A Comparative Analysis of Trade Effects on South African and Nigerian Economies

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Abstract: The study provided a comparative analysis of trade effects on economic growth between South Africa and Nigeria. The autoregressive distributed lag (ARDL) methodology was employed in the comparative analysis. Results of the ARDL bounds test showed that for both South Africa and Nigeria there is a long run relationship between economic growth, trade liberalization, foreign direct investment (FDI) and trade openness. However, in the end Nigeria's trade liberalisation had a negative effect on economic growth while South Africa had a positive effect. For FDI, Nigeria was found to have a negative and significant effect on economic growth which is contradictory to South Africa which had a positive and insignificant effect. Trade openness showed comparative results for both countries as both showed positive and significant results. It turned out that the speed of adjustment to equilibrium was higher for Nigeria (86%) than South Africa (18%) so, Nigerian economy converged to equilibrium faster than South Africa. It had been realised that Nigerian FDI could have contributed to its trade liberalization hence it could influence economic growth and export more goods. It is recommended that a country like South Africa should learn from a country like Nigeria as they both have natural resources that can be traded to improve their economies. South African policymakers should focus on policies that could promote FDI.

Keywords: Foreign direct investment, Gross domestic product, Trade liberalization, Trade openness

1. Introduction

Severe droughts in Southern and Eastern Africa, low commodity prices and escalating unemployment in Sub-Saharan Africa (SSA) had inspired us to evaluate the importance of trade on the economy. Although output in SSA had been growing on average by 1.6% in 2016 and 2.8% in 2017, trade had always been important in the development of economies (Negasi, 2009; IMF, 2017). Theoretically, trade liberalisation should have a positive effect on economic growth, but empirical evidence had been found not to be conclusive especially in developing and emerging markets (Brenton, Dihel, Gillson & Hoppe, 2011; Devereux & Lapham, 1994; Lucas, 1988; Onafowora & Owaye, 1998; Rivera-Batiz & Romer, 1991; Sarkar, 2005). According to Manwa (2015) and Peasah & Barnes (2016) these inconclusive results were due to out-dated methodological approaches, inappropriate proxies, lack of data availability and the inaccurate assumptions of homogenous production functions among developing countries. These findings reflect the competitive international trade environment that requires lower prices and more diversified products that some developing countries

struggle especially in sectors such as manufacturing, agriculture and textiles (Olaifa, Subair, & Biala, 2013; Weisbrot & Baker, 2003). Although country specific studies are available for South Africa and Nigeria, there is a gap for comparative studies between Africa's largest economies as the top exporting countries in SSA and thus important to the development of the region (Onafowora & Owaye, 1998; Santos-Paulino, 2005; Zenebe, 2013).

This article focused on two of Africa's largest and most developing economies in terms of output, South Africa and Nigeria (IMF, 2017). Recently, South Africa's eligibility as a benefactor for the African Growth and Opportunity Act (AGOA) was cast into doubt (Pienaar & Partridge, 2016). In addition, the Nigerian government lost around US$18 billion in oil revenues due to increased supply of the commodity by countries that are not members of Organisation of the Petroleum Export Countries (OPEC) (PriceWaterhouseCoopers, 2016). These countries had to open to more trade in the hope of reaping positive effects on their economies. As much as the economies are open to trade they are also vulnerable to trade effects. This could make

developing countries suffer as they fail to compete internationally (Peasah & Barnes, 2016). This could be due to developing countries being unable to improve their methods of production and technologies in line with demand in the competitive international markets.

To pursue trade effects, there are studies that looked at the impact of trade liberalisation on economic growth in different Sub-Saharan African countries (Mwaba, 2000; Masibau, 2006; Manwa, 2015; Echekoba, Okonkwo & Adigwe, 2015; Peasah & Barnes, 2016). Most of the studies focused mainly on the effect that imports and export, as proxy for trade liberalisation, as well as foreign direct investment had on economic growth using time series data (Olusegun *et al*., 2009). This study used the tariff rates in manufactured products as a proxy for trade liberalisation and included trade openness to estimate the overall trade effects on economic growth (Lee, 2005). Therefore, it was imperative to compare how trade in terms of trade liberalisation, trade openness and foreign direct investment can affect economic growth for Nigeria and South Africa.

2. Literature Review

2.1 Theoretical Literature

Adam Smith explored that countries could trade and specialize in goods and service they have absolute advantage, and the theory was extended by David Richardo through the principle of comparative advantage (Richardo, 1963; Smith, 1937). The comparative advantage implied that it is more beneficial for a country to specialize in the production of one good even though it might have absolute advantage in production of two goods compared to the trading country. For example, looking at one-variable factor (labour), the Ricardian model indicated that trade would benefit both countries if each country were to export the goods its labour produced more efficiently and imported goods it was inefficient in producing (Krugman *et al*., 2012). Then, trade would be liberated if the reduction or removal of trade restrictions exist, so as to promote efficient trading practises (Echekoba *et al*., 2015).

As international trade progressed in the 20th century, trade theory began to consider other factors of production such as land, capital on international specialization and mineral resources (Echekoba *et al*., 2015; Rodrik & Rodriguez, 1999). This resulted

to the Heckscher-Ohlin theory which states that a country that is abundant in a factor will export the good whose production is intensive in that factor (Krugman *et al.*, 2012). The Heckscher-Ohlin as a neo-classical framework assumed that both countries had homothetic preferences and there were no differences in relative labour productiveness instead all the countries had access to the same technological capacity (Echekoba *et al*., 2015; van Marrewijk *et al*., 2012). Since countries might have the same methods of production, relative prices of goods would have a large effect on the relative earnings of resources. Owners of the abundant resource in a country would have higher gains from trade than those to scarce resources (Krugman *et al*., 2012).

New growth theories included import substitution which required limitation of imports in some industrial goods and substituting these products with domestically produced goods (Basu, 2005). The key argument for import substitution is the protection of infant industries to be internationally competitive (Krugman *et al*., 2012). However, according to Mukherjee (2012), the argument of protectionism for infant industries could be sufficient if initial losses by infant industries were to be compensated by future profits. But, if countries had no efficient capital markets to facilitate private investment into infant industries, rapid growth would not be achieved. As developing countries began to experience lower economic growth and higher inflation in the mid-1970, import substitution was replaced with export-led growth (Palley, 2003). Some of the reasons that led to this policy migration were economic distortions resulting inefficiencies in production caused by import substitutions as well as the exponential export-led growth observed in the Asian "tiger" economies – Singapore, Hong Kong, South Korea and Taiwan. Export-led growth beneficiated these countries by removing constraints caused by foreign exchange and promoted higher technological innovation (Echekoba *et al*., 2015).

2.2 Empirical Literature

Programmes aimed at the restructuring the economy are among the ways in which developing countries tried to liberalize their economies. In Nigeria, the Structured Adjustment Programmes (SAPs), established in July 1986, were a collection of policies aimed at restructuring and redirecting the economy (Central Bank of Nigeria, 1995). SAPs intended to remove price distortions and trade

Figure 1: Trade as % of GDP (1995-2015)
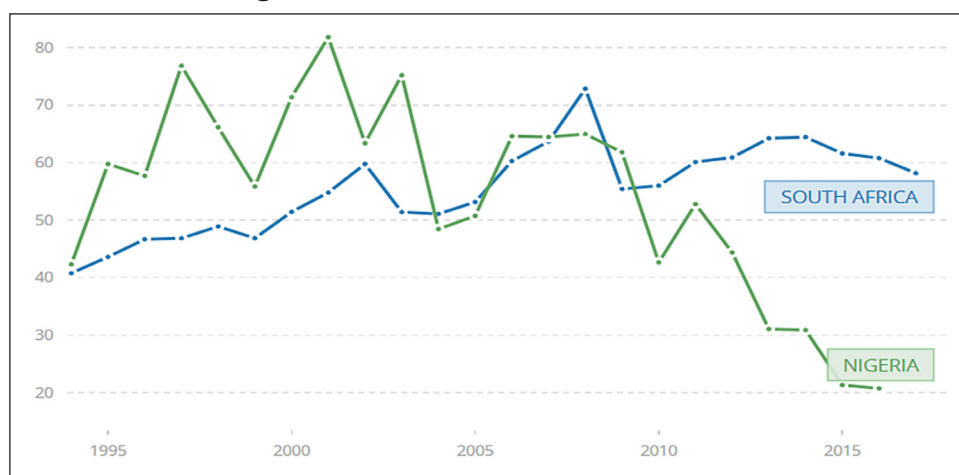
Source: World Bank national accounts data and OECD National Accounts data files

barriers by expanding the export base of the economy and promoted usage of local resources instead of imported material (Okoye *et al*., 2016). However, it was seen that during the SAP era there was depreciation of domestic currency, which resulted in an increase in the cost of imports that led to bigger cost of production. This made it difficult for local markets to compete and thus impeded the economic growth in Nigeria (Ukwu, 1994). In South Africa, the post-apartheid era implemented different trade and economic growth policies with the Accelerated Shared Growth Initiative for South Africa (ASGISA) from 2006 (Mabugu & Chitiga, 2007). ASGISA primarily focused on reducing fiscal deficits, maintaining exchange rate stability, decreasing barriers of trade and liberalizing capital flows. On a different note, ASGISA was complicated as it lacked clarity on trade and South Africa's involvement in number of trade agreements (Edwards & Lawrence, 2008).

In most developing regions, trade liberalisation was largely driven by free trade agreements, but they had not always been effective in promoting trade and economic growth (Echekoba *et al*., 2015; Gunning, 2001; Olugbenga & Oluwale, 1998; Yang & Gupta, 2005). The reasons stated were the lack of product differentiation, inadequate trade infrastructure, small market size and a lack of strong political will. However, studies conducted in South Africa found that trade liberalisation contributed to faster capital accumulation and increments of about 3% growth in the manufacturing industry during the 1990's (Jonsson & Subramanian, 2001; Teweldemedhin & van Schalkwyk, 2010). Comparable results from some studies in Nigeria displayed positive effects of trade liberalisation on agricultural output (Akanni

et al., 2005; Ugagu, 2012) Also, studies of Cho & Diaz (2011), Mabugu & Chitiga (2007) and Topalova (2004) found positive effects of trade liberalisation on production limited to private companies thus a need for more policies to promote privatisation.

Contradicting views were found in some studies especially in the short run, where there were negative effects of trade liberalisation on output (Ahmed & Tawang, 1999). Cronjé (2004) also found that for formerly protected industries such textile and automotive industries in the short run trade liberalization had a negative effect on those industries. For the textile industry, the study found that even in the long run it still struggled which resulted in a negative effect on employment and export-led economic growth. According to Manni and Afzal (2012), it turned out that with greater trade openness real export and imports increased resulting into economic growth. The study further found that for the Bangladesh economy trade liberalisation also had a positive effect on economic development. When the impact of trade liberalisation on economic growth among SACU countries was investigated, results indicated that South Africa trade openness resulted not only in economic growth but an increase in investment to the previously protected sectors (Manwa, 2015).

Figure 1 shows trends of trade as a percentage of GDP in South Africa and Nigeria with trade openness measured by the sum of exports and imports of goods and services. In the period 1995-2015, Nigeria was trading better than South Africa until 2001. After the 2008 global financial crisis, trade as a percentage of GDP in both countries sharply declined in the first year and indicated signs of

**Figure 2: 2A Imports of Goods and Services (% of GDP),
2B Exports of Goods and Services (% of GDP)**
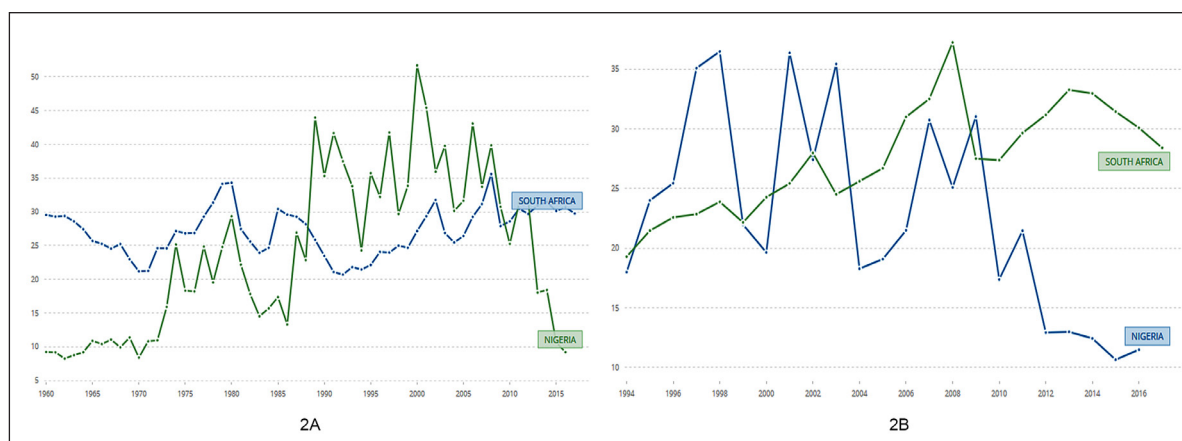
Source: World Bank national accounts data and OECD National Accounts data files

recovery from 2010. However, Nigeria's recovery is not sustained as from 2011 the percentage of trade on GDP decreased sharply yearly until 2017. South Africa showed signs of recovery until 2014 where it began to slow down.

When exports and imports of goods and services were compared separately, Figures 2a and 2b indicated that the decline in Nigeria's trade were in line with large declines in exports and imports. South Africa's post- crisis improvement was largely driven by imports. Nigerian exports on average had a higher contribution to GDP than South African exports (Figure 2b). From 2000, Nigeria's exports seemed to decline gradually from 2012 to 2016. Within the same observation period, South Africa's exports have, on average, been increasing with small variations between 2012 and 2017. It can be mentioned that both these outcomes were not aligned with each of the country's trade policies, SAP and ASGISA (Central Bank of Nigeria, 1995; Edwards & Lawrence, 2008; Saibu, 2011). Hence, it was imperative to investigate if trade effects can influence economic growth and what factors contribute to those effects in these African leading economies. It can be summarised that there is limited evidence on the comparative analysis of trade effects in leading economies. Therefore, this study provides novelty especially in the indicators used to analyse trade effects such as trade liberalisation and trade openness shown by distinct proxies.

3. Methods and Materials

The study analysed how trade effects influence economic growth in South Africa and Nigeria. A comparative analysis was employed after consideration of some literature and empirical evidence discussed in the previous section.

3.1 Area Descriptions

The study utilised annual secondary data from South Africa and Nigeria spanning the period 1981-2016. The dataset used was for the following variables: Gross Domestic Product, Trade liberalisation, trade openness and foreign direct investment obtained from the South African Reserve Bank (SARB) and Central Bank of Nigeria (CBN).

3.2 The Estimated Model

The model estimated economic growth as a function of trade liberalisation, trade openness and foreign direct investment. The trade-growth equation can be expressed as follows:

$$GDP\ f(TLIB, FDI, TRDOPN) \qquad (1)$$

The model is specified as follows:

South Africa

$$LGDP_t = \beta_0 + \beta_1 TLIB_t + \beta_2 FDI_t + \beta_3 TRDOPN_t + \varepsilon_t \qquad (2)$$

Priori Expectations: $\beta_1 > 0; \beta_2 > 0; \beta_3 > 0;$

Nigeria

$$LGDP_t = \beta_0 + \beta_1 TLIB_t + \beta_2 FDI_t + \beta_3 TRDOPN_t + \varepsilon_t \qquad (3)$$

Priori Expectations: $\beta_1 > 0; \beta_2 > 0; \beta_3 > 0;$

Where, $LGDP_t$ is log GDP per capita; $TLIB_t$ is tariff rate, weighted mean, manufactured products; FDI_t is foreign direct investment; $TRDOPN_t$ is the sum of exports and imports over GDP; ε_t is the error term. Trade openness (TRDOPN) measure was adopted from Malefane & Odhiambo (2018) and trade liberalization was measured by the tariff rate (Lee, 2005).

3.3 Estimation Techniques

Time series data that usually portrayed non-stationarity over time (Gujarati & Porter, 2009; Lütkepohl, 1993). In order to be useful for econometric analysis data must be stationary, meaning it must show a constant mean and variance of the sample period. Unit root tests are thus carried out to determine stationarity and the order of integration of the variables. Although various unit root tests are available, this study used the Augmented Dickey-Fuller (ADF) and confirmed the results with Phillips-Perron (PP) unit root tests (Gujarati & Porter, 2009; Phillips, 1986; Phillips & Perron, 1989).

After testing for stationarity, it would be necessary to find out if there is cointegration in the series to check if the model has a meaningful long run relationship (Nkoro & Uko, 2016). To identify the existence of cointegration among variables, Pesaran and Shin (1999) proposed the Auto-Regressive Distributed Lag Approach (ARDL) bounds test. Unlike its predecessors, Engle and Granger (1987) and Johansen and Juselius (1990), the bounds test can determine cointegration irrespective of whether the variables are I(0), I(1) or a combination and estimate the short and long run parameters simultaneously. Another key advantage of this test is its robust testing of small and large sample sizes (Davidson, 2002; Ioannides, Katrakilidis & Lake, 2005).

The ARDL model specification, in line with the model specified in Equation 1 is as follows (Pesaran *et al.*, 2001):

$$\Delta LGDP = \beta_0 + \beta_1 GDP + \beta_2 FDI_{t-1} + \beta_3 LTRDOPN_{t-1} +$$
$$\beta_4 TRDLIB_{t-1} + \sum_{i=1}^{p} \beta_5 i\Delta LGDP_{t-1} + \sum_{i=1}^{q} \beta_6 i\Delta FDI_{t-1} +$$
$$\sum_{i=1}^{r} \beta_7 i\Delta LTRDOPN_{t-1} + \sum_{i=1}^{s} \beta_8 i\Delta TRDLIB_{t-1} + \varepsilon_t \quad (4)$$

Equation 4 can include the Error Correction Model (ECM) to test for the speed of adjustment, which is how fast the system would converge towards equilibrium in the long run. Equation 5 shows the ARDL ECM equation for our trade-growth nexus model.

$$\Delta LGDP = \beta_0 + \sum_{t=1}^{n} \Delta FDI_{t=i} + \sum_{t=1}^{n} TRDOPN_{t=i} +$$
$$\sum_{t=1}^{n} \Delta TRDLIB_{t=i} + \lambda ECT_{t=i} + \varepsilon_t \quad (5)$$

Diagnostic tests were carried to check if the ARDL model yielded reliable estimates. Firstly, the Breush-Pagan Lagrange Multiplier (LM) test was carried out to determine whether the time and individual effect are random. An autocorrelation Ljung-Box Q tested for autocorrelation between the error terms and the delayed values of the model (Mercan, Göçer, Bulut & Dam, 2012). Heteroscedasticity was tested using the Breusch-Pagan-Godfrey, Glejser and Harvey test. Lastly, normal distribution was tested using the Jarque-Bera test.

4. Results and Discussion

After running the Augmented Dickey Fuller and the Phillips Perron tests for South Africa and Nigeria, it was found that variables are integrated at different orders of integration [I(0) and I(1)]. For instance, for South Africa foreign direct investment was stationary at levels while other variables were stationary after being differenced once. For Nigeria, it was trade balance that was integrated at levels. The different orders of integration gave way to employ the ARDL (Pesaran *et al.*, 2001). To determine the existence of a long run relationship, the ARDL bounds F-test was applied using the Schwartz Bayesian criterion automatic lag selection (see Table 1). The model had 3 independent variables, therefore k = 3. For South Africa, the F-statistic is 8.062 which is greater that the lower and upper bounds critical values, of 3.65 and 4.66 respectively was significant at 1%. Nigeria had the F-statistic of 4.818 which is greater than both the lower bound and upper bound. The ARDL results indicated co-integration at a 1% significance level, therefore a long run relationship in the series existed for both countries.

Tables 2 and 3 presented the growth-trade model for South Africa and Nigeria respectively. In South Africa, the FDI coefficient had a positive non-significant long run relationship while in Nigeria there was a negative significant relationship. This suggests that over the observation period Nigeria was able to leverage on FDI inflows better than South Africa. These results are in line with findings of Akanegbu & Chizea (2017) and Akinlo (2004), who found that for the period 1991 to 2014 not only was the effect

Table 1: ARDL Bounds Test

Country	F-statistic	Outcome	Significance	Lower Bound	Upper Bound
South Africa	8.061586	Co-integrated	10%	2.37	3.2
Nigeria	4.817743	Co-integrated	5%	2.79	3.67
			1%	3.65	4.66

Author compilation from SARB and CBN data (1981-2016)

Table 2: ARDL Short Run and Long Results for South Africa and Nigeria

Short run coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(FDI)	-0.000191	0.000642	-0.297750	0.7779
D(FDI(-1))	-0.000357	0.000646	-0.552714	0.6043
D(FDI(-2))	-0.001637	0.000617	-2.651738	0.0453
D(SLTRDOPN)	0.073020	0.046886	1.557395	0.1801
D(SLTRDOPN(-1))	-0.112906	0.050465	-2.237328	0.0755
D(STRDLIB)	-0.000691	0.001917	-0.360288	0.7334
D(STRDLIB(-1))	-0.003552	0.002430	-1.461962	0.2036
D(STRDLIB(-2))	0.003660	0.000951	3.846169	0.0120
ECT(-1)	-0.181562	0.079932	-2.271450	0.0723
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
FDI	0.004154	0.010161	0.408788	0.6996
SLTRDOPN	0.566771	0.152767	3.710023	0.0139
STRDLIB	0.053479	0.023442	2.281355	0.0714
C	-0.646334	1.070764	-0.603620	0.5724
D-indicate differenced results for short run				

Source: Author compilation from SARB and CBN data (1981-2016)

of FDI on economic growth significant but the FDI-growth leakages were also positive. Contradictory studies to these findings were reported for Nigeria (Uwubanmwen & Ogiemudia, 2016; Adelegan, 2000). Furthermore, Strauss (2015) found a negative but small growth trade nexus for South Africa. This could be due to the fact that FDI during the observed period was by large limited to mining sector which had a weak linkage to the rest of the economy.

Both countries have a positive and significant relationship at 1% between trade openness and economic growth with Nigeria having a higher coefficient of 0.67 than South Africa (0.57). These results are consistent with what Sikwila *et al.* (2014) noted, that there was a positive relationship between trade openness and economic growth. These findings are in line with the theories of trade promoting that the more open trade to other countries there more exportation between trading countries. For Nigeria, Olowe and

Ibraheem (2015) found through descriptive analysis that trade openness had a positive relationship with economic growth. Trade liberalisation in Nigeria indicated a negative significant relationship with economic growth, while there was a positive significant relationship for South Africa. The significant negative effect of trade liberalization on economic growth in Nigeria is contradictory with findings by Okoye *et al.* (2016) who found a positive but insignificant relationship. For South Africa, Manwa (2015) also found a significant negative effect to economic growth.

In the short run, for South Africa only trade liberalizations had a positive and significant influence on economic growth after being lagged twice (Tables 2 and 3). This can endorse theoretical debates of import substitution and eprt-led growth need to be promoted. Contrary, in Nigeria all the trade variables indicated a negative significant relationship with trade openness lagged twice. The negative effect of trade

Table 3: ARDL Short Run and Long Results for Nigeria

Short Run coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NFDI)	-0.012170	0.006236	-1.951537	0.0795
D(NLTRDOPN)	0.017033	0.099204	0.171698	0.8671
D(NLTRDOPN(-1))	-0.109627	0.098826	-1.109296	0.2933
D(NLTRDOPN(-2))	-0.186817	0.091990	-2.030837	0.0697
D(NTRDLIB)	-0.014186	0.004078	-3.478807	0.0059
ECT (-1)	-0.862438	0.262331	-3.287598	0.0082
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NFDI	-0.014111	0.006465	-2.182748	0.0540
NLTRDOPN	0.671117	0.114180	5.877694	0.0002
NTRDLIB	-0.016449	0.002294	-7.170491	0.0000
C	-1.653587	0.912797	-1.811562	0.1001

Source: Author compilation from SARB and CBN data (1981-2016)

balance on economic growth was confirmed by some studies (Malefane & Odhiambo, 2018). For Nigeria, these findings are in line with the findings of Olowe & Ibraheem (2015). The error correction term measured the speed at which variables converged to equilibrium. The results in Table 2 on the previous page expressed that, for South Africa about 18% of the disequilibrium in the current year would be corrected in the next year. For Nigeria, about 86% of the disequilibrium would be corrected in the next year. This outcome indicated that Nigeria's trade effects were more responsive to economic growth than South Africa.

The diagnostics test for heteroscedasticity the Breusch-Pagan-Godfrey, Harvey and Glejser test were used. The null hypothesis of no heteroscedasticity is not rejected as the p-values are greater than the respective levels of significance at 5% for the tests. The residuals are normally distributed in the model as evidenced by the non-rejection of the null hypothesis using the Jarque-Bera test. The Ljung-Box Q statistic also reports that there is no auto correlation in the model, thus not rejecting the null hypothesis. The Lagrange Multiplier serial correlation test also confirms that there is no serial correlation in the model, therefore not rejecting the null hypothesis.

For South Africa, the response of economic growth to FDI and trade openness was negative across the observation period showing a steep decline until around the fourth period when it started to recover but remained negative (Figure 3). The response of

economic growth to trade liberalisation was positive across the period, increasing in the first few years then showing a slight decline thereafter while remaining positive. For Nigeria, the response of economic growth to all the variables were positive with an initial incline in the first two years thereafter becoming steady across the observation period.

Table 4 on the following page indicated results of variance decomposition with normalisation on economic growth for South Africa. Economic growth in the fourth year indicates that 30.9% of forecast error variance is due to its own innovation and 22.6% due to trade liberalisation, 14.9% by FDI and 31.9% by trade openness. By the ninth year, 23.6% of the one-step forecast variance in GDP is accounted for by its own innovations while variations in trade liberalisation rise to 23.3%, FDI to 10.9% and trade openness at 42.16%. These results confirmed that economic growth of South Africa was sensitive to shocks from other factors especially trade openness.

In Table 5 on the following page, Nigeria economic growth indicated that 78% of forecast error variance was due to its own innovation in the fourth period, 14.5% from trade liberalisation, 5% from FDI and 2.3% trade openness. In ninth year, the economic growth indicates that 75% of forecast error variance is accounted for by its own innovations while variations in trade liberalisation, FDI and trade openness rose to 14%, 6% and 2% respectively. It can be mentioned that shocks to Nigeria were mainly to itself than any other factor included in the model.

Figure 3: Impulse Response Functions for South Africa and Nigeria
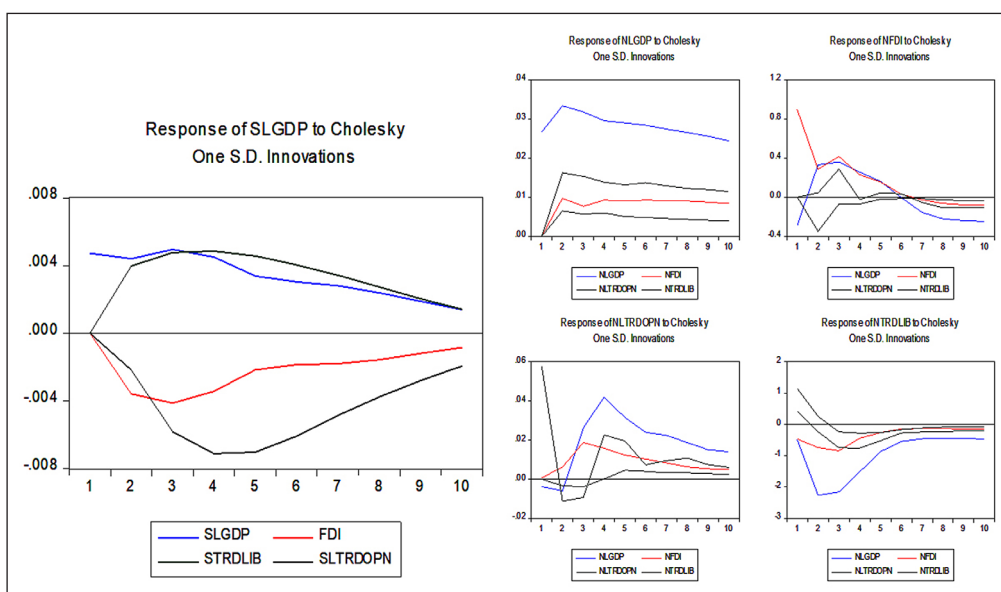
Source: Author compilation from SARB and CBN data (1981-2016)

Table 4: Variance Decomposition for South Africa

Period	S.E.	SLGDP	FDI	STRDLIB	SLTRDOPN
1	0.004719	100.0000	0.000000	0.000000	0.000000
2	0.008652	55.59465	17.17964	20.96498	6.260724
3	0.013145	38.23306	17.28095	22.21064	22.27534
4	0.016702	30.93901	14.94055	22.16631	31.95412
5	0.019113	26.76603	12.69129	22.61554	37.92714
6	0.020767	24.80929	11.54185	22.95271	40.69614
7	0.021859	24.04130	11.10131	23.17607	41.68132
8	0.022530	23.75050	10.93045	23.28522	42.03383
9	0.022904	23.66319	10.85080	23.31925	42.16676
10	0.023088	23.66055	10.81150	23.32709	42.20086

Source: Author compilation from SARB and CBN data (1981-2016)

Table 5: Variance Decomposition for Nigeria

Period	S.E.	NLGDP	NFDI	NLTRDOPN	NTRDLIB
1	0.026644	100.0000	0.000000	0.000000	0.000000
2	0.047113	82.01872	4.225343	11.88397	1.871973
3	0.059599	79.63882	4.293997	13.99217	2.075006
4	0.068807	78.12929	5.018225	14.54466	2.307817
5	0.076509	77.54157	5.455060	14.70818	2.295196
6	0.083391	76.84600	5.822845	15.06610	2.265059
7	0.089288	76.42604	6.122054	15.21971	2.232200
8	0.094465	76.14329	6.381225	15.27506	2.200418
9	0.099052	75.91031	6.578846	15.33948	2.171366
10	0.103058	75.71427	6.733431	15.40169	2.150618

Source: Author compilation from SARB and CBN data (1981-2016)

5. Conclusion and Recommendations

The paper investigated how trade effects can influence economic growth by comparing two African leading economies, South Africa and Nigeria using annual data spanning from 1981-2016. The comparative analysis employed the Auto-Regressive distributed lag (ARDL) approach and estimated economic growth as a function of trade liberalization, trade openness and foreign direct investment (FDI). The study provided insights on how these countries could better leverage trade to grow their economies and provide insights on linkages in the economy.

Results of the ARDL bounds test showed that for both South Africa and Nigeria there was a long run relationship in the series. However, in the long run Nigeria's trade liberalisation had a negative effect on economic growth while South Africa had a positive effect. For FDI, Nigeria was found to have a negative and significant effect on economic growth which is contradictory to South Africa which had a positive and insignificant effect. Trade openness showed comparative results for both countries as both showed positive and significant results. It turned out that the speed of adjustment to equilibrium was higher for Nigeria (86%) than South Africa (18%). So, Nigerian economy converged to equilibrium faster than South Africa. It had been realised that Nigerian FDI could have contributed to its trade liberalization hence it could influence economic growth and export more goods. It is recommended that a country like South Africa should learn from a country like Nigeria as they both have natural resources that can be traded to improve their economies. South African policymakers should focus on policies that could promote FDI.

It was recommended that both countries should focus on strategic trade policies better fitted for their economies. These trade policies can include models to attract foreign direct investment, improve exports of sophisticated and unique product to increase economic complexity and improve trade liberalisation. Both countries are resource rich and should have more economic policy that could allow for more trade in order to improve the economy.

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