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EFFECT OF PRIVATE CAPITAL FORMATION ON GROWTH OF KENYA'S ECONOMY

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ABSTRACT

Private investment has a positive impact on the economic growth of a country. Specifically, it leads to creation of more jobs, improves access to export markets, increases competition, enhances skills and management techniques and boosts the productivity of a country. Private investment levels in Kenya have been low with an average of 12.7 percent since independence. This level is below the recommended level of at least 15 percent of the GDP which is required to spur economic growth. This could be the reason why Kenya's economic growth rate has been low, averaging at about 4.84 per cent. This study therefore sought to find out the effect of private investment on economic growth in Kenya. The study employed the causal-effect research design using a sample of 36 years' time series data from 1979-2015. Diagnostic tests were performed on autocorrelation, collinearity, and heteroskedasticity. Using the error correction methodology, the findings indicated that private investment has a positive and significant effect on economic growth of Kenya. Exports and terms of trade were found to have a positive and significant effect while labour exhibited a negative and significant effect on economic growth. The researcher recommends that policy makers formulate policies that stimulate private investment such as reforms in the financial sector which will help private investors to access more funds for investment. The government should also develop the institutional framework as well as improve the legislative and regulatory environment to encourage private investors.

Key Words: Private Investment, Economic Growth, Exports, Terms of trade, Labor

1. Introduction

Private investment comprises of both private domestic investment and foreign direct investment. Private capital inflows include foreign direct investment (FDI), cross-border interbank borrowing, bond flows and portfolio equity flows [1]. These are noted to provide new technologies, facilitate access to export markets, enhance skills and management techniques as well as modern development systems. In addition; the private capital may increase competition in the host economy, enabling firms to become more productive. Private capital also leads to job creation and the improved access to foreign markets helps promote integration of host economy with the global economy [2].

Private investment has a positive impact on a country's economic, social and political development [3].It acts as a good source of employment creation through capital accumulation and it is able to stimulate economic activity and long term economic growth by expanding a country's capacity for production of goods and services [4]. On the contrary, some researchers argue that there is no consensus on the advantages of foreign private capital inflows in the context of globalization. Their argument is based on the premise that multinational corporations investing in the developing countries such as Kenya pay low wages. They also tend to constrain policy makers to make policies that favor the needs of the big businesses rather than the policies that address the needs of their economies. Moreover, the big multinational corporations often enjoy incentives such as tax holidays, stamp duty exemptions and value added tax exemptions on company inputs. This may have a negative impact on the economy and may retard its growth [1].

Economic growth is important for a country to achieve lower poverty levels, lower unemployment rates, lower budget deficits, and to achieve higher living standards for its people. Kenya's economic growth rate has been low, averaging at 4.84%, which is much lower than other countries such as Singapore which started developments the same time as Kenya but are growing at much higher rates of about 14%. The country's growth rate is also far below the 10% target of the Kenya's Vision 2030. Both public and private investments are important for ensuring that a country achieves such robust economic growth with private investment being noted as the faster driver of growth. Efforts to promote private investment have been made by the government such as the restructuring of public expenditure in order to create an enabling environment for private investment thereby making the economy more efficient. However, despite its importance in driving economic growth, private investment levels have been low with an average of 12.7 percent since independence. This level is below the recommended level of atleast 15 percent of the GDP which is required to spur economic growth, create employment as well as reduce poverty. This paper therefore seeks to find out the effect of private investment on economic growth in Kenya.

1.1 Trends in Private Investment in Kenya

Kenya has experienced low and sharp fluctuations in private investment over the years. Private investment made some remarkable growth between the years 1963-1970 due to increased

commitment by the government to promote it. However, it declined moderately in the period between 1971 and 1977 due to the first oil crisis of 1973 and the severe drought experienced in 1974 [5]. There was a sharp increase in private investment in 1978 attributed to the effects of the coffee boom of 1976/1977 which increased per capita income and thus investible funds became adequate. However, the government failed to implement adjustment policies following the collapse of the coffee boom and that of East Africa Community (EAC) in 1977 which undermined private investment. The disintegration of the EAC led to limited market for commodities thereby affecting production. Similarly, the second oil crisis of 1979, drought of 1984, the debt crisis and departure from low interest policy by the government in the early 1980s contributed to the downward trend in private investment up to mid-1980s [6][7].

The country experienced a sharp down turn in private investment in the period 1988-1994 which was attributed to a number of factors including; introduction of the structural adjustment programmes by the world bank and the International Monetary Fund (IMF) in 1986 which were thought to be counterproductive, secondly, the withdrawal of donor funds led to an increase in domestic borrowing which crowded out private investment through its increase in the cost of capital. Thirdly, the aftermath of the first multi-party election in 1992 resulted in uncertainties which may have contributed to low investment [8].

There was a high growth in private investment in 1995 with 16.4% increase which was a result of the success of policies on recovery and sustainable development as laid down in Sessional Paper No. 1 of 1994 where there was reallocation of budget resources towards the core functions of the government with an aim of maximizing the productivity of public expenditure. The implementation of these policies is believed to have crowded in private investment [9]. The rise in private investment however did not last long. The decline was as a result of the tribal clashes experienced after the 1997 general election and the destruction of physical infrastructure by El Nino rains in 1998.

The Economic Recovery Strategy for Wealth and Employment Creation (ERS) (2003-2007) set the foundations for private sector-led economic growth and placed a lot of focus on investment in infrastructure, education and health services[10]. The government also embarked on a privatization programme complemented by the integration of the East African Community (EAC) and the establishment of a customs union in 2005 and in 2010 a common market [11]. After rolling out of the ERS, economic growth was experienced, peaking at 4.35% in 2007. This was attributed partly by the investment flows into the country and the privatization programme. However, due to the post-election violence of 2008 together with the global financial crisis, high commodity import prices and poor weather conditions brought growth down to -1.02% and kept it at a negative in 2009 as well. Nevertheless, in 2010, the economy grew by 2.26% reflected by an upward movement in exports.

To attract foreign direct investment, the government of Kenya established Keninvest as a semi-autonomous agency in 2004 which marked the start of a steady increment in FDI inflows attributable to large privatizations in telecommunications and investment in the railways.

Emerging markets such as China (infrastructure development such as China Road and Bridge Construction Corporation, manufacturing and agriculture), India (information technology investments such as Airtel and Yu), the Middle East (hotel and property development such as Fairmont) and South Africa (Rift Valley Railways) have come in to complement traditional sources of FDI such as Europe [11]. These increasing trends have however lacked the robustness expected due to poor implementation of the ERS as well as the slow pace of other reforms that resulted to withdrawals of donors' funding [3].

2. Literature Review

The specific impact of private investment on economic growth has not received much attention with very few researchers having done some work on the area. Most of the empirical literature available on investment and growth has looked at the joint effect of both private and public investment on economic growth.

According to [1], who carried out a study on the impact of private capital inflows on economic growth of Kenya, the study used a causality design in which causality between foreign direct investment, portfolio investment and cross-border interbank borrowing on economic growth was investigated. The findings indicated that there was unidirectional causality between FDI and cross border interbank borrowing and economic growth. Both variables had a positive and significant effect on economic growth. The authors recommended that the government of Kenya should work towards creating an environment that will attract foreign investment and should also work towards a high and sustainable economic growth rate as this will attract cross-border inter-bank borrowing.

In a similar vein, [12] carried out a study on the impact of private investment on economic growth of Ethiopia both in the long and short run using data for the period 1970-2011 using the error correction model. However, unlike [1], the researcher focused on private investment but also analysed the effect of public capital on private investment and their joint effect on economic growth. The researcher found that both private and public investment had a strong and positive impact on economic growth. The researcher recommended that the government of Ethiopia takes supplementary reforms that will improve the country's poor investment climate so that the private sector can be developed. The government should also provide the necessary infrastructure as well as identify specific sectors of public investment that crowd in and those that crowd out private investment before expansion of state participation.

From the empirical literature, other than public investment affecting the level of private investment in a country, other moderating variables have been seen to play a part in affecting the relationship between private investment and economic growth. Such variables include; cost of capital, exchange rate, financial development, terms of trade and interest rate. For instance, [13], in analyzing the relationship between public (particularly transportation) and private investment for the case of Mauritius also looked at the effect of cost of capital, exchange rate, financial development and openness to trade on the relationship. The findings indicated that financial

development and openness to trade were significant in explaining the variations in private investment while exchange rate and real interest rate were found to have a negative effect.

In the study by [14] that sought to analyze the effect of public investment on private investment in developing economies, the researchers also looked at the effect of interest rate which they used as a proxy for cost of capital and the availability of credit to the private sector. They found that interest rate was not a statistically significant determinant of private investment. However, the availability of credit showed a positive effect on investment. In developing countries, credit constraints caused by imperfections in the credit market and also the lack of funds was seen to constrain investment. In a similar vein, [15] when studying the effectiveness of fiscal spending in the context of crowding in/out for Turkey analysed the effect of real interest rate on private investment and found that it was negative and significant. The researcher also concluded that the fragile and imperfect financial market of Turkey and the unavailability of credit is deterrence for private investors.

In a study by [16]on the private and public capital formation and economic growth of Sudan, the researcher also analysed the effect on the relationship between investment on economic growth of real banking sector credit to the private sector and the real lending rate on banking sector's advances to the private sector. The findings indicated that change in real credit exerted a positive impact on economic growth. This effect was channeled through the positive impact of banking sector's credit on the private sector investment. Similarly, the interest rate impacted real economic growth negatively through the negative and significant effect it had on private investment.

3. Methodology

The study employed a causal research design where the researcher intended to identify whether a cause-effect relationship existed between private and economic growth. The sample of 36 years' time series data for the period 1979-2015 was selected using the non-probability purposive sampling technique. The use of purposive sampling to arrive at the sample for the study was due to the constraint in finding data for public investment which was only available from the year 1979. The data was analysed with the use of EViews, STATA and PC-Give Ox metrics statistical software.

Estimation of the parameters and hypothesis testing involved the use of the error correction model and estimation of the regression using Ordinary Least Square (OLS) technique. The error correction model was best suited for estimation of the short and long-run relationship of the variables when they are non-stationary and co-integrated. Statistical inferences were made by analyzing the signs of the coefficients of the variables and also comparing the p-values of the coefficients to the critical values to check if they were statistically significant. Hypotheses were also constructed whereby the p-values were compared to the critical values. If the p-values were greater than the critical values, then the null hypothesis was accepted. Post-estimation

diagnostics on collinearity, autocorrelation and heteroskedasticity were also carried out on the regression to affirm that the OLS assumptions had been met.

3.1 Model Specification

The model was specified as follows;

$$\Delta \text{LogGDP}_t = \beta_0 + \beta_1 \Delta \text{Log}(GFC_P)_{t-i} + \beta_2 \Delta \text{Log}\,(\text{L})_{t-i} + \beta_3 \Delta \text{Log}\,(\text{TOT})_{t-i} + \beta_4 \Delta \text{Log}\,(\text{EXPORT})_{t-i} + \beta_6 D_j + e_t(1)$$

Where;

Log GDP- Logarithm of GDP

Log GFC_P - Logarithm of gross fixed capital for private sector

Log L- Logarithm for labor force

Log TOT- Logarithm for terms of trade

Log EXPORT- Logarithm o-f exports

β_0 - This is a coefficient representing other factors that affect GDP growth other than private investment, public investment, exports, terms of trade, and labor force.

$(\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6) > 0$ - These represent the elasticity parameters of the independent variables

D_j is a dummy representing structural breaks

t represents time in years

i is the lag

e_t is the error term

4. Results and Discussion

4.1 Tests for Stationarity

Data is said to be stationary if it has a constant mean, finite variance and the covariance that does not vary with time. Non stationary data could result to spurious results if such series is regressed. The variables in the study were tested for stationarity using both ADF and PP tests. The variables were first tested in their level forms and the results are shown in Table 1.

*Table 1: **Unit Root Test Results for Variables in Level Form***

Variable	Lag	ADF	PP	Status
LnGDP	1	-3.1645	-3.1945	Not stationary
LnGFCP	1	-2.7202	-2.2026	Not stationary
LnEXPORT	1	-2.4748	-2.3564	Not stationary
LnTOT	1	-1.7931	-2.4060	Not stationary
LnLABOR	1	-2.4341	-0.4519	Not stationary
MacKinnon critical value: 5%= -3.5468				

The results indicate that the ADF and PP values for all variables are greater than the MacKinnon critical value of -3.5468 at 5% level of significance. This implies that the data on all the variables was not stationary and therefore not suitable for further analysis in its level form.

4.2 First Difference

The original data was differenced to make it stationary. The results are presented in Table 2.

*Table 2**: Unit Root Test Results for Variables at First Difference***

Variable	Lag	ADF test	Status	PP test	Status
$\Delta \ln GDP_{t-1}$	1	-5.7960	Stationary	-8.4809	Stationary
$\Delta \ln GFCP_{t-1}$	1	-3.1519	Not Stationary	-3.2046	Not Stationary
$\Delta \ln EXPORT_{t-1}$	1	-3.2070	Not Stationary	-3.2193	Not Stationary
$\Delta \ln TOT_{t-1}$	1	-3.2130	Not Stationary	-2.4925	Not Stationary
$\Delta \ln LABOR_{t-1}$	1	-2.3930	Not Stationary	-1.8423	Not Stationary
MacKinnon critical value: 5%= -3.5614					

The findings indicate that upon taking the first difference, GDP was found to be stationary. However, private investment, labor, export and terms of trade variables were found to possess a unit root.

4.3 Second Difference

The variables that were not stationary at first difference were further differenced to make them stationary. The results are presented in Table 3.

*Table 3**: Unit Root Test Results for Variables at Second Difference***

Variable	Lag	ADF	PP	Status
$\Delta\Delta \ln GFCP_{t-1}$	1	-5.9694	-8.5563	Stationary
$\Delta\Delta \ln EXPORT_{t-1}$	1	-6.3378	-9.1911	Stationary
$\Delta\Delta \ln TOT_{t-1}$	1	-6.6625	-12.9201	Stationary
$\Delta\Delta \ln LABOR_{t-1}$	1	-4.6299	-4.3456	Stationary
MacKinnon critical value: 5%= -3.5514				

From the results, all variables namely; private investment, exports, terms of trade and labor were found to be stationary after taking the second difference. This is because the ADF and PP statistics were less than the MacKinnon critical value at 5% leading to the rejection of the null hypothesis of a unit root.

4.4 Lag Order Selection

The most appropriate lag length to use for estimation of the model was established by use of the Akaike Information Criterion (AIC) and the Schwartz Bayesian Information Criterion (SBIC). The decision rule was to select the lag length with the smallest value for the AIC and SBIC. If different lag lengths were obtained under the two criteria then the lag length selection for AIC was chosen. The lag length that was found to minimize the AIC and SBIC values for the model was lag 2 which has AIC and SBIC values of 3.348 and 3.629 respectively.

4.5 Test for Cointegration

A test was done to establish whether there was cointegration of variables. Presence of cointegration implies that a long run relationship exists between the explanatory and the dependent variables. Cointegration was tested with the help of the Engle Granger 2-step approach where a static model was estimated using OLS after which residuals were generated. The stationarity of the residuals was then tested using PP and ADF test statistics where the statistics were compared to the critical values at 5%. If the ADF and PP statistics were found to be less than the critical value then the residuals were stationary and hence there was cointegration. The results of the test showed PP and ADF statistics of -3.543 and -3.54 respectively hence leading to the rejection of the null hypothesis of a unit root. The conclusion is that the residuals are stationary and this indicates that there is cointegration of parameters in the model.

4.6 Diagnostic Tests

4.6.1 Test for Multicollinearity

Multicollinearity refers to the correlation between independent variables in a model. Presence of multicollinearity makes it difficult to isolate the effect of a given explanatory variable on the dependent variable. Ordinary least square estimation requires that there is no multicollinearity in the regression. The researcher used the coefficient of multiple determination (R^2) along with the t-ratios to test for presence of multicollinearity as recommended by [17]. In the model, R^2 was found to be 0.99 implying that the explanatory variables explained 99% of the variations in the dependent variables. In addition, all the t-ratios of the co-efficients were significant indicating the absence of multicollinearity.

4.6.2 Test for Autocorrelation

The classical linear regression model assumes that the successive values of the error terms are sequentially independent. The Durbin Watson test statistic was employed to test for presence of autocorrelation. The results indicated the DW statistic to be 2.3 showing absence of both positive and negative autocorrelation.

4.6.3 Test for Heteroskedasticity

Heteroskedasticity is present when the variance of the error terms is not constant over time. Heteroskedasticity was tested using the Breusch-Pagan Godfrey test where the null hypothesis of a constant variance was tested against the alternative hypothesis of heteroskedasticity. The decision rule was if the p-values were found to be greater than 5% then the null hypothesis was accepted. The results of the test indicated that the probability of the chi-square as 0.2354 leading to the acceptance of the null hypothesis of a constant variance hence there was absence of heteroskedasticity.

4.7 Vector Error Correction Model

The researcher sought to analyze the effect of private investment on economic growth in Kenya. The moderating variables namely exports, terms of trade, labor and dummy variable

representing 2007/2008 post-election clashes were included in the model. The results are presented in Table 4.

*Table 4**: Vector Error Correction Model Results***

	Coefficient	Std. Error	t-value	p-value
Constant	0.3075	$1.774*e^{-16}$	$1.637*e^{15}$	0.0000
DDlnGFCP_2	0.5804	$9.371*e^{-16}$	$6.19*e^{14}$	0.0000
DDlnEXPORT_2	0.7099	$1.669*e^{-15}$	$4.253*e^{14}$	0.0000
DDlnTOT_2	3.3527	$3.086*e^{-15}$	$1.086*e^{15}$	0.0000
DDlnL_2	-91.2736	$5.443*e^{-14}$	$-1.677*e^{15}$	0.0000
D07_2	-0.1699	$1.372*e^{-15}$	$1.238*e^{14}$	0.0000
Residuals_2	$7.7036*e^{17}$	$3.302*e^{-16}$	0.2330	0.8233
R-Squared: 0.99				
F (20, 6) = +. Inf. [0.000]				
Durbin Watson: 2.3				

Table 4 presents the regression results. The model can be restated as follows;

$$GDP = 0.3075 + 0.5804GFCP + 0.7099EXPORT + 3.3527TOT - 91.27L - 0.1699D_{92} \quad (2)$$

The coefficient of the model that shows the value of GDP without the explanatory variables was found to be 0.3075. Private investment, exports and terms of trade had a positive and significant effect on economic growth while labor had a negative and significant effect on economic growth. The dummy variable had a negative and significant effect on economic growth with a coefficient of 0.1699 and a p-value of 0.000<0.05. The model had a R^2 of 0.99 implying that the explanatory variables explained 99% of the variations in the economic growth. It also implies that 1% of the variations in economic growth are explained by other factor other than the ones in the model. The overall model had F-statistic of infinity with a p-value of 0.000<0.05 implying that the model was significant. All coefficients of the variables in the model were significant with p-values being 0.0000<0.05.

Private investment was found to have a positive and significant effect on economic growth in Kenya. The coefficient of 0.5804 with a p-value of 0.0000<0.05 implied that an increase in private investment by 1% would lead to an increase of 58.04% in GDP when all other factors are held constant. These findings are in tandem with those of [12][18][19][20], who all found a positive effect private investment on growth. Exports were found to have a positive and significant effect on economic growth with a coefficient of 0.7099 (p-value=0.000<0.05). This is because it is through exports that Kenya earns foreign exchange that is re-invested into the country to boost further production. This then increases the GDP of the country.

Terms of trade variable was found to have a positive and significant effect on economic growth with a coefficient of3.353 (p-value=0.000<0.05). This means that the trade policies in

Kenya have opened up the economy and this has attracted private investment. The findings differ from those of [20] who found a negative effect of terms of trade on economic growth of Namibia.The labor variable in which population growth was used as a proxy exhibited a negative effect on economic growth with a coefficient of -91.27 (p-value=0.000<0.05). However, most of the reviewed studies used different proxies for labor. For instance, [12] [20] used human capital as a proxy for labor and both found a positive effect on economic growth. [19]used education level as a proxy for labor and found a positive effect on economic growth. The dummy variable to represent the tribal clashes following the 2007 general elections exhibited a negative and significant effect on economic growth arising from uncertainties that faced investors in the period and this had a negative effect on the growth of the economy.

5. Conclusions and Recommendations

It was established that there was a positive and significant effect of private investment on economic growth of Kenya. The conclusion made was that improved private sector investment would lead to GDP growth through the performance of the private sector on the economy. The null hypothesis that private investment had no significant effect on GDP was rejected and concluded that private investment had a statistically significant effect on economic growth at 5% level of significance.

The study established that moderating variables namely exports, terms of trade and labor had a significant effect on the relationship between private investment and economic growth in Kenya. Exports had a positive effect on economic growth since they bring in foreign exchange that is reinvested to the country while the positive effect of terms of trade implies that the trade policies have opened up the country to new foreign investments and this has raised the level of economic growth. Labor had a negative relationship to growth since the higher the population the higher will be the demand for goods and since this is not matched with increased production, it retards the economic growth. The null hypothesis that moderating variables namely exports, terms of trade and labor had no significant effect on the relationship between investment and economic growth was rejected and the conclusion was that the moderating variables had a significant effect on the relationship between investment and economic growth at 5% level of significance.

From the findings of the study the researcher recommends that population growth should be kept at a minimum since it has been noted to retard economic growth. Policy makers should also undertake policies that stimulate private investment such as structural reforms in the financial sector which facilitate the mobilization of savings and help allocate funds to productive private sector investment. The government should also focus on ensuring that the private sector has sufficient incentives to invest through the development of an efficient institutional framework and improving the legislative and regulatory environment by removing the bureaucratic procedures and practices that act as discouragement to private investors. Peace building and integration of communities should be a top priority of the government especially as the country heads to another general election in 2017. This is because tribal clashes have had a

negative effect on the economy through the negative effects they have had on investment due to political and economic uncertainties.

References

[1] K. N. Ocharo, N. W. Wawire, T. K. Ng'ang'a, G. Kosimbei. "Private capital inflows and economic growth in Kenya". International Journal of Development and Sustainability. 3(4), 810-837. 2014

[2] S.I. Ajayi, (2006). "Foreign Direct Investment and Economic Growth in Africa", Paper presented at ADB/AERC International Conference on Accelerating Africa's Development Five Years into the Twenty-First Century, 22-24, Tunis, Tunisia.

[3] S.G. Njuru, C. Ombuki,N. Wawire, S. Okeri. "Impact of Government Expenditure on Private Investment in Kenya". Researchjournali's Journal of Economics2(8). 2014

[4] H. L. Ahuja. Macroeconomics theory and policy: Advanced analysis. New Delhi: S.Chand& Co Publishers 2007

[5] Republic of Kenya. Economic Survey. Nairobi: Kenya National Bureau of Statistics. 1965

[6] A. Legovini."Kenya macroeconomic evolution since independence". New York: UNDP. 2002

[7] R. Ngugi, M. Were, P.Makau. "Understanding the reform process in Kenya". In World Bank, (1995). Trends in developing countries, Washington D.C: IMF. 2006

[8] M. Wagacha. "Analysis of liberalization of the trade and exchange regime in Kenya since 1980".Equity and Growth through Economic Research (EAGER) discussion paper no.023/2000:Harvard Institute of International Development (HIID). 2000

[9] Republic of Kenya. Economic Survey. Nairobi: Kenya National Bureau of Statistics. 1994

[10] Republic of Kenya. "Economic recovery strategy for wealth and employment creation, 2003 – 2007". Nairobi: Government Printer. 2007

[11] Public Private Partnership Unit. Public Private Partnership Unit. A centre for PPP excellence.2016.[online] Available: http://www. pppunit. go. ke/ index.php[Accessed 15th July 2016]

[12] S. Mustefa S."Private Investment and Economic Growth: Evidence from Ethiopia". Mekelle University. Mekelle, Ethiopia. 2014

[13] S. Boopen, A.J. Khadaroo. "Transportation Capital and Private Capital Formation in Mauritius: Testing the Substitutability and Complementarity Hypotheses." University of Mauritius. 2009. [Online] Available: http://www.csae.ox.ac.uk/conferences/2009-EDiA/papers/367-Seetanah.pdf[accessed 22nd May 2016]

[14] L. Erden, R.G Holcombe. "The effects of Public Investment on Private Investment in Developing Countries". Public Finance Review33(5), 575-602. Sage Publications, 2005

[15] Y. Kustepeli. "Effectiveness of Fiscal Spending: Crowding out and/or Crowding in?"YonetimVeEkonomi, 2005

[16] A. Badawi,"Private Capital Formation and Public Investment in Sudan: Testing the Substitutability and Complementarity Hypotheses in a Growth Framework". Institute for Development Policy and Management (IDPM). University of Manchester. 2003
[17] D. N. Gujarati. Basic Econometrics (4th Ed.). New York: McGraw – Hill Inc. 2004
[18] J. M. Mburu. "The Relationship between Government Investment in Infrastructure and Economic Growth of Kenya". University of Nairobi. 2013
[19] P. Zainah. "The Role of Public Investment in Promoting Economic Growth: A case study of Mauritius". Trade & Industrial Policy Strategies, Services Sector development and Impact on Poverty Working Group final project. 2009
[20] F. T. Kandenge. "Public and Private Investment and Economic Growth in Namibia (1970-2005)". Botswana Journal of Economics. University of Namibia,1-15. 2007
[21] K. M. Maingi. "The Effect of Foreign Direct Investments on Economic Growth of Kenya". University of Nairobi. 2014

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