_Published by European Centre for Research Training and Development UK (www.eajournals.org)

THE EFFECT OF REGIONAL INTEGRATION ON PRIVATE INVESTMENT IN EAST AFRICAN COMMUNITY: A PANEL DATA APPROACH

Irene Jepchumba Keino¹ Symon Kiprop², Aquilars Kalio² and Lawrence Kibet²

¹ Department of Economics, Egerton University, P.o Box 536 Egerton, Kenya. ² Lecturers, department of Economics, Egerton University, P.o Box 536 Egerton, Kenya.

ABSTRACT: Using annual data from 1980-2014, this paper employs a random effect model to estimate the effect of regional integration on private investment in East African Community (EAC). Levin-Lin-Chu Test (LLC) and Pedroni Cointegration Test were used to investigate the properties of data with respect to unit root and cointegration respectively while the Hausman Test was used to select the random model. The error correction model was used to capture the short-run dynamics in the model. The findings suggest that regional integration (proxied by intra-EAC openness), has a positive significant effect on private investment in the EAC. Hence the respective EAC governments should sustain policies that promote free trade so as to boost private investment in the region through the removal of tariffs which leads to efficiency in production and hence economies of scale.

KEYWORDS: Private investment, Regional integration, East African Community, panel data, Error Correction Model.

INTRODUCTION

Private investment is one of the major contributors to economic growth and development in both developed and developing countries. This is because through investment, new technology can be adopted, employment opportunities can be created, incomes can grow and living conditions of the people can improve and eventually leading to alleviation of poverty, Matwanga, (2000).

According to Osakwe *et al* (2013), the limited role of the private sector in regional integration initiatives and efforts has contributed to the weak trade performance of the continent. Although trade agreements are signed by Governments, it is the private sector that understands the constraints facing enterprises and therefore it is in a position to take advantage of the opportunities created by regional trade initiatives.

EAC has embraced regional integration as an important component of its development strategies. According to Jean *et al* (2011), deepening regional integration in the Eastern Africa region implies creating the appropriate conditions for guaranteeing factor mobility, the free movement of people, goods and services. The private sector in the region should be more involved in decision making processes and the implementation of activities designed to address the challenges and issues of trade facilitation, taking into consideration that a large percentage of trade is carried out by the private sector. Therefore regional integration is a pathway to ensuring easier access to the markets and increased levels of trade resulting in higher economic growth. This is because trade stimulates the allocation of resources based on the perceived comparative advantage of the countries participating in trade (UNECA 2010).

Published by European Centre for Research Training and Development UK (www.eajournals.org)

According to UNCTAD (2015) the private sector has a crucial role to play in making regional integration work for Africa because, though trade agreements are signed by Governments, it is the private sector that understands the constraints facing enterprises hence it is in a position to take advantage of the opportunities created by such agreements and regional trade initiatives. Therefore for the objectives of regional integration to be realized, the EAC member governments should create more space for the private sector to play an active role in the integration process instead of leaving the sector to act as a passive participant.

The main concern on investment for most of the Sub-Saharan Africa countries is that the level of private investment is so low. This may be attributed to a various reasons and the major factors include the relatively small size of the formal private sector, especially in manufacturing, and the difficulty in gaining access to investment funds by potential private investors. Another factor is that many SSA countries can be characterized as subject to relatively high levels of economic and political instability, which discourages both private domestic and foreign investments (Morrissey 2009).

Paulo *et al* (2015), asserts that economic integration is beneficial to the East African community at large through increased efficiency and productivity. This is because the entry into a single currency is expected to eliminate bilateral foreign exchange risk, reduce transactions and accounting costs for intraregional trade, and foster financial integration. This will facilitate the expansion of regional trade and investment, which may promote economic growth and cross-border financial transactions, resulting in lower interest rates.

LITERATURE ON REGIONAL INTEGRATION AND PRIVATE INVESTMENT

Theoretical Literature

According to Agénor and Montiel (1996), neither the neo-classical nor Tobin's-Q theories of investment are applicable in developing countries because of the restrictive assumptions on which these models are based such as perfect capital markets, a perfect flow of information and little or no government investment. Typically, these countries do not have equity markets and have for a long time suffered financial repression, debt overhang, a dominant role of imported capital goods, and macroeconomic. Although these factors act as barriers to private investment, they are often not incorporated in traditional models of investment. For example; private investors in developing countries face enormous financial and physical resource constraints such as credit and infrastructure, which are normally not considered in the traditional models. Therefore this study adopted a modified private investment model derived from the flexible accelerator model so as to suit the study.

The flexible accelerator model by Chenery (1952) and Koyck (1954) is based on the idea that the rate of investment by firms is determined by the size of the gap between the existing capital stock and the desired stock needed to raise output to the desired level required to meet a demand shock. The flexible-accelerator model is a macro model in which there is a variable relationship between the growth rate of output and the level of net investment. Therefore the relation between the change in output and the level of net investment is the accelerator principle.

The basic notion behind this model is that the larger the gap between the existing capital stock and the desired capital stock, the greater a firm's rate of investment. The hypothesis is that

Published by European Centre for Research Training and Development UK (www.eajournals.org)

firms plan to close a fraction of the gap between the desired capital stock, K*, and the actual capital stock, K, in each period. This gives rise to a net investment equation of the form of:

$$I_t = K_t^* - K_{t-1} = \delta(k^* - K_t)$$
(2.2)

Where I_t = net investment, K^* = desired capital stock, K_t = Actual period capital stock, K_{t-1} = previous period capital stock and δ = partial adjustment coefficient. Equation (2.2) illustrates that investment is a function of the gap between the desired and the existing capital stock and therefore the rate of investment activity rises when the gap between the desired and the existing capital stock increases.

The desired capital stock (K^*) is the amount of capital that the sector would like to have in the future and the existing capital is accumulated value at the time (t). The desired capital (K^*_t) is negatively associated with the rental cost and positively related with the level of output growth. The incremental rate between the desired and the existing capital stock is given by:

$$I_t = \delta(K^* - K_{t-1})$$
(2.3)

This implies that the parameters that affect the desired level of capital tend to influence the level of investment. The decline in real interest rate and the growth in output lead to an increase in the rate of investment. Thus, the growth in GDP and real interest rates are determinants of private investments.

Empirical Literature

Studies on the effect of regional integration on intra-regional private investment have rarely been done and this is mainly due to data constrains and may be little insight concerning this area of study. However majority of the few studies previously done focused on the impact of regional integration on foreign direct investment at a country level while the domestic private investment has not been adequately focused on.

Geda and Kibret (2002) conducted a country level study in COMESA on Regional Economic Integration in Africa. Their findings revealed that the participation of the private sector in the region is hampered by lack of government resources to ensure full participation. The establishment of specific government entities would promote and administer economic integration at a country level and therefore enhance the effectiveness of regional block.

Najarzadeh and Shanhaghi (2006) conducted a study on the effects of regional integration on foreign direct investment in MENA countries during 1995-2000. The results from the study showed that regional integration among Islamic countries of MENA would increase the volume of foreign direct investment among the countries. This was attributed to more cooperation among the countries in the region.

Willem (2011), carried out a study on regional integration, growth and convergence with an aim of establishing how regional integration leads to convergence and growth amongst the developing countries. Using the standard growth model, the findings revealed that regional integration increases trade while the foreign direct investment increases economic growth through the effects of increased trade and investment on growth of the economy. Therefore the empirical studies on the impact of RIAs on investment suggest a positive effect, and that relatively larger countries in more integrated regions benefit most. For example, OECD (2006),

Published by European Centre for Research Training and Development UK (www.eajournals.org)

suggests that investment provisions in RIAs are positively associated with both trade and investment flows, and that they matter more for FDI flows than trade flows.

METHODOLOGY

This section presents the methodology that was used in this study. It includes model specification, data type and sources of data.

Model Specification

Following the theoretical as well as empirical literature review, the basic regression equation that was used to estimate the relationship between regional integration and private investment is given as:

$$PI_{i,t} = \propto_i + \beta_i X_{i,t} + R_{i,t} v_i + \varepsilon_{i,t}$$

where;

PI - is the Private investment

 $R_{i,t}$ – is the regional integration variable

 v_i - are the unobserved country specific characteristics

 ε_i -is the stochastic error term with constant variance and zero mean

The subscripts i and t denote country and time period respectively while α and β are the parameters to be estimated. X_i - stands for a vector of explanatory variables that were used in the study which include openness, domestic credit to private sector, fiscal deficit, public investment, real GDP per capita growth and nominal interest rates.

Data

This study employed data which consists of a panel of five EAC countries covering the period 1980-2014 to empirically investigate the effect of regional integration on private investment. The dependent variable is the private investment (PI), while for the regional integration variable the intra-EAC openness (OPN) was used as a proxy. The choice of the panel data is useful as it helps to control for unobserved country specific effects and thereby minimize biases in the estimated coefficients as well as possibility of endogeneity of the regressors.

Variables, Measurement and Sources of Data

Private Investment (% of GDP) - Private investment was measured as the totality of domestic private investment and foreign direct investment and expressed as a percentage of GDP over the study period. Private investment is measured by the incremental capital output ratio. Data for this variable was obtained from World Economic Outlook (2014).

Openness to Trade – This is a proxy for regional integration, the trade to GDP ratio measures country's openness with regard to intra-EAC trade. It is given by the intra-EAC exports plus imports as a share of GDP at current prices. Openness of an economy reduces trade barriers hence creates an advantage to the export sector and thus improves the current account balance

Published by European Centre for Research Training and Development UK (www.eajournals.org)

and increases the incentive to invest by the private investors. The increased participation in intra-EAC trade by the partner countries is expected to contribute to faster economic growth in the region. The data was obtained from EAC partner states (EAC Facts and Figures 2014).

Credit to Private Sector (%GDP) – it is an indicator and a measure of financial development through the financial resources provided to the private sector by financial intermediaries to facilitate investment and economic growth. When financial resources increase, it results to higher levels of private investment and therefore the coefficient of this variable is expected to be positive. Increase in credit to the private sector can act as an incentive to the private investors to increase their level of investment. Therefore a positive effect of credit to private sector on private investment in EAC is expected. The credit to the private sector was chosen because it is more effective than the interest rate channel in capturing the effectiveness of monetary policy (Dailami and Giugale, 1991). Data for this variable was obtained from the World Development Indicators (2014).

Fiscal Deficit (% of GDP) – This variable was measured by the difference between the total government revenue and the total government expenditure. Fiscal deficit is an indication of the total borrowing needed by the government so as to finance its budget which may have exceeded the available funds. High levels of fiscal deficit are harmful to the economy because it reduces the aggregate savings which raises the interest rates in the financial institutions hence may reduce the level of private investment in the region. The coefficient for this variable is expected to be negative. Data for this variable was obtained from World Development Indicators (2014).

Public Investment (% of GDP) - Indicates the investment activity of government (Developmental and non-developmental). Complementarities between private and public investment may arise especially in the input-output relationship whereby the output of one sector is used as input by another sector (private sector). Public investment leaves undesirable impact on private investment when it runs under budget constraint. This is because the cost of inputs rises causing a decline in growth of output. On the other hand when public investment is financed by market borrowing, it imposes restrictions on resources allocated to the private sectors and hence negatively affects private investment.

Real GDP per capita Growth- An indication for real output growth rates of the economies of EAC countries. According to the neoclassical theory of investment, there is a positive relationship between private investment and growth rate of output. The real GDP per capita growth was used to capture the aggregate demand conditions in the EAC countries and this variable is expected to have a positive effect on private investment through the accelerator effect. Given that investment is in itself a key factor contributing to real GDP growth (Ghura and Goodwin, 2000), therefore EAC can indeed benefit from the virtuous cycle that links increased private investment and real GDP growth.

Nominal Interest Rate (%) – As an indication for user cost of capital goods such that when the central bank increases the nominal interest rates, will result in a rise in real interest rates and the cost of capital goods increases and investment declines and this leads to a decrease in aggregate demand and output in an economy. On the other hand, when deposit interest rate rises, the flow of money to banks increases and rate of domestic saving increases and stimulates capital formation and encourage investment.

_Published by European Centre for Research Training and Development UK (www.eajournals.org)

EMPIRICAL ANALYSIS AND PRESENTATION OF RESULTS

Panel Unit Root Test

The non-stationarity of time series data is one of the econometric problems and therefore conducting panel unit root test is a necessary step prior to estimation of the model in the study so as to determine the order of integration of the variables. This is because failure to do so may lead to generation of spurious regression results and inconsistent estimates hence meaningless inferences. Therefore the study employed Levin-Lin-Chu (LLC, 2002) method since it is suitable for data sets with small number of panels as is the case for this study. The test's null hypothesis is that each time series contains a unit root while the alternative one is that each time series is stationary. The panel unit root test results are presented Table 1.

Variables	LLC test at level	LLC P value at Level	LLC test at First difference	LLC P-value at first difference	Order of integratio n
Ln Pi	-4.6867 -1.0833	0.1393	-9.2004 -6.0523	0.0000	I(1)
Ln Opn	-4.8729 -1.1492	0.1252	-10.2594 -6.7780	0.0000	I(1)
Ln Crps	-4.7232 -1.3718	0.0851	-10.0756 6.7175	0.0000	I(0)
Ln Fd	-4.0252 -0.4673	0.3202	-9.4246 -6.0836	0.0000	I(1)
Ln pbi	-4.5145 -0.7949	0.2133	-10.6504 -6.4948	0.0000	I(1)
Ln Rgdppc	-4.5093 -1.1914	0.1168	-10.243 -7.1452	0.0000	I(1)
Ln Nir	-3.7291 -0.1092	0.4565	-9.0587 -5.8886	0.0000	I(1)

Table 1: Unit Root Test Results using Levin-Lin-Chu

Cointegration Test

Having conducted the unitrooot test and established that the series are non stationary and of the same order of integration I(1) except the domestic credit to private sector, the next step was to test whether there exist long-run relationship between the variables in the study. Therefore cointegration test was carried out using Pedroni (1999) cointegration test so as to establish whether two or more non-stationary variables move together in the long-run.

From the results, it was established that long-run relationship exists between private investment and explanatory variables and therefore an error correction model was adopted.

Error Correction Model

After carrying out unit root test, all the variables in the model were found to be I(1). Therefore cointegration test was conducted using Pedroni (1999) and it was established that there was evidence of cointegration. The error correction model depicts the speed of convergence to

<u>Published by European Centre for Research Training and Development UK (www.eajournals.org)</u> equilibrium following exogenous shock. Equation (3.5) was therefore rewritten to include the error term as shown in equation (4.1).

$$\Delta PI_{t-1} = \alpha + \sum_{i=1}^{p} \Omega_i \Delta p_{t-i} + \sum_{i=0}^{p} \delta_i \Delta \chi_{t-i} + \gamma ECT_{t-1} + \varepsilon_t$$

Where,

ECT - is the error correction term

 Δ - is the difference operator

 γ – is the error correction coefficient

The short-run model shows how the adjustment mechanism works to revert the deviations in each period to long-run equilibrium when it is subjected to exogenous shock. Theoretically, the coefficient of the error correction term should be negative and significant if disequilibrium is to be corrected in subsequent period and long-run equilibrium restored. On the other hand, a positive sign indicates movement away from equilibrium.

Hausman Test

Hausman (1978) proposed a test used to decide whether to use Random effect (RE) or Fixed effects (FE) model. The null hypothesis of the test is that the preferred model is the RE against the alternative FE. According to the model, if the country specific effects are correlated with the regressors, then the RE estimator is inefficient and inconsistent while the FE is consistent. Therefore to test the efficiency of the RE estimates, Hausman and Taylor (1981) suggested a comparison of the RE and FE estimates. Hausman test was therefore carried out in the study and the results are presented in Table 2.

Variables (V)	(b)	(B)	(b-B)	Std.Error
	Fixed	Random	Difference	
Ln Opn	0.2617825	0.2638873	-0.0021047	0.0113377
Ln Crps	0.3799889	0.3755933	0.0043956	0.010458
Ln Fd	1589389	1626311	0036922	0.0068145
Ln Pbi	2173364	2130006	-0.0043357	0.0151671
Ln Rgdppc	0.1711219	0.1736245	0025026	0.0112657
Ln Nir	-0.1394446	0.1395716	0.00012172	0.0059337
χ^2 (6) = 0.46			$Prob > \chi^2 = 0.6152$	

Table 2: Hausman	Test Results
------------------	--------------

From the Hausman test results, the p-value 0.6152 which is greater than 0.05 and therefore we accept the null hypothesis and conclude that the country specific effects are uncorrelated with the regressors and hence we choose the RE model.

Test for Cross-Sectional Dependence

Cross-sectional dependence refers to interaction between cross-sectional units and this can lead to efficiency loss for least square estimators. This test was done using the Breusch Pagan LM test of independence. The test's null hypothesis is that residuals are not correlated across entities. The results for cross-sectional dependence test are presented in Table 3.

Test for Heteroscedasticity

Test for heteroscedasticity was carried out in the study so as to establish whether the error terms exhibit constant variance across observations or not. The study employed the Modified Wald test for Groupwise Heteroscedasticity. The test's null hypothesis is that variance of error terms is constant. The results for Heteroscedasticity test are presented in Table 3.

Testing for Autocorrelation

Serial correlation test was carried out so as to establish whether the error terms of different time periods are correlated. The presence of serial correlation complicates the application of statistical tests because it reduces the number of independent observations and causes the standard errors of the coefficients to be smaller than they actually are. The Wooldridge (2006) test was used in this study and the results are presented in Table 3.

Variable	Coefficient	Std .Error	Z Statistic	P Value	
Ln opn	0.2638873	0.0753866	3.50	0.000	
Ln crps	0.3755933	0.0614786	6.11	0.000	
Ln fd	-0.1626311	0.0419555	-3.88	0.000	
Ln pub	-0.2130006	0.0942513	-2.26	0.024	
Ln rgdp	0.1736245	0.0751376	2.31	0.021	
Ln nir	-0.1395716	.0553635	-2.52	0.012	
Const	-0.0323528	0.0305559	-1.06	0.290	
Adjusted R ² =0.8343					
Breusch Pagar	n LM test of	Cross sectional	$Chi^2 (10) = 7.86$	2 p-value =	
dependence 0.3704					
Modified W	ald test f	for groupwise	Chi^2 (10) = 5.24	p-value=	
heteroscedastici	ity	0.3873			
Wooldridge Test for Autocorrelation p-value= 0.5214					

T-LL 2. D	D	T	D	
I ADIE 1 REGRESSION	Recinite of Regional	integration and	Private inve	SIMENT IN R.AL
1 4010 3. 1021 0331011	Megally of Megiona	i muczianom anu	I I I I I ALC III I C	
8				

The openness of the economy, as indicated by the regression results, has a positive and significant effect on private investment in the EAC at 1% level. When the openness of the economy is increased by one percent, it leads to 0.2638 percent increase in private investment in the region. This may imply that the volume of trade between the EAC countries is high and significant. This is further confirmed by UNCTAD (2013) where the EAC region had high volume of trade compared to other economic communities in Africa. Since openness has been used in this study as a proxy for regional integration, it therefore implies that regional integration has a positive effect on private investment in East African Community. This may be due to the fact that trade liberalization in the region has led to the transfer of ideas and technological diffusion thus allowing for expansion of domestic industries and establishment

Published by European Centre for Research Training and Development UK (www.eajournals.org)

of new firms within the region. The use of advanced technology enhances efficiency of investment hence increased production of output.

The positive sign of the coefficient also suggests that trade openness plays a significant role in improving private investment in EAC through boosting of exports and enabling easy access of imports among the member countries. These results are consistent with those of Asante (2000). It therefore means that the scope of association between private investment and regional integration increases with the level of integration. For example, when EAC was a customs union, the main area of interest was the elimination of tariffs and customs by each member country. However, as the EAC integration deepened to common market, the interest of the private sector are mainly decided at regional level which include the free movement of factors of production, tax policies and investment regulations. Therefore lack of progress by the EAC countries in ensuring deeper integration may retard the interest of the private investors to extensively invest in the region. Deeper integration helps in reducing the transaction cost and therefore the cost of doing business becomes low in the region and this may motivate private investors to undertake huge investments.

From the regression results, the sign of the coefficient of domestic credit to private sector is positive and significant at 1 percent level and this conforms to a priori expectations. An increase in domestic credit to private sector by 1 percent leads to 0.3755 per cent increase in private investment in the EAC region. This therefore implies that the monetary policies which have been put in place by the EAC facilitate credit to private sector which encourages the growth of the private sector. These results are consistent with those of Mohan (2008) who found a positive correlation between monetary policy and investment. He gave an example of India which had low growth initially but due to increase in gross domestic savings, the loanable funds were made available leading to increased private investment

The results of the estimated model show that the sign of the coefficient of fiscal deficit is negative (-0.1626) and statistically significant at 1 percent level. These results conform to the apriori expectations that lower budget deficits lead to higher levels of private investment. Therefore a 1 percent increase in fiscal deficit leads to 0.1626 percent decrease in private investment. This is an indication that fiscal deficit crowds out private investment in the region with a consequence of impeding economic growth. These results are consistent with the findings by Asogwa (2013) and Isah (2012), who also found that budget deficits crowds out private investment. The crowding out effect of fiscal deficit on private investment in EAC region may be contributed by the government policies regarding the financing of the deficit. These deficits are mainly financed through sale of bonds in the stock exchange market which decreases the loanable funds available for private investment due to the increase in lending rates. This leads to decline in private investment due to inefficient allocation of resources and therefore low economic growth in the region.

The regression results show a negative significant relationship between the two with the coefficient being (-.213). This implies that 1 percent increase in public investment leads to 0.213 per cent decline in private investment. The empirical literature gives inconsistent results concerning the effect of public investment on private investment. However, the results are consistent with the findings of Erenburg (1995) & Wohar (1995) and Wai & Wong (1982). The Keynesian economists argue that the provision of public goods whereby no competition is expected from the private sector can lead to faster economic growth. On the contrary, the government expenditure on public goods should not exceed a certain limit since it may crowd out private sector investment hence may result in low levels of economic growth in the region.

Published by European Centre for Research Training and Development UK (www.eajournals.org)

Therefore better policies should be put in place by the policy makers in the EAC region so as to ensure a balance between the two and this may enable the region to achieve progressive economic growth.

The real GDP per capita shows a positive effect on private investment and it is statistically significant at 1percent. It has a coefficient of (0.1736) which implies that an improvement in the real GDP per capita by 1per cent may lead to an increase in private investment by 0.1736 percent. The results obtained in this study are similar to those of Sakr (1993) as well as those of Green and Villanueva (1991) who found a positive relationship between GDP per capita growth and private investment. On the other hand the regression result for nominal interest rate is consistent with the theoretical expectations. The coefficient of nominal interest rate is negative but not statistically significant at 1per cent level with a value of (-.1395) which implies that an increase in nominal interest rate by one unit will lead to a decline in private investment in the region by 0.1395 percent. The nominal interest rates should be fixed at reasonable rates by the central monetary authority so as to avoid manipulation by other bodies. This will instill confidence on the potential private investors regarding the lending rates hence encourage private investment in the region.

The coefficient of the ECT_{t-1} is negative and statistically significant at 1percent level with a value of (-.2803). This implies that the system corrects its previous period disequilibrium at an adjustment speed of 28.03 percent each year. This further shows that 28.03 percent of the short-run inconsistencies are being corrected and incorporated into the long-run relationship. The statistically significant negative sign of the coefficient of ECM_{t-1} confirm the presence of long-run equilibrium between private investment and the explanatory variables in the model.

From the results, the value of the Wooldridge Test is (0.5214) which is greater than 0.05 and therefore the null hypothesis is accepted and thus the model does not suffer from serial correlation. The results from Table 3 shows that there is no cross-sectional dependence of the cross-sectional units since the p-value is greater than 0.05. The p-value of heteroscedasticity results is (0.3873) which is greater than 0.05 and therefore we fail to reject the null hypothesis and the conclusion is that there is no heteroscedasticity.

CONCLUSION

This study aimed at examining the effect of regional integration on private investment in the East African Community using panel data over the period 1980-2014. To achieve this objective, the study used openness of the economy as a measure for regional integration. The results reveal that openness has a positive and statistically significant effect on private investment in the EAC region. This implies that regional integration is significant in influencing private investment in EAC and therefore the region should work towards a deeper integration as well as conducting and signing some agreements geared towards private sector promotion.

The domestic credit to private sector was used in this study as a monetary policy proxy and it had a positive significant effect on private investment in the EAC region. This implies that the availability of credit to the private sector is crucial in increasing the level of private investment especially when the financial institutions give credit at affordable rates. There was a negative and significant effect of fiscal deficit on private investment in the region. This shows that high

Published by European Centre for Research Training and Development UK (www.eajournals.org)

budget deficits retard the growth of private sector investment in the region since most funds are diverted to servicing of recurrent and long-term debts by the respective governments. These funds could otherwise be reallocated to the private sector so as to boost its investments which has been viewed as an engine of growth.

Policy Implication

From policy perspective, the positive effect of openness on private investment signifies that trade liberalization in the EAC boost private investment in the long-run. Therefore the region should sustain policies that promote free trade in order to improve private investment and ensure quick implementation of the trade agreements. The region should also create a stable political environment so as to boost the confidence of private investors to invest more in the region and hence may realize sustainable economic growth.

For private investment to remain as engine of growth in the region, it is necessary that the amount of domestic credit to private sector be increased in the EAC since the regression results show that it has a positive impact on private investment. Therefore the region should put in place measures that ensure an increase in the domestic credit to the private sector, for example the domestic private investors should be given incentives such as tax holidays and import duties on equipment and machinery required to start a business so as to reduce the production costs and hence increase the productivity of domestic investors. This will therefore contribute to overall economic growth of the region.

Fiscal deficit showed a negative effect on private investment. This deficit mainly increases due to the fact that most of the EAC countries are heavily indebted, it therefore implies that these countries should adopt debt reduction strategies so as to improve the state of fiscal deficit and hence boost private investment and promote economic growth in the region. The EAC should also formulate fiscal policies that favour private sector investment by discouraging high levels of government expenditure.

Given that public investment crowds-out private investment in the EAC, then for the region to attain high levels of private investment, it may be necessary for it to undertake public private partnership. Therefore the region should design policies that would encourage both private and public investment such that the investments undertaken by the public sector are those that have positive externalities such as infrastructural development. This can be done through harmonization of regulatory framework so as to come up with a common investment platform that promotes both public and private investment.

Areas for Further Research

This study has focused on the effects of regional integration on private investment in the EAC region but the effect at country level has not been examined. Therefore there is need for future researchers to focus on the effects of regional integration on private investment on other regions as well as at individual country level so as to provide a platform for comparison of the findings.

_Published by European Centre for Research Training and Development UK (www.eajournals.org)

REFERENCES

- Asante, Y., (2000). Determinants of Private Investment behavior, *African Economic Research Consortium*. Research Paper No. 100. AERC. Nairobi.
- Asogwa F.O. (2013). The Crowding-out Effect of Budget Deficit on Private investment in Nigeria. *Eeuropean Journal of Business Management*, 7(20):2222-2839.
- Chenery, H.B. (1952) .Overcapacity and the Acceleration Principle. Econometrica 20(1):1-28
- Dailami, M. and Giugale, M. (1991). Reflection on Credit Policy in Developing Countries: It's Effect on Private Investment, Pre Working Paper Series, WPS654.
- Erenburg, S.J. and Wohar M.E. (1995). Public and Private investment: Are there Causal Linkages? *Journal of Macroeconomics*, 17(1):1-30.
- Geda, A. and Kebrets, H. (2002). Regional Economic Integration in Africa. A review of Problems and Prospects, Case study of COMESA. Journal of African Economics, 10(21):1-38
- Ghura, D. and Goodwin, B. (2000). Determinants of Private Investment: A Cross Regional Empirical Investigation. *Journal of Applied Economics* 32 (14): 1819-1829.
- Hausman, J A. and Taylor W. (1981), Panel data and unobservable individual effects. Econometrica 49:1377-98.
- Hausman, J.A. (1978). Specification Tests in Econometrics. Econometrica 46:1251-1272.
- Jean S. and Ambert C. (2011). East African Regional Integration Strategy Paper 2011-2015, African Development Bank.
- Koyck, L.M. (1954). *Distributed lags and investment Analysis*. North Holland Pub. Co, Amsterdam.
- Levin, A., Lin C. F, and Chu, S.J. (2002). Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties. *Journal of Econometrics* 108: 1-22.
- Matwanga, F.L. (2000). Determinants and Constraints to Private Investment; The case of Kenya. African Institute for Economic Development and Planning(IDEP).
- Najarzadeh , R. and Shanghanhi, V. (2006). Regional Integration and its Impact on Foreign Direct Investment, Case of MENA countries. Journal of Economic Research, 72:337-362
- OECD (2006), 'Analysis of the Economic Impact of Investment Provisions in Regional Trade Agreements', OECD Trade Policy Working Paper No. 36.
- Osakwe P. and Nkurunzinza J. (2013). Economic Development in Africa Report 2013. Intra-African Trade: Unlocking Private Sector Dynamism.
- Paulo D., Aisen A., Alper E., Ejona F. and Sebastien W. (2015). Towards a Monetary Union in the East African Community . International Monetary fund.
- Pedroni, P. (1995). Panel Cointegration: Asymptotic and Finite Sample Properties in Pooled Time Series Tests with an Application to the PPP Hypothesis. *Indiana University Working Papers in Economics* 95-013.
- Sakr, K. (1993): "Determinants of private investment in Pakistan", IMF working Paper30.
- UNECA (2010). Trade Facilitation and the Promotion of Intra-African Trade for the Eastern and Southern African Sub- Regions. Addis Ababa.
- UNCTAD (2015). Strengthening the Private Sector to Boost Continental Trade and Integration in Africa. Geneva.
- Wai, U. T. and Wong, C-H. (1982). Determinants of Private Investment in Developing Countries, *Journal of Development Studies*, 19(1):19-36.
- Willem, D. (2011). Regional Integration Growth and Convergence. *Journal of Economic Integration*, 26(1):1-28
- Wooldridge, J. M. (2006). Introductory Econometrics, A Modern Approach. 3rd edition.