Effect Of Foreign Direct Investment And Financial Development On The Economic Growth In The East African Community [1]

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ABSTRACT

This study aimed to investigate the effect of foreign direct investment and financial development on the economic growth in the East African Community (EAC) using panel cross-sectional time-series data collected separately from 5 countries during the period from 1996 to 2015. The role of foreign direct investment (FDI) and financial development (FD) on the growth of an economy has been a topic of study for many researchers in several countries. A positive and negative impact of FDI and financial development has been found depending on countries or regions. A cross-sectional time-series regression analysis was used to measure the degree to which foreign direct investment, financial development, and economic growth are related to each other. The study investigated furthermore the relationship between trade openness, inflation and economic growth in the EAC. Using the Johansen cointegration model, we found between variables a long-run relationship. The study also found that all the variables are non-stationary at the level (0) form but have a unit root and are integrated at first difference I(1) by using the Augmented Dickey-Fuller unit root test for examining the stationarity of variables. The results of regression reveal that FDI has a negative effect on economic growth, it is found also that an increase or decrease in FDI does not generate economic growth in the countries of the EAC. Findings expose that economic growth is highly determined by domestic credit to the private sector, that the improvement of financial development can transform and generate economic growth in the countries of the EAC. The thesis finally revealed a positive and

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insignificant effect of trade openness on economic development in the countries of the EAC. It was concluded that inflation has a positive and significant effect on economic growth in the EAC's countries.

Keywords: *Foreign Direct Investment, Economic Growth, Financial Development, Inflation, Trade Openness, East African Community.*

INTRODUCTION

Economic growth is an important concern for each nation due to the fact that its increasing improves the comfort of life for its residents. Investigating the factors that influence the growth of an economy in a country has become a topic of interest for many researchers since many decades, long time ago. Well, FDI has been the most used variable by many academicians to conduct their study on the economic growth of a nation. Many of the previous researchers have concentrated their studies on how foreign investment is related to economy performance while some studied the nexus between foreign investment and growth of the economy. Meanwhile, these studies outcomes have not be consistent, some found that FDI has a positive and significant impact on the economic development and others found a negative effect of FDI on economic development. More so, some countries in Africa such as Nigeria, Burundi, Ghana, Tanzania, Uganda, Kenya, to mention a few are aiming to attract FDI to spur their economy condition. Some developed countries opined that economic growth spur or stimulate foreign direct investment while some view that foreign direct investment stimulate growth, some also opined that a bi-directional association exists between FDI and growth.

Furthermore, foreign direct investment and financial development in growing development of any nation has been a topical analysis in many nations (Obwona, 1999). These analyses provided massive investigation between foreign direct investment, financial development, and economic development. Some studies have been conducted on foreign investment, financial development, economic growth in the East Africa Community, given the low trend of economic growth and that is occasioned by low foreign direct investment and financial development

East Africa has seen the level of FDI fall considerably over recent years. The region attracts the lowest FDI compared to other sub-regions in Africa.

In Kenya, a study by (Ngugi and Nyangoro, 2005) indicated that market size and low economic growth are the main factors that should be cited to better understand the entry of horizontal FDI in the market. By taking in consideration the GDP growth level and investment rates, Kenya has a poor and low GDP in the EAC. The growth of Gross Domestic Product rate is much higher in Uganda and Tanzania comparing those two countries with Kenya and they are performing better than South Africa in terms of GDP growth too. Uganda is among East African countries that attract the highest FDI. FDI stocks in Uganda have increased steadily since 2000. However, after attaining a high-level recording in 2012 with $1.2billion of FDI, foreign investment flows fall in 2016 to $541 million, according to UNCTAD. The fact that Kenya has a low GDP growth may occur as a discouragement of market-seeking FDI in the country. Regarding the population size, Kenya has a big market and the GDP per capita specify that the demand of power is also great in Kenya. (Tshipo S.M., 2018).

This study intends to investigate the effects of FDI and financial development on the economic growth in the East African community. It concentrates also on the impact that some economic determinants (trade openness and inflation) have on the growth of economy in the East African community.

FDI AND FINANCIAL DEVELOPMENT ON ECONOMIC GROWTH

Most studies proclaim that FDI caused in the first place the stimulation of the economic growth and other studies assert that financial development is an important factor that have been driving the FDI attractiveness in many developing and developed countries.

FDI on Economic Growth

Rigova (2018) has a goal of analyzing how FDI influences economic development in the Eastern and Southern regions of Europe. Annual data for 18 selected countries of EU was gathered during the period between 1995 and 2016, Granger causality and panel data analysis were the methods used to determine the relationship between the two variables of observation. The results stated that a long rung association between FDI and economic growth in the countries selected existed and that FDI statically influence the economic growth in these countries. Furthermore, Owusu-Nantwi

(2019) investigated if FDI influenced the economic growth of 10 selected countries in South America throughout the period between 1970 and 2013 by using panel data analysis method. The estimation methods used in the study were cointegration test and vector error correlation analysis, the evidences showed that there was a significant long run association between the variables of study FDI and GDP. It was revealed that in the short run there was an existence of bidirectional Granger causality between FDI and GDP. The results stated that an increase in FDI inflows is affecting positively the development of economy in some region of South America. Alongside, Eshatuu (2016) had an objective of analyzing the existence of long run connection between economic growth and foreign direct investment in Ethiopia during the period of 1973 to 2008, in his study he used Johannsen and vector error cointegration models to analyze the research objective. The results revealed that in the short run, there was no association between financial development and the indicators of growth in the country of analysis but it showed that in the long run there was a bi directional causality between private credit by deposit money bank and others financial organizations to the GDP ratio and real GDP growth rate.

The research of Ayanwale (2007) examined the relationship between foreign capital inflow and economic growth in Nigeria, thereby focusing on the country's definite focus on the foreign capital growth argument. The study considered a scope larger than previous studies in terms of several years and the effect of major components of FDI on economic growth. It exploited the opportunity of access to the degree of difference in the effect of oil and non-oil foreign capital on Nigeria's economic growth. The study also examined the empirical relationship between non-extractive foreign capital and economic growth, investigating the factors of foreign capital in the Nigerian economy. The period of analysis was from 1970-2002, and the augmented growth model was used to estimate the variables by using the ordinary least square and the 2SLS method of analysis.

Njeru (2013) also did a study on the impact of foreign direct investment on economic growth in Kenya. The purpose of this study was to establish the relationship between Foreign Direct Investment and economic growth in Kenya. In his study, he concludes that with constant and growth in FDI in Kenya between 1982 and 2012, there was growth in economic development in the country. In the other hand, Tanggapanat al, (2011)

investigated which domains of macroeconomics can influence the attractiveness of FDI and help economy to increase in Malaysia during the period of 2000-2010. Factors used in this study were human capital and financial development plus environmental disorder. Least ordinary square and vector error correction techniques were used in this investigation to carry out the results. Tanggapan at al., discovered that all the factors can play a role in influencing economic growth if FDI is not in interaction with them but when FDI is included as an interactive term it showed that all the variables are insignificant to rise economy in Malaysia. Thus, the study backed that some factors in accordance with FDI can have a positive role in enlarging economic growth of Malaysia.

The role of financial development on the development of economy has hotly been debated in the review of financial and economic studies. A study conducted by Hermes and Lensink (2003) had a purpose of investigating the role a financial developed system has in improving the positive association among FDI and economic growth in 67 countries , located in American Latina and Asian countries which 37 among them have a financial system that is developed from 1970 to 1995. Cross sectional regression analysis was utilized to examine the main purpose of the study. The findings showed that FDI cannot influence economic growth alone but if the domestic financial system is developed at a certain level, FDI can impact economic growth.

Study of Choong, Yusof and Soo (2004) had an aim of examining if financial domestic system improvement has a translate impact to growth economic growth by rising FDI inflows in the selected East Asian and some developed countries from the period between 1965 to 2000. Multivariate cointegration tests and error correlation model were used in this research. The results of the analysis showed that the improvement of financial domestic system is beneficial in order of attracting FDI by growing the economy of the host countries. These results supported the evidence that a well-developed financial domestic system is useful to flow FDI and promote the economic development. Akpansung and Babalola (2012) in their study they investigated how banking sector credit and economic growth are related to each other in Nigeria from 1970-2008 by using the two-stage least squares estimation technique. Their results showed that private sector credit is positively impacted by economic growth over

a period of time, while the lending rate interferes in the growth of an economy. In a similar study, Anthony (2012) concluded that there was a positive relationship between lagged values of total private savings, private sector credit, public sector credit, interest rate spread, exchange rates, and economic growth. Anthony (2012) studied the linkage among financial structure improvement, foreign direct investment inflows and economic growth in some small open developing countries, which were Ghana, Gambia, Nigeria, Ivory Coast and Sierra Leone for the period of 35 years (1970-2005). Their main purpose was to Egwakhide and Oyinyola analyze whether the improvement of financial structure has an impact on attracting FDI inflows and enable the economy of these chosen countries to grow. Granger causality and the vector error correlation models were utilized to examine the research questions. In their findings, they supported the fact that the upgrading of financial institutions in Ghana, Ivory Coast, Gambia and Sierra Leone has an important effect in attracting FDI and increase the economy growth in these countries expect in Nigeria where financial development doesn't influence the growth of its economy. At the same time, the results of a few studies have failed in a positive way to confirm the relationship between private sector credit and economic growth. For example, Dey & Flaherty (2005) examined the impact of bank credit and stock market liquidity on GDP growth using a two-stage least squares regression model and found that private sector credit is not a consistent determinant of GDP growth. Shan and Jianhong (2006) used a Vector Autoregression (VAR) approach to investigate the impact of financial development on economic growth in China, their results indicated that financial development can be considered as a force that comes after the contribution from labor input to lead economic growth in China.

Trade Openness and Economic Growth

The nexus between trade openness and economic development has been a topic of discussion for theoretical and empirical review. Many proxies can be using as the proxy of trade openness and some of them have been found to be positive and negative linked on the growth of economy. In the study of Malefane and Odhiambo (2018) analyzed the linkage between economic growth and trade openness in South Africa by employing the ADRL test, they used ratio of exports to GDP, ratio of imports to GDP , ratio of exports plus imports to GDP and country size geography as the proxies of trade liberalization, their results showed that all the proxies has

a positive impact on the growth of South Africa economy's in the short run but only the ratio of imports and exports has a positive effect on economy development on the long run**.**

Gries and Redlin (2012) using the general method of moments (GMM) estimation for 158 countries from 1970 to 2009, found a positive causal relationship from openness to growth in the long term. The bidirectional relationship between openness to trade and growth is found mainly for industrialized countries only when the countries are classified according to income groups. Although, few studies in developed countries have presented a negative causality between trade openness and GDP growth develop.

Zeren and Ari (2013), who analyzed openness and growth among the G7 countries i.e. Germany, France, Canada, Japan, Italy, the United States, and the United Kingdom for 1970-2011 periods. These researchers used the Granger non-causality test. Those effects uncovered a bidirectional causal relationship between openness and economic growth. Rodriguez and Rodrik (1999) quoted in their research that trade openness can lead to an increase in income but does not cause economic growth in the long-run. The same hypothesis has been supported by Brunner (2003). He found that trade openness has a significant positive impact on income but not on economic growth. Later on, Rigobon and Rodrik (2004) in their study, after taking in consideration endogeneity and a country heterogeneity issues in examining the relationship between trade openness and economic growth, the results of their research stated that trade openness measured as trade share in GDP has a negative effect on economic growth.

Inflation and Economic Growth

For most countries, the most important objective of macroeconomics strategies is to maintain a high level of economic growth by keeping the level of inflation low. Therefore, many researchers have debated on the relation that exists between inflation and growth. Mallik and Chowdhury, (2011) found that in the first place, the relationship between inflation and economic growth for Bangladesh, Pakistan, India, and Sri Lanka was statically and absolutely significant between those two indicators. Secondly, the sensitivity of growth to changes in inflation rates was smaller than that of inflation to changes in growth rates. The implication of these

results was the fact that although inflation promotes economic growth, faster economic growth absorbs into inflation by overheating the economy.

Sergii, (2009) stated that the reciprocation between growth and inflation was strictly represented with a positive effect of inflation on growth. An inflation threshold level is estimated using a non-linear least-squares technique, and inference made by applying a bootstrap approach. The main findings were that inflation rate above 8 percent tends to slow down economic growth while below 8 percent promotes economic growth.

Gokal and Hanif (2004) by reviewing numerous economic models investigated the nexus between inflation and economic growth in Fiji, the results of the tests exposed that the correlation between inflation and economic growth in Fiji was negative. Jing Xiao (2009) examined the association that occur between economic growth and inflation in China by employing co integration and error correlation models from the period of 1987 to 2007, the findings showed that a bidirectional relation existed in the long run between inflation and economic growth. In similarity, Khayroollo Sattarov (2011) in his case study for Finland he found out that a positive relationship existed in the long run among inflation and economic growth during the year from 1980-2010. Nevertheless, some studies showed that there is no causality relationship exists between the two variables. Mamo (2012) analyzed the nexus between growth and inflation on 13 SSA nations during the period from 1968 to 2009 by using panel granger causality theory, the findings exposed that a negative relationship was observed between economic growth and inflation. The test stated that inflation can be only used to forecast the development for all the countries used in the study. Quartey, (2010) using the Johansen co-integration methodology, investigated whether the revenue-maximizing rate of inflation impact economic growth maximizing in Ghana. The results of the study showed that there was a negative impact of inflation on growth in Ghana during the period of the sample study.

DATA DESCRIPTION

This research used quantitative and secondary data for the dependent and independent variables. The cross-sectional and time-series data of the responsive variable (economic growth) and the explanatory

variables (FDI net inflows, trade openness, financial development, and inflation) that covers the period from 1996 to 2015 were gathered from the World Development Indicator, African development indicator and the International world development Fund websites. The data available for the five countries are relevant and explicable to analyze the effect of foreign investment inflows and financial development on the economic growth in the East African Community.

Table 1: Variables and Their Proxies

Variables	Proxy
Economic growth	GDP (constant 2010 US$)
Foreign direct investment	FDI, net inflows (BoP, current US$)
Financial development	Domestic credit to private sector (%GDP)
Trade openness	Trade (%of GDP)
Inflation	Consumer price index (2010=100)

MODEL SPECIFICATION

Therefore, descriptive statistics and t statistics are used to establish the distribution of the data. The regression analysis was used to determine the relationship between FDI and financial development on economic growth.

The basic linear regression model for longitudinal data is specified below

$$Y_t = \alpha + \beta_1 X_t + \beta_2 X_t + \cdots + \beta_n X_t + \varepsilon_t \quad \text{(equation 1)}$$

Where Y is the dependent variable and X is the independent variable

To test the effect of FDI, financial development, trade openness, inflation on economic growth, the following model is built as the research model for this study:

$$EG_t = \alpha + \beta_1 FDI_t + \beta_2 FD_2 + \beta_3 TO_t + \beta_4 IN_t + \varepsilon_t \quad \text{(equation 2)}$$

Where

- EG represents economic growth
- FDI represents foreign direct investment
- FD represents financial development
- TD represents trade openness
- IN represents inflation
- β_1- β_4 - represents the elasticity of the coefficients
- t represents time
- ε represent the error term

FINDINGS OF THE STUDY

Descriptive Analysis

Table 2: Mean, Skewness, Kurtosis, Jarque-Bera of variables for each country from 1996-2015

	CPI	DCPS	FDI	GDP	TO
Burundi					
Mean	6.347094	3.361885	696.9842	10435.54	4.720680
Skewness	0.171482	-0.024243	1.647848	0.379420	-0.211403
Kurtosis	1.806388	2.231374	4.360762	1.692096	1.505085
Jarque-Bera	1.221014	0.469566	10.06468	1.810109	1.910716
Kenya					
Mean	6.243216	4.162570	4102.942	37380.32	5.671511
Skewness	0.314513	0.730940	0.849091	0.485096	-0.255843
Kurtosis	1.638842	2.715748	2.195270	1.923578	3.382825
Jarque-Bera	1.873686	1.848244	2.942844	1.749965	0.340316
Rwanda					
Mean	6.430466	3.000361	2222.673	15154.39	4.844773
Skewness	0.229592	0.494649	0.414500	0.178641	0.279938
Kurtosis	1.512231	2.444879	1.532996	1.800645	1.935693
Jarque-Bera	2.020255	1.072392	2.366119	1.305085	1.205176

Tanzania					
Mean	6.615634	2.537212	7159.024	32542.66	5.188126
Skewness	0.451619	-0.437741	0.147469	0.243409	-0.045690
Kurtosis	2.028481	1.710816	1.696212	1.803855	1.995401
Jarque-Bera	1.466406	2.023720	1.489044	1.389796	0.847974
Uganda					
Mean	6.663878	2.682390	5751.756	26333.95	5.052414
Skewness	0.558413	-0.009671	0.108862	0.151285	0.143210
Kurtosis	1.850758	1.612357	1.435721	1.621854	1.716831
Jarque-Bera	2.140049	1.604938	2.078644	1.659029	1.440465

Source: Author's computation (2019)

The report of the descriptive analysis for Burundi, Tanzania and Kenya showed that the result of Skewness of CPI, DCPS, and GDP are positively skewed while FDI and TO are the variables that are negatively skewed. Then, the descriptive analysis for Rwanda depicted the result of Skewness which shows that CPI, FDI, DCPS, FDI, and GDP are positively skewed and for the descriptive analysis of Uganda showed the result of Skewness of CPI, DCPS, GDP, TO are positively skewed while FDI is the only variable that is negatively skewed.

Therefore, kurtosis result for Rwanda, Tanzania and Uganda revealed that CPI, GDP, DCPS, FDI and TO are platykurtic in nature meanwhile the Kurtosis result for Kenya revealed that CPI, GDP, DCPS, and FDI are platykurtic (thin tail that is less than 3) while to showed leptokurtic (thin tail that is less than 3) in nature and for Burundi, the Kurtosis result revealed that CPI, GDP, DCPS, and TO are platykurtic while FDI showed leptokurtic in nature. More so, the Jarque-Bera statistic revealed that for all the countries, all the proxies are normally distributed except FDI in Burundi, which is not normally, distributed using the probability of Jarque-Bera statistic as presented in the above table.

Results of Regression Analysis

Table 3: Estimated results for Burundi

GDP	Coefficients	Stderr	t-statistic	p-value
FDI	0.509511	0.561622	0.907214	0.3786
DCPS	-31800.64	5302808	-0.005997	0.9953
TO	2983920	1549574	1.925638	0.3786
CPI	7052634	593746.9	11.87818	0.0000
R Squared	0.98			
Adjusted R^2	0.97			
F statistic	221.7676			
Prob (Fstatistic)	0.000000			

Table 3 reveals the coefficients of FDI, trade openness and consumer price index are positive but insignificant at 5%, their p-value is greater than 5% critical value. The coefficient of the consumer price index exhibits a positive and significant at 0,05. The coefficient of DCPS depicts a negative and its p-value is insignificant at 5% level.

Table 4: Estimated results for Rwanda

GDP	Coefficients	Stderr	t-statistic	p-value
FDI	-0.881558	1.243171	-0.709121	0.4819
DCPS	1.26	29153963	4.334422	0.0006
TO	24968529	27635782	0.903486	0.0001
CPI	45762130	8459076	5.409826	0.3805
R Squared	0.99			
Adjusted R^2	0.98			
F statistic	451.9685			
Prob (Fstatistic)	0.000000			

Table 4 shows that the coefficient sign of DCPS, consumer price index and trade openness are positive and significant at 5% level. The coefficient of CPI is positive and it has a p-value greater than 5% it indicates that CPI is insignificant. The coefficient sign of FDI investment is negative and

insignificant at 0.05. This result is supported by Mutandwa (2014) that FDI has an insignificant effect on economic growth of Rwanda.

Table 5: Estimated results for Kenya

GDP	Coefficients	Std. Err	t-statistic	p-value
FDI	0.296926	0.850619	0.34907	0.7319
DCPS	69448461	1.320000	0.526992	0.6059
TO	-30180196	60994736	-0.4948	0.6279
CPI	2.070000	12984871	15.96532	0.00000
R Squared	0.98			
Adjusted R^2	0.98			
F statistic	297.3193			
Prob (Fstatistic)	0.000000			

Table 5 affirms that the coefficient sign of Foreign Direct Investment, DCPS is positive and the p-values are greater than 5% the critical value then FDI and DCPS are insignificant, the coefficient sign of CPI is positive and its p-value is less than 5% critical value, it shows that CPI is significant. The coefficient trade openness is negative and its p-value is insignificant at 5% critical value.

Table 6: Estimated Results for Tanzania

GDP	Coefficients	Std. Err	t-statistic	p-value
FDI	0.114494	0.585411	0.195578	0.8476
DCPS	7.15	1.02	7.024433	0.0000
TO	27624591	32323820	0.85462	0.4062
CPI	1.71	12796736	13.38802	0.0000
R Squared	0.99			
Adjusted R^2	0.99			
F statistic	853.4891			
Prob (Fstatistic)	0.000000			

Table 6 shows that the sign of all coefficients, foreign direct investment, DCPS, Trade openness and CPI are positive but only DCPS and CPI are significant at 5% and foreign direct investment and trade openness are insignificant at 5% critical value.

Table 7: Estimated results for Uganda

GDP	Coefficients	Std. Err	t-statistic	p-value
FDI	2.527338	1.234042	2.048016	0.0585
DCPS	8.490000	1.720000	4.927236	0.0002
TO	-96582010	65205106	-1.481203	0.1593
CPI	3.370000	1.800000	5.139014	0.0001
R Squared	0.99			
Adjusted R^2	0.99			
F statistic	474.9872			
Prob (F statistic)	0.000000			

Table 7 shows that the sign of the coefficient of foreigner direct investment, DCPS and consumer price is positive and significant at 0.05. FDI has a coefficient with positive sign and insignificant it has a p-value more than 5%, the coefficient sign of trade openness is negative and insignificant at 5% critical value.

The results in the tables above show that the value of R-squared and Adjusted R- squared are between 98% and 99%. The value of adjusted R^2 shows that the data are fitted for the model used in this study and the value of R^2 shows that the variation in the responsive variable is justified by the explanatory variables. Prob F Statistic value (0,0000) shows the level of significance of all the independent variables in explaining the dependent variable. The level of significance is 5%.

This study has two hypotheses for each research objective;

The first research objective was to examine the effect of FDI on East African community growth. The sign of the coefficient of the Foreign direct investment is positive and its t statistic is less than 2 for all the countries except for Uganda that has at t statistic of 2,048016 this result

shows that FDI showed positive impact but not significant at 5% alpha level for Burundi, Rwanda, Kenya, and Tanzania. It implies also that the increase or decrease of foreign direct investment in these four countries does not affect positively the growth of the selected countries. The other hand, for Uganda, a unit increase in FDI will lead to an increase GDP by $2,48 million. We fail to reject the null hypotheses for all most all the countries; it shows that FDI does not have a significant effect of foreign direct investment on Economic growth in the East African community. This result is carried out by the paper of Steve (2016) found out that FDI was negative and insignificant on the growth of East African countries. It equally confirms the findings of Sindre (2011) that showed that instead of FDI to impact the economic development in African regions, have been a supportive factor to grow the economy of a nation.

The second research objective was to determine the nexus between trade openness and economic growth of the EAC. The coefficient sign of trade openness is positive, and its t statistic is less than 2 which means that the trade openness is positive and insignificant to the growth of the EAC's economy. It implies that trade openness does not have a positive effect on economic development in the East African community states. This result is backed by the study of Rigobon and Rodrik (2004) in their study, after taking in consideration endogeneity and a country heterogeneity issues in examining the relationship between trade openness and economic growth, the results of their research stated that trade openness measured as trade share in GDP has a negative effect on economic growth.

Further, the third research objective was to determine the effect that DCPS has to the economic development in the East African community states. The coefficient of DCPS is positive and statically significant in explaining the variation of economic growth in Rwanda, Tanzania, and Uganda. DCPS has a significant contribution to the increase of the GDP in those three countries of the EAC. These results are supported by the paper of Hermes and Lensink (2003) that found that financial development can strongly impact the attractiveness of investment in a country which leads to the growth of the economy. These findings are backed by previous research studies that undertook to establish a similar purpose as elaborated above.

The last research objective of this study was to examine the effect of consumer price index proxy of inflation on the economic growth in the EAC countries. The coefficient of CPI is positive and significant for all the countries this implies that inflation has an impact on the economic growth in the East African Community countries, the instability of economy in a country discourage the foreign investment. The result shows that an increase of 1% in inflation will decrease the growth of the economy in the EAC countries. This results are backed by the investigations of Jing Xiao (2009) examined the association that occur between economic growth and inflation in China by employing co integration and error correlation models from the period of 1987 to 2007, the findings showed that a bidirectional relation existed in the long run between inflation and economic growth. In similarity, Khayroollo Sattarov (2011) in his case study for Finland he found out that a positive relationship existed in the long run among inflation and economic growth during the year from 1980-2010.

Diagnostic Tests Results

Diagnostic tests determine the goodness of the model. Thus, the regression model was preceded by diagnostic tests presented.

Table 8: Breusch-Godfrey Serial Correlation LM Test

Countries	Prob chi-square (2)
Burundi	0.4321
Rwanda	0.3722
Kenya	0.0838
Tanzania	0.1151
Uganda	0.7192

Table 8 shows the results of serial correlation LM test, it indicates that the prob chi-square (2) is greater than 0,05 which gives a conclusion that variables are not correlated the H0 cannot be rejected. The H_0 is accepted which means that the residuals in this model are not serially correlated.

Table 9: Heteroscedasticity test: White

Countries	Prob chi-square (2)
Burundi	0.5627
Rwanda	0.1497
Kenya	0.3138
Tanzania	0.5669
Uganda	0.1989

The heteroscedasticity test is used in this study to test if the variances errors in a regression model are constant, Table 9 demonstrates that prob chi-square is greater than 5%, H_0 cannot be rejected, it means that the variances of errors in this model are equal.

Table 10: Correlation Matrix before the first difference

	CPI	DCPS	FDI	TO	GPD
CPI	1				
DCPS	0.3097	1			
FDI	0.4840	-0.1179	1		
TO	0.4813	0.4145	0.6071	1	
GPD	0.2905	0.1508	0.7561	0.6916	1
After 1st difference	**CPI**	**DCPS**	**FDI**	**TO**	**GDP**
CPI	1				
DCPS	0.3021	1			
FDI	0.5902	0.0369	1		
TO	0.4249	0.5366	0.3980	1	
GDP	0.3798	0.5008	0.6691	0.6775	1

Table 10 indicates that the variables are positively correlated with each other. The degree of correlation is not as strong as much between all variables. Some variables show a weak correlation and others show a strong correlation.

CONCLUSION

This study aims to investigate the effects of FDI and financial development on the economic growth in the EAC states (Burundi, Kenya, Rwanda, Tanzania and Uganda) by employing a cross-sectional time-series regression analysis for the period of 20 years from 1996 to 2015. FDI and financial development may help to raise the growth of the economy in a certain country but the contribution of FDI will depend on how other factors that consist of the growth of the economy are taken into consideration. Many studies had argued the impact of foreign direct investment and financial development to GDP in the African countries especially in the least developed countries, the positive and negative relationship has been reported between the variables, some agreed that FDI impacts economic growth through the development of other factors that are related to economic growth. The results in our study pointed out that FDI has a negative effect on economic development in the EAC Countries and DCPS as a proxy of financial development has positive significance in the EAC countries. The report in this study is backed by Hermes and Lensink (2010) in their research on how FDI and financial development affect economic growth in Latin America, Asia and sub Saharan Africa countries founds that Latin America and Asia countries with financial developed system were more likely to attract FDI which lead to their economic growth, in another hand's Sub-Saharan countries with less developed financial system FDI was not significant to the growth of their economy which is supported by the study of Mumtaz (2016) who studied the connection between foreign direct investment and financial development in MENA countries and his study revealed that financial development is a strong factor to predict inflows of FDI in MENA countries. Furthermore, Edimealem (2017), his study supports our results, he found that FDI and trade openness have a powerless effect on economic growth in the EAC region. Contrarily, consumer price index as a proxy of inflation was found to positively affect economic growth in the EAC which is disputed by the study of Alfaxad (2013) on the governance and economic growth in the EAC, his findings were cited as population growth rate and inflation rate were negatively related to the growth of economy in the EAC nations.

Therefore, based on the results of the research, the governments in the EAC

community states have to put more attention on financial development system such as the improvement of their private domestic investment, develop their banking system in a way to contribute to FDI inflows in these countries. Strategic and systematic ways of controlling rates should be adopted by the policymakers to improve the state of how interest and exchange rates are functioning. Trade openness and inflation need to be considered in order to grow the economy of the EAC countries.

Regarding the trade openness in the East African community, there should be an introduction of import substitution industries to produce imported goods by the government. This will reduce government expenditure abroad and therefore try to stabilize foreign exchange or exchange rates. The government should embark on industrialization, and modern technique of agricultural production since this area can employ a large population resulting in high productivity hence economic growth including attaining the products and services for export.

Finally, the establishment of an independent monetary policy authority is important. Some studies clearly point to the short and long-run effects of monetary policy on inflation in many countries. Thus, monetary and fiscal policies should aspire for macroeconomic stability. In other words, policymakers should be carefully committed to pursuing programs that may cause an increase in the price of goods and services with the aim of stabilizing macro-economic instability and reducing unemployment.

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