuller (ADF) test. The ADF test has been applied as the unit test technique. According to Gujarati (2009), the ADF test will be used to estimate the regression equation bellow;

$$\partial Y_t = \alpha_1 + \alpha_2 t + \delta Y_{t-1} + \sum \alpha_i \partial Y_{t-1} + \varepsilon_t \quad (4)$$

Where:

$\varepsilon_t$  = represent a residual time;

$Y_t$  = signify the appropriate time series.

### 3.5. Co-integration test

The study conducted this method to check for co-integrating of the equations in order to test whether the rejection of our null hypothesis obscure the existence of co-integration among the variables. This means that after checking for unit root test, our variables indicated that they are stationary. Therefore, the study continued to conduct the co-integration test using Johansen co-integration to test for the long run connection between variables.

### 3.6. Data Collection Methods

This study was based on secondary data. The data were collected from the Ministry of Finance Zanzibar, Zanzibar Office Statistician, Zanzibar Investment and Promotion Authority (ZIPA), the World Bank and the International Monetary Fund

(IMF) publications, African Development Bank (AfDB), OECD as well as UNDP websites. In addition, KDI school library resources and authentic reports from other websites were also be used.

#### 4. Research Findings and Analysis

##### 4.1. Correlation Coefficients

The study analyzed the correlation of the variables in order to show the relationship between variables used in the study. The table 2 shows a correlation matrix using Pearson's correlation. The result shows that, and strong association between ODA and GDP growth. Also, the estimates indicate that, trade, debts and exchange rate are strong and positive correlated with ODA. Surprisingly, FDI shows a weak positive correlation with ODA although it was initially expected to be strongly correlated. These results indicate that the economic growth in Zanzibar is contributed by many factors while ODA, trade, and debts contribute a lot to this growth. The scatter plots to show the correlation and trends between ODA and GDP growth, FDI and trade are shown in the appendix.

	GDPgrowth	logPOP	logODA	logEXR	logDEBT	logFDI	logTRADE
GDPgrowth	1						
logPOP	0.7475*	1					
	0						
logODA	0.5925*	0.6118*	1				
	0.0004	0.0003					
logEXR	0.7087*	0.9143*	0.6197*	1			
	0	0	0.0002				
logDEBT	0.7300*	0.8677*	0.8007*	0.6977*	1		
	0	0	0	0			
logFDI	0.4122*	0.4631*	0.2931	0.3067	0.6426*	1	
	0.0125	0.0045	0.1096	0.0688	0.0001		
logTRADE	0.7052*	0.9215*	0.6535*	0.9767*	0.7114*	0.3283	1
	0	0	0.0001	0	0	0.0506	
*strong correlation							
Source: study results							

Table 2: Correlation Matrix using Pearson's Correlation

##### 4.2. The Results of Unit root test

The unit root tests were used to check for stationarity of variables under the study. It was sensible to test for stationarity of the variables since when it happens the series being non-stationary, it might create unauthentic estimates of regression analysis and the outcome result would be useless. According to Granger (1981), it is required to conduct unit root test for analyzing time series data. Therefore, to test for the stationarity of all variables, the ADF test was conducted. The basic condition of choosing unit test is that the absolute value of the t-statistic should be larger than the critical value. All variables under the study were used in the unit root test. All unit root test regressions are routed with intercepts. The outcomes of these tests indicated that there is stationary of all variables at 5% significant level. This means that these test roots were able to reject the null hypothesis for all variables at 5% significance level. The findings of this test are accessible in table 3. These results confirm that the OLS regression can be used to estimate the results of ODA and economic growth.

SN	VARIABLE	TEST STATISTIC @ 5% LEVEL	
		ADF	CRITICAL VALUE
1	GDPPC	-3.441	-2.972
2	ODA	-3.418	-2.986
3	FDI	-3.825	-2.972
4	INV	-3.414	-2.972
5	EXR	-3.644	-2.618

Table 3: The Results of Unit root test  
Source: Author's calculation

##### 4.3. Johansen Co-integration test

After checking for unit root test, our variables indicated that they are stationary. Therefore, the study continued to conduct co-integration test to test for the long run effect between variables.

The results of the study showed that ODA and GDP per capital in Zanzibar have the long run impact. The Johansen co-integration test shows the positive coefficient of data. The estimate outcomes show that the trace statistics for the variable ODA is smaller than critical value. The Johansen test also used to test all other variables and results is the same to that of ODA and GDP per capita, meaning that all variables such as investments, government expenditures, FDI and trade are co-integrated. The Eigen test point out that, all variables are significant in affecting economic growth. Hence the ODA, investment, FDI, population and government expenditures would have long run impact to GDP of Zanzibar. The results of Johansen co-integration test are depicted in the table 4 below.

RANK	Eigenvalue	Trace statistics	5% critical value
0		210.1082	124.24
1	0.92124	146.5741	94.15
2	0.91506	84.9281	68.52
3	0.84511	38.3026*	47.21
4	0.52701	19.5854	29.68
5	0.33006	9.5713	15.41
6	0.21438	3.5391	3.76
7	0.132		

Table 4: Johansen Co-integration test  
Source: Author's calculation

#### 4.4. Regression Results

Table 5 reports the empirical results for ODA on GDP per capital, investment and the government expenditure using econometric model. All three models were accompanied by other variables which have been treated as controllable variables. The study had three objectives namely; to examine the impact of ODA on GDP as a measure of economic growth, to scrutinize the impact of ODA on domestic investment and evaluating the impact of ODA on government expenditures. The OLS regression model has been used to produce these results for all three models as indicated here under.

##### 4.4.1. The Impact of ODA on Economic Growth

The first objective of this study was to analyze and observe the impact of ODA on economic growth in Zanzibar. Whereby, the GDP per capita is assumed to be a measure of economic growth for the study and it was treated as dependent variable while ODA treated as independent variable. The empirical result related to the ODA and GDP per capita has shown that ODA is not significant on GDP per capita in Zanzibar.

The results of the estimates of the study are described in the model 1 of table 5. The coefficient of ODA is positively related with GDP by 0.0424, though; the coefficient seems to be non-significant. This result indicates that one percentage increase in ODA inflows to Zanzibar increases economic growth by only 0.0424 %. Due to that reasons, the conclusion is that we failed to reject our null hypothesis ( $H_0$ ). This means that the ODA is not statistical significant on GDP of Zanzibar. The coefficient of  $R^2$  is 0.813 which is correspondent to about 81.3%. This means that about 81.3% of the discrepancy in the economic growth is mutually described by the difference in ODA while controlling all other independent variables. This result signifying that the model was jointly acceptable in explaining the results.

##### 4.4.2. The Impact of ODA on Domestic Investment

The second objective was to evaluate the impact of ODA and domestic investment in Zanzibar. As specified in the model 2, the investment is dependent variable while ODA is independent variable which was accompanied by other controllable variables. The results indicated that foreign assistance directed to Zanzibar is not significant and it is negatively associated with domestic investment.

The estimate results of the study are vividly evidenced in the model 2 of table 5. The regression results show negative coefficient of ODA to domestic investment and it is not significant. This means that foreign aid is not used to fund the domestic investment in Zanzibar for the period of this study. Accordingly, Foreign aid (ODA) does not give the impression to stimulate domestic investment but it is crowd out the domestic investment hence it affects economic growth negatively. To be more specific, people are not knowledgeable enough to participate in money allocation and investment decisions in Zanzibar. This is also likely due to the priority given to FDI in satisfying the direct needs of Zanzibar economy. This result is obviously supported by other pessimistic researchers who argued that ODA did not influence the investment activities of emerging economic states. This result shows that there might be another major factor that determines domestic investment in the country other than ODA.

Therefore, based on the regression analysis result, the study can empirically conclude that we fail to discard our null hypothesis. In addition to that, the coefficient of determination ( $R^2$ ) is 0.592 which is equivalent to 59.2%. This explains the fact that only 59.2% of the variation in the domestic investment as the dependent variable can be empirically described by the

variation in ODA (independent variable) while keeping all other independent variables under control. The result indicates that ODA is statistically insignificant to domestic investment.

#### 4.4.3. The Impact of ODA on Government Expenditures

The third objective of the study was to assess the role of ODA in government expenditure. As it is displayed in the model 3, the government expenditure is dependent variable whereas ODA is in independent variable followed by other controllable variables. The result of estimate for this objective is shown in the model 3 of table 5.

The result suggested that ODA is positively related with the government expenditure and it is statistical significant at 5% level. This result specifies that one percentage increase in ODA increase the government expenditure by 0.966%. This result is not surprising to the government of Zanzibar since about 40% of the government budget constitutes the main external sources of finance for development projects. According to Bank of Tanzania economic review (BOT, 2014), 98.1% on the money for financing capital expenditures in Zanzibar as in November 2013 was from foreign aid.

Furthermore, the coefficient of determination ( $R^2$ ) is 0.897 which is equivalent to 89.7%. This clarify the fact that about 89.7% of the variation in the government expenditure as the dependent variable can be empirically clarified by the variation in ODA (independent variable) while keeping all other independent variables under control.

On the other hand, the study showed that there is negative but significant impact of total debts to government expenditures. This result might give an implication that the debts received by the government are not directly used for investment of development activities hence resulting in low contribution to GDP growth.

	(1)	(2)	(3)
VARIABLES	logGDPPC	logINV	logGEXP
logODA	0.0424 (0.0423)	-0.281 (0.357)	0.966** (0.411)
logPOP	4.110*** (0.721)	8.040* (4.416)	15.45** (5.002)
logTRADE	-0.583*** (0.126)	0.0150 (1.422)	-0.672 (0.821)
logFDI	0.0602* (0.0307)	0.0300 (0.262)	0.242 (0.149)
logEXR		0.0479 (2.440)	-3.597 (2.179)
INFL		0.0140 (0.0602)	-0.134** (0.0532)
INTR		-0.0583 (0.0585)	-0.00962 (0.0349)
logGEXP		-0.184 (0.543)	
logSAV	-0.104 (0.0916)		-0.293 (0.416)
logTAX			0.152 (0.402)
logDEBT			-0.401** (0.179)
Constant	-36.65*** (6.933)	-82.67 (64.50)	-164.8** (55.52)
Observations	27	28	21
R-squared	0.813	0.592	0.897

Table 5: Main Regression Results  
Standard errors in parentheses  
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## 5. Conclusion and Recommendation

### 5.1. Conclusion

Zanzibar is a semi- autonomous state within united republic of Tanzania which is listed as one among the aid dependent country. It is benefiting a lot from the massive foreign aid resources from donor communities. Zanzibar receives aid in different forms such as grants, loans, GBS and debt reliefs.



The study findings revealed that ODA does not significantly subsidize to GDP in Zanzibar. Also, the results show that ODA has positive and significant impact on government expenditure as it was expected before in this study. The outcomes from the study is a good sign and an indication that the external resources undertaken by the government is highly and effectively utilized in the productive and to the development activities that might bring into positive impact to the country. Unpredictably, the empirical outcome showed that official development assistance has negative impact on domestic investment in Zanzibar.

The result from regression analysis has revealed that the ODA is not significant on economic growth but it is significant on government expenditure. It influences economic growth by only 0.0424 and it has positive effect of 0.966 on government expenditure. The positive coefficient of ODA indicates a sign of positive relationship that explains approximately 4.24% to economic growth and also it accounts about 96.6% on government expenditure. This demonstrates that the increase of ODA in one percent (1%) increase the economic growth and government expenditures by 4.24% and 96.6% respectively. This analysis suggests that when the development partners increase their willingness to finance the government of Zanzibar in various development programs, it might boost the economic growth while decreasing the extreme poverty in the country. However, the negativity of ODA to investment might be interpreted that when the ODA increase it seemed to decrease the moral of domestic investment which may drawback the government vision of being middle income country by 2020 as described under Zanzibar strategies.

### *5.2. Policy Recommendation and Policy Implications*

The government of Zanzibar has to put more effort on the effectiveness of foreign aid while ensuring that it is continuing in sustaining and increasing its growth rate to generate more employment opportunity and to reduce poverty.

Moreover, investing in human capital via endowment of education and health services is very important to developing country rather than depending more on overseas resources. It is the proper time for the revolutionary government of Zanzibar to use the external aid to invest in human capital that will increase output and therefore increase national investments and national savings at large.

Furthermore, the government of Zanzibar should keep proper and safe macroeconomic policies and political environment in promoting external trade relations and expand its free economic zones to ensure that they are attractive to foreign investors. This will help to increase the FDI inflows and creating more employment opportunities and reduce the extreme poverty.

The government should also use both internal and external resources to invest in infrastructures as a proper way of increasing productivity and income generation, however, these investments has to be escorted on investing in potential activities mostly industrial, agricultural, and transport & communication sectors. Therefore, more resources should be allocated to physical infrastructure investment to maintain economic growth that leads to poverty reduction.

Accordingly, there is a need for the government to increase its revenues sources and make strong efforts to ensure that the existing revenues sources are effectively collected. This will enable the government to reduce aid dependence from donors because donor funds are not predictable.

On the other hand, there is a need for the government to increase its efforts and motivate local people about the importance domestic savings in order to add enough capitals for domestic investments.

Remittances are other important alternative sources of income for the contribution of economic growth of the country. Therefore, the government should promote the remittances though diaspora networking to ensure that Zanzibar people who live and working abroad send their money to help in development activities.

On other hand, there is an important need for the government of Zanzibar to work on hand with development partners in order to address the challenges and weakness facing the governments so as to make aid more effective to achieve the intended goals of promoting growth and reducing income poverty to the people.

The results of this study provide an insight implication that the management of aid is a responsibility of both recipient country and the development partners. The great efforts are still required in most of developing countries on ensuring that there is good management of foreign aid resources and the donor funds are positively disbursed in the intended activities.

Similarly, there is a need for the government to strengthen the inclusive system for supervision, harmonization, and monitoring and evaluating of foreign aid funds in Zanzibar, particularly via comprehensive aid coordination committee practice, periodically application of monitoring to civil society organizations which receive external resources from development partners and timely updating of data in Aid Management Platform (AMP)<sup>1</sup>

To sum up, further studies are still required to test for individual type of aid such as aid provided in the form of loans and those provided in the form of grants in order to find their individual relationship with economic growth and government expenditures rather than taking the total aid at par. These studies might give the positive response and highlighting the importance of aid and it may help the government to make good strategies and choose the proper type of aid that might have significant impact to country growth.

<sup>1</sup>Aid Management Platform (AMP) is a government data base system concerning with recording and management of external resources. It is under the supervision of the department of external finance in the Ministry of finance and planning Zanzibar.

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