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# East African Community Regional Integration: Private Investment Implications

**Naftaly Mose[1*], Irene Keino[2], G. Yoganandan[3], Oladipo Olaniyan[4] and Thabani Nyoni[5]**

*[1]University of Eldoret, Kenya.*
*[2]Egerton University, Kenya.*
*[3]Periyar University, India.*
*[4]Federal University, Nigeria.*
*[5]University of Zimbabwe, Zimbabwe.*

***Authors' contributions***

*This work was carried out in collaboration among all authors. Author NM, IK and GY designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. OO managed the analyses of the study. Authors TN and GY managed the literature searches. All authors read and approved the final manuscript.*

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## ABSTRACT

The objective of regional integration is the attainment of long-run economic growth for member countries. Private investments are decisive in attaining this objective, given the high dependence of EAC member states on state-owned investment. This has been attributed to the economic policies implemented by the government which favors state-owned investment. Further, existing empirical studies have been unable to determine whether trade liberalization advances or obstructs the accumulation of private and foreign investment. This study, assuming a random effect assumption, attempts to estimate the private investment model in EAC member states using the panel least squares technique for the period 1981-2015. The panel random effect regression result reveals that East African Community regional integration has had a significant impact on private investment build-up owing to the presence of third-country investors not currently established inside the EAC

**Corresponding author: E-mail: ngmoce@yahoo.com*

region. This study, therefore, recommends any policy agenda aimed at deepening regional integration through guaranteeing an appropriate business environment for enabling free movement of factors of production, population, and goods and services.

*Keywords: Regional integration; private investment; finance; trade; openness; macro economy; East African Community.*

## 1. INTRODUCTION

The main dilemma facing most developed economies is low level of private investment in comparison to industrialized countries. The low level of foreign and private investment has been blamed on underdeveloped and small market, inadequate economic policy, political instability, underdeveloped infrastructure and low consumption [1,2]. These poor macroeconomic factors discourage and impede investment and output growth in East Africa [3,4].

Expanding regional economic integration provide opportunities for addressing common macroeconomic challenges such as improving economic policy, attracting private and foreign investment, reducing government size, increasing market size and competitiveness and pooling resources for private investments of mutual benefits [5]. Economic policy stability plays a vital role in attracting foreign and domestic private investors as they want a predictable investment climate [2].

A successful regional economic integration can therefore help attain greater economies of scale, widen the market, enhance industrial efficiency, and reduce the sub regional's external dependency and vulnerability of its economies. Other benefits of regional integration include greater bargaining power; minimization of duplication, thin spreading of resources and wasteful competition; a cheaper and more efficient transport system; greater division of labor and specialization in production; greater prospects for technological advances and innovation; expansion of trade, attract investment, income and employment due to free movement of goods, services, labor and capital; and enhance greater political stability [6].

The East African Community (EAC), officially created in 2001 [7], consisting of Burundi, Kenya, Rwanda, Uganda, and Tanzania, with its headquarters in Arusha, Tanzania, has embraced regional integration as an important component of its economic development strategy [8,9] and a critical factor in increasing international trade and local private investment [10]. The root of the current East African Community can be traced to the Treaty for East African Cooperation signed between Kenya, Tanzania and Uganda in 1967 [11]. It should be noted down that the survival of this arrangement has been on a roller coaster ride until the recent past, though it is considered as the sophisticated economic cooperative arrangement between countries in the Third World [12].

Generally, the EAC region has experienced fluctuations in private investment over the years. The decline over the years has been attributed to the oil crisis of 1979 and policies implemented by local governments which favour public investment [13]. The 1984 drought together with the debt crisis also led to a further decline in private and foreign investment mobilization in the Sub-Saharan Africa. Mariara and Kiriti (2002) noted accelerated decrease in overall private investment in the EAC region from 13% to 8 % in 1980-1990. This may be because of the donors imposing tough conditions on the governments before they can be given foreign funds [14].

Private investment is a major factor to successful output growth in EAC region. Therefore, EAC region may benefit from their integration by accelerating the levels of domestic investment in the region. As a result, East African Community ascended from being a Custom Union to a Common Market in July 2010. The Customs Union is characterized by the elimination of all the internal tariffs and other similar charges on trade between member countries while Common Market involves free movement of population, commodities as well as factors of production.

Therefore, by deepening regional economic and financial integration in the EAC region, resources will be pooled, and local markets expand, thus stimulating further production and private investment hence improving prospects for output growth and accelerate regional development. However, major challenge to successful regional integration as well as regional development of regional value chains is inadequate and poor infrastructure, poor economic policy and macroeconomic obstacles [15,14,16].

## 2. LITERATURE REVIEW

The theoretical examination of the influence of financial and economic regional integration can also be linked to the endogenous and neoclassical growth hypothesis. According to neo-classical theory, financial and economic integration have no effect on economic growth rate in long-run, which is believed to be explained only by technological progress of a country. Thus any change through institutional development, efficiency or improvement in private investment due to regional integration will only result into short-term technological progress. The short-term productivity shift in turn induces accelerated capital growth that gradually diminishes towards its long-term. On the other hand, endogenous growth theory postulates that private investment is able to explain permanent impact of regional integration through accumulation of non-diminishing domestic investment and technology [17].

Empirical Studies Review: Past researches reveal that many determinants have been identified as the factors that influence private investment mobilization, with many determinants attributed to the EAC region's dismal private and foreign investment performance. They include high interest rates, lack of openness, low initial GDP, lack of credit, high budget deficit, poor economic policies, poor institutions, corruption among other factors [4]. However, most of past studies on determinants of investment growth do not investigate the role of regional integration on domestic investment mobilization, while the few that have been done on the topic reveal an inconclusive result [4].

## 3. RESEARCH METHODOLOGY

This research applied a quantitative research design to investigate the role of regional integration on domestic investment growth in East Africa. Quantitative research design captures the impact and trend of regional integration on domestic investment growth in EAC [13]. This was carried out in the period 1981-2015 applying annual series secondary data for five member states and the Least Squares panel estimation method, resulting in 170 country-year observations. This research is limited to the period 1981 to 2015. The data used in this research was quantitative and it was obtained from secondary data sources such as statistical abstracts, economic surveys, and world economic outlooks.

This study used secondary panel data set of five countries in East Africa-Kenya, Uganda, Tanzania, Burundi and Rwanda. Secondary data source was preferred in this research because it is readily available, cheaper and easily accessible [18]. This study utilized annual data from Statistical abstracts, Economic surveys and World Economic Outlooks. Data collection schedule were used to collect the data set for this study. The collected data was entered in the data sheet where cleaning was carried out correctly to confirm reliability and validity.

Descriptive and econometric analyses were used to analyze the data, in order to examine the role of regional integration on domestic investment growth. The Panel data was estimated using the panel Ordinary Least Squares (OLS) method and balanced random effect estimation technique, geared at controlling for time-invariant and unobservable country effects [4]. The Hausman [19] test was analysed to help identify the suitable technique of estimation between fixed effect and random effect. The Fixed model estimation not preferred if the error terms are correlated. However, Random model estimation (RE) is suitable in that case.

### 3.1 Empirical Model Estimation

A general econometric equation of the study variables is:

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

where;

p- is the private investment,
$v_i$ - are the unobserved state characteristics that affect dependent variable,
$\varepsilon_i$ - represent error term (zero mean and constant variance properties),
Subscripts i and t - symbolize time and state,
$\propto_i$ and $\beta_i$ - econometric parameters,
$X_i$ - stands for a vector of explanatory variables,

that explain depended variable which includes regional integration, availability of credit, fiscal deficit, GDP, and public investment.

As a result, a private investment econometric function can be specified in equation form as:

$$p = f(r, c, f, g, y)$$

where,

$p$ = Private investment
$r$ = Regional integration
$c$ = Availability of credit
$f$ = Fiscal deficit
$g$ = Government/ Public investment
$y$ = Gross domestic product (Output)

Private Investment variable – is measured as the total domestic and foreign investment and expressed as a percentage of GDP. The data were generated from world economic outlooks and statistical abstracts. Deepening regional integration in the EAC region, resources will be pooled, and local markets expand, thus stimulating further production and private investment hence improving prospects for output growth and development in the EAC region.

Regional Integration variable – the study used openness to trade as a measure of regional integration. Openness is measured as exports plus imports as a share of GDP (current prices). Regional integration reduces trade barriers through liberalization which creates an advantage to the exporters and thus improves the current account balance and increases private investment incentives. It also increases the free flow of capital and labour thus increasing investment, competitiveness, and productivity. The data were obtained from EAC partner states statistical abstracts and economic surveys.

Following research by Gisore [4] natural logs (In) of the target growth factors were used during the analysis of the panel random model to allow for estimation coefficients to be interpreted as elasticities. In addition, the equation function variables were lagged so that to shun serial correlation between error terms and to support the reliability of the findings [20].

Therefore, the basic regression equation for the study is formulated:

$$\ln p_{i,t} = \beta_0 + \beta_1 \ln(r)_{i,t} + \beta_2 \ln(c)_{i,t} + \beta_3 \ln(f)_{i,t} + \beta_4 \ln(g)_{i,t} + \beta_5 \ln(y)_{i,t} + \varepsilon_{i,t}$$

For an intuitive and better interpretation of the results obtained from this research, several post estimation panel diagnostic tests were conducted. Heteroskedasticity, serial correlation, and contemporaneous correlation were tested for the above econometric models before estimation and corrected accordingly.

## 4. RESULTS AND DISCUSSION

From the Hausman test result, p-value is 0.39, hence the null hypothesis is accepted and the random effect estimation model is preferred. The regression random estimation results are presented in Table 1.

The results show that regional integration through trade liberalization has a positive and statically significant impact on private investment at a five percent level of significance. This implies that a 10 percentage increase in trade liberalization through regional integration will

**Table 1. Regression results**

| Random variable | Coefficient | Std. Error | Z Statistic | P Value |
|---|---|---|---|---|
| ln($r$) | 0.2912602 | 0.0248928 | 11.70 | 0.000 |
| ln($c$) | 0.2687497 | 0.0228642 | 11.75 | 0.000 |
| ln($f$) | -0.1801715 | 0.0532198 | -3.39 | 0.001 |
| ln($g$) | -0.3365829 | 0.0840969 | -4.00 | 0.000 |
| ln($y$) | 0.2459337 | 0.0297878 | 8.26 | 0.000 |
| $cons$ | 0.1294060 | 0.0411682 | 3.14 | 0.002 |
| Goodness of fit test | | | Adjusted $R^2$ = 0.82 | |
| Breusch Pagan LM test | | | $Chi^2$ (10) = 8.61<br>p-value = 0.33 | |
| Modified Wald test | | | $Chi^2$ (10) = 5.82<br>p-value = 0.34 | |
| Pesaran CD | | | Z = -1.21<br>p-value = 0.26 | |

increase overall domestic investment in EAC region by about 3 per cent. This can be attributed to accelerated trade liberalization as a result of regional integration. Trade liberalization stimulates technological transfer and diffusion thus encouraging innovation and creation of new industries. The continued and increased employment of new and advanced technology enhances efficiency and innovation, increases productivity and aggregate output in economy [21].

The positive result of coefficient also explains the significant role of regional integration on boosting exports and imports. Increased exports and access of imports leads to further growth in production and output. The findings emulate the result by Asante [22] and UNCTAD [21]. Deeper regional economic integration helps in easing the transaction cost and therefore the cost of doing business and investment becomes low in the EAC and this may motivate further domestic and foreign investors to undertake huge investments in the region [22,15].

Accelerated trade liberalization creates an enabling environment for private and foreign sector investment to take place due to the removal of trade barriers, free movement of factors of production, and loose government policies regarding international trade. Exporters and domestic market-oriented business units take strategic decisions based on the government's policy on export control, import restriction, and other relevant policy measures [23]. Therefore, the individual governments should encourage trade policies that encourage free trade to boost both foreign and domestic investment in the EAC through the removal of expensive and unnecessary tariffs and taxes which lead to inefficiency in firm production and hence negative economies of scale. In general, from the regression results, the sign of all control variables coefficient conforms to a priori expectations.

From the result in Table 1, contemporaneous correlation, autocorrelation and heteroscedasticity were not a problem in this study. Also, the adjusted $R^2$ was 0.82 implying that 82 percent of the variations of the dependent variable are jointly explained by the explanatory variables in the econometrics model. This indicated that the overall goodness of fit was satisfactory.

## 5. CONCLUSION AND RECOMMENDATIONS

The regression results illustrate a significant and positive relationship between regional economic integration and private investment, and in this case trade openness was employed as a proxy for regional integration in East Africa. This means that trade liberalization is key to the success of private investment mobilization in EAC region. Therefore, the member state governments should work towards a deeper economic and financial integration as well as conducting and signing trade policy agreements geared towards private sector endorsement and growth. Deeper economic and financial regional integration will reduce and discourage high transaction cost in the region and thus end up motivating and encouraging domestic and foreign investors to undertake huge investments in EAC. The East Africa region should also create a stable political and economic environment to boost the confidence of domestic and freeing investors to invest more in the region and hence may realize sustainable private investment growth.

## 6. LIMITATIONS AND AREAS FOR FURTHER RESEARCH

The study focused only on East African Community regional block, this in itself is a limitation since other regions had an equal opportunity of being studied. This, therefore, creates a gap for future studies to investigate other regional blocks in Sub- Saharan Africa to create a platform for comparison of findings.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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