Capital Account Liberalization and Economic Growth in Nigeria (1986 -2017)

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Abstract: *This study investigated the effect of capital account liberalization on economic growth of Nigeria between the periods of 1986-2017. The data used were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin 2017. The variables were real gross domestic product as the dependent variable, while capital account openness as the independent variable. The study employed unit root test, to determine the stationarity of the variables, co-integration approach to determine the long-run equilibrium relationship of the model and error correction model to adjust the error of the model. Ordinary least square (OLS) method of data analysis was adopted. From the model it was discover that current account openness has a positive sign and statistically significant. The study recommends that judicious and systematic relaxing of restrictions on capital account to ensure an asymmetric integration of the Nigerian economy to the international financial market.*

Key words: *Capital account liberalization, OLS, Economic growth, Capital account openness, Real gross domestic product*

Introduction

Capital Account Liberalization (CAL) has become an important policy choice in an increasingly integrated global economy (Udeh & Akporien, 2015*)* Capital Account Liberalization promotes a more efficient allocation of capital, from capital-surplus to capital-deficit economies. The flow of financial resources into the liberalizing countries would reduce cost of capital, increase investment, and raise output. In addition, access to capital enables countries to cushion fluctuations in national incomes and smoothen out consumption levels (Summers, 2000). CAL may also signal a country's commitment to

credible economic policies since apperceived deterioration in the policy environment of a country with an open capital account could potentially lead to capital flight. CAL therefore provides a strong incentive for policymakers to adopt and maintain sound macroeconomic policies, with obvious benefits in terms of long-term growth. Inflows due to liberalization are expected to facilitate the transfer of technological and managerial knowhow; encourage competition and financial development, thereby promoting growth (Bailiu, 2000). Stiglitz (2002) was of the view that capital account liberalization may lead to financial crisis. (Onoh & Okore, 2017) maintained that capital account liberalization helps in increasing the array of assets available in the local markets and also provide efficient and competitive financial assets.

Over the past decades, capital account liberalization and economic growth has attracted significant attention from finance and development experts and have been debated extensively. **Se**veral studies were carried out on capital account liberalization though with mixed findings. Studies were (Peter, 2007) found no effect of liberalization on real variables on economic growth (Michael & Giovanni, 2017). The observed failure of capital account liberalization to promote financial deepness among developing countries suggests potentially important policy implications concerning the desirability of liberalizing the capital account.(Okore & Onah, 2017) revealed that capital account liberalization had positive and significant impact on economic growth in Nigeria. Klein and Olivei (2008) showed a positive effect of capital account liberalization in middle income economies but no effect on rich and poor countries. Shabbaz, Wahid, Ahmad and Chaudbary (2008) capital account openness promotes economic growth in long run. They equally showed that inflation decelerates economic growth while improvements in investment activities boost economic growth. They argue that the long run enhancement and sustainable growth potential of the country is as a result of financial sector development and increase in human capital formation In light of the above explanation, there is no consensus on the findings. This may be due to the fact that these countries have different levels of financial and economic development. The current study, therefore, complements the existing empirical studies by using annual data, unit root test co-integration and error correction approach to examine the effect of ca[ital account liberalization and economic growth in Nigeria for the period of 1981-2017. This period was chosen due to availability of data.

Literature

Peter (2017) maintained that capital account liberalization is a decision by the government of a nation to migrate from a closed capital account regime, where capital may not enter freely in and out of the country, to an open capital account system in which capital can move freely. Okore and Onoh (2013) Maintained that Capital Account Liberalization (CAL) is a process whereby there is a systematic reduction or removal of restrictions on capital flows to a country. This also implies a higher level of integration into the global economy. Where a country deems it fit to impose restrictions on capital movements, the popular methods used include exchange controls or quantitative restrictions on capital movements, adoption of multiple exchange rate arrangements and imposition of taxes on external financial transactions. Elhadj and Brahim (2015) defined Capital Account Liberalization as the easing of restrictions on capital flows and maintain that CAL may also signal a country's commitment to credible economic policies since a perceived deterioration in the policy

environment of a country with an open capital account could potentially lead to capital flight. Within the broader debate over the increasing importance of international capital flows in the world economy, it has been alleged that some countries liberalize their capital accounts prematurely without ensuring that adequate institutions and prudential regulations were in place (IMF, 2012). Average regional capital account openness represents an improvement over previous instruments. It is much more highly correlated with capital account openness than are geographic variables and legal origin, in part because it displays at least some variation over time, unlike the latter variables. Moreover, average openness is more likely to be exogenous than lagged capital account openness since the latter relies on erogeneity over time that is unlikely to exist (Adam, 2016).Capital account liberalization is the freedom of currency conversion in relation to capital transactions in terms of inflows and outflows (Ude & Akparion, 2015).

The positive relationship between openness and economic growth can be explained by modern theory of growth, by Dasgupta (1999) such as endogenous growth theory. This theory argues that saving and investment accompanied by productive physical capital stocks and human capital (total factor productivity) enhances economic growth of a country. The level of investment, also increases production capacity of goods and services. The increase in productivity is achieved through investment in human capital via the training and acquisition of skills. It is strongly assumed that the liberalization of financial flows benefits developing countries because of their low level of economic growth. (Muhammad & Muhammad, 2017) The experiences of developed countries, such as Japan, show that saving-investment and productivity factor enables them to accelerate their GDP growth. Again, through openness, investment originated from capital inflow will increase and this will certainly support the economic growth. Lawal, Nwanji, Asaleye & Ahmed (2016), the endogenous growth theory has been incorporated into the finance-leading framework based on the fact that financial integration which happens as a result of financial openness leads to risk sharing, fund mobilization and liquidity provision and these essentially promote economic growth within a given economy. The experience of capital account liberalization in emerging markets provides many opportunities as well as challenges for the economic policy makers (Cobham 2016). Having explore extensively the literature on capital account liberalization the researcher review the works of most authors that studied capital account liberalization in various countries.

Udeh & Akporien (2015) examined the impact of Capital Accounts Liberalization on Economic Growth of Nigeria. The data for the study were obtained from the CBN and NBS Annual Reports for the period 1999 to 2013. The study employed both Augmented Dickey-Fuller(ADF) and the Johansen co-integration tests to examine the features of the data for analysis. The Vector Error Correction Model (VECM) was adopted as the basic techniques of analysis to estimate the effect the parameters. The findings reveal that export earnings and foreign direct investment have a significant positive relationship with economic growth in Nigeria and recommends, amongst others, that government should create a more conducive business environment to attract more foreign investments through capital liberalization policy.

Okore, & Onoh (2017) examined the impact of capital account liberalization on economic growth in Nigeria. The period of study covers between 1971 and 2011. This period was divided into Pre-Liberalization and Post-Liberalization eras. The method used is the Ordinary Least Square (OLS) Method. The study maintained that capital account

liberalization had positive and significant impact on the Nigerian economy.

Klein and Olivei (2008) worked on Capital Account Liberalisation, Financial Depth, and Economic Growth for 84 countries covering the period 1976-1995 using OLS regression analysis with growth income as the dependent variable and change in financial dept as independent variable. The result of the study showed a positive effect of capital account liberalization in middle income economies but no effect on rich and poor countries.

Shabbaz, Wahid, Ahmad and Chaudbary (2008) in their study explored the impact of capital account openness on economic growth in a small developing economy like Pakistan both in long run and in short run. They utilized an advanced technique ARDL for long run rapport and ECM for short run dynamics. Their findings suggested that capital account openness promotes economic growth in long run. They equally showed that inflation decelerates economic growth while improvements in investment activities boost economic growth. They argue that the long run enhancement and sustainable growth potential of the country is as a result of financial sector development and increase in human capital formation.

Raheem and Adeniyi (2015) investigated the total and individual effects of both capital inflow and outflow on economic growth in Sub-Saharan Africa (SSA) within the period 1970 – 2010 making use of system generalised method of moments (Sys-GMM). The result of the studies revealed that FDI and remittances significantly contributed to growth with more contribution from remittances. In addition, while the exact impact of ODA was not certain the, results also indicated that capital flight and debt are significant inhibitors of growth. They called on policy makers to embark on policies that would curb the incidence of capital flight and ensure an investment friendly environment in order to attract more remittances and FDI into SSA.

Smina (2017) studied Capital Account Liberalization and Economic Growth: An Empirical Analysis for Pakistan. The results of the study show that external sector financial reforms have not contributed significantly to the economic growth of the country. To materialize the benefits of external financial openness, the reforms should be accompanied with those favorable factors that are important for the successful implementation of reforms.

Mohamed & Mondher (2016) using cross-sectional and Generalized Method of Moments (GMM) dynamic panel estimation techniques to estimate the effect of capital account liberalization on financial deepening 90 developed and developing countries over the period 1975-2009. The include variables were capital account openness and financial liberalization The main results of the studied are the following: developing countries financial integration is not found to lead to higher financial development unless a set of prerequisites are already in place.

Michael & Glovanni (2017) studied the open capital accounts on financial deepness and economic growth in a cross-section of countries over the period 1986 to 1995.Countries with open capital accounts over some or all of this period had a significantly greater increase in financial depth than countries with continuing capital account restrictions, and they also enjoyed greater economic growth. The results, however, are largely driven by the developed countries in the sample.

Muhammad & Muhammad (2017) studied capital account liberalization on economic growth in the 17 emerging economies over the period 1991 -2015. The empirical results indicate all the measures of capital account liberalization remain statistically

insignificant. The findings suggest that FDI is the most beneficial and stable capital flow which imports sophisticated techniques of production, promotes a competitive environment, encourages innovations and inventions and hence promotes economic growth in the emerging economies.

Peter (2007) studied capital account liberalization on economic growth: a cross country analysis from 1985-1995. The included variables were on economic growth, cost of capital and investment. The studied revealed there is a significant effect between capital account liberalization and economic growth of the selected country of the study.

Elhadj & Brahim (2015) examined Structural Vector Auto-Regressive (SVAR) model to explore the interaction between capital account openness and macroeconomic variables. The period of study is from 1980 to 2012. The variables were money supply, inflation rate interest rate. The results allow us to conclude that capital account liberalization has a major effect on real effective exchange rate. Capital inflows lead to a temporary depreciation of the real effective exchange rate during the first year and, then, to an appreciation starting from the second year. Precisely, the results confirmed that the conduct of capital account liberalization policy under a fixed exchange rate regime is conducive to the risk of real appreciation.

Methodology

The study adopted the ex post facto research design. Ex post facto design is a non experimental research technique in which pre-existing groups are compared on some dependent variable. Ex post facto research uses data already collected, but not necessarily amassed for research purposes. Some major advantages of conducting an ex post facto study are that the data are already collected, obtaining permission to conduct the study is less involved than enrolling participants, and less time is involved in conducting the study.

Model Specification

This work is based on the modified growth model of Peter (2007), who studied capital account liberalization on growth which is stated thus;

$RGDP = f(COC, INV)$

Where

RGDP = Real Gross Domestic Product

COC = Cost of capital

INV = Investment

The model is modified in this study as follows

$RGDP = f(KAOPEN,) - \quad - \quad 1$

Where

RGDP = Real Gross Domestic Product

KAOPEN = Capital Account Openness (Chinn and Ito, 2015) Index

Data Analysis
The method used was the Ordinary Least Square (OLS) regression technique, this method was chosen over others because of its "BLUE" properties "Best Linear unbiased Estimates, it is also efficient and consistent, When compared with other linear unbiased estimator.

Unit Root Test

Table 1 result of the unit root test

Variable	ADF statistic	Integration
LRGDP	-6.543529	1(1)
KOPEN	-5.060170	1(1)

Source: Author's computation using E-view version 9.

The result of unit root test show that all the variables were stationary at first difference.

Co-Integration Test
Co-integration exists among the variables if they are integrated of the same order. The aim of co-integration analysis is to determine the long-run equilibrium relationship between the variables. The implication of this analysis is that deviation or drift may occur between the variables but this is temporary as equilibrium hold in the long-run for them. In this study, we use the Johannes co-integration approach to examine the existence of long-run relationship between the variables of interest.

Table 4.2 co-integration result table

Unrestricted co-integration rank test (trace)

Table 4.3 Regression Result

H0	H1	Trace statistics	0.05	Max-Eigen	0.05
r=0	r=0	20.03640	15.49471	19.84900	14.26460
r≤1	r>1	0.187394	3.841466	0.187394	3.841466

Source: Author's computation using E-view version 9.1

NB* implies rejection of the null hypothesis (Ho) of at 5% level of significance. Both the trace test and max-eigen values test indicates 1 co-integration equation at 5%.

Johansson co-integration result shows that there is long-run equilibrium relationship between the dependent and independent variables.

Presentation of the Regression Result
However, the diagnostic tests or some key statistics or the variable that needs to be interpreted are shown below.

Variable	Coefficient	Std error	T-test	Prob
C	12.60334	0.095672	131.7350	0.0000

KAOPEN	2.449785	0.409756	5.978644	0.0000
ECM(-1)	-0.007163	0.007399	-0.968097	0.3413

Source: Author's computation using E-view version 9.1

R- Square   0.566731

Adjusted   0.535783

F- Statistics   18.31247

Prob (F- statistic)   0.000000

Durbin-Watson   2.268342

Interpretation of the Regression Result

From the result in table 3 above, R^2 = 0.56%, it means that our independent variables explained about 56% of the total variation in the dependent variables leaving the 44% which will be accounted for by other variables outside the model as captured by the error term. The adjusted R^2 is 53% which means that even after adjustment in the explanatory variables, they can still explain about 53% of the change in the dependent variables.

The F-statistics is used to test whether the model has a significant relationship between the dependent and independent variables in the regression model. From table 3 the calculated value of F is 18.31247 while its probability is 0.00008 which is less than 0.05 desired 5% level of significance, we accept and state that there is a significant relationship between the variance of the estimates and that of the independent variables. This means that the parameters are statistically significant in explaining the relationship between the dependent variable and independent variables.

The a'priori expectation is used to determine the existing finance theories and this indicates the signs and magnitude of the variables. From our regression it is observed that capital account openness has a positive sign, and its value as 2.449785; this implies that increase in capital account openness increases the RGDP by 2.4%. This conforms to our a'priori expectation.

The t-test is used to measure the individual statistical significance of our explanatory parameter in the model. From table 4.3 above, capital account liberalization is 5.978644, this is statistically significant this suggest capital account openness encourage economic growth in Nigeria. The finding of this study is similar to the study of Okore and Onah (2017) and Kelin & Olivei (2008), their studies show a positive and significant effect between current account liberalization and growth. However, the findings of Samina (2017), Muhammad & Muhammad (2017), Mohamed & Mondher (2016) show contrary results of no significant effect between current account liberalization and growth of the economy. The Durbin-Watson (DW) test for autocorrelation will be used to test for the presence of first order autocorrelation in the model. When the value of DW is closer and a little above 2.00, it means the absence of autocorrelation among the explanatory variables. From the table 4.5 above our DW result is (2.2) this implies the absence of autocorrelation hence our variables can be used for predictive purposes.

Finally, the negative coefficient of the ECM (-1) confirms that the variables in the model are co-integrated and indicates a stable long-run equilibrium relationship between

the variables. It shows coefficient of the ECM as -0.007163 and is the speed of adjustment and it shows that about 7% of the previous year's shocks adjust the equilibrium in the current years. The stability test enables us to predict the dependent variables in a regression with a reasonable level of precision given in the analysis. From the regression result above it was observed that current account openness as proxy of capital account liberalization has significant effect on economic growth of Nigeria. Hence alternative hypothesis is accepted which sate that there is a significant relationship between current account liberalization and economic growth in Nigeria.
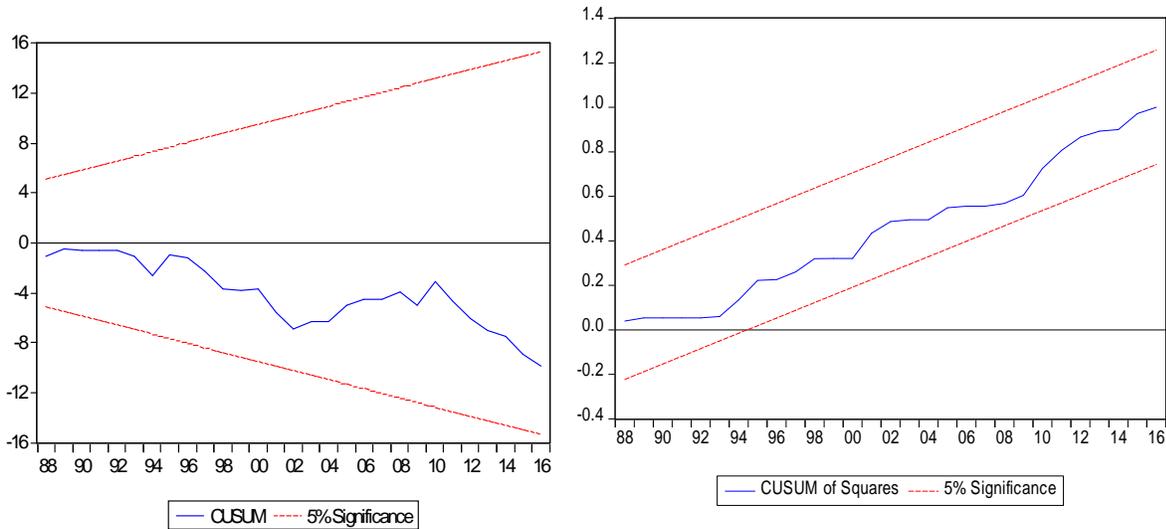
Therefore, the test is carried out using the cumulative sum and cumulative sum of squares. The result shows that our model is dynamically stable because the fitted lines fall within the dotted lines for critical value of 5%.

Summary
This study examined the capital account liberalization and economic growth in Nigeria from 1986-2017 using co-integration and error correction approach. It was observed that capital account liberalization and economic growth proxies have a co- integrating relationship. The outcome of co-integration test showed that there is a long-run equilibrium relationship between GDP and capital account liberalization The study employed econometric analysis to test this relationship in Nigeria. the data were on real gross domestic product, and current account openness, generated from Central Bank of Nigeria (CBN) statistical bulletin vol. 26 2017. The researcher adopted Ordinary Least Square (OLS) method of data analysis using econometric view version 9. the findings of this work is consistent with the orthodox perspective this will serve as a source of inspiration and consultation to policy makers and other related bodies when the need arises. The study recommends judicious and systematic relaxing of restrictions on capital account to ensure an asymmetric integration of the Nigerian economy to the international financial market.

References

Adam H. (2016). Addressing causality in the effect of capital account liberalization on growth. *International journal of economics*, 4 (5), 23-34

Bailiu A.A. (2000). On the sequencing of financial liberalisation in Nigeria, *The South African Journal of Economics*, 70, (1), 95-127.

Chaubdary, O. (2018). Capital account liberalisation, financial depth, and economic growth, NBER Working Paper no. 7384 (October).

Cobham, A (2016). capital account liberalization and economic performance in malaysia," the singapore economic review (ser), World scientific publishing Co. Pte. Ltd., vol. 58(03), pages 1-22

Elhadj E. and Brahim M. (2015). Capital account liberalization and Moroccan Macroeconomic performances. *Munich Personal RePEc Archive* 1-25

Klein, M and Olivei, G. (2008). Capital account liberalization, and economic growth. Working paper

Lawal, A.I.,Nwanji, T. I. Asaleye, A., & Ahmed, V.(2016). Economic growth, financial development and trade openness in Nigeria: An application of the ARDL bound testing approach, *Cogent Economics & Finance,* 4 (6)1-15

Michael. M., & Giovanni D.(2017). Capital account liberalization: Theoretical and practical aspects, *Journal of Applied Corporate Finance*, 3 (5), 56-77

Muhammad A, & Muhammad A., R.M. (2017). Capital account liberalization and economic growth: evidence from emerging market economies. *Pakistan Economic and Social Review* 55, (1) . 271- 296

Mohamed T. & Mondher, G (2016). Capital account liberalization and financial deepening: does the private sector matter?, Working Paper 980

Okore, O.A & Onoh, J.O.(2017). The impact of capital account liberalization on economic growth in Nigeria. *European Journal of Business and Management*, 5, (2), 34-44

Peter B. H. (2007). Capital account liberalization: Theory, evidence, and speculation. *Journal of Economic Literature, 155 887-935*

Raheem, I. D. & Adeniyi, O. A. (2015). Capital inflows and outflow and economic growth in Sub-Saharan Africa, *Int. J. of Economics and Business Research, 10(1)* 34-43

Samina N (2017). Capital account liberalization and economic growth: An empirical analysis for Pakistan. *International Journal of Economic Theory and Application.* 4, (3), 21-31

Shabbaz, M, Wahid, A, Ahmad, K., & Chaudbary, A. R. (2008). Capital account openness and economic growth nexus: Case study of Pakistan , Journal of economic business, 1(2), 11-33

Stiglitz, J., (2002). Capital-market liberalization, globalization, and the IMF, *Oxford Review of Economic Policy 20* (1), 57-71.

Summers, L.H., (2000). International financial crises: causes, prevention, and cures. *American Economic Review 90* (2), 1-16.

Udeh F. & Akporien F. (2015). Effect of capital accounts liberalization on economic growth in Nigeria, *ANSU Journal of Arts and Social Sciences*