International Development Agencies and Per Capital Gross Domestic Product in Nigeria

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Abstract
This study provides econometrics evidence on the role of international development agencies in boosting per capita gross domestic product in Nigeria. The agencies covered include the United States Agency for International Development, International Fund for Agriculture Development and Department for International Development. In addition to these agencies, official development assistance (ODA) from Development Assistance Committee (DAC) was introduced in the model as part of the exogenous variables. The data required were sourced from World Development Indicators and analyzed with a combination of cointegrating regression model and error correction mechanism (ECM). It was observed from the cointegration test results that the variables are cointegrated. The cointegrating regression estimates indicate that development assistance from Department for International Development has significant positive relationship with per capita GDP. 1 percent increase in development financing from DFID increases per capita GDP by 0.268 percent. On the contrary, funds from United Sates Agency for International Development impact negatively on per capita GDP in the long run. More so, the parsimonious ECM reveals that financial support from International Fund for Agriculture Development is positive linked to per capita GDP growth in the short run. The error correction estimate (-0.3617) suggests that short run deviations in the model are corrected at a speed of 36 percent. Based on the findings, it is recommended that policy makers should prioritize key sectors with high potentials of inclusive growth in the allocation of development assistance from international development agencies in order to ensure the participation of the population in the share of the growth process.

Keywords: Development Agencies, Per Capita Gdp, Oda, Cointegrating Regression and ECM

Introduction
Global recognition has been given to the role of development agencies in promoting productive growth in developing and emerging market economies. As key players in their host economies, development agencies make available resources for investment in key aspects of the economy in order to engender rapid growth and sustainable development. Ogbalubi & Wokocha argue that sustainable development of an enduring economy all over the world makes adequate provisions for overall improvement income distribution and per capita GDP [1]. It is considered as a step in the right direction for driving the process of economic development and industrialization of the developing nation, and also holds the ace for reducing unemployment. It is believed that International Development Agencies play important role in the development process by supporting private sector investment. Their investments are mainly directed to the core segments of the real sector such as agriculture and manufacturing. For instance, investment in agriculture is considered as very helpful for ensuring food and nutritional security, income and employment generation, and for stimulating industrialization and overall economic development of the country. Development economists have always assigned the agriculture sector a central place in the development process; however the understanding of these roles has evolved overtime. Early development theorists emphasized on industrialization, though they counted on agriculture to provide the necessary output of food and raw materials, along with the labour force that would gradually be absorbed by the industry.

Much later thinking moved agriculture more to the forefront of the development process; the hopes for technical change in agriculture and "green revolution" suggested that agriculture could be the dynamo for growth [2]. Over the years, government has initiated various policies to unleash the potentials of the Nigerian agriculture sector to feed its nation and become a leading exporter of food such as Operation Feed the Nation (OFN), Green Revolution, National Food Acceleration Production Programme (NAFPP), Directorate of food, Road and Rural Infrastructure (DFRRI) among others. These programmes failed due to policy inconsistencies and corruption [3]. Former president Obasanjo introduced the cassava project as a prominent agricultural programme in 2004-2005; President Yar Adua' 7-point agenda also places emphasis on food security, and

former president Good luck's initiated agricultural transformation programme. Despite all these, agriculture has failed to keep pace with Nigeria's rapid population growth.

Over 53 million (about 30 percent) of Nigerians remain undernourished and majority of Nigerians (65 percent) remain food insecure [4]. World Bank has championed agricultural development programme in Nigeria in form of foreign aid. The programme which started with emphasis on increased food production, was conceived in 1972 and effectively commenced in 1975 in Northern Nigeria in the enclave (experiment) areas of Funtua, Guzau and Gombe [5]. Within the context of the National Medium-Term Priority Framework (NMTPF) for FAO's assistance, FAO has assisted Nigeria in the implementation of major projects across the country in different subsectors of agriculture and natural resources such as the intervention in the National Programme on Food Security.

According to ECA, international development agencies must increase assistance to Africa's agricultural sector in order to help broaden and accelerate the continent's recent economic and agricultural growth in order to raise the number of countries that will achieve MDGs [6]. However, the subject of foreign agricultural aid and development assistance in agriculture remains a thorny issue among donors and recipient countries alike. While the recipient countries want more foreign aid and development assistance to increase their agricultural production, donors and development partners focus on the effectiveness of aid-funded projects in order to justify the need for future aid. But evidence showed that, with the intervention of these development agencies, the agricultural sector in Nigeria has continued to perform below expectation with associated negative implications economic growth and per capita GDP despite the huge sums of money and development assistances being provided by development agencies.

The presence of various international development agencies such as UK Department for International Development (DFID), International Fund for Agricultural Development (IFAD) and United States Agency for International Development (USAID) amongst others have been as partners in the development process, the macroeconomic outcomes such as per capita GDP growth and other income distribution measures have not been very impressive. Low per capita GDP remain key developmental challenge in Nigeria despite large inflows of development finance from International Development Agencies. Thus, there have been controversies regarding the expected positive spill-overs that are associated with the activities of foreign development agencies. On one hand, some scholars argue that international development agencies are helpful in promoting economic turnaround through their positive contributions GDP and its distribution amongst the population as captured by per capita GDP.

On the other hand, the activities of Development agencies have been criticized given that it constraints the process of growth and its distribution to the population. Forbes & Warnock are of the view that resources from development agencies tend to overheat the recipient economy and cause loss of global competeness as a result of currency appreciating, excessive credit creation and high vulnerability to macroeconomic stocks [7]. Additionally, Beningo, Converse & Fornaro, observe that huge inflows of resources from developing agencies cause labour and capital tend to shift from manufacturing to non-manufacturing sectors [8]. In the wake of

these controversies, the dominant question that has continuously sought for answer in the Nigerian macroeconomic landscape is: How has Nigeria leveraged on the availability of resources from development agencies to promote per capita GDP growth? It is against this backdrop that this paper examines the role of international development agencies in boosting per capita GDP in Nigeria.

Review of Related Literature
Theoretical Framework
The Harrod-Domar Model

Harrod and Domar presented nearly identical dynamic models based on Keynes' macroeconomic framework, which focused on determining an economy's long-run growth path. Their models are often jointly referred to as the Harrod-Domar model [9-11]. That two economists would independently produce the identical model was not surprising: their model is a logical extension of John Maynard Keynes' macroeconomic model [11]. In analyzing how macroeconomic policy could restore full employment, Keynes had focused on investment as a major category of aggregate demand for the economy's output, along with consumption demand and government demand. Harrod and Domar noted, however, that in addition to contributing to aggregate demand for output today, investment also increased the economy's potential output in the future. Thus, dynamically over time investment has both demand side and supply side effects, and full employment can be maintained in the long run only if investment and the other sources of aggregate demand grow just fast enough to exactly absorb the increased output that the investment makes possible. Harrod called this particular growth path the economy's warranted growth, the path on which the economy's circular flow remains in balance over time given its technological parameters and savings behavior. If aggregate demand does not grow as fast as output capacity grows over time, unemployment will rise.

The theoretical underpinning of Chenney-Strout model maintains that developing countries are confronted with the lack of savings and "export earnings" may be not appropriate for enhancing investment. Despite apparent shortcomings in its underlying postulations, the model provided the basis for empirical papers on development assistance in the past decades [12,13]. In essence, the Solow- and Harrod-Domar growth models allow for the idea that aid and foreign development assistance is necessary to stimulate investment and to improve development in agriculture inequality. These theoretical underpinnings are consistent with the need to reinvent foreign aid and assistance for more inclusive and sustainable development [14]. Second, the theoretical linkages between development assistance mechanisms and development outcomes in poor countries are founded on some perspectives on the poverty tragedy in Africa and on the effectiveness of foreign aid in boosting economic development which have been documented by Asongu & Nwachukwu [14]. In response to the growing poverty levels in Africa, Kuada has proposed a new development paradigm based on shifting from "strong economics" (or structural adjustments policies) to "soft economics" (or human capability development) [15]. The conception of agriculture value-added per worker (AVPW), which is a key notion in this study, is consistent with this paradigm shift as well as theoretical proposition of Asongu and Jellal, on channeling foreign aid through mechanisms that decrease the tax burden borne by the private sector [16]. It is also important to note that Kuada's 'paradigm shift' for elucidating development outcomes, reducing unemployment and eliciting inclusive development is in accordance

with a new stream of African development literature which has focused on the reinvention of foreign aid to meet the challenges of sustainable agricultural development [15].

Empirical Literature
Adedokun, Folawewo and Abiodun applied the generalized methods of moments (GMM) technique in investigating the impact of aid selectivity practice on aid-growth relationship in Sub-Saharan Africa (SSA) and several groups of countries within the SSA between 1980 and 2012 [17]. The outcome of the empirical data analysis shows strong evidence that aid selectivity significantly improved aid effectiveness during the study period. The study further explained that the policy implication of this finding is that donors should embrace aid selectivity in aid administration to improve effectiveness as it will not only make aid available to countries with good governance, but also serve as a tool to improve governance. Owing to the finding, the study recommended that efforts should be made to increase the volume of aid flowing to with a view to promoting the aid effectiveness in SSA countries.

Kumi, Ibrahim & Yeboah, examine the impact of aid and its volatility on sectoral growth by relying on panel dataset of 37 sub-Saharan African (SSA) countries for the period 1980-2014 [18]. Findings from our system generalized methods of moments (GMM) show that, while foreign aid significantly drives economic transformation, aid volatility deteriorates sectoral value additions with huge impact on the non-tradable sector and a no apparent effect on the agricultural sector. However, the deleterious effect of aid volatility on structural economic transformation in SSA is weakened by a well-developed financial system with a large dampening impact on the tradable sector. Our evidence therefore provides unequivocal support for the notion that development of domestic financial markets enhances aid effectiveness.

Ajayi examines the role of institutions in aid effectiveness and economic development in Sub Saharan Africa [19]. The study adopted a theoretical framework similar to the Endogenous or New Growth model, as well as; the system generalized method of moments (GMM) technique of estimation was adopted in order to overcome the challenge of endogeneity perceived in the institutions variables and Aid growth argument. It was observed that foreign aid significantly influence real GDP per capita in Sub Saharan Africa. Also, variables such as gross fixed capital formation, rule of law, control of corruption and human capital had a significant effect on economic development in sub Saharan Africa while labour had no significant effect on economic development in Sub Saharan Africa.

Tang & Bundhoo, offered a better understanding of the aid-growth in the sub-Saharan African (SSA) region [20]. The study specifically examined the link between ODA and the economic growth rate in the SSA focusing on the ten largest recipients of international aid. These countries include Ethiopia, the Democratic Republic of Congo, Tanzania, Kenya, Côte d'Ivoire, Mozambique, Nigeria, Ghana, Uganda and Malawi. Multiple regression analysis was utilized as data analysis method and the result showed that aid by itself does not have significant impact on economic growth. The result further revealed that foreign aid enhances economic growth through investment and imports. This is an indication that foreign aid is a good ingredient for supplementing investment and imports requirements in the countries sampled. Overall, the study concludes that foreign aid is conditional on the economic, political and institutional environment of the recipient country. Hence, the study recommends that various governments, donor agencies, and policy makers should take into consideration these multiple aspects when undertaking aid-financing activities.

Satish investigated the direction and extent of relation between foreign aid and development [21]. The study particularly measured development from the perspective of human development index that incorporates a knowledge index, health index, and standard of living index. On the other hand, social aid provided the basis for measuring foreign aid towards achieving development goals. The empirical basis for testing the null hypothesis that foreign aid has a positive effect on HDI is the Ordinary Least Squares technique. Evidence from the regression results indicates that foreign aid has a negative relationship with development. Thus, the study concluded that foreign direct investment and domestic investment are important in determining the level of a country's development.

Asongu & Nwachukwu, analyzed how increase in foreign aid influence inclusive human development in 53 African countries for the period, 2005-2012 [14]. The empirical analysis is based on the Generalised Method of Moments (GMM) to control for persistence in inclusive human development and instrumental variable Tobit regressions to control for simultaneity and the limited range in the dependent variable. The study mainly focused on 'humanitarian assistance', 'action on debt' 'aid for social infrastructure', 'aid to the productive sector', 'aid to the multi sector', 'aid for economic infrastructure' and 'programme assistance' as the key components of international aid. The GMM result shows evidence of a synergy effects from 'aid to the productive sector' and a positive net effect from 'programme assistance'. On the other hand, the Instrumental Variable Tobit regressions revealed that there is a synergy effect from 'aid for economic infrastructure' and a negative net impacts from 'aid for social infrastructure', 'aid to the productive sector' and human assistance. On the basis of the findings, the study recommended for efficient and effective utilization of aid in order to foster economic development.

Lacine evaluates the impact of official development assistance on the growth of WAEMU countries using an econometric approach [22]. This assessment heeds the recommendation of the 2002 Monterrey Conference that diversification of development support resources is needed. The results obtained indicate that the total net public assistance received has a positive and significant impact in the short and long term on the growth of WAEMU countries. By diversifying the development support resources of the zone, the minimum threshold of official development assistance needed to boost the growth of the countries of the zone is 13.5% of GDP per capita.

Materials and Methods
Research Design
Following the nature of this paper, ex-post facto research design was adopted. As a blueprint for any quantitative empirical investigation, it provides insight into the data required and their sources which are mostly secondary in nature and as cannot be manipulated

Nature and Source of Data
Annual time series data which spanned through the period of 1990 to 2017 were utilized in this paper. The World Bank World Development Indicators and United Nations Conference on Trade

and Development (UNCTD) served as a major source of data collection in the data.

Model Specification

This paper adopts cointegrating and dynamic regression models. The cointegrating model follows the framework proposed by Stock and Watson [23]. Additionally, the dynamic regression model is built on the error correction model (ECM) which a follow up to the establishment of cointegration amongst the variables in accordance with Engle and Granger proposition [24]. In each of the model, perc capita GDP was introduced as the dependent variable whereas the underlying development funding from the development agencies served as the exogenous variables. The set up for the cointegrating regression model is specified as follows:

$$PKG_t = \kappa_0 + \kappa_1 DFD_t + \kappa_2 USD_t + \kappa_3 IFA_t + \kappa_4 ODA_t + \sum_{p=-y}^{n} \emptyset_1 \Delta DFD_{t-y} +$$
$$\sum_{p=-y}^{n} \emptyset_2 \Delta USD_{t-y} + \sum_{p=-y}^{n} \emptyset_3 \Delta IFA_{t-y} + \sum_{p=-y}^{n} \emptyset_4 \Delta ODA_{t-y} + \sum_t \quad (1)$$

Where: PKG = per capita GDP, DFD = Aid from International Fund for Agricultural Development, USD = Aid from United States Agency for International Development, IFA = funding from International Fund for Agricultural Development and ODA = Official Development Assistance

κ_0=Constant Term, κ_1-κ_4=Long run Multipliers n and y=Optimal lag lenght and lead lengths respectively, Δ=First difference operator and $\sum_t$=Statistic error term.

The ECM specification using the notation of the variables is of the form:

$$\Delta lnPKG_t = \alpha_0 + \sum_{i=1}^{P} \alpha_1 \Delta lnPKG_{t-1} + \sum_{i=1}^{P} \alpha_2 \Delta DFD_{t-1} + \sum_{i=1}^{P} \alpha_3 \Delta USD_{t-1} + \sum_{i=1}^{P} \alpha_4 \Delta lnIFA_{t-1}$$
$$\sum_{i=1}^{P} \alpha_5 \Delta ODA_{t-1} + \Phi ECM_{t-1} + V_t \quad (2)$$

α_0 = Constant parameter
α_1-α_4 = short-run coefficients of the regressors
y = lag length
ECM = Error correction term lagged for one period
ϕ = Coefficient of ECM which measures the speed of adjustment.
V_{1t}= Random disturbance term.

Method of Data Analysis

This paper focuses on the Dynamic Least Squares (DOLS) proposed by Stock and Watson to estimate the empirical relationship between development and inclusive growths in Nigeria [23]. The rationale for the DOLS is due to its improvement on the Ordinary least Squares (OLS) by producing robust result and coping with small observations and dynamic sources of bias in large sample. Additionally, the ECM is **used to determine the short run dynamic coefficients of the regressors and the speed at which the model** reconciles dynamics of short-run with the equilibrium of long-run. Notably, the estimation of the ECM as proposed by Engel and Granger depends on the evidence of long run relationships among the parameters [24]. The diagnostics tests conducted in the course of this paper are explained as follows:

Unit root test

In this paper, the Phillips-Perron (PP) test developed by Phillips and Perron was applied to test the null hypothesis of unit root against the alternative hypothesis of no unit root [25]. The model set up for the PP test is specified as:

$$\Delta M_t = C_0 + h_1 M_{t-1} + \sum_{i=1}^{q} d_i \Delta M_{t-i} + e_t \quad (3)$$

Where: M_t = time series variable under study
C_0 = intercept
h_1 And d_i = parameters to be estimated
q = lag length
Δ= First difference notation
e_t = Random disturbance term

Cointegration Root Test

This paper adopts Johansen and Juselius, approach to cointegration which is considered as a multivariate-based methodology for differenced integrated variables [26]. The null hypothesis of no cointegration was tested against the alternative of cointeration. The tests statistics (Trace and Maximum Eigen value statistics) formed for the rejection or acceptance of the null hypothesis at 5 percent level of significance. The model specification for the cointegration test is provided as:

$$F_{trace}(r) = -N \sum_{i=r+1}^{n} \log\left(1 - \hat{\lambda}_i\right) \quad (4)$$

$$F_{max}(r, r+1) = -N \log\left(1 - \hat{\lambda}r+1\right) \quad (5)$$

Where: F_{trace} (r) and F_{max} (r, r+1) denote Trace and Max-Eigen statistics respectively
$\hat{\lambda}$ = coefficients of the characteristic roots, N = sample size, r = cointegrating vectors
n = lag length. Log = notation for logarithm transformation

Serial Correlation Test

The test for serial correlation is important in econometrics analyzing given that it adds to validity of the estimated for long term prediction. Considering the dynamic nature of the ECM as it includes lagged dependent response variable as regressor, a higher order test for serial correlation shall be applied. Specifically, the Breush-Godfrey test for serial correlation attributed to Breush and Godfrey was formed basis for examining whether the residuals are serially independent at 5 percent level [27,28].

Heteroskedasticity Test

This test was applied to determine whether the variance of the residual term is time invariant. Specifically, the Breusch-Pagan-Godfrey Heteroskedasticity test attributed to was relied upon in testing the null hypothesis that the errors are homoscedastic at 5 percent level.

Results and Discussion
Trend Analysis of Per Capita GDP

The value of GDP per capita in Nigeria over the period of 1990-2017 is summarized in figure 1.
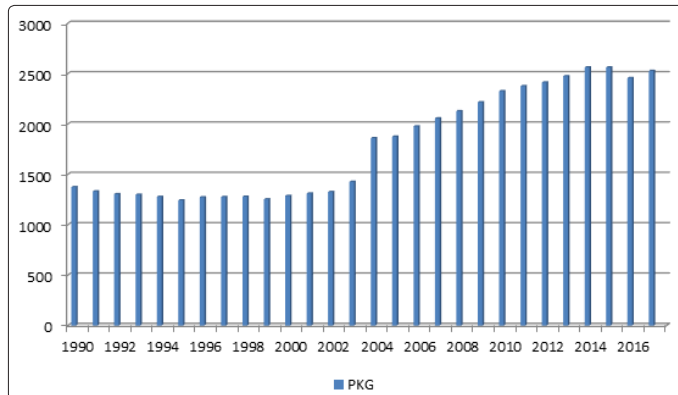

Figure 1: Per capita GDP between 1990 and 2017

As a key component of macroeconomic outlook in Nigeria, per capita GDP varied over the period, 1990 -2017. Its average value over the period stood at US$1788.52. This is below the the value most emerging and developing economies. The value of per capita GDP decreased from US$1374.44 in 1990 to US$1242.74 in 1995. It fluctuated between US$1272.72 and US$1860.06 from 1996 to 2004. It however, reached a maximum value of US$2563.09 in 2014. When compared to the value some emerging Asian economies such as Singapore, Malaysia and Indonesia amongst others, Nigeria lags behind in terms of per capita GDP. This suggests that the distribution of the growth proceeds amongst the population has not very impressive in the past two and half decades.

Unit Root Test Results
In line with the pre-condition for the estimation of econometrics model using time series data, the variables were subjected to unit root using Phillips-Perron approach. The results are summarized in table 1.

Table 1: Phillips-Perron unit root tests results

Variable	Adjusted t-statistic	P-value	Order of integration
LOG(PKG)	-2.2189	0.461	
ΔLOG(PKG)	-3.973	0.023	I(1)
LOG(USD)	-2.392	0.375	
ΔLOG(USD)	-3.952	0.029	I(1)
LOG(IFA)	-3.735	0.037	I(0)
LOG(DFD)	-2.503	0.324	
ΔLOG(DFD)	-4.081	0.018	I(1)
LOG(ODA)	-2.357	0.392	
ΔLOG(ODA)	-4.120	0.017	I(1)

Source: Author's computation with data from World Bank WDI

In view of the common problem associated with time series data, the variables were subjected to unit root test using the approach developed by Phillips and Perron [25]. It was observed from the results only IFAD financial support to Nigeria is stationary at levels. Hence, the null hypothesis of unit root is rejected at 5 percent significance level. The results further revealed that the other variables are non-stationary at levels. It therefore follows, that the null hypothesis of unit root cannot be rejected for these variables. Following the non-stationarity of most of the variables as observed from the levels test results, they were subjected to first difference test to determine if stationarity can be achieved upon data transformation, especially through first differencing. The results indicate that the variables become stationary upon first differencing. This authenticates the robustness of data transforming process in achieving stationarity in non-stationary series. In view of the outcomes of the unit root test, the variables are considered to be mixed integrated with FAD variable being integrated of order zero I (0) whereas the other variables in the model are all integrated of order one I (1).

Cointegration Test Result
Following the difference stationary process in the series, the variables were subjected to cointegration tests using Johansen-Juselius methodology. The results are summarized in Table 2.

Table 2: Cointegration Test Results

Series: LOG(PKG) LOG(DFD) LOG(USD) LOG(IFA) LOG(ODA) Lags interval (in first differences): 1 to 2				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.963126	180.2034	69.81889	0.0000
At most 1 *	0.893981	97.69691	47.85613	0.0000
At most 2 *	0.627883	41.59353	29.79707	0.0014
At most 3 *	0.484828	16.87982	15.49471	0.0308
At most 4	0.011868	0.298476	3.841466	0.5848
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.963126	82.50651	33.87687	0.0000
At most 1 *	0.893981	56.10338	27.58434	0.0000
At most 2 *	0.627883	24.71370	21.13162	0.0150

At most 3 *	0.484828	16.58135	14.26460	0.0211
At most 4	0.011868	0.298476	3.841466	0.5848
Source: Author's computation with data from World Bank WDI				

The cointegration test results in table 2 revealed that the lag order is 2 while the significance level is 5 percent. It was observed from the trace test results that four cointegrating equations exist in the model. Similarly, the maximum eigenvalue test results report four cointegrating vectors. On the basis of the findings, the variables are considered to have long run relationship. Thus, the null hypothesis of no cointegration is rejected at 5 percent level of significance. This provides the platform for estimating the cointegrating model and ECM to capture both long and short run relationship amongst the variables.

Model Estimation
The model estimation follows two approaches. The first approach reported in table 3 provides the long run estimates (cointegrating model) while the second approach showed in table 4 reveals the parsimonious ECM.

Table 4: Cointegrating Regression Result

Dependent Variable: LOG(PKG) Method: Dynamic Least Squares (DOLS)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
LOG(DFD)	0.268118	0.047817	5.607126	0.0005
LOG(USD)	-0.047086	0.019037	-2.473386	0.0385
LOG(IFA)	0.016764	0.029703	0.564385	0.5880
LOG(ODA)	-0.116439	0.041173	-2.828072	0.0222
C	9.145412	1.281045	7.139023	0.0001
R-squared	0.897444	Mean dependent var		7.451314
Adjusted R-squared	0.862331	S.D. dependent var		0.291649
S.E. of regression	0.025540	Sum squared resid		0.005218
Long-run variance	0.000555			0.000
Source: Author's computation with data from World Bank WDI				

The long run regression estimates in table 4 reveals that development assistance from Department for International Development has significant positive relationship with per capita GDP. 1 percent increase in development financing from DFID increases per capita GDP by 0.268 percent. On the contrary, funds from United Sates Agency for International Development impact negatively on per capita GDP in the long run. However, the result revealed that development assistance from International Fund for Agriculture Development and ODA are statistically in influencing changes in per capita GDP. The result further shows that 89.7 percent of the overall changes in per capita GDP are due to changes in the explanatory variables. The Wald test rest as evidenced in the probability value (0.000) of F-statistic indicates that the overall model is significant at 5 percent level of significance. The model is equally associated with low long run variance which indicates its reliability for long term forecast.

Table 5: Parsimonious ECM

Dependent Variable: DLOG(PKG) Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(PKG(-1))	0.506647	0.211893	2.391054	0.0314
DLOG(DFD(-2))	0.007920	0.012613	0.627920	0.5402
DLOG(USD)	0.035199	0.018726	-1.879727	0.0811
DLOG(USD(-2))	-0.033538	0.017065	-1.965270	0.0695
DLOG(IFA)	0.046984	0.010550	-4.453527	0.0005
DLOG(IFA(-1))	-0.016925	0.013256	-1.276790	0.2224
DLOG(IFA(-2))	-0.009896	0.010518	-0.940851	0.3627
DLOG(ODA)	0.018599	0.018166	1.023835	0.3233
DLOG(ODA(-1))	-0.013362	0.014795	-0.903127	0.3817
ECM(-1)	-0.361723	0.128998	-2.804097	0.0141
C	0.032227	0.010070	3.200256	0.0064
R-squared	0.749696	Mean dependent var		0.026474
Adjusted R-squared	0.570908	S.D. dependent var		0.056282
S.E. of regression	0.036868	Akaike info criterion		-3.462787
Sum squared resid	0.019029	Schwarz criterion		-2.926481
Log likelihood	54.28483	Hannan-Quinn criter.		-3.314038
F-statistic	4.193206	Durbin-Watson stat		1.764948

Source: Author's computation with data from World Bank WDI

Table 5 shows that lag 1 of per capita GDP has significant positive impact on its current value. This suggests that previous value of per capita GDP can be relied upon in predicting changes in its current value. Whilst funds from United States Agency for International Development does not significantly affect per capita GDP, financial support from International Fund for Agriculture Development is positive linked to per capita GDP growth. This could be attributed the prioritization of agriculture development by IFAD which improves food security and overall welfare of the population. Both ODA and lag 2 of DFD are statistically insignificant in influencing per capita GDP. The error correction estimate (-0.3617) has the expected negative sign and fulfils the statistically condition for significance at 5 percent level. Thus, short run deviations in the model are corrected at a speed of 36 percent. The explanatory power of the regressors as observed from the R-squared (0.749) is very impressive. In like manner, the F-statistic reveals that the overall model is highly significant.

Table 6: Diagnostics Tests Results

Test type	Test statistic	Probability value
Breusch-Godfrey Serial Correlation LM test	Chi-square statistic	0.859
Breush-Pagan-Godfrey Heteroscedasticity Test	Chi-square statistic	0.6681
Normality test	Jarque-Bera Statistic	0.495

Source: Author's computation with data from World Bank WDI

The results in table 6 reveals that the residuals test are very impressive. The serial correlation test result indicates that the there is no serial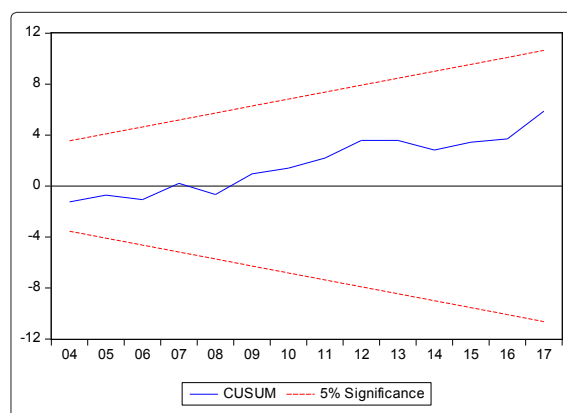 dependence in the residuals. The results further show that the residuals have constant variance and normality distributed over the study period. These findings are indicative that the model is reliable for long term forecast. In each of the instances, the null hypotheses of no serial correlation, homoscedasticity and normal distribution of the residuals are accepted.

Figure 2: Cumulative Sum (Cusum) Plot for Stability Test

The CUSUM plot in figure 2 lies between the two critical lines at 5 percent level of significance. This indicates that the estimated parameters are stable over the sample period. Therefore, predications based on the parsimonious ECM are very reliable.

Conclusion
The thrust of this paper lies on the role of development agencies in boosting per capita GDP in Nigeria. This was driven by the increasing recognition accorded to these agencies in the process

of growth in developing and emerging market economies. The development agencies covered by this paper include United States Agency for International Development, International Fund for Agriculture Development and Department for International Development. The findings reveal that financial assistance from Department for International Development contributes positively to per capita GDP in the long run. Contrary to expectation, funds from United Sates Agency for International Development impact negatively on per capita GDP in the long run. On the other hand, previous value of per capita GDP has significant positive impact on its current value. Similarly, financial support from International Fund for Agriculture Development is positive linked to per capita GDP growth. Thus, it is concluded that, on balance, the underlying development agencies have marginally helped in promoting per capita GDP over the sampled period. This could be traced to the poor institutional quality and incidences corruption prevalent in the Nigerian economy that often undermine effective allocation development assistance to productive sectors to foster per capita GDP growth and over development of the Nigerian economy. Thus, it is recommended that policy makers should prioritize key sectors with high potentials of inclusive growth in the allocation of development assistance from international development agencies in order to ensure the participation of the population in the share of the growth process.

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