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SAVINGS, INVESTMENT AND ECONOMIC DEVELOPMENT IN KENYA

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Abstract

The study investigated the relationship between savings, investment and economic development in Kenya for a period of 33 years (1990 to 2022). The specific objectives of the study were to find out whether total consumption from GDP, Net Investment in Government non-financial assets, government spending consumption expenditure and household final consumption expenditure (private consumption), consumer price index and GDP deflator significantly affects economic development in Kenya. To this reason, the study employed the fully modified least square (FMOLS) to analyse the data. The results from the analysis indicate that the long run movements in economic development in Kenya can only be effectively predicted by the level of Domestic Saving (DSAV), Investment (INV) and consumption level (CONS), while interest rate (INTR) and Inflation rate (INFL) failed the 5 percent significant level. The study recommends that since investment significantly impact economic development in Kenya the government should ensure sustained investment growth level in order to constantly enhance economic development. This capital investment allows for research and development a first step to taking new products and services to the market which invariably promotes economic development in Kenya.

Keywords: Consumer Price Index, Economic Development, Investment, Private Consumption, Savings

1. Introduction

The high economic development of the newly industrialised countries (NICs) of East Asia has caused heated debate about the impact of domestic savings on investment in Sub-Saharan Africa countries, which despite various economic reforms are trapped in poverty. According to the world Banks African Development indicators gross domestic savings as a fraction of GDP across Africa is relatively low. It roughly stood at 20, 17 and 21% in the 1980s 1990s and 2000s, respectively. Comparatively these figures were 28, 32 and 37%, respectively for Asian countries over the same periods.

There is increasing beliefs that savings increases investment which in turn leads to sustainable economic development and growth. Feldstein and Horioka (1980)

discover that domestic savings and investment are strongly correlated in 21 industrialised countries since in the real world, there are significant barriers to capital mobility and this may partly be as a result of some government protectionism policies.

Furthermore, Young (1995) uses detailed growth accounting to argue that the higher growth in the NICs is almost entirely due to rising savings-investment increasing labour force participation and improving labour quality (in terms of education) and not due to rapid technologies progress and other forces affecting the Solow residual like Romer (2012) and Hellwell (1988) find out that savings-investment correlation is much weaker across regions that across countries. This implies that with removal of restrictions on capital and labour mobility, countries in a regional bloc tend to

conditionally convergence at a steady economic growth path than countries in autarky.

In the past three decades, East African's national governments have taken steps to prevent large imbalances between aggregate savings and investment, but such imbalances can develop in the absence of government intervention. Among other macroeconomic convergence criteria, the EAC protocol requires partner states prior to joining the East Africa Monetary Union to have domestic savings as a percent of GDP of least 20%. Since the strong relationship between savings and investment in the East Asia differs from the predictions of a natural baseline model, there is need to examine whether those associations also exist in the East African community (EAC) with their widening and deepening social, economic and political co-operation through a customs union in 2005, a common market in 2010, proposed monetary Union in 2024 and a political Federation of the East African State at in a distant future. Hence, there is flexible capital, goods and services, and people movement presently among the partner states of Burundi, Kenya, Rwanda, Tanzania and Uganda.

2. Literature Review

Savings, investment and economic development have been examined severally by different researchers with mixed results. This study examined previous empirical works from research work.

Baharumshah, Thanoon and Rashid (2003) examined impact of savings on economic growth in five Asian countries such as Singapore, Malaysia, South Korea, Thailand, Philippines from the 1960-1997. Using the VECM econometric techniques, findings revealed that level of growth of savings was not the reason for economic growth in Granger sense in all the countries examined except for the case of Singapore. Tinaromn (2005) examines the relationship between savings and economic growth in North Africa for the period 1946-1992.

Okere and Ndugbu (2015) examined macroeconomic variables and savings mobilization in Nigeria for the

period 1993 to 2012. Using the OLS, the results from the empirical analysis revealed a strong, positive relationship between the selected exogenous macroeconomic variable and domestic savings.

Okwori, Sale and Abu (2016) constructed a highly simplified model to highlight the effect of Macroeconomic variables in aggregate demand and the multiplier effect on the Nigeria economy. Quarterly data between 2009 and 2014 were used and the OLS technique was employed to examine this effect in the aftermath of the global financial recession. The study fraud out that the adverse effect of the global financial crises was minimal non-national income in Nigeria. The comparative analysis reveals that the Nigerian economy performed better in the post global financial recession era than in the preceding period. Consumption, investment government expenditure and balance of trade contribute positively to the growth of aggregate demand within the study period however; the level of instrument in Nigeria was not significant.

Odhanbo (2008) investigated the relationship between savings and economic growth in Kenya for a period of 15 years (1991 to 2005). Employing the Granger causality between savings, fiscal deficient and economic growth the results revealed that these is Granger causality between economic growth and savings and that savings are a significant stimulator for financial sector development.

Ngox (2020) examined the effect of inflation and money supply on economic growth in Vietnam, using the Non-linear Autoregressive distributed Lag. Approach introduced for the period 1990 to 2017. The findings revealed a significant negative effect on inflation on economic growth in the long run the impact of money supply on growth is positive in both the short-run and long-run.

Gaps in Literature

From the above empirical literature reviewed, it was observed that most of the works were carried out in other parts of the world for instance, Okeke and Ndugbu (2015); and Okwori, Sule and Abu (2016) in

Nigeria and Tinaromn (2005) in South Africa. Only the works of Odhiambo (2008) and Ngoc (2020) were done in Kenya to the best of our knowledge. Since then a lot must have taken place in the country, Kenya which invariably created a gap in knowledge, as a consequence, this study will close this gap by using up to 2022 data from Kenya.

3. Methodology

The study employed the longitudinal research design which involved investigating phenomena in terms of relationships using real world historical data or information. The population of the study is the Kenya economy. The sample size was the aggregate savings and investment in Kenya which is hypothesized to positively impact economic development in Kenya overtime. A census approach was utilized on aggregate data on the population.

3.1 Model Specification

The model for his study was based on the neo-colonial theory of economic growth development is based on the collective works of Tobin, Swan, (1956), Mende, (1961) & Phelps (1962). According to the theory, economic development is determined with the help of certain factors, such as stock of capital supply of labour and technological development over time. Hence, in this study, those factors are slightly modified to include domestic savings, investment, consumption inflation and interest rate. The model was stated in its functional from as follows:

$$GDPPC = f(DSAV, INV, CONS, INFL, INTR) \dots 1$$

The econometric form of the model of this study is stated as follows:

$$GDPPC = \alpha_0 + \alpha_1 DSV_t + \alpha_2 INV_t + \alpha_3 CONS_t + \alpha_4 INFL_t + \alpha_5 INTR_t + \mu_t \dots \dots \dots 2$$

Where

GDPPC = Gross Domestic product per Capita (a proxy for economic development)

INV = Investment

CONS = consumption level

INFL = Inflation Rate

INTR = Interest Rate

μ_t = Error term

The Appriori expectation of the model are = $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5 > 0$

3.2 Method of Data Analysis

In this study, three methods were used for the analysis of data and are Unit Root, Granger Causality test, and Fully Modified Least Square Estimation.

Table 1: Measurement of Variables

S/N	Variables	Definition	Type of Variable	Measurement	Source	Apriori sign.
1	GDPPC	GDP Per Capita	Dependent Variable	Economic Development (GDP per capita is gross domestic product divided by midyear population)	World Bank Data for All Countries/World Governance Indicator.	
2	DSAV	Domestic Savings	Independent	Gross domestic savings are derived by deducting final consumption expenditure (total consumption) from GDP	World Bank Data for All Countries/ World Governance Indicator.	+
3	INV	Investment	Independent	Net investment in government nonfinancial assets such as inventories, fixed assets,	World Bank Data for All Countries/World Governance Indicator.	+

				valuables, non-produced assets and consumption of fixed capital.		
4	CONS	Consumption	Independent	government spending consumption expenditure and household final consumption expenditure (private consumption)	World Bank Data for All Countries/World Governance Indicator.	+
5	INFL	Inflation Rate	Independent	As consumer price index	World Bank Data for All Countries/World Governance Indicator.	-
6	INTR	Interest Rate	Independent	The lending interest rate adjusted for inflation as measured by the GDP deflator.	World Bank Data for All Countries/ World Governance Indicator.	-

4. Results and Discussion

In this study the data for the year 1990 to 2022, were collected on the variables of interest, the data presented below are the original data from World Bank Development Indicator and African Development Bank, 2022. Table 1 showing Economic development (GDPPC), Gross Domestic product divided by the year population, Domestic Saving (DSAV) Deduction of final consumption expenditure (Total Consumption) from GDP, Investment (INV) Net Investment in

government non-financial assets such as inventories fixed assets, valuables, non-produced assets and consumption of fixed capital, Consumption (CONS) government spending, consumption expenditure and household final consumption expenditure (Private consumption) inflation rate (INFL) consumer price index, interest rate (INTR) the lending interest rate adjusted for inflation measured by the GDP-deflator

Table 2: Unit Root Test (For Kenya)

In Levels			
Variable	ADF Test Statistic	95% Critical ADF Value	Remark
GDPPC	2.370514	-2.957110	Non-Stationary
DSAV	2.711081	-2.957110	Non-Stationary
INV	1.375439	-2.957110	Non-Stationary
CONS	2.608304	-2.957110	Non-Stationary
INFL	-2.979084	-2.957110	Non-Stationary
INTR	-2.046743	-2.957110	Non-Stationary

Source: Author's Compilations 2023.

4.1 Unit Root Test

The Augmented Dickey Fuller (ADF) was employed to test the stationarity properties of the data set in levels as well as test difference, and the outcome of the result is presented in Table 2. The result obtained revealed that all the variables have ADF test values that are less than the 95 percent actual ADF value (in absolute values). The implication of this is that these time series are non-

stationary in their levels. However, the result of the unit root test on these variables in first difference is presented in panel 2. From the result it is seen that the ADF test statistics for each of the variable is greater than the 95 percent article ADF values (in absolute value). With these result, these variables are adjudged to be stationary. This implies that the variables attained stationarity after the first differences and are integrated of order ie 1(I).

Table 3: Pairwise Granger Causality Tests (Kenya)

Null Hypothesis:	Obs	F-Statistic	Prob.
DSAV does not Granger Cause GDPPC	32	0.82375	0.3716
GDPPC Granger Cause DSAV		4.89457	0.0350*
INV Granger Cause GDPPC	32	15.5674	0.0005*
GDPPC does not Granger Cause INV		0.74128	0.3963
CONS Granger Cause GDPPC	32	13.0917	0.0011*
GDPPC does not Granger Cause CONS		0.32924	0.5705
INFL does not Granger Cause GDPPC	32	0.63501	0.4320
GDPPC does not Granger Cause INFL		0.25457	0.6177
INTR does not Granger Cause GDPPC	32	0.75861	0.3909
GDPPC does not Granger Cause INTR		0.81063	0.3753

Source: Author's Compilations 2023; from Eview 10.0 Output.

4.2 Granger Causality Test

The result of the Granger Causality Test with respect to GDPPC and all the explanatory variables are presented in Table 3. We consider that F values and their corresponding probabilities in examining the direction of causality. The results showed that a unidirectional

causality runs from GDPPC to DSAV, from INV to GDPPC and from CONS to GDPPC respectively. The implication of this result is that, while GDDPC inputs Domestic Savings, Investment (INV) and Consumption (CONS) affect GDPPC (Economic development in Kenya) within the period of investigation.

Table 4: Savings, Investment and Economic Development in Kenya (FMOLS)

Variables	Coeff.	T-Ratio	Prob.
DSAV	1.54E-08	8.853254	0.0000**
INV	3.54E-06	10.75241	0.0000**
CONS	-9.34E-07	-5.574173	0.0000**
INFL	-91.34121	-1.469632	0.1537
INTR	-70.35703	-1.188407	0.2454
Constant	147787.4	27.89172	0.0000
$R^2 = 0.97$	$\bar{R}^2 = 0.97$		

Source: Author's computations 2023: Note: ** sig at 1% level; * sig at 5% level

4.3 Full Modified Least Square Examination

The results of the estimated Fully Modified Least Square (FMOLS) are presented in Table 4 above. The results show a very impressive diagnostic outcome. The R-squared value of 0.97 is high and it indicates that over 97 percent of the systematic variation in economic development (proxied by GDPPC i.e GDP per capita) over the period in explained by movements in the explanatory variables, even the R-Bar square value of 0.97 is equally very high. A close examination of the coefficients of the variables in terms of their significance level reveals that the coefficients of Domestic Consumption (CONS) are significantly

different from zero at the 1 percent significance level. This implies that the long run movements in Economic Development (GDPPC) in Kenya can only be effectively predicted by the level of Domestic Savings (DSAV), Investment (INV) and Consumption Level (CONS). However, the coefficient of CONS is negative, implying that as CONS rate increases Economic Development in Kenya decreases by approximately -9.34E-07%. All other coefficients of Inflation Rate (INFL) and Interest Rate (INTR) failed the 5 percent significance test level. Thus, the most important factors in Economic Development process in Kenya are Saving, Investment Level and Consumption Rate.

4.4 Discussion of Findings

Theoretically, there is a strong link between domestic savings, investment and economic development. According to (Domar, 1946, Solow, 1956), increases in savings stimulate economic growth through increased investment, especially increased in investment in human or material capital or in research and development (R & D). However, if there is an access to international financial markets it may not necessarily develop faster due to domestic savings as investment may be financed with foreign savings. On the other hand the Keynesian theory has it that economic growth stimulates increased savings, this submission was also corroborated by Abu (2010). Thus, countries with higher domestic savings rate often have faster economic development than those with lower saving rates, because, with capital accumulation, there is a greater opportunity for countries productive capacity to provide additional income stream for countries especially the Kenya economy. This was why the United Nation conference on Trade and Development (2004) stated that the underlying factor for enhancing a country's capital is to increase the aggregate level of domestic savings. For this reason, developing countries should always prioritize programs that enhance domestic savings, in order for capital to be invested in the most productive sector of the economy.

As it relates to consumption, a strong positive link in theoretically expected with economic development (Duesenberry, 1949). Consequently, aggregate consumption spending enhances the economy, and with a slight decrease it can reduce aggregate demand and economic activity; and a failing saving rate may result in economic development due to the fact that individuals spend a larger portion of their money on goods and services (Alper, 2018). Thus, there is a relatively high consumption rate in Kenya and this seems to be a positive development because, household and public expenditure play an essential role when it comes to supplying the economy with enough spending to generate growth. The findings is at variance with those of Ekeocha, Ogbuabor and Penzin (2020) who found that consumption does not significantly affect

economic development but it agrees with those of (Rahman et al. 2021) who observed a significant positive impact of consumption on economic development.

5. Conclusion and Recommendations

The study thus concluded that domestic savings level (DSAV), Investment (INV) and consumption (CONS) level are the main factors promoting economic development in Kenya; consequently, government and regulatory agency should focus more attention on these three variables.

Based on the finding of this study, the following recommendations for policy decisions were brought forward.

- i. Since aggregate consumption significantly impact economic development in Kenya the government should ensure sustained consumption growth level in order to constantly enhance economic development this can be done by increasing worker income, educate and inform consumers about the environmental and social consequences of their consumption patterns, and the benefits of more sustainable alternatives.
- ii. The government should be more proactive in formulating investment policy, and such policy decision should be deliberate such that it encourage and mandate households, government and corporate bodies to invest in the domestic market. This will help to minimize huge capital flight thereby boost overall economic activities in Kanya, make more loanable funds available, lower interest rate and attract more foreign investments into the country
- iii. Since domestic savings has a strong positive impact on economic development, it therefore means that the government should strive to sustain or improve on current economic development policies such that it will constantly encourage and increase savings level due to the fact that it is a necessary and sufficient condition for investment, which it turn accelerates growth and development.

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