PUBLIC INVESTMENT AND ECONOMIC DEVELOPMENT IN SELECTED SUB-SAHARAN COUNTRIES: THE ROLE OF INSTITUTIONAL FACTORS

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INTRODUCTION

- The issues surrounding how public investment fosters economic growth and development abound in financial and development economics literature across the globe (Ebong, Ogwumike, Udongwo and Ayodele, 2016; Aziri, 2017; Balaj & Lani, 2017; Kimaro, Keong and Sea, 2017; Ncanywa & Masoga, 2018).
- Early development theories postulate the exigency for the state to create adequate physical infrastructure as well as institutions and social conditions for development. This follow the thought of Wagner's law of increasing state activities.
- This law states that there are inherent tendencies for activities of different layers of governments to increase both intensively and extensively. In this assertion therefore, there exists a functional relationship between growth of an economy and growth of government activities in which the government sector grows faster than the economy (Wagner, 1911).

INTRODUCTION (cont.)

- Sub-Saharan Africa is a region in Africa that comprises of developing countries facing diverse challenges such high unemployment rate, poverty, inequality and low economic growth.
- In an attempt to address these issues, governments often embark on large public investment with the belief that this can spur economic development and even sustain it.
- Public investments represent that part of national income allocated to cover public expenditures, which are general and special.
- Pursuing this might be a wise and reasonable decision, but the institutional factors that pervaded in these countries have been somehow underestimated.

INTRODUCTION (Cont.)

- Findings from various studies on the impact of public investment on economic growth and development are wide and varied.
- While theory suggests that government expenditure should have a positive effect on economic growth (Keynes, 1936; Solow-Swan, 1956; Musgrave and Musgrave, 1989; Barro, 1990; Barro & Salai-i-Martin, 1992, 1995), results differ leading to inconclusiveness between the theory and actual.
- The missing link between the theory and actual results might be the consideration of the institutional factors in the country and region of study.
- This study investigates the trends of public investment and economic development in selected sub-Saharan African countries and their institutional factors. This is with a view to evaluating the extent to which institutional factors had influenced the link between public investment and economic development.

INTRODUCTION (Cont.)

- Based on this premise therefore, this paper intend to answer two questions. One is the on the impact of public investment on economic growth in the sub region, the other is on the effect of institutional factors on the nexus between public investment and economic growth and development.
- The main theory driving this study is the endogenous growth model as espoused by Barro & Sala- i -Martin (1992), which incorporates public investment in their model.
- The endogenous growth theories deals with models that can generate long-term growth without relying on exogenous changes in technology and population (Lucas, 1988; Romer, 1994)

DATA AND METHODOLOGY

- This paper employs panel data of selected sub-Saharan African countries covering the period from 1996 to 2017. Due to deficiency in data for some important variables which are included in the model, the study made use of twenty countries categorised into three groups, namely West Africa, East and Central Africa, and Southern Africa.
- The autoregressive distributive lag, Granger causality, impulse response function and variance decomposition were applied to achieve the objectives of the study using E-views 9. Data are obtained from World Development Indicators and World Bank Governance Indicators database, 2017. The period from 1996 to 2017 is chosen because of the availability of data for these periods, especially data of quality of institutions which is available from 1996.

DATA AND METHODOLOGY (Cont.)

- Accordingly, variables which are incorporated in this analysis are Log of GDP per capita (LGDP_PC) to represent economic growth and development and it is used as an independent variable. Independent variables are as follows; gross capital formation (public sector) measured as a percentage of GDP (GFCF_PF) to represent the public investment (physical stock attributable to public sector), inflation (INFL) to proxy monetary policy, government final consumption expenditure measured as a percentage of GDP (GFCE) to represent government total expenditure and Overall Institutional factors (OIF) to account for the overall index of quality of institutions (six indicators, namely voice and accountability, political stability, government efficiency, regulatory quality, rule of law and control of corruption) . The overall institutional factors will be applied as an interaction with public investment represented with gross capital formation (public sector) GFCF_PF.

MODEL SPECIFICATION

- Following the Pesaran et al, (2001), the unrestricted error correction version of the ARDL model pertaining to the variables is as stated below:

$$\Delta LGDP\_PC = \beta_0 + \beta_1 GDP\_PC_{t-1} + \beta_2 GFCF\_PF_{t-1} + \beta_3 GTCE_{t-1} + \beta_4 OIF_{t-1} + \beta_5 INFL_{t-1} +$$

$$\beta_6 (GFCF\_PF * OIF)_{t-1} + \sum_{i=1}^{n} \alpha_i \Delta LGDP\_PC_{t-1} + \sum_{i=0}^{o} \beta_i \Delta GFCF\_PF_{t-1} + \sum_{i=0}^{p} \delta_i \Delta GTCE_{t-1} +$$

$$\sum_{i=0}^{q} \pi_i \Delta OIF_{t-1} + \sum_{i=0}^{r} \vartheta_i \Delta INFL_{t-1} + \sum_{i=0}^{s} \psi_i \Delta (GFCF\_PF * OIF_{t-1} + \varepsilon t$$

RESULTS AND DISCUSSION (cont.)

Table 2: Estimated Short-run and Long-run Coefficients using ARDL (1,2,2,2,2,2)
Dependent Variable: LGDP Per capita (GDP_PC)

Variable	Coefficient	Std Error	t-statistics	Prob.
GFCF_PF	0.974786	0.223202	4.367287	0.0000
GFCE	0.190716	0.046811	4.074135	0.0001
INFL	0.265923	0.050027	5.315633	0.0000
OIF	0.48852	0.082293	5.936341	0.0000
GFCF *OIF	-0.036602	0.008187	-4.470528	0.0000
D(GFCF_PF)	-0.662612	0.636745	-1.040624	0.2993
D(GFCF_PF(-1))	-0.382693	0.25448	-1.503821	0.1342
D(GFCE)	-0.005837	0.00687	-0.849612	0.3966
D(GFCE(-1))	-0.006142	0.007357	-0.834826	0.4048
D(INFL)	-0.00617	0.004416	-1.397254	0.1639
D(INFL(-1))	-0.003374	0.003515	-0.95998	0.3383
D(OIF)	-0.053569	0.033385	-1.604579	0.1102
D(OIF)-1))	-0.037221	0.026029	-1.429994	0.1543
D(GFCF*OIF)	0.010934	0.010621	1.02952	0.3045
D(GFCF* OIF)-1))	0.006664	0.005302	1.25689	0.2103
COINTEQ01	-0.038759	0.015693	-2.469896	0.0144
C	-0.347517	0.162939	-2.132802	0.0342

RESULTS AND DISCUSSION (cont.)

- The panel root tests reveal that apart from inflation which is stationary at levels and has an I (0), all other variables became stationary at first difference implying I(1). In essence, there is a mixed others of integration. The lag is automatically selected using Akaike Information Criteria (AIC).
- Results of short- run relationships among the variables show all the variables having a non-significant but positive relationships with GDP per capita, but Gross Fixed Capital Formation of Public Sector (GFCF_PF) at lag 0 and lag 1 reveal a negative and non-significant relationships with the independent variable.
- In the long-run, all the independent variables have a positive and significant relationships with the dependent variables. However the variable representing the interaction of GFCF_PF and OIF (Gross Fixed Capital Formation of Public Sector and Overall Institutional Factors) show a negative and significant relationship with dependent variable.

RESULTS AND DISCUSSION (Cont.)

- The co-integration factor (COINTEQ01) reveal a long-run relationships among the variables. The coefficient of the factor is negatively signed and statistically significant.
- In the long run, whereas all the variables has a positive and significant relationships with GDP per capita, the coefficient of the interaction between Gross Fixed Capital of Public Sector (GFCF_PF) and Overall Institutional factors (OIF) ,which measures the role institutional factors in Gross capital formation (a proxy for public investments) is negative and significant.
- This suggests that institutional factors in sub-Saharan region impairs the positive growth and development effects of public investments. It is an indication that institutional environments are not favourable to economic growth and development.

CONCLUSION AND RECOMMENDATION

- The study reveals that rather than complementing the positive impact of public investment on economic growth, the institutional factors constitutes itself as a drag on the growth effect of the increase in the public investment embarked upon by the sub region.
- It is therefore recommended that concerted efforts should be made by the relevant ministries, parastatals and government agencies at improving the quality of institutional factors governing and characterising the economic development in the SSA.
- This might need total overhauling of the institutional frameworks within which public investment will be able to positively impact economic growth and development.

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