International Capital Flows and Inclusive Growth in Nigeria

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Abstract: The study is on the effect of Net capital inflow on inclusive growth in Nigeria. This study seeks to deepen the understanding on how capital inflow creates opportunity for inclusive growth in Nigeria through increase in GDP per capita. The objective of the study were to : determine the effect of   Net capital inflow , Net foreign direct investment and trade openness on inclusive growth in Nigeria. The study employed the time series data in its analysis. The period of analysis spanned through 1980-2015 and the dataset required for the analysis were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and National bureau of statistics publications. The study conducted trend analysis, descriptive analysis. The data were also tested for stationarity using the Augmented Dickey Fuller (ADF) unit root test and Ordinary Least Square (OLS) analytical techniques, cointegration test and error correction mechanism. It was evident from the unit root test that the variables were fractionally integrated while the cointegration test reveals that long run relationship exists among the variables. The findings equally reveal that capital inflow exerts significant negative influence on GDP per capita. This could be attributed to the problem of managing external capital flows which has been sub-optimal in most developing economies including Nigeria. The implication of this finding is that the perceived benefits that are associated with capital inflows tend not to hold sway in Nigeria over the sampled period which may be attributed to institutional and governance failure.   Owing to the findings, this study recommends for the adoption of investment friendly policies and ensure transparency and good governance, appropriate economic management practices capable of supporting reforms in the Nigerian financial system and guide international capital inflows to ensure that the associated economic turnarounds are people-centered.

Keywords: Inclusive growth; Integration; Openness; GDP Per capita; Inflows.

1. Background to the Study

Over the last two decades, the world has witnessed widespread removal of capital controls in both developed and developing countries. Consequently, countries have become more financially integrated over time. Conventional wisdom predicts that countries can better insure macroeconomic risk when they are more financially integrated. With the recent shift in policy towards a market based system of resource allocation, increasing attention has been switched to the development of efficient financial systems in both developing and transitional socialist countries. According to Levine (2001), financial integration strengthens domestic financial sector, making way for more efficient capital allocation and higher investment and growth opportunities. In the presence of financial integration, efficiency gains are generated among domestics firms because they have to compete directly with foreign rivals (Kose et al., 2006). Since it is believed that having access to a broader base of capital is a key requirement for economic growth, then financial integration is necessary because it expedites flows of capital from developed economies with rich capital to developing economies like Nigeria with limited capital. Such capital inflows can significantly reduce the cost of capital in capital-poor Nigeria leading to higher investment. Nigeria requires foreign investment to develop its economy that is deficient in financial and managerial capital. Internally available resources are grossly inadequate to meet the needs of economic development and poverty reduction, even in the unlikely absence of corruption and resource management. Through interaction with advanced wealth creating nations, Nigeria may pull itself out of its vicious circle of poverty.

With the development of financial market and increased degree of international financial integration around the world, many countries especially developing countries are now trying to remove cross-border barrier and capital control, relaxing the policy on capital restrictions and deregulating domestic financial system. The increasing level of financial globalization and incidence of financial crises in recent times has drawn the attention of economists and policymakers to the macroeconomic implications of unrestricted capital flows to developing countries. Capital flows

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may be beneficial to receiving countries as they gain access to cheaper sources of financing. At the same time, they increase a country's vulnerability to international financial crises which occurs during spontaneous reversals in international capital flows. The financial crisis of the 1980s, Latin America and East Asia in the 1990s and Argentina in 2001-02, are examples of the disruptive effects of fluctuations in international capital flows (Chen and Quang, 2012). Although the financial turmoil in the United States of America (U.S.A.) and some parts of the Euro Zone may have been triggered by various issues such as bank failures, property bubbles and government fiscal deficit, the crises have been transmitted to other countries through financial channels. The crises in these supposed- resilient advanced economies have exposed the vulnerability of emerging economies that depend on foreign inflows and the global financial system as a whole. Portfolio equity inflows to the Sub-Saharan African region have improved significantly over the last decade, which is an indication of the sub-region's gradual integration into the global financial market.

Net capital flows comprise the sum of this monetary, financial, real property, and equity claims. International capital flows, move in the opposite direction to the goods and services trade claims that give rise to them. Thus, a country with a current account deficit necessarily has a capital account surplus. Oyejide (2005) noted that capital flows carry mixed blessing depending on the "initial conditions" of a developing economy. The flows can have positive effects on the key real sector variables and contribute to the promotion of economic growth and development. The risk is evident in macroeconomic shocks that could undermine the stability of the real sector and impose high adjustment cost on the economy. Also the instability of capital flows may retard economic growth and structural developments. Private capital usually flows to countries where the business environment and investment climate are perceived as attractive in terms of macroeconomic and political stability, infrastructure and availability of factors of production and access to markets. Summers (2000) maintain that "enormous social benefits" are made possible by the efficiency gains from the reallocation of capital from industrial to developing countries. The reallocation can improve living standards by mobilizing global savings to finance investments in countries where the marginal productivity of investment is relatively high.

Inclusive Growth is a concept that is often used interchangeably with other terms, including; broad-based growth, shared growth, and pro-poor growth (World Bank, 2009). Therefore inclusive growth is refereed to both the pace and pattern of growth, which is considered interlinked. This is because both pace and pattern of growth is necessary for achieving a high sustainable growth record as well as poverty reduction, (Commission on Growth and Development, 2008). The concept encompasses equity, equality of opportunity and protection in market and employment transition, all these are necessary and crucial for poverty reduction.

2. Literature Review
2.1. Theoretical Framework - Capital Flow
The Eclectic Theory

John Dunning has attempted to formulate a general theory of international production by combining the postulates of some of the theories. According to Dunning foreign investment by MNCs result from three comparative advantages which they enjoy, these include; the firm specific advantage; internalisation advantage and location specific advantages.

The internalisation advantage results from the ability of the firm to internalise its specific resources. One important deficiency of the Eclectic theory is its inability to explain the foreign investment for acquisitions which have become a very important route to internalisation.

The Neoclassical Growth Model

The Neoclassical Growth Model was developed by Solo and Swan (1956). It is built upon an aggregate, constant- returns- to- scale production function that combines labour and capital (with diminishing marginal returns) in the production of a composite good. Savings are assumed to be a fixed fraction of output, and technology improves at an exogenous rate.

Suppose the production function is Cobb- Douglas, so that

$$Y = AK^{\alpha}L^{1-\alpha}, \quad 0 < \alpha < 1,$$

Where Y denotes total output,

L the number of workers employed in the production process,

K the capital stock

Where, A measures the level of technology. Output per worker, **y=Y/L,** is thus given by

$$y = AK^{\alpha} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots . (1)$$

Where, k denotes the capital- labour ratio.

Capital accumulation is given by

$$k = sy - (\eta - \delta)k, \qquad 0 < s\delta < 1 \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (2)$$

Where, s denotes the propensity to save, n> 0 the exogenous rate of population growth, and δ the rate of depreciation of physical capital.

2.2. Empirical Literature

Bailliu (2000) adopted the method of Caselli *et al.* (1996), using panel-data methodology that controls for country-specific effects and accounts for the potential endogeneity of the explanatory variables on a panel data over period of 20 years to test the relation between private capital flows; financial development and economic growth for 40 developing countries. The study found that for the countries with developed functional banking system, capital inflows foster higher economic growth, above and beyond any effects on the investment rate, the result suggests that the domestic financial sector plays a pivotal role in ensuring that international capital flows indeed promote economic growth in developing countries. Prasad *et al.* (2002) employ cross sectional data and panel data analysed the uphill flows of capital from non-industrial to industrial countries. And to check whether the patterns of capital flow have hurt non-industrial countries, the result shows a positive correlation between current account balance and growth among non-industrial countries implying that foreign capital is associated with higher growth and the result is weaker when used panel data.

In East Asian, Baharumshah and Thanoon (2008) using dynamic panel data on Asian countries to access the effect of various types of capital flow on the growth process. They discovered that domestic savings, long-term debt has positive effect on the long-term as well as in the short term growth. The contribution of FDI is positive and robust to the growth process of the East Asian countries. Obstfeld (2007) argues that despite meager evidence that developing countries gain from financial globalization, they should proceed cautiously, in an incremental manner. He maintains that there is strong evidence that domestic financial development spurs growth under the right conditions, and the conditions – plus domestic financial development itself are likely to make capital inflows from abroad more productive.

While Azienman *et al.* (2011) investigate the relationship between economic growth and lagged international capital flows, disaggregated into FDI, portfolio investment, equity investment, and short-term debt using 100 countries as case study during 1990-2010 both before and after the global crisis. The study reveals a complex and mixed result. The relationship between growth and lagged capital flows depends on the type of flows, economic structure, and global growth patterns. There exists a robust relationship between FDI- inflows and outflows and growth, finally, the correlation between growth and equity flows is smaller and less stable. Finally, the relationship between growth and short-term debt is nil before the crisis, and negative during the crisis. Contrary to the above result Ogbuagu and Ifionu (2015) explore the impact of capital flow, human capital development on economic growth using pairwise granger causality and dynamic autoregressive. And we found no causality between capital flow human capital development and economic growth.

Another strand of literature centres on the strong presumption that FDI should yield productivity gains for domestic firms through several channels including imitation (adoption of new production methods), skill acquisition (education / training of labour force) and competition (efficient use of existing resources by domestic firms). Borensztein *et al.* (1998) using cross – country data, conclude that FDI increases an economy's productive efficiency and economic growth. Soto (2000) finds that there are large positive benefits from FD1 and portfolio equity flows, while debt flows have damaging effect on countries with fragile financial systems. But, Carkovic and Levine (2001) disagree with this result and find no important effect of FDI on growth, Agloyor *et al.* (2014) examines the relationship between private capital flows and economic growth in Africa using a panel generalized method of moments estimator on a decomposed private capital flows into foreign direct investment, foreign equity portfolio investment and private debt flow found that all have a negative impact on economic growth.

Gheeraert *et al.* (2013) employ structural econometric model and simple correlation analysis to test link between international capital flows and economic growth and whether there is a relationship between international capital flows with development, first he found positive significant and robust relationship between capital flow and growth and insignificant negative correlation between capital flow and development. Obiechina and Ukeje (2013) using Engel – Granger 2 step procedure, examine the impact of capital flow (FDI), export, and trade openness on economic growth in Nigeria. The result indicates that all the varaiable except FDI are statistically significant and impacted in economic growth in the short-run, dynamic equilibrium model, the pairwise granger causality revealed the existence of unidirectional causality between economic growth and FDI.

Alley (2015) estimated annual data on 14 Sub- Saharan Africa using neoclassical growth model to evaluate the effect private capital flow shocks on SSA countries economic output and growth. He finds that private capital flows positively affects economic output and growth and the effect of the private capital flow is negative. In Pakistan, Ali (2014), uses Johansen Cointegration and Granger Causality test the effect of foreign inflow and found negative impact on the long-run and unidirectional causality from debt service, inflation and literacy rate to growth. In Ghana, Kwame *et al.* (2016) utilize auto- regressive distributed lag (ARDL) to examine the differential effects of capital flows on economic growth. The finding indicates that in both short run and long run (FDI, Financial Aid, and external debt) has negative effect on growth. Remittances exhibit positive insignificant elasticity in all the regression, the impact trade and gross capital formation and mixed.

Can volatility hamper capital inflow impact on economic growth; Mody and Murshid (2012) shows evidence of negative impact of openness to capital flow by highlighting on the negative correlation between capital inflows and long-run growth with volatility below a threshold, an inflow of foreign capital has promoted growth but during periods of volatility growth, more flow promote slower growth.

3. Methodology

This paper adopted a quasi-experimental research design in examining the relationship between financial integration and inclusive growth in Nigeria over the period, 1980-2015. The rationale for this approach is based on its flexibility in using two or more exogenous variables in a model

3.1 Based on the above research problems and objectives, the study answered the following research questions. What is the effect of Net capital inflow, Net foreign direct investment and trade openness on inclusive growth in Nigeria?

3.4 Model Specification and Data Analysis Techniques

The framework for the analysis involves a multiple regression model with GDPPC as the dependent variable while net capital inflows, proportion of FDI to GDP and trade openness are the underlying regressors. The general form of the model is formalized as follows:

GDPPC = f (NCIG, NFDIG, TD)   (3. 1)

The implicit form of equation (1) is expressed in a log-linear format as:

$Log(GDP) = \lambda_0 + \psi_1 NCIG + \psi_2 NFDIG + \psi_3 TD + \mu_t$ (3 .2)

Where: GDPPC = Gross domestic product per capita, proxy for inclusive growth

      NCIG = Net capital inflow

      NFDIG = Net foreign direct investment

      TD = Trade openness

      λ_0 = constant term

      ψ_1 - ψ_3 = coefficients of the explanatory variables

    log = Natural log operator

      μ_t = white noise

Based on a priori grounds, the expected signs of the coefficient of the explanatory variables are expressed as: $\psi_1 > 0$, $\psi_2 > 0$ and $\psi_3 > 0$.

Unit Root Test

Specifically, this paper relied on Augmented Dickey-Fuller approach to unit root test proposed by Dickey and Fuller (1981). The ADF model with drift and trend is specified as:

$\Delta H_t = c_0 + c_1 H_{t-1} + \sum_{i=1}^{m} \beta_i \Delta H_{t-i} + u_t$ (3.3)

Where ut is a pure white noise error term and ΔHt=(Ht-1 –Ht-2. m is the lag order to be automatically decided based on Schwarz information criterion (SIC). Notably, if the computed ADF value is less than its associated critical value, it implies that the underlying series is non-stationary. Contrarily, if the calculated ADF value exceeds its critical value, it indicates that the underlying series is stationary.

Johansen Co-integration Analysis Test

The presence of co-integration suggests that variables have long-run relationship. Thus, a lack of co-integration suggests that such variables have no long-run relationship. Co-integration is conducted based on the test proposed by Johansen (1998). Johansen's methodology takes its starting point in the vector auto regression (VAR) of order P given by

$Q_t = \þ + \Delta_1 Q_{t-1} + - - - + \Delta P Q_{t-p} + e_t$ (3.4)

Where: Q_t is an nx1 vector of variables that are integrated of order commonly denoted (1) and e_t is an nx1 vector of innovations.

This VAR can be rewritten as

$\Delta Q_t = \þ + \eta_{Qt-1} + \Sigma \pi_i \Delta Q_{t-1} + e_t$ (3.5)

To determine the number of co-integration vectors, Johansen (1988) and Johansen and Juselius (1990) suggested two statistic tests, which are the trace test and the Max-Eigen test. It tests the null hypothesis that the number of distinct co-integrating vector is less than or equal to q against a general unrestricted alternatives $\pi = q$. The test calculated as follows:

$\pi \text{ trace } (q) = ^{-T} \Sigma \text{ In}^{(1-\pi t')}$ (3.6)

$\pi \text{ Max-Eigen } (q) = ^{-T} \Sigma \text{ In}^{(1-\pi t')}$ (3.7)

Where: T is the number of usable observations, and the $\pi 1,s$ are the estimated eigenvalue.

If cointegration is proven to exist, then the third step requires the construction of Error Correction Mechanism (ECM) to model dynamic relationship.

Error Correction Model

Additionally, this study adopted a multivariate approach to cointegration credited to Soren Johansen (1988). The trace (λ_{trace}) and maximum eigenvalue (λ_{max}) tests statistics are utilized to estimate the cointegration rank (number of independent cointegrating vector). The null hypothesis of no cointegrating equation is tested against the alternative hypothesis of cointegrating equation. Evidence of at least one cointegrating equation indicates that long run relationship exists among the underlying variables (Emeka Nkoro and Aham Kelvin Uko, 2016).

The purpose of the ECM is to indicate the speed of adjustment from the short-run equilibrium to the long-run equilibrium state. The greater the co-efficient of the parameter, the higher the speed of adjustment of the model from the short-run to the long-run.

The error correction model (ECM) of equation (3.2) is utilized to reconcile the short-run dynamics with long-run equilibrium. The error correction model is formalized as:

$$\Delta InGDP_t = \alpha_0 + \sum_{i=1}^{m} \alpha_1 \Delta InGDP_{t-1} + \sum_{i=1}^{m} \alpha_2 \Delta NCIG_{t-1} + \sum_{i=1}^{m} \alpha_3 \Delta NFDIG_{t-1} + \sum_{i=1}^{m} \alpha_4 \Delta TD_{t-1}$$

$$+ \ \Phi ECM_{t-1} + v_t$$

(1.8)

Where: GDP, NCIG, NFDIG, TD and In are as described in equation (1.1)
α_0 = Constant parameter, $\alpha_1 - \alpha_4$ = dynamic coefficients of the regressors
m = lag length, ф = Coefficient of ECM lagged for one period, which captures the speed of adjustment and v_t = Random variable.

3.1. Data collection Methods and Sources

The datasets utilized for the analysis were obtained from the Central Bank of Nigeria Statistical and National bureau of statistics. Bulletin. Specifically, Gross domestic product per capita (GDPPC) is used as a measure of inclusive growth while net capital inflow (NCIG), net FDI flow (NFDI) and trade openness (TD) are included as the explanatory variables.

4. Results and Discussion

4.1. Trend Analysis

The graphical illustrations of the trends of the variables based on the underlying data adapted from the Central Bank of Nigeria Statistical Bulletin are presented in Figures 1 to 4 as follows.

Figure-1. GDP per capita in Nigeria, 1980-2015
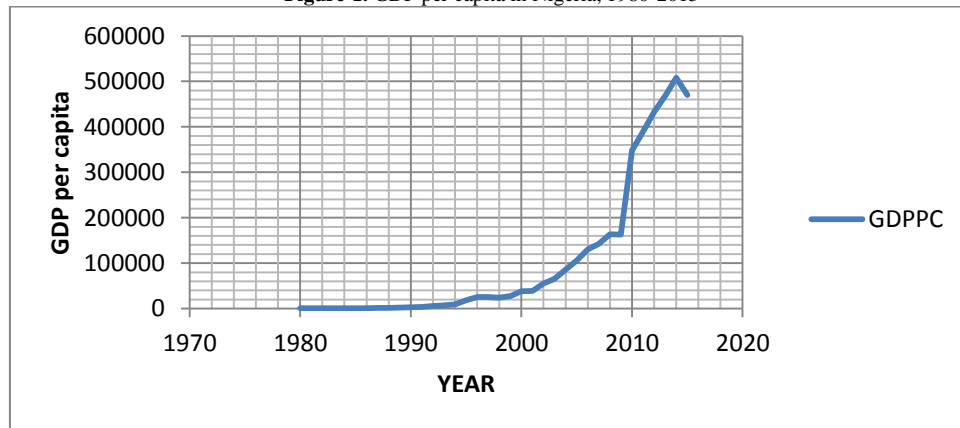
Source: Estimated by the Author based on underlying data adapted from CBN Statistical Bulletin.

Figure-2. Net capital inflow to Nigeria, 1980-2015
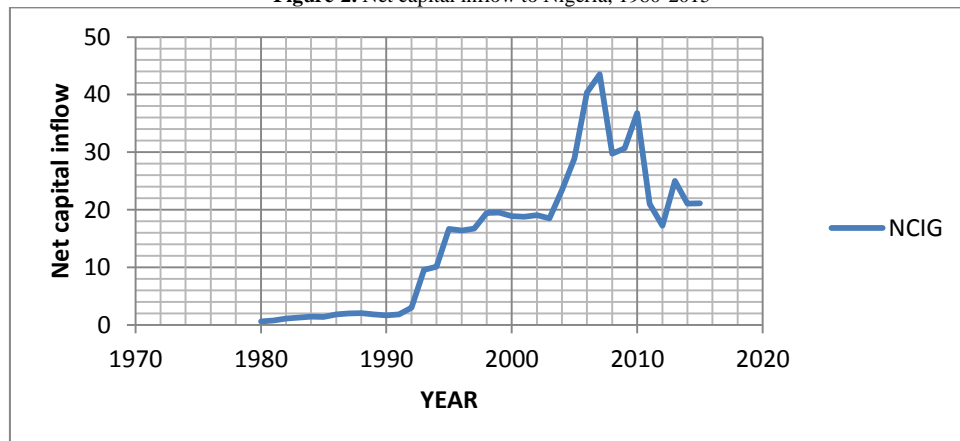
Source: Estimated by the Author based on underlying data adapted from CBN Statistical Bulletin.

Figure-3. Net FDI in Nigeria, 1980-2015

Source: Estimated by the Author based on underlying data adapted from CBN Statistical Bulletin.

Figure-4. Trends of trade openness in Nigeria, 1980-2015.

Source: Estimated by the Author based on underlying data adapted from CBN Statistical Bulletin.
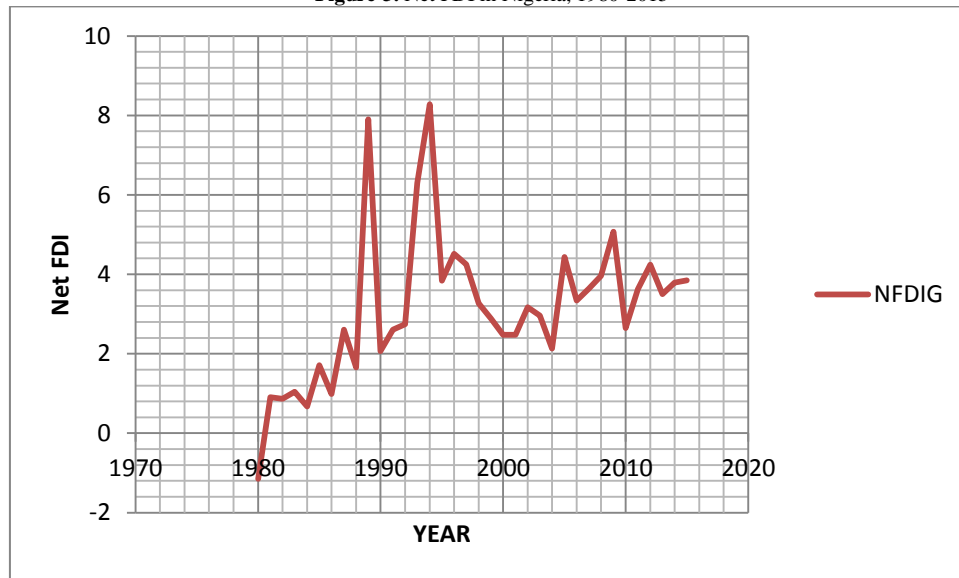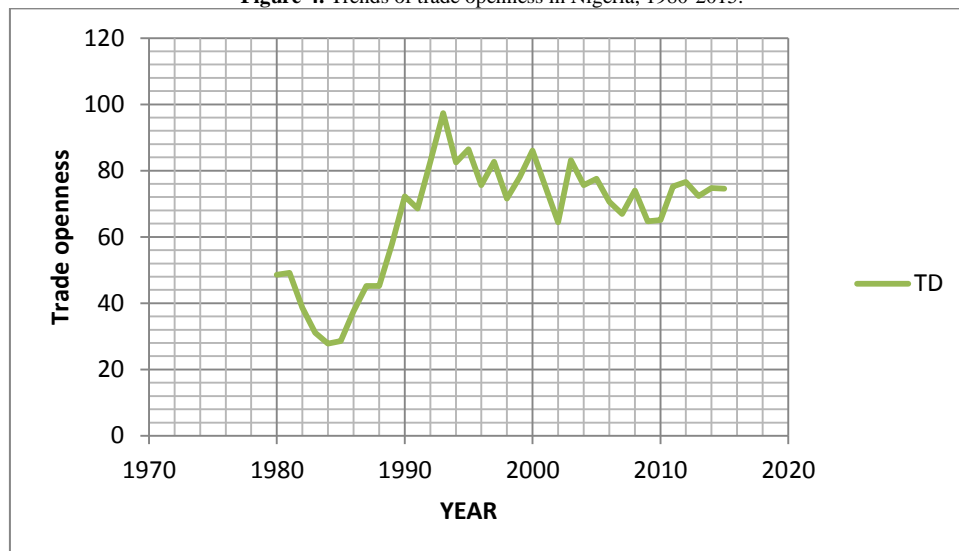
The graphical illustrations of the series as evidenced in figures 1 to 4 indicate that GDP per capita followed a positive path as increased gradually during the period of the analysis and attained a maximum of 507,882 in 2014. This is suggestive that its mean increases over time. As indicated in figure 2, the plot of net capital inflow remained relatively stable from 1980 to 1990. The remaining part of the period shows increasing values of net capital inflow, indicating that its mean varied over the period. It attained an all-time high in 2007. The plot of net FDI displayed in figure 3 indicates that it is mean reversal. Thus, its mean tends to be constant over the period sample. Finally, the plot of trade openness (TD) depicted in figure 4 shows that it is downward trending in the first three periods (1980-1983). It witnessed an upward trend between 1985 and 1993, but became mean reversal in the remaining period of the analysis.

4.2 Descriptive Statistics

The characteristics of each of the series based on their mean values, standard deviation and other key descriptive statistics are summarized as follows:

Table-1. Basic descriptive statistics for the series

	GDPPC	NCIG	NFDIG	TD
Mean	104546.0	15.09586	3.146393	66.22285
Median	25340.06	16.98175	3.067085	72.27500
Maximum	507882.0	43.53930	8.279540	97.32120
Minimum	682.1000	0.634750	-1.150900	27.80370
Std. Dev.	159172.6	12.38899	1.879628	17.87615
Skewness	1.555732	0.443441	0.627371	-0.779589
Kurtosis	3.909153	2.347478	4.270176	2.645695
Jarque-Bera	15.76166	1.818519	4.781584	3.834851
Probability	0.000378	0.402822	0.091557	0.146985
Observations	36	36	36	36

Source: Estimated by the Author

Table 1 shows the descriptive statistics for GDP per capita (GDPPC), net capital inflow (NCIG), proportion of net FDI to GDP (NFDIG) and trade openness (TD). The average values of the series are 104546.0 for GDPPC, 15.09586 for NCIG, 3.146393 for NFDIG and 66.22285 for TD. The range of the series captured by the minimum and maximum values indicate that GDPPC ranged from 682.1000 to 507882.0, NCIG ranged from 0.634750 to 43.53930, NFDIG ranged from -1.150900 to 8.279540 and TD ranged from 27.80370 to 97.32120. The convergence of the series around their mean values as captured by the standard deviation indicates that all the variables except GDPPC cluster around their average values. The skewness shows the direction of the tail of each series. It was found that aside NCIG, all the series are tailed to the right. Further information on the tail of the series was gathered from the kurtosis as it reveals that only NCIG is thin tailed while the other series have large tails. The Jarque-Bera statistics indicate that that the hypothesis that the errors are normally distributed is only rejected for GDPPC while the other variables are not normally distributed at 5 percent level.

4.3. Estimation of Static Regression Model

The estimation of the static regression model basically relied on the Ordinary Least Squares (OLS) method. The result is reported as follows in table 2.

Table-2. Summary of static regression

Dependent variable: lnGDPPC

Regressor	Coefficient	T-Statistic	P-value
NCIG	0.1337***	8.201	0.0000
NFDIG	0.0338	0.2934	0.7711
TD	0.0352***	2.659	0.0121
CONST	5.355***	7.748	0.0000
R-square =0.814, Durbin Watson Stat.= 0.382 Prob (F-sat.)=0.0000			

Source: Estimated by the Author

NB: *** denotes significant at 1 percent level

Table 2 presents the empirical result for the static regression model. The result indicates that net capital inflow and trade openness are positively related to GDP per capita. This finding conforms to the a priori and statistical criteria given that the estimated parameters appeared with the hypothesized positive sign and it is significant at 5 percent level. Although the coefficient of net FDI appeared with the hypothesized positive sign, it is statistically insignificant at 5 percent level. This is indicative that GDP per capita is not actually influenced by the proportion of FDI to GDP. More importantly, the explanatory power of the regressors as evidenced in the coefficient of determination is 81 percent. It therefore follows that 81 percent variations in GDP per capita are jointly explained by net capital inflow, proportion of FDI to GDP and trade openness. This is a pointer that the model is nicely fitted. The probability of the f-statistics (0.0000) indicates that the regressors are jointly significant in explaining changes in GDP per capita.

4.4. Unit Root Test

The unit root test has been advocated in economic literature for examining whether an economic time series is stationary. Focusing on Augmented Dickey-Fuller approach to unit root test, this paper test the null hypothesis of a unit root (non-stationary) against the alternative hypothesis of no unit root (stationary) at both levels and upon differencing the underlying series. The test results of the ADF unit root test are reported in table 3.

Table-3. Outcomes of ADF unit root on the underlying series

Variable	ADF Statistic	Lag length	Critical values (5 percent)	Order of integration
InGDPPC	-2.061	0	-3.544	
ΔInGDPPC	-5.1579	0	-3.548	1 (1)
NFDIG	-4.467	0	-3.548	
ΔNFDIG	-9.365	0	-3.548	1 (0)
NCIG	-3.364	3	-3.557	
ΔNCIG	-2.422	2	-3.557	1 (2)
ΔNCIG,2	-10.5121	1	-3.557	
TD	-1.768	0	-3.544	
ΔTD	-6.661	0	-3.548	I(1)

Source: Estimated by the Author
NB: 1(0), 1(1) and 1(2) denote integrated of order zero, one and two respectively.

The results of the ADF unit root test on the series as presented in table 3 above. The decision on the lag length followed the Schwarz information criterion (SIC). It was uncovered from the results that net FDI to GDP is stationary at levels. However, net capital inflow, trade openness and GDP per capita were found to be stationary upon differencing. The order of integration for NFDIG is zero while NCIG and TD are integrated of order one. The net capital inflow is found to be integrated of order two. With the establishment of stationarity for the series from the unit root test, cointegration test is considered appropriate to validate the results.

4.5. Cointegration Test

This paper considered the multivariate approach to cointergation credited to Soren Johansen (1988) in investigating whether the series have long run relationship. The result is summarized below with focus on the trace and Max-Eigen statistics:

Table-4. Outcomes of trace and Max-Eigen tests

Series: InGDPPC NFDIG NCIG TD

Ho	Trace statistic	Max-Eigen statistic
r≤o	73.078 (47.856)	39.647 (27.584)
r≤1	33.430 (29.797)	18.434(21.131)
r≤2	14.996(15.494)	14.043 (14.264)
r≤3	0.9526 (3.841)	0.9526(3.8414)

Source: Estimate by the Author
NB: r indicates number of cointegrating vectors. Figures in parenthesis are critical values at 5 percent level.

Table 4 above displays the trace and Max-Eigen statistics utilized in examining whether the series are cointegrated. It was observed from the trace test that two cointegrating equations exist in the model. The Max-Eigen test on the other hand shows evidence of one cointegating equation. Thus, the conclusion drawn from the result of cointegration test is that the long run relationship exists among the series.

4.6. Estimation of Error Correction Model

The error correction model (ECM) is utilized in this paper to examine if short run deviations from equilibrium are corrected over time. The estimated ECM is gradually transformed to parsimonious ECM and the result is presented in table 5 as follows.

Table-5. Outcome of Parsimonious ECM.

Dependent variable: ΔInGDPPC

Variable	Coefficient	T-statistic	P-Value
ΔInGDPPC$_{t-1}$	-0.3125 **	-2.189	0.0406
ΔNCIP $_t$	0.0106	1.856	0.0781
ΔNCIG $_{t-1}$	-0.0129**	-2.072	0.0513
ΔNCIG $_{t-2}$	-0.0160***	-2.685	0.0142
ΔNFDIG$_{t-2}$	0.0182	1.217	0.2376
ΔNFDIG$_{t-3}$	0.0285	1.831	0.0820
ΔTD$_t$	0.0050	1.582	0.1292
ΔTD$_{t-1}$	-0.0038	-1.250	0.2254
ΔTD$_{t-2}$	0.006054	1.991	0.0603
ΔTD$_{t-3}$	0.0097***	3.147	0.0051
ECM$_{t-1}$	-0.109***	-3.204	0.0044
Const.	0.255****	6.408	0.0000
R-square=0.691, Prob (F-stat.) = 0.0031			

Source: Estimated by the Author.
NB: *** and ** respectively indicate significant at 1 and 5 percent levels.

Table 5 reports the parsimonious ECM. The result reveals that the first lag of per capita GDP negatively influence current level of GDP per capita. Similarly, the first and second lags of net capital inflow have significant negative effects on GDP per capita. This finding deviated from the theoretical expectations, but provides explanation for the contribution of net capital inflow to the growth of per capita GDP in Nigeria. The implication of this finding is that perceived benefits that are associated with capital inflows tend not to hold sway in Nigeria over thesampled periodgiven that it has not been people-oriented. Additionally, the parsimonious ECM indicates that the lagged values of net FDI flow is positively related to GDP per capita. However, their coefficients are not significantly different from zero. This finding is equally consistent with the effects of third lag of trade openness as it contracts GDP per capita. The parameter estimates of the ECM appeared with the hypothesized negative, sign indicating that it is not explosive, but converges to equilibrium in the long run at a speed of 10 percent. This implies that in the event of temporary deviation, restoration of equilibrium in the system will take a long period. The computed f-ratio indicates the explanatory variables jointly and significantly influence GDP per capita.

4.7. Diagnostics Tests
This paper employed diagnostics tests to check the reliability and efficiency of the parsimonious ECM. The outcomes of these tests are displayed below.

Table-6. Diagnostics tests results

Test type	Test statistic	P-value
Breash-Godfrey LM test	X^2 - statistic	0.6687
Breash-Pagen-Godfredheteroskedasticity test	X^2 - statistic	0.1654
Normality test	Jarque-Bera statistic	0.6449

Source: Estimated by the Author

Table 6 reports the diagnostics tests for the parsimonious ECM. The Breusch-Godfrey serial correlation LM test reveals that the model is free from autocorrelation at 5 percent level.Also, the Breush-Pagan-Godfrey heteroskedasticity test shows that the variance of the random variable is homoscedastic the study period while the Jarque-Bera statistics attests to the normal distribution of the series at 5 percent level.

4.8. Stability Test
The stability of the estimated parameters is examined using cumulative sum plot. The graphical illustration of this test is depicted in figure 5 below.

Figure-5. CUSUM plot for stability test
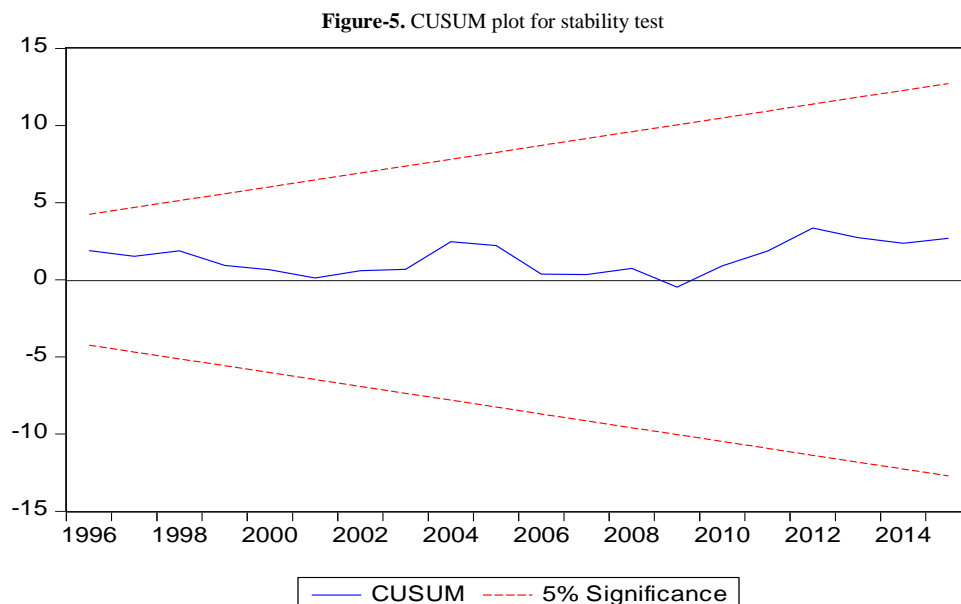
Source: Estimated by the Author

As depicted in figure 5, the cumulative sum plot lies within the 5 percent critical bounds. This is a pointer that the estimated parameters are stable over the years of the analysis.

5. Conclusion and Recommendations
The thrust of this paper is to examine the link between financial integration and inclusive growth in Nigeria. The effects of trade openness and net FDI flow on GDP per capita, proxy for inclusive growth are also examined by this paper. From the result, net capital net capital inflow is found to exert significant negative influence on GDP per capita. This could be attributed to the barriers that characterize capital account transactions in Nigeria. Another

explanation for the negative effect of financial integration on GDP per capita is the problem of managing openness policy which has been sub-optimal in most developing economies including Nigeria. This is because the rush for financial integration is not adequate to guarantee its effectiveness in driving inclusive growth when there are little or no strategic arrangements for the management of the openness. This tends to increase the uncertainties that are associated with capital account transactions and limit the competitiveness of Nigeria in terms of mobilizing capital inflow. Additionally, the results shows that long run relationship exists among GDP per capita, net capital inflow, net FDI flow and trade openness. Owing to the findings, regulatory institutions should put in place proactive measures that promote gradual elimination of the barriers that impair net capital inflows to the Nigerian economy. This paper also recommends for the adoption appropriate economic management practices that will support the reforms in the Nigerian financial system and guide international capital inflows to ensure that the associated economic turnarounds are people-centered.

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Appendix
Static Regression Results

Dependent Variable: GDPPC
Method: Least Squares
Date: 02/22/17   Time: 02:31
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NCIG	6765.334	2225.224	3.040293	0.0047
NFDIG	2510.408	15727.44	0.159620	0.8742
TD	-146.6429	1808.201	-0.081099	0.9359
C	4229.882	94291.71	0.044860	0.9645

R-squared	0.279137	Mean dependent var		104546.0
Adjusted R-squared	0.211556	S.D. dependent var		159172.6
S.E. of regression	141336.3	Akaike info criterion		26.66011
Sum squared resid	6.39E+11	Schwarz criterion		26.83606
Log likelihood	-475.8820	Hannan-Quinn criter.		26.72152
F-statistic	4.130409	Durbin-Watson stat		0.119039
Prob(F-statistic)	0.013899			

Dependent Variable: LOG(GDPPC)
Method: Least Squares
Date: 02/22/17   Time: 02:35
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NCIG	0.133788	0.016312	8.201876	0.0000
NFDIG	0.033835	0.115289	0.293479	0.7711
TD	0.035256	0.013255	2.659809	0.0121
C	5.355895	0.691201	7.748684	0.0000

R-squared	0.814294	Mean dependent var		9.816723
Adjusted R-squared	0.796884	S.D. dependent var		2.298856
S.E. of regression	1.036059	Akaike info criterion		3.013164
Sum squared resid	34.34936	Schwarz criterion		3.189110
Log likelihood	-50.23695	Hannan-Quinn criter.		3.074574
F-statistic	46.77165	Durbin-Watson stat		0.382542
Prob(F-statistic)	0.000000			

Johansen Cointegration Result

Date: 02/22/17   Time: 02:59
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments
Trend assumption: Linear deterministic trend
Series: LOG(GDPPC) NCIG NFDIG TD
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.721673	73.07875	47.85613	0.0000
At most 1 *	0.448258	33.43099	29.79707	0.0183
At most 2	0.364292	14.99609	15.49471	0.0593
At most 3	0.030262	0.952622	3.841466	0.3291

 Trace test indicates 2 cointegratingeqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.721673	39.64776	27.58434	0.0009
At most 1	0.448258	18.43490	21.13162	0.1144
At most 2	0.364292	14.04347	14.26460	0.0541
At most 3	0.030262	0.952622	3.841466	0.3291

 Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Over-Parameterized Ecm

Dependent Variable: DLOG(GDPPC)
Method: Least Squares
Date: 02/22/17   Time: 03:13
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GDPPC(-1))	-0.059174	0.169025	-0.350092	0.7311
DLOG(GDPPC(-2))	0.175087	0.171208	1.022654	0.3227
DLOG(GDPPC(-3))	-0.330623	0.233857	-1.413782	0.1778
D(NCIG)	0.010311	0.008082	1.275772	0.2214
D(NCIG(-1))	-0.013905	0.011716	-1.186840	0.2537
D(NCIG(-2))	-0.018925	0.007349	-2.575102	0.0211
D(NCIG(-3))	-0.003753	0.012750	-0.294326	0.7725
D(NFDIG)	-0.007801	0.022111	-0.352806	0.7291
D(NFDIG(-1))	0.001151	0.020980	0.054879	0.9570
D(NFDIG(-2))	0.020894	0.021731	0.961486	0.3516
D(NFDIG(-3))	0.025666	0.022057	1.163634	0.2627
D(TD)	0.005701	0.003794	1.502549	0.1537
D(TD(-1))	-0.004413	0.003716	-1.187577	0.2535
D(TD(-2))	0.004874	0.004364	1.116883	0.2816
D(TD(-3))	0.010112	0.003947	2.562168	0.0217

ECM(-1)	-0.124825	0.063243	-1.973730	0.0671
C	0.241472	0.062110	3.887832	0.0015

R-squared	0.721261	Mean dependent var	0.202218
Adjusted R-squared	0.423939	S.D. dependent var	0.197491
S.E. of regression	0.149893	Akaike info criterion	-0.652979
Sum squared resid	0.337018	Schwarz criterion	0.125693
Log likelihood	27.44766	Hannan-Quinn criter.	-0.394871
F-statistic	2.425856	Durbin-Watson stat	1.974609
Prob(F-statistic)	0.046858		

Parsimonious Ecm

Dependent Variable: DLOG(GDPPC)
Method: Least Squares
Date: 02/22/17   Time: 03:29
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GDPPC(-3))	-0.312598	0.142776	-2.189432	0.0406
D(NCIG)	0.010698	0.005761	1.856882	0.0781
D(NCIG(-1))	-0.012945	0.006245	-2.072771	0.0513
D(NCIG(-2))	-0.016086	0.005990	-2.685686	0.0142
D(NFDIG(-2))	0.018277	0.015013	1.217443	0.2376
D(NFDIG(-3))	0.028536	0.015580	1.831554	0.0820
D(TD)	0.005059	0.003197	1.582534	0.1292
D(TD(-1))	-0.003895	0.003114	-1.250926	0.2254
D(TD(-2))	0.006054	0.003041	1.991004	0.0603
D(TD(-3))	0.009797	0.003113	3.147102	0.0051
ECM(-1)	-0.109364	0.034126	-3.204722	0.0044
C	0.255518	0.039874	6.408190	0.0000

R-squared	0.691624	Mean dependent var	0.202218
Adjusted R-squared	0.522017	S.D. dependent var	0.197491
S.E. of regression	0.136538	Akaike info criterion	-0.864437
Sum squared resid	0.372850	Schwarz criterion	-0.314786
Log likelihood	25.83099	Hannan-Quinn criter.	-0.682243
F-statistic	4.077810	Durbin-Watson stat	2.155363
Prob(F-statistic)	0.003152		

Normality Test
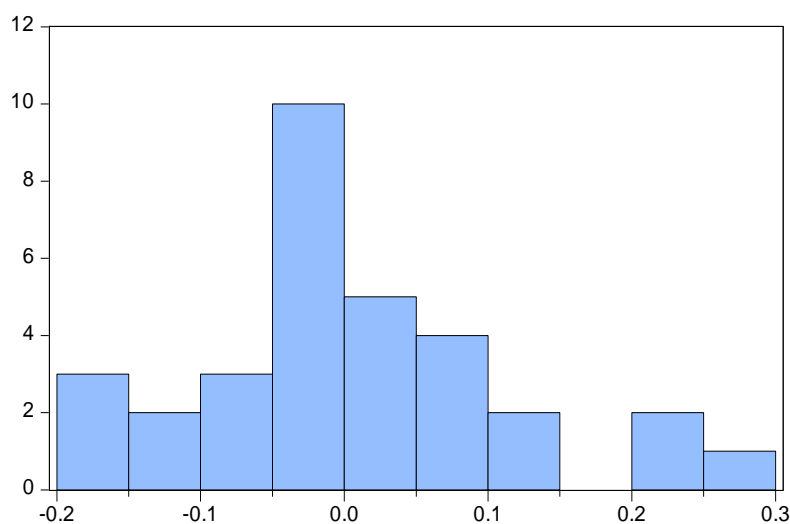
Series: Residuals	
Sample 1984 2015	
Observations 32	
Mean	-6.29e-18
Median	-0.015169
Maximum	0.252550
Minimum	-0.190356
Std. Dev.	0.109670
Skewness	0.402769
Kurtosis	2.905780
Jarque-Bera	0.877024
Probability	0.644995

Breusch-Godfrey Serial Correlation Lm Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.411583	Prob. F(2,18)	0.6687
Obs*R-squared	1.399408	Prob. Chi-Square(2)	0.4967

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 02/22/17   Time: 03:34
Sample: 1984 2015
Included observations: 32
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GDPPC(-3))	0.033718	0.152866	0.220574	0.8279
D(NCIG)	-0.001687	0.006226	-0.270985	0.7895
D(NCIG(-1))	0.000256	0.006453	0.039665	0.9688
D(NCIG(-2))	-0.000327	0.006275	-0.052097	0.9590
D(NFDIG(-2))	0.001674	0.015585	0.107427	0.9156
D(NFDIG(-3))	-0.000543	0.016120	-0.033700	0.9735
D(TD)	0.000623	0.003582	0.174046	0.8638
D(TD(-1))	0.000491	0.003272	0.149889	0.8825
D(TD(-2))	9.84E-05	0.003138	0.031370	0.9753
D(TD(-3))	-0.000284	0.003227	-0.087882	0.9309
ECM(-1)	-0.003225	0.037105	-0.086928	0.9317
C	-0.007201	0.041964	-0.171599	0.8657
RESID(-1)	-0.119934	0.249535	-0.480630	0.6366
RESID(-2)	0.190848	0.277818	0.686952	0.5009

R-squared	0.043731	Mean dependent var	-6.29E-18
Adjusted R-squared	-0.646907	S.D. dependent var	0.109670
S.E. of regression	0.140741	Akaike info criterion	-0.784153
Sum squared resid	0.356545	Schwarz criterion	-0.142894
Log likelihood	26.54645	Hannan-Quinn criter.	-0.571594
F-statistic	0.063320	Durbin-Watson stat	1.816619
Prob(F-statistic)	0.999995		

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.628631	Prob. F(11,20)	0.1654
Obs*R-squared	15.12011	Prob. Chi-Square(11)	0.1771
Scaled explained SS	5.628049	Prob. Chi-Square(11)	0.8970

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 02/22/17   Time: 03:38
Sample: 1984 2015
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.015035	0.004315	3.484077	0.0023
DLOG(GDPPC(-3))	-0.017474	0.015452	-1.130817	0.2715
D(NCIG)	0.001276	0.000624	2.046903	0.0540
D(NCIG(-1))	-0.001382	0.000676	-2.044194	0.0543
D(NCIG(-2))	-0.000624	0.000648	-0.961915	0.3476
D(NFDIG(-2))	0.004541	0.001625	2.794787	0.0112
D(NFDIG(-3))	0.003349	0.001686	1.986175	0.0609
D(TD)	0.000239	0.000346	0.690947	0.4975
D(TD(-1))	1.31E-05	0.000337	0.038734	0.9695
D(TD(-2))	-0.000420	0.000329	-1.274788	0.2170
D(TD(-3))	-0.000391	0.000337	-1.159359	0.2600
ECM(-1)	-0.003883	0.003693	-1.051228	0.3057

R-squared	0.472504	Mean dependent var	0.011652
Adjusted R-squared	0.182380	S.D. dependent var	0.016342
S.E. of regression	0.014777	Akaike info criterion	-5.311472
Sum squared resid	0.004367	Schwarz criterion	-4.761821
Log likelihood	96.98356	Hannan-Quinn criter.	-5.129278
F-statistic	1.628631	Durbin-Watson stat	2.750136
Prob(F-statistic)	0.165356		