Globalisation and Government Size in Nigeria: A Revisit of the Compensation Hypothesis

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Abstract

The link between globalisation and government expenditure has remained contentious in the literature particularly from a disaggregated perspective. Hence, this study examines the compensation hypothesis by analysing the relationship between globalisation and government size in Nigeria for the period 1981 to 2018. Globalisation is proxied by trade and financial openness while government size is measured by final consumption expenditure by the general government (FCE), share of government expenditure on economic services (ECO), share of government expenditure on social and community services (SCS), and share of government expenditure on transfers (TRF). The study employed the error correction modelling technique and the results of the study support the validity of the compensation hypothesis for three models (FCE, SCS, and TRF) but not for the ECO model. The study concludes that the compensation hypothesis cannot be claimed to hold for the Nigerian economy using aggregate data but rather the validity of the compensation hypothesis is component specific with respect to government expenditure. Also, results of this study showed that the findings of previous studies based on aggregate data cannot be generalised for all the components of government expenditures.

I.   Introduction

Issues on globalisation have been confronted with opposing views. Proponents of globalisation emphasised that globalisation fosters economic growth through wider trade, increased market size, technological transfers and knowledge transfers/spillovers amongst other benefits (Sethi & Patnaik, 2007; Grossman & Helpman, 1991). Conversely, opponents cautioned that globalisation engenders external risks and economic insecurity through loss of jobs/increase unemployment, widening income inequalities and loss of revenue through mobility of production factors. According to the opponents, with globalisation, national governments lose part of their monopoly powers of fiscal policy, as they find themselves in situations of strategic interaction with their foreign counterparts which may reduce the demand for export and employment, and favour the outflow of mobile factors (Epifani & Gancia, 2008; Persson & Guido, 1992). The relationship between economic globalisation and

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government expenditure is depicted by the compensation hypothesis (Bretschger & Hettich, 2002). The compensation hypothesis postulates that government expands her expenditure on welfare and social security to insure their citizens against the external risk generated by globalisation (Garrett & Mitchell, 1998; Bretschger & Hettich, 2002). Hence, the compensation hypothesis predicts a positive relationship between globalisation and government size.

An overview of data from Central Bank of Nigeria (CBN) statistical bulletin, shows that government expenditure (both at the aggregate and disaggregate levels) has been on the rise (see Figure A1 in appendix) while globalisation (measured by trade and financial openness) has experienced an unsteady pattern (see Figures A2 and A3 on the appendix). Drawing from the descriptive analysis it is however uncertain if the trends of government expenditure and globalisation depict the presence of compensation hypothesis in Nigeria, hence the need for an empirical study. Empirical literatures examining the compensation hypothesis have been confronted with mixed findings. The pioneer study by Cameron (1978) and followed by Rodrik (1998), Bretschger and Hettich (2002), Nwaka and Onifade (2015), and Aregbeyen and Ibrahim (2014) found credence on the compensation hypothesis, while studies by Dixit (2014), Katumba (2013) and Liberati (2007) observed negative and significant relationship between trade openness and government size, implying that the compensation hypothesis does not hold. Furthermore, studies by Kocatape and Neusehir (2013), Dreher (2003) and Iversen and Cusack (2000) found no significant evidence between trade openness and government size.

In addition, the review of literatures showed that previous studies employed aggregate data (measured as the ratio of aggregate government expenditure to GDP) in analysing the link between government size and globalisation, but studies (Sanz & Valazquez, 2003; Bretschger & Hettich; 2002) have shown that globalisation or trade openness has differential impact on components of government expenditures. Specifically, Sanz and Valazquez (2003) noted that globalisation is positively related to share of health and social security expenditure in total government expenditure and negatively related to educational, housing, and transport and communication share of government expenditure.

Also, Bretschger and Hettich (2002) noted that government social expenditure responded positively to increasing globalisation. The differential impact of globalisation on components of government expenditure could be attributed to the fact that government expenditures on social security and welfare tends to

focus more on certain components such as education, health, housing, pensions and gratuities rather than on administration and economic services. Thus, the use of aggregate data as a measure of government size by previous studies (such as Nwaka and Onifade, 2015; Aregbeyen and Ibrahim, 2014) may have undermined the findings of these studies on the true link between globalisation and government size. Consequently, the objective of this study is to examine the validity of the compensation hypothesis in Nigeria using a more comprehensive measure of globalisation (that is, trade openness and financial openness) and components of government expenditure over the period 1981 to 2018.

In addition to the introductory section, section two discusses the literature review while section three focuses on the research methods. Data analysis and discussion is presented in section four, while section five presents the conclusion and policy recommendations.

II.   Literature Review

The theoretical link between globalisation and government size is summarised by the compensation hypothesis which emphasised that globalisation increases external risks and economic inequalities thereby necessitating more government spending as a compensation to such external risks. Although a plethora of studies have examined this issue using aggregate data, only a handful of literature exists using disaggregated data. In this regard, Dong-Hyeon, Yu-Bo, Shu-Chin and Hsieh (2018) examined the impact of globalisation on government size and government debt for a group of developed and developing countries. The study employed panel heterogeneous co-integration technique and the study observed that globalisation had negative impact on government size and government debt. With respect components of globalisation, the study found that trade openness had positive impact on government size while financial social and political globalisation had negative impact on government size. On the other hand, the study observed that financial and trade openness had positive impact on government debt while social and political globalisation had negative impact on government debt. Furthermore, the study observed unidirectional causality from globalisation to government size and government debt.

Sanz and Velázquez (2003) examined the relationship between openness and disaggregated government expenditure. The study observes that openness had positive and significant impact on health and social security expenditures while openness had negative and significant impact on education, housing,

transport and communication shares of public expenditures. Benarroch and Pandey (2012) examined the link between trade openness and government size for a group of 119 countries over the period 1972 to 2000. The study utilises both aggregate and disaggregated government expenditure data, including data on social security. The sampled countries were classified into high and low growth countries, respectively. The dynamic panel estimation technique is utilised and results from the fixed effects model show no positive relationship between trade openness and aggregate government expenditures. Similar results were obtained for disaggregated data and for both the high and low countries. However, the study only observed positive and significant relationship between trade openness and education expenditures in low income countries while such was not observed in the relationship between trade openness and social security.

With respect to aggregate data analysis, Bergh (2019) reviewed literatures on globalisation and government size. The study noted that recent findings have casted doubt on the validity of the compensation hypothesis. The study reported that in many ways economic openness has been shown as beneficial for countries with high taxes and high-income inequalities. Thus, the study concluded that countries with large welfare states can use economic openness to lessen the unintentional side-effects of social protection and high taxes. In Nigeria, Olawole and Adebayo (2017) examined the compensation hypothesis for the Nigerian economy over the period 1986 to 2015. The study utilised the autoregressive distributed lag (ARDL) technique and it was observed that there exists positive and significant relationship between trade openness and government size, validating the compensation hypothesis. Earlier studies by Nwaka and Onifade (2015) and Aregbeyen and Ibrahim (2014) also supported the validity of the compensation hypothesis in Nigeria. Kocatepe and Nevsehir (2013) analysed the relationship between trade openness and government size in Turkey for the period 1974 to 2011. Employing residual based co-integration method, the study observes no empirical evidence between trade openness and government size.

Swee-Kueh, Puah and Wong (2008) examined the link between trade openness and government expenditure for ASEAN countries over the period 1974 to 2006. The study observes a positive relationship between trade openness and government size, indicating the validity of the compensation hypothesis. Epifani and Gancia (2008) analysed the link between openness, government size and the terms of trade for 143 countries. The study found a positive relationship between openness and government size. The study also noted that government expenditure has no direct impact on the terms of trade. In Spain, Molana, Montagna and Violato(2004) examined the nexus between trade openness

and government size for the years spanning 1948 to 1998. The study observes no evidence of the compensation hypothesis. Using data for EU-15 countries, Alvarez, Pascual and Romero (2003) also observe an inverse relationship between trade openness and government size. Empirical evidences from the above reviewed literatures showed mixed findings and studies employing disaggregate data were also limited. The few studies on the Nigerian economy employed aggregate data, it is therefore important to know if the findings of these studies can be generalised for the components of government expenditure. In the light of the above, this study intends to add to the body of knowledge by examining the link between globalisation and government size in Nigeria using components of government expenditure.

III.   Methodology

To examine the relationship between globalisation and government size, this study rests on the compensation hypothesis as its theoretical framework and adopts a modified model of Liberati (2007) and Olawole and Adebayo (2017). The model is specified as:

$$GS_t = \delta_0 + \delta_1 OPN_t + \delta_2 FDI_t + \delta_3 POP_t + \delta_4 OIRV_t + \varepsilon_t \qquad (1)$$

From the above, government size (GS), is proxied by (i) final consumption expenditure of general government as a ratio of real GDP (ii) components of government expenditure: (a) Social and Community Services which include: education, health, social and community services. (b) Economic Services which includes agriculture, construction, transportation and communication, and other economic services; and (c) Transfers which include public debt servicing, pension and gratuities, contingencies/subventions and other CFR charges. Globalisation is proxied by trade openness and financial openness. Trade openness (OPN) is measured as the ratio of import plus export to real GDP, while financial openness is measured by the ratio of net inflow of foreign direct investment to real GDP (FDI). Population is measured by the estimated annual population figures, while oil revenue (OIRV) is measured by the revenue generated by the oil sector. Both population (POP) and oil revenue (OIRV) have been observed as significant determinants of government expenditures in Nigeria (Okafor & Eiya, 2011). Data on government expenditure, trade openness, foreign direct investment and oil revenue are sourced from the Central Bank of Nigeria (CBN) statistical bulletin, 2018 edition while data on population is sourced from the various editions of the Nigeria Bureau of Statistics (NBS) statistical bulletins.

Given that the dependent variable is proxied by 4 measures of government size, the baseline model is estimated differently for (i) final consumption expenditure

of general government as a ratio of real gross domestic product (FCE); (ii) share of government expenditure on social and community services as a ratio of real gross domestic product (SCS); (iii) share of government expenditure on economic services as a ratio of real gross domestic product (ECO); and (iv) share of government expenditure on transfers as a ratio of real gross domestic product (TRF). Equation (1) is estimated using the error correction modeling technique.

IV.   Data Analysis and Interpretation
IV.1   Descriptive Statistics and Correlation Matrix

The descriptive statistics show that mean values for final consumption expenditure of government, (FCE), share of government expenditure on economic services (ECO), share of government expenditure on social and community services (SCS), share of government expenditure on transfers (TRF), and trade openness (OPN) are 34693.6, 316.0, 299.7, 569.7 and 0.1 respectively, while the mean values for foreign direct investment (FDI), population (POP) and oil revenue (OIRV) are 374531.4, 126,000,000 and 2348.6 respectively. The skewness statistics show that all the variables are positively skewed. The kurtosis shows that ECO, SCS, FDI, POP and OIRV are platykurtic indicating the distribution of the variables are flat relative to normal distribution, while FCE, TRF and OPN are leptokurtic, indicating that the distribution of the variables are peak relative to normal distribution. The probability values from the Jarque-Bera statistics show that the alternative hypothesis of normal statistical distribution was accepted for FCE, SCS, TRF and OPN while the null hypothesis of normal statistical distribution was not rejected for ECO, FDI, POP and OIRV.

Table 1: Descriptive Statistics

Statistics/Variables	FCE	ECO	SCS	TRF	OPN	FDI	POP	OIRV
Mean	34693.6	316.0	299.7	569.7	0.1	374531.4	126000000.0	2348.6
Skewness	2.52	0.80	1.09	1.57	1.84	0.84	0.35	0.86
Kurtosis	8.00	2.37	2.72	4.84	6.18	2.22	1.93	2.44
Jarque-Bera	79.75	4.72	7.60	20.91	37.42	5.42	2.59	5.17
Prob	0.00	0.09	0.02	0.00	0.00	0.07	0.27	0.08
Obs	38	38	38	38	38	38	38	38

Source: Authors' computation using e-views 9, 2019.

The correlation matrix shows that the dependent variable (government size) proxied by FCE, ECO, SCS and TRF are positively correlated with the explanatory variables suggesting that these variables have tendencies of influencing each other. The correlation coefficient between final consumption expenditure of the

government (FCE) and the explanatory variables ranges from 17.9 per cent with population (POP) to 38.2 per cent with foreign direct investment (FDI) while the correlation coefficient between share of government expenditure to economic services (ECO) and the explanatory variables ranges from 36.3 per cent with trade openness (OPN) to 90.3 per cent with population (POP).

The correlation coefficient between share of government expenditure to social and community services (SCS) and the explanatory variables ranges from 33.6 per cent with trade openness (OPN) to 92.7 per cent with population (POP) while the correlation coefficient between share of government expenditure to transfers (TRF) and the explanatory variables ranges from 49.1 per cent with trade openness (OPN) to 91.2 per cent with population (POP). From the correlation matrix, it is noted that the correlation coefficient between the different proxy of government size and globalisation (proxy by trade openness (OPN)) is less than 50 per cent, suggesting a rather weak relationship between the variables while the correlation coefficient between the different proxy of government size and globalisation (proxied by financial openness (FDI)) ranging from 38.2 per cent to 87.0 per cent, suggests a strong relationship between the variables. The result from the correlation matrix suggests that financial openness has a stronger relationship with government size than trade openness. This analysis is further substantiated by the regression estimate.

Table 2: Correlation Matrix

Variables	FCE	ECO	SCS	TRF	OPN	FDI	POP	OIRV
FCE	1.000							
ECO	0.311	1.000						
SCS	0.032	0.900	1.000					
TRF	0.005	0.840	0.951	1.000				
OPN	0.229	0.363	0.336	0.491	1.000			
FDI	0.382	0.870	0.846	0.760	0.258	1.000		
POP	0.179	0.903	0.927	0.912	0.483	0.862	1.000	
OIRV	0.291	0.820	0.834	0.717	0.318	0.880	0.835	1.000

Source: Authors' computation using e-views 9, 2019.

IV.2   Unit Root and Co-integration Estimates

The stationarity or the unit root test is conducted using the Phillip-Perron test. The results of the test from Table 3, shows that all the variables were not stationary at levels but became stationary after first difference, implying that the variables were integrated of order one.

Table 3: Unit Root Test

Phillip-Perron(PP) Test			
Variables	**Level**	**1st Difference**	**Status**
FCE	-2.2385	-4.8833*	I(1)
ECO	-1.4299	-7.9699*	I(1)
SCS	1.4850	-4.6308*	I(1)
TRF	3.3109	-5.7693*	I(1)
GLZ	-2.0666	-9.0514*	I(1)
FDI	-1.4275	-7.5508*	I(1)
LOIRV	-1.4361	-6.0685*	I(1)
LPOP	-1.0008	-4.4069*	I(1)

Source: Authors' computation using e-views 9, 2019.
Note: *'** implies 1%'5% significance level respectively.

The stationarity results suggest the use of Johansen-Juselius co-integration technique. The result of the trace and Max-Eigen statistics shows that all the variables in the models were co-integrated. The probability values were significant either at None, at most 1 or at most 2, suggesting that the variables have a long-run relationship with one another.

Table 4: Co-integration Test

Hypothesised No. of CE(s)	Trace Statistics	0.05 Critical Value	Prob.	Max-Eigen Statistics	0.05 Critical Value	Prob.
Final Consumption Expenditure (FCE) Model						
None	180.05	95.75	0.0000*	92.15	40.08	0.0000*
At most 1	87.90	69.82	0.0009*	27.97	33.88	0.2149
At most 2	59.93	47.86	0.0025*	26.97	27.58	0.1597
Social and Community Services (SCS) Model						
None	165.79	95.75	0.0000*	70.23	40.08	0.0000*
At most 1	95.56	69.82	0.0000*	40.70	33.88	0.0066*
At most 2	54.87	47.86	0.0095*	24.70	27.58	0.1120
Economic Services (ECO) Model						
None	131.68	95.75	0.0000*	56.90	40.08	0.0003*
At most 1	74.79	69.82	0.0190*	36.33	33.88	0.0249*
At most 2	38.46	47.86	0.2825	17.28	27.58	0.5558
Transfers (TRF) Model						
None	173.20	95.75	0.0000*	72.42	40.08	0.0000*
At most 1	100.79	69.82	0.0000*	40.78	33.88	0.0064*
At most 3	60.01	47.86	0.0024	25.95	27.58	0.0797

Source: Authors' computation using e-views 9, 2019.

IV.3   Regression Estimates

The long-run estimate of the impact of globalisation on government size is presented in Table 5. As noted above, government size is proxied by (i) final consumption expenditure of general government as a ratio of real gross domestic product (FCE Model); (ii) share of government expenditure on economic services as a ratio of real gross domestic product (ECO Model); (iii) share of government expenditure on social and community services as a ratio of real gross domestic product (SCS Model); and share of government expenditure on transfers as a ratio of real gross domestic product (TRF model). The results from the FCE model show that the globalisation proxied by trade openness (OPN) and financial openness (FDI) had a positive and significant impact on government size proxied by FCE.

This result is in line with the compensation hypothesis that increase in the economic openness positively influence government expenditure in the domestic economy. It was also observed that log of population had negative and significant impact on government size. This contrasts with theoretical expectation, though, the negative relationship is attributable to the fact that increase in population reduces the expenditure of the government as the limited-scarce resources are being shared by the increased population of the country. In contrast to *a priori expectation*, oil revenue (LOIRV) had an insignificant relationship with government size (measured by final consumption expenditure of the general government). The insignificant impact of oil revenue on government size can be attributed to poor management of oil revenue within the Nigerian economy.

The long-run estimate shows that globalisation (that is trade and financial openness) and the other explanatory variables had an insignificant impact on government size proxied by the share of government expenditure to economic services (ECO). The performances of economic services (which comprise of Agriculture, Construction, Transport and Communication, and other economic services) have not been impressive over the years in comparison to the oil sector which has enjoyed the inflow of FDI. Also, despite the increase in oil revenue over the years, its impact has not been felt on the economic services sector indicating the insignificant relationship between the variables.

Table 5: Long-Run Estimates

Variables	FCE Model	ECO Model	SCS Model	TRF Model
C	123.676 (3.879)*	-0.0714 (-0.612)	-0.5085 (-8.460)*	-0.9513 (-9.758)*
OPN	3.6606 (2.059)**	0.0000 (0.001)	-0.0021 (-0.630)	0.0204 (3.745)*
FDI	0.1791 (4.698)*	0.0003 (1.809)	0.0002 (2.490)**	0.0000 (0.074)
LPOP	-6.7721 (-3.820)**	0.0038 (0.583)	0.0280 (8.392)*	0.0525 (9.690)*
LOIRV	0.2846 (1.330)	0.0010 (1.244)	-0.0015 (-3.666)*	-0.0027 (-4.141)*
ECM term	-0.7200 (-3.863)*	-0.6020 (-3.231)*	-0.5857 (-3.807)*	-0.9401 (-4.092)*
R-square	0.5656	0.6050	0.5483	0.5647
Durbin-Wat. Stat.	2.18	1.97	1.86	1.84

Source: Authors' computation using e-views 9, 2019.

Note: Values outside the brackets are coefficient estimates, while values in bracket () are the t-Statistics. FEC is final consumption expenditure of general government as a ratio of real gross domestic product; ECO is share of government expenditure on economic services as a ratio of real gross domestic product; SCS is share of government expenditure on social and community services as a ratio of real gross domestic product; and TRF is share of government expenditure on transfers as a ratio of real gross domestic product

In addition, Table 5 shows that financial openness (FDI) and population had positive and significant impact on government size measured by share of government expenditure to social and community services (SCS) while the impact of oil revenue (LOIRV) on SCS was negative and significant. The positive link between financial openness and the share of government expenditure to social and community service (SCS) corroborates the findings of Bretschger and Hettich (2002) but in contrast with Sanz and Valazque (2003). This therefore validates the compensation hypothesis that globalisation increases government expenditure on social and community services. However, the study also found that trade openness (OPN) had insignificant impact on share of government expenditure to social and community services (SCS).

Finally, column 5 of Table 5 (TRF Model) shows that trade openness (OPN) and population (LPOP) had positive and significant impact on government size measured by share of government expenditure to transfers (TRF) while the impact of oil revenue (LOIRV) on TRF was negative and significant. The validity of the compensation hypothesis between trade openness and the share of government expenditure to transfers can be attributed to the fact that with globalisation, the Nigerian economy has experienced increased foreign debts.

Over the years such foreign debts has resulted in increased debt servicing thereby accounting for substantial share of the government expenditure as transfer for debt servicing.

In addition to the above, the error correction terms from the short-run estimate (see appendix for full result) on the relationship between globalisation and government size, show that the error correction terms from the four (4) estimated models were significant and appropriately signed. The results of the error correction term implies that the estimated models correct the short-run disequilibrium by 72 per cent, 60.2 per cent, 58.6 per cent and 94.0 per cent speed of adjustment for the FCE, ECO, SCS and TRF models respectively towards the long-run equilibrium. More so, Serial Correlation LM tests indicate the absence of serial correlation in the estimates. The tests result shows that the probability values were greater than 0.05, implying that the regression estimates were appropriate for policy references.

Table 5: Serial Correlation LM Test

FEC Model			
F-Statistics	0.8469	Prob. F(2,25)	0.4407
Obs*R-squared	2.2842	Prob. Chi-Square(2)	0.3191
ECO Model			
F-Statistics	0.0702	Prob. F(2,23)	0.9324
Obs*R-squared	0.2185	Prob. Chi-Square(2)	0.8965
SCS Model			
F-Statistics	1.0351	Prob. F(2,23)	0.3712
Obs*R-squared	2.9726	Prob. Chi-Square(2)	0.2262
TRF Model			
F-Statistics	0.5402	Prob. F(2,23)	0.5898
Obs*R-squared	1.6152	Prob. Chi-Square(2)	0.4459

Source: Authors' computation using e-views 9, 2019.

V.   Conclusion and Policy Recommendations

This study examines the validity of the compensation hypothesis by looking at the relationship between globalisation and government size in Nigeria for the period 1981 to 2018. Globalisation is proxied by trade and financial openness while government size is proxied by (i) final consumption expenditure of the general government as a ratio of real GDP (FCE), (ii) share of government expenditure to social and community services as a ratio of GDP (SCS), (iii) share of government expenditure to economic services as a ratio of GDP (ECO), and (iv) share of government expenditure to transfers as a ratio of GDP (TRF). Based on the unit root and co-integration tests, the study employed the error correction modelling technique. The results of the study support the validity of the compensation

hypothesis for three models (FCE, SCS, and TRF) with exception of government expenditure on economic services (ECO model).

Thus, the results of this study showed that the findings of previous studies based on aggregate data cannot be generalised for all the components of government expenditures. The study concludes that the compensation hypothesis cannot be claimed to hold for the Nigerian economy using aggregate data but rather the validity of the compensation hypothesis is component specific with respect to government expenditure. Therefore, the study recommends the need for government to reduce the external risk associated with globalisation through reduction in foreign debts which would reduce the percentage of government expenditure on debt servicing.

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APPENDIX

SHORT-RUN REGRESSION ESTIMATES

Dependent Variable: ΔFCE Model

Dependent Variable	Regressors	Estimated Co-efficient	Standard Error	t-Statistics	Prob.
ΔFCE	C	1.5959	1.6142	0.9887	0.3316
	ECMFCE(-1)	-0.7200	0.1864	-3.8626	0.0006
	ΔFCE(-1)	0.4949	0.1543	3.2078	0.0034
	ΔOPN	-1.3253	1.8294	-0.7244	0.4750
	ΔOPN(-1)	-1.6387	2.3986	-0.6832	0.5003
	ΔFDI	0.1296	0.0408	3.1723	0.0038
	ΔFDI(-1)	-0.0572	0.0392	-1.4610	0.1556
	ΔLPOP	-64.1771	62.7347	-1.0230	0.3154
	ΔLOIRV(-1)	0.2774	0.3152	0.8801	0.3866
R^2 = 0.5656 Adjusted R^2 = 0.4368			F-Stat. (Prob.) = 4.394 ($p < 0.05$) Durbin-Watson Stat. = 2.18		

Source: Authors' Computation using E-views 9, 2019. * denotes 1 per cent significance level.

Dependent Variable: ΔECO Model

Dependent Variable	Regressors	Estimated Co-efficient	Standard Error	t-Statistics	Prob.
ΔECO	C	0.0545	0.0204	2.6726	0.0131
	ECMECO(-1)	-06021	0.1863	-3.2314	0.0034
	ΔECO(-1)	-0.2855	0.1681	-1.6986	0.1018
	ΔOPN	-0.0242	0.0072	-3.3411	0.0026
	ΔOPN(-1)	-0.0203	0.0093	-2.1842	0.0385
	ΔFDI	0.0002	0.0002	1.0838	0.2888
	ΔFDI(-1)	-3.49E-05	0.0002	-0.2288	0.8209
	ΔLPOP	-0.7258	0.2814	-2.5793	0.0162
	ΔLPOP(-1)	-1.3570	0.8046	-1.6867	0.1041
	ΔLOIRV	0.0002	0.0013	0.1529	0.8797
	ΔLOIRV(-1)	-0.0027	0.0012	-2.2542	0.0332
R^2 = 0.6050 Adjusted R^2 = 0.4470			F-Stat. (Prob.) = 3.829 ($p < 0.05$) Durbin-Watson Stat. = 1.97		

Source: Authors' Computation using E-views 9, 2019. * denotes 1 per cent significance level.

Dependent Variable: ΔSCS Model

Dependent Variable	Regressors	Estimated Co-efficient	Standard Error	t-Statistics	Prob.
ΔSCS	C	-0.0086	0.0075	-1.1588	0.2575
	ECMSCS(-1)	-0.5857	0.1538	-3.8072	0.0008
	ΔSCS(-1)	0.3893	0.2031	1.9174	0.0667
	ΔOPN	-0.0035	0.0026	-1.3183	0.1993
	ΔOPN(-1)	0.0047	0.0031	1.5070	0.1444
	ΔFDI	-1.31E-05	5.81E-05	-0.2249	0.8239
	ΔFDI(-1)	-0.0001	6.31E-05	-1.7551	0.0915
	ΔLPOP	-0.1531	0.1110	-1.3792	0.1801
	ΔLPOP(-1)	0.4993	0.2957	1.6885	0.1038
	ΔLOIRV	-0.0003	0.0005	-0.7106	0.4839
	ΔLOIRV(-1)	0.0002	0.0005	0.3336	0.7415
R^2 = 0.5483			**F-Stat. (Prob.)** = 3.03 (p <0.05)		
Adjusted R^2 = 0.3676			**Durbin-Watson Stat**. = 1.86		

Source: Authors' Computation using E-views 9, 2019. * denotes 1 per cent significance level.

Dependent Variable: ΔTRF Model

Dependent Variable	Regressors	Estimated Co-efficient	Standard Error	t-Statistics	Prob.
ΔTRF	C	-0.0153	0.0167	-0.9169	0.3679
	ECMTRF(-1)	-0.9401	0.2297	-4.0918	0.0004
	ΔTRF(-1)	0.2141	0.1839	1.1644	0.2553
	ΔOPN	0.0111	0.0063	1.7632	0.0901
	ΔOPN(-1)	0.0029	0.0070	0.4068	0.6876
	ΔFDI	0.0001	0.0001	0.9901	0.3316
	ΔFDI(-1)	0.0001	0.0001	1.1686	0.2536
	ΔLPOP	-0.4717	0.2217	-2.1276	0.0434
	ΔLPOP(-1)	1.0681	0.6628	1.6115	0.1196
	ΔLOIRV	0.0003	0.0011	0.2933	0.7717
	ΔLOIRV(-1)	0.0007	0.0011	0.6846	0.4999
R^2 = 0.5647			**F-Stat. (Prob.)** = 3.24 (p <0.05)		
Adjusted R^2 = 0.3905			**Durbin-Watson Stat**. = 1.83		

Source: Authors' Computation using E-views 9, 2019. * denotes 1 per cent significance level.

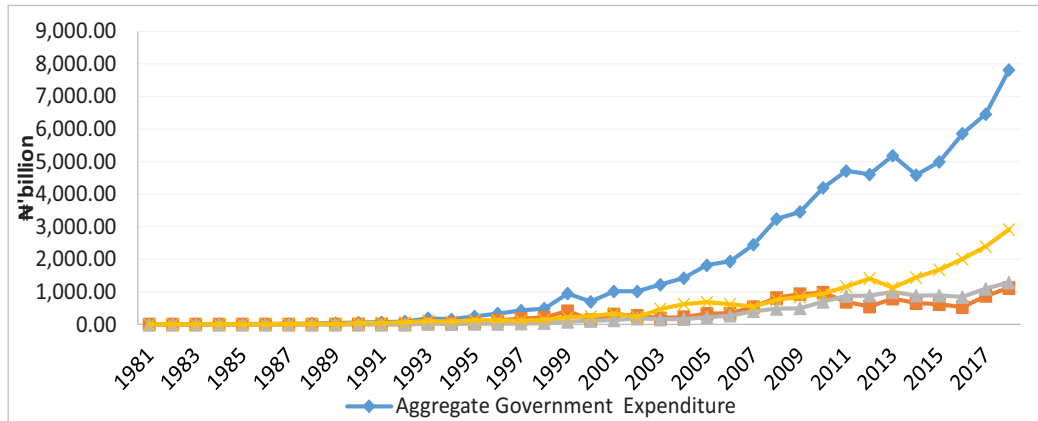**Figure A1: Trend of Government Expenditure in Nigeria 1981 to 2018**

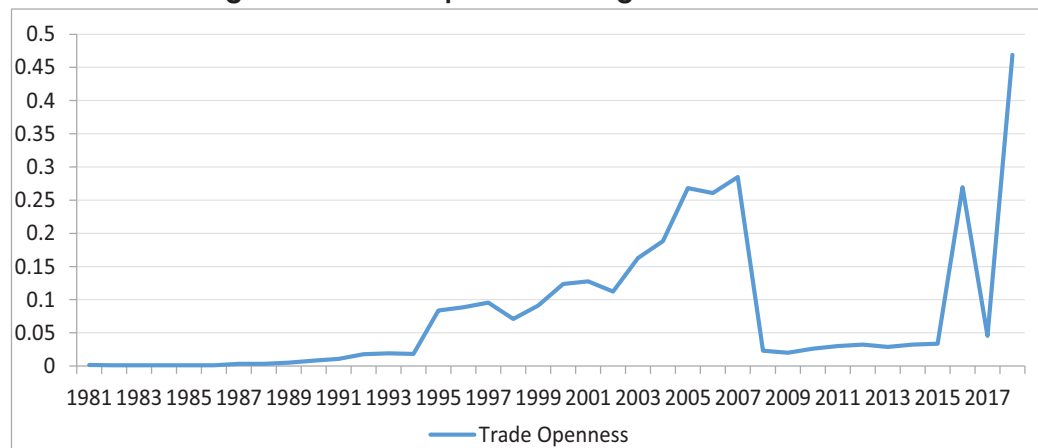
Figure A2: Trade Openness in Nigeria 1981 to 2018

Figure A3. Financial Openness in Nigeria 1981 to 2018