

Innovations

Foreign Remittances, Foreign Investment Inflow, Trade Openness and Economic Growth Rate in Africa's Two Frontier Economies: Does Divestment Matter?

Ebere Ume Kalu

University of Nigeria Nsukka

Augustine C, Arize

Texas A & M University, USA

Florence U Nwafor

University of Nigeria Nsukka

Wilfred Isioma Ukpere

Department of Industrial Psychology and People Management, School of Management, College of Business and Economics, University of Johannesburg, South Africa

Abstract: *This study investigates in a country-specific and comparative manner the interactions among foreign remittances, economic growth rate, foreign direct investment inflow and foreign trade giving attention to the impact of divestment. This study that is contextualised in Africa's two leading economies of Nigeria and South Africa covers the period 1971 to 2019. Using the Autoregressive Distributed Lag Model as the estimation method, it was discovered principally that divestment creates leakages on growth, FDI, openness while it shares an insignificant relationship with remittance. On a different token, positive changes in growth rate, FDI, and openness stem the tide of divestment in both Nigeria and South Africa.*

Keywords: *Divestment; FDI; Trade Openness; Growth Rate; Nigeria and South Africa.*

1. Introduction

The interaction between economic growth and its internal and external determinants in reality and extant literature, has been attracting great attention. There have been contestations on the sources of growth over the years and questions continue to arise on why countries show higher growth rates than other countries (Meyer and Shera 2017). Africa being a developing and emerging economy in the face of globalization

has a lot of external influences on its economic activities and growth. Three channels have been documented as the pass-through for globalization, this has included trade channels, capital movement channels and foreign policy channels. Evidently, Drop in trade barriers and the moderation or removal of capital controls have aided trade and capital flows which have outdone economic growth rate the rate (Modou and Liu 2017).

Advancement in technology has enabled a remarkable increase in international trade. Even though global trade has oscillated over the years witnessing rapid increase. Trade has documented benefits and daunting challenges to participating countries especially in African nations with predominance of trade in primary and intermediate exports (Nahanga, 2017). Evidence on the growth effect of international trade extant studies has been more positive than foreign direct investment and foreign aid (Anetor, Esho and Verhoef 2020). The speedy globalization of production, rapid growth of Foreign Direct Investment and their scale have accentuated huge research interest in economic literature about the relationship among economic growth, FDI and trade openness in host nations (Begum, Salahuddin, Chowdhury and Wahid (2018).

Trajectory of trade as a percentage of GDP in two largest African economies: Nigeria and South Africa are of interest here. Trade in Nigeria declined from 48.5% in 1980 to 30.9% in 1990 and rose again to 48.3% and 43.3% in 2000 and 2010 respectively. It finally declined to 34.0 in 2019. Also in south Africa, trade declined from 60.8% in 1980 to 41.6 in 1990 and rose to 51.4%, 55.9% and 55.9% in 2000, 2010 and 2011 respectively.

Foreign Direct Investment has enormous positive externalities such as technology transfer, and management skill. Due to their long-term benefits, they tend to boost growth in the medium and long term (Tang 2015). However, global FDI has continued to slide since 2018. Falling by 13% to \$1.3 trillion, The decline – the third consecutive year's fall in FDI- was mainly due to large-scale deportation of foreign earnings in the first two quarters of 2018, following tax reforms introduced in that country at the end of 2017 (UNCTAD, 2019). FDI flows to developing economies recorded the lowest point since 2004, declining by 27%, flows to developing countries remained stable subsequently rising by 2%. Following the increase and subsequent fall in FDI in developed countries, the share of developing countries in global FDI rose to a record high of 54% (UNCTAD 2019). With reference to Africa, FDI rose by 11% to \$46 billion, regardless of the declines in many of the recipient countries. The increase is caused by such factors as continued resource –seeking inflows, diversified investments, and a recovery in South Africa after several years of

low-level inflows. For West Africa, it fell to the all-time low of 15% to \$9.6 billion since 2006. A substantial drop in Nigeria, for the second consecutive year and inward FDI to Nigeria declined to 43% representing \$2 billion removing Nigeria from the position of being the largest recipient in West Africa. (UNCTAD 2019). FDI inward inflow in Nigeria was \$4,449 million in 2016, \$3,503 million in 2017 and \$1,997 million in 2018 while that of South Africa is \$2,235 million in 2016, \$2,007 million in 2017 and \$534 million in 2018.

On the other hand, foreign remittances now represent the largest source of foreign exchange earnings in most of the Low- and Middle-Income Countries (LMICs) representing more than more than three times the volume of official development assistance (KNOMAD 2020). Sub-Saharan Africa's inflow of remittances were projected to increase by 9.6 percent from \$42 billion in 2017 to \$46 billion in 2018. This will keep increasing, but at a lower rate, to \$48 billion and \$51 billion in 2019 and 2020 respectively. Strong economic conditions in the high-income economies with a massive population of Sub-Saharan African migrants have been responsible for the increasing trend in remittances since 2016. Nigeria which received more than \$24.3 billion in remittances in 2018, representing an increase of over \$2 billion relative to the previous year, has earned the status of the largest remittance-recipient country in SSA and the sixth largest among LMICs. While South Africa received a total sum of \$0.929 billion in 2018 and \$0.873 billion (KNOMAD 2019). The large decline in remittance flows in 2020 which probably came from the COVID-19 pandemic was preceded by a record high remittance to LMICs of \$554 billion in 2019. This is expected to become even more important as a source of foreign financial inflow for LMICs given the anticipated decline in FDI. In 2019, remittance flows outstripped FDI, representing an important indicator for monitoring resource flows to developing countries (KNOMAD 2020).

Divestment has come at the Centre-stage in the discussion of foreign direct investment, foreign trade and foreign remittances even in their interactions with economic growth. Economic and financial motives have severally been advanced as the most common reasons for divestments. In empirical literature, some factors, such as fall in market demand, higher costs, lower profitability, poor financial performance of the units, diminished cash flows, and spare capacity remain contributory factors. Another obvious reason behind divestment is to raise cash to finance other investments (Arte 2016). For instance, in the energy sector, both investors and financial institutions are eager to invest in sustainable energy, in energy efficiency and innovation. At the same time, the call to stop investing – or in other words, to divest – in certain parts of the energy sector becomes stronger. This 'divestment movement' mainly aims at the reduction of investments in the

exploration and production of fossil fuels like coal, oil and gas; as it is common with most African economies (Hans Van Cleef, 2009).

On the basis of the above positions, this study investigates in a country-specific and comparative manner the interactions among foreign remittances, economic growth rate, foreign direct investment inflow and foreign trade on one hand and then the impact of divestment on the aforementioned variables on the other hand. This is to be contextualized in Africa's two leading economies of Nigeria and South Africa. It is with the view that the findings made will be good enough for generalization with emphasizes on countries within Africa and those in the shape of Nigeria and South Africa.

The study has the following value additions:

Identifying the shared interactions among the variables under investigation

Comparing the nuances of the two countries under investigation with the aim of signposting how this will likely play out in countries of similar shapes and sizes.

Investigating trade, FDI inflow, remittances and divestment in relation to the growth of the two leading economies in Africa.

Apart from the introduction, the rest of the work is arranged as follows: Section II introduces a brief review of existing literature in the area of study, Section III contains our methodology. Section IV is for empirical results while section V concludes with the necessary summaries and implications for the study.

2. Brief Literature Review

Theoretical review

Several theoretical studies have examined foreign direct investment issues (See Dunning, 1977 and Vernon, 1966). These studies have given a clearer comprehension of economic processes and behavior of economic agents both at the micro and macro level in relation to FDI. Theories of foreign direct investment can be classified under traditional and non-traditional.

The Ricardian theory of comparative advantage (1887) was considered the first attempt to clarify FDI. However, this theory failed to explain foreign direct investment lucidly because it focused on two products, two countries and a perfect mobility of factors at country-specific level which indeed is an inappropriate model for FDI (Denisia, 2010). The failure of Ricardo's theory paved way for other models such as portfolio theory to be used in explaining FDI. In line with the portfolio theory, if there are no risks or barriers in the way of capital movement, there will be movement from countries with low interest rates to the ones with high

interest rates. These assumptions are unrealistic and unfounded as risks and barriers to capital movement under mines the validity of the theory (Hussein 2005).

Other theories that tried to explain FDI include Production Cycle theory of Vernon (1966) that buttresses the four stages of production cycle: innovation, growth, maturity and decline. This theory ties FDI to the dominant production cycle in the recipient economy (Tallman, 2004). Buckley and Casson (1976) Internalization Theory explains the growth of transnational companies and their FDI drives. Dunning(1979) acknowledged the importance of Internalization theory by incorporating it into the eclectic theory, though with the criticism that it explained only part of FDI flows (Dunning, 1979). The eclectic theory or the eclectic paradigm developed by Dunning 1976 (Dunning, 1977) is a mix of three different theories of direct foreign investments; Ownership advantage, Location advantage and Internalization (OLI Model). It was further developed in 1979 to take care of the criticism of the earlier version (Dunning, 1979).

Explaining the OLI model further, Denisia (2010). ownership advantage refers to intangible assets owned by companies and tangible asset which confers transactional and proprietary advantages to FDI holders (Tallman, 2004).

Compared to the development of Foreign Direct investment, foreign direct divestment has received meagre attention from economists despite its reality and significance. Virtually, all existing literature on foreign divestment focused on its managerial dimension; how divestment decisions are made and on the factors on which such decisions are made Boddewyn(1993).

It is common knowledge that there cannot be divestment without investment. Thus, Boddewyn(1993) understands divestment to be the reverse of investment thereby adapting the eclectic theory of Dunning (1977) in developing his theory of divestment. Given that divestment sums to a complete or partial termination of foreign production,Dunning(1977) eclectic theory appropriately analyses the foreign divestment phenomenon:

Empirical literature is loaded with studies on the linkages ofInternational trade, Foreign remittances, economic growth and FDI both individually and cross-sectionally. Considering first some studies that concentrated on trade and economic growth, many of such studies found a positive relationship between them, among which are: (Zahonogo (2016), Arodoye and Iyoha (2014), Keho (2017),Rahmanaand Mamun (2016) while others were of a contrary opinion; Eris and Ulasan (2013), Rahman and Mamun (2016).

Foreign Remittance has attracted more attention in recent times because of its increasing volume and impact on receivernations (Hajer, 2016). Hence a lot of studies exist on its relationship with economic growth, though with mixed and inconclusive results of both negative, positive and neutral effects. Among the studies that found a positive and or long run relationship include Meyera and Sherab(2017), Sutradhar, S.R. (2020), Zafar, Siddique, Ahmad and Khan (2016), Olusuyi, Adedayo, Agbolade and Ebun (2017), Akinpely, Ogubi, Bada, and Omojola, (2013), Gazdar (2016), Karameliki, H. and Bayar, Y. (2015), Batu (2017). On the contrary, studies like; Sutradhar, S.R. (2020) found a negative relationship in three out of the four countries studied. Batu (2017) maintained that, except on the temporary inflow of remittances, there is no positive and significant relationship between remittances and economic growth with a permanent increase in remittance inflow. Furthermore, considering relationships over the long and short run, Lim and Simmons (2015), documented no evidence of any relationship between remittances and real GDP; Naidu, Pandaram& Chand (2017) found a negative relationship between remittances and economic growth regardless the time horizon while Gazdar (2016), revealed a positive effect on economic growth in the long run and a negative effect in the short run from remittances.

Though theories have also been advanced on the beneficial effect of foreign direct investment (FDI) on economic growth. However, mixed empirical findings have resulted in a long-standing debate. Authors like, (Iamsiraroj&Ulubasoglu, 2015), Begum, M., Salahuddin, M., Chowdhury, M. and Walud, A.N.M. (2018), Makiela, K. and Ouattara, B. (2017), Sarbapriya (2012), Sunde (2017), Agrawai (2015), Adegboye, Ojo and Olokoya (2017), found a positive and significant relationship between FDI and Economic growth. While on the contrary, Tang (2015), Alvarado, Iniguez and Ponce (2017), Carbonel, J.B. and Werner, R.A. (2018), revealed no significant positive effect of FDI on economic growth.

Reviewing further some literature that combined the effect of FDI and Remittance on economic growth in one study, the empirical result remained inconclusive. For instance, Comes, Bunduchi, Vasile and Stefan found a positive impact for both FDI and Remittance on economic growth, while on the contrary, Ferdaous ((2016) found a positive relationship for FDI and a negative relationship for remittances on economic growth. Also, Golitis, Avdiu and Szamosi (2018) showed a positively significant relationship between remittances and economic growth and no relationship between economic growth and FDI.

Furthermore, some empirical studies concentrated on the relationship between FDI, Trade and Economic growth in a single study and still came out with varying results.

Most of the studies found a bi-directional causal relationship between FDI, Economic Growth and Trade; Liu, Shu and Sinclair (2009), Iqbal, Shaikh and Shar (2010), Olabisi and Lau (2018). While others found a positive and significant impact of FDI and Trade on Economic Growth; Hussain and Haque (2016), Makkis and Somwaru (2004), Olabisi and Lau (2018) and Szkoripova (2014).

Linking up the interaction between FDI, Remittance, Trade and economic, Tahir, Khan and Shah (2015), revealed that foreign remittances and foreign direct investment plays a significant positive role in the growth process of Pakistani economy, with imports adversely influenced growth of the economy.

Shahzad, Rehman, Abbasi, Zakaria (2014) found a positive impact on economic growth from remittances, export and FDI.

Although there is a perceived interaction among FDI, foreign remittance, divestment, economic growth and trade, the empirical literature on the linkages remains scarce and not well explored. Hence this study looks to investigate the linkages among divestment, foreign direct investment, foreign remittance, trade and economic growth. Again, there has not been a consensus as to the extent as well as the direction of these relationships, whether positive or negative, significant or non-significant and whether it is the same in the long and short run. Apparently, no study to the best of our knowledge has examined the linkages among foreign remittance, foreign Direct Investment, Trade and Economic growth comparatively, in the economies we have chosen for this study.

3. Methodology

This study is empirical and based on *ex post facto* evidence with data gathered principally from World Development Indicators (WDI) for the period 1971 to 2019 for Nigeria and South Africa respectively. The study follows some key analytic framework: First, relative country-specific data on DIVEST (NETFDI) (Divestment (DIVEST) is proxied by Net FDI flow which was found to be predominantly negative which is indicative of the Divestment for both South Africa and Nigeria. This may be considered a noisy proxy or poor proxy, but our choice is supposed to lie between using a poor proxy or of omitting of the variable resulting in a likely misspecified equation. Notably, the bias of the estimates of the coefficients obtained by omitting the variable is always greater than the bias resulting from using even a poor proxy, (See Wickens Michael (1972). Also, the fact that Divestment measure in this study may be unpopular or noisy proxy will not affect the cointegration analysis given that the series and its measurement error are found to be stationary as shown in Table 3 (See MacDonald and Taylor, 1991) Remittance (REM), Real GDP growth rate

(GDPGR), Net trade figure/Trade Openness (TO) were gathered and statistically described to show basic characteristics. This guided the choice of the appropriate model. This study, though a comparison of South Africa and Nigeria did not follow a panel analysis framework rather a country-specific and comparative framework. The first step of our analyses is to expose the basic descriptive statistics of the series as well as the stationarity properties. The equation for the test of the unit root tests are presented thus:

$$\Delta y_t = \rho y_{t-1} + \mu + \alpha \mathcal{G}_t(t_{used}) + \lambda t + \sum_{i=1}^p \alpha_i \Delta y_{t-i} + \mu_t \dots \dots \dots \text{eq.3}$$

Where $(t_{used}) = Tb/T$ represents the trimmed sample.

$\mathcal{G}_t(t_{used})$ allows for the break which can either be in the level or equal to 1 if $t > t_{used}$ and 0 if otherwise. It can also break in the deterministic trend where $\mathcal{G}_t(t_{used}) = t - t_{used}$ if $t > t_{used}$ and 0 if otherwise.

First, the standard Dickey-Fueller test is done following the structural break consistent approach. The break date selection processes and trimming follow the endogenous approach and are performed to remove endpoint values from being considered as break dates. In addition, the test follows the innovative and additive outliers' indication.

Additive Outlier Model:

$$\tilde{y}_t = \sum_{j=0}^k W_t D(Tb)_{t-1} + \alpha \tilde{y}_{t-1} + \sum c_j \Delta y_{t-j} + \varepsilon_t \dots \dots \dots \text{eq.4}$$

Where: \tilde{y}_t = a detrended series of Y and $Y_t = \gamma + \partial D \mu_t + \tilde{y}_t$

Innovation Outlier Model:

$$Y_t = \gamma + \partial D \mu_t + \theta D(Tb)_t + \alpha \tilde{y}_{t-1} + \sum_{j=1}^k c_j \Delta y_{t-j} + \varepsilon_t \dots \dots \dots \text{eq.5}$$

Second, the appropriate estimation method was used to show the degree and direction of influence amongst the variables under study. Given its numerous advantages over other regression and cointegration methods, the most favoured estimation regression and cointegration method is the Pesaran Shin and Smith (2001), Autoregressive Distributed Lag (ARDL) techniques.

The study follows a multi-model approach to show the direct and reverse causations of this variables on each other. The following relationships (models) are estimated:

$$\begin{aligned} \Delta FDI_t = & \alpha + \sum_{i=1}^{n1} \beta_1 \Delta FDI_{t-i} + \sum_{i=0}^{n2} \beta_2 \Delta GDPGR_{t-i} + \sum_{i=0}^{n3} \beta_3 \Delta REM_{t-i} \\ & + \sum_{i=0}^{n4} \beta_4 \Delta TO_{t-i} + \sum_{i=0}^{n5} \beta_5 \Delta DIVEST_{t-i} + \varphi_0 FDI_{t-i} + \varphi_1 GDPGR_{t-i} \\ & + \varphi_2 REM_{t-i} + \varphi_3 TO_{t-i} + \varphi_4 DIVEST_{t-i} + \varepsilon_t \end{aligned}$$

$$\begin{aligned} \Delta GDPGR_t = & \alpha + \sum_{i=1}^{n1} \beta_1 \Delta GDPGR_{t-i} + \sum_{i=0}^{n2} \beta_2 \Delta FDI_{t-i} + \sum_{i=0}^{n3} \beta_3 \Delta REM_{t-i} \\ & + \sum_{i=0}^{n4} \beta_4 \Delta TO_{t-i} + \sum_{i=0}^{n5} \beta_5 \Delta DIVEST_{t-i} + \varphi_0 GDPGR_{t-i} + \varphi_1 FDI_{t-i} \\ & + \varphi_2 REM_{t-i} + \varphi_3 TO_{t-i} + \varphi_4 DIVEST_{t-i} + \varepsilon_t \end{aligned}$$

$$\begin{aligned} \Delta REM = & \alpha + \sum_{i=1}^{n1} \beta_1 \Delta REM_{t-i} + \sum_{i=0}^{n2} \beta_2 \Delta FDI_{t-i} + \sum_{i=0}^{n3} \beta_3 \Delta GDPGR_{t-i} \\ & + \sum_{i=0}^{n4} \beta_4 \Delta TO_{t-i} + \sum_{i=0}^{n5} \beta_5 \Delta DIVEST_{t-i} + \varphi_0 REM_{t-i} + \varphi_1 FDI_{t-i} \\ & + \varphi_2 GDPGR_{t-i} + \varphi_3 TO_{t-i} + \varphi_4 DIVEST_{t-i} + \varepsilon_t \end{aligned}$$

$$\begin{aligned} \Delta TO = & \alpha + \sum_{i=1}^{n1} \beta_1 \Delta TO_{t-i} + \sum_{i=0}^{n2} \beta_2 \Delta FDI_{t-i} + \sum_{i=0}^{n3} \beta_3 \Delta GDPGR_{t-i} \\ & + \sum_{i=0}^{n4} \beta_4 \Delta REM_{t-i} + \sum_{i=0}^{n5} \beta_5 \Delta DIVEST_{t-i} + \varphi_0 TO + \varphi_1 FDI_{t-i} + \varphi_2 GDPGR_{t-i} \\ & + \varphi_3 REM_{t-i} + \varphi_4 DIVEST_{t-i} + \varepsilon_t \end{aligned}$$

$$\begin{aligned} \Delta DIVEST = & \alpha + \sum_{i=1}^{n1} \beta_1 \Delta DIVEST_{t-i} + \sum_{i=0}^{n2} \beta_2 \Delta FDI_{t-i} + \sum_{i=0}^{n3} \beta_3 \Delta GDPGR_{t-i} \\ & + \sum_{i=0}^{n4} \beta_4 \Delta REM_{t-i} + \sum_{i=0}^{n5} \beta_5 \Delta TO_{t-i} + \varphi_0 DIVEST + \varphi_1 FDI_{t-i} + \varphi_2 GDPGR_{t-i} \\ & + \varphi_3 REM_{t-i} + \varphi_4 TO_{t-i} + \varepsilon_t \end{aligned}$$

ε_t = the residual

α = the constant term

$\beta_1 - \beta_5$ = coefficients of the parameter estimates.

NFDI – Net Foreign Direct Investment (this was found to be largely negative hence was used as proxy for divestment); FREM= Foreign Remittance; GDP = Real Gross Domestic Product Growth Rate & TO = Trade Openness, FDI= Foreign Direct Investment Inflow

The long run elasticity follows the bound test procedure as espoused by PSS (2001) follows the ARDL framework that allows for two sets of critical values, namely lower and the upper bound with accommodation for I (0) variables for the lower bound and I (1) variables for the upper bound. The decision rules are as shown in table 1 below:

Table 1: Decision Rules for the Bound Tests Process

<i>Condition</i>	<i>Inference</i>
<i>F-stat >I(0)</i>	<i>Cointegration exists</i>
<i>F-stat <I(0)</i>	<i>No cointegrating relationship</i>
<i>F-stat within I(0) and I(1)</i>	<i>Results are inconclusive</i>

After establishing the existence of cointegration in the specified models, error correction representations and long run estimates are evaluated. The error correction term which is the lagged residual will show the adjustment speed of the endogenous variables to the shocks and dynamics of the causal variables. It shows the degree of convergence of the dependent variable(s) back to equilibrium following shocks and disequilibrium arising from the impacting variables.

Third, the results obtained from the chosen estimation method were subjected to post-estimation tests to determine their reliability. Lastly, the validated results are used to make inferences and draw conclusions which represent the outcome of the research work.

4.0 Results

4.1. Standard/Pre-Estimation Tests

Firstly, the basic descriptive statistics, correlational matrix and structural-break consistent unit root tests were presented prior to the estimation results. The results are contained in Panels A and B of Table 2 and Table 3 respectively.

Table 2: Summary of Basic Statistics

Nigeria						South Africa					
PANEL A: BASIC DESCRIPTIVE STATISTICS											
Series	μ	σ	$\frac{\sigma}{\mu}(\%)$	<i>S</i>	<i>K</i>	μ	σ	$\frac{\sigma}{\mu}(\%)$	<i>S</i>	<i>K</i>	
FDI	-21.11	1.02	-0.05	-0.06	2.28	-20.34	1.25	-0.06	0.22	2.09	
TO	-1.10	0.45	-0.41	-1.75	5.57	-0.69	0.14	-0.20	0.25	2.30	
REM	20.39	3.10	0.15	-0.44	1.81	0.34	0.33	0.97	0.03	1.84	
GDPGR	21.07	0.93	0.04	0.12	2.45	0.55	1.33	2.42	-2.51	9.10	
DIVEST	-13.1	0.56	-0.04	0.80	3.3	-0.45	0.23	-0.51	-1.70	3.2	
PANEL B: CORRELATION MATRIX											
	<i>FDI</i>	<i>TO</i>	<i>REM</i>	<i>GDPGR</i>	<i>DIVEST</i>	<i>FDI</i>	<i>TO</i>	<i>REM</i>	<i>GDPGR</i>	<i>DIVEST</i>	
FDI	1.000	0.46	0.82	0.20	-0.54	1.000	0.62	0.76	0.23	-0.05	
TO	-----	1.000	0.43	-0.02	0.25	----	1.0000	0.87	-0.09	0.10	
REM	-----	-----	1.000	0.30	-0.08	----	-----	1.0000	0.13	-0.55	
DIVEST	-----	-----	-----	-0.15	1.000	----	-----	-----	0.78	1.0000	
GDPGR	-----	-----	-----	1.000	----	----	-----	-----	1.0000	-----	

The meaning of the series and their associated standard deviations are shown for the countries under study. Comparatively, Nigeria posts a higher negative FDI than South Africa. This points to greater divestment especially in recent times with the myriads of economic challenges and instability in the Nigerian economy. This is supported by the greater degree of openness of the South African economy than the Nigerian economy. There is however greater average GDPGR for Nigeria than South Africa making Nigeria a bigger economy than South Africa as is well documented. We also find greater remittance for Nigeria than South Africa. Obviously, more

Nigerians are domiciled outside the country than South Africans. This can be blamed on harsh economic conditions and unfavourable home economic climate. With a greater diaspora population, it is not uncommon for Nigerian average remittance to outweigh that of South Africa. An evaluation of the spread of the series around their respective means indicates that there is no higher degree of dispersion in almost all the series except for remittance, economic growth rate and openness in South Africa with 64%, 97% and 242% respectively (all the coefficient of variations are below 50% - the lower the coefficient of variation, the less the degree of dispersion). This shows a greater volatility of the key variables in the South African economy over and above the Nigerian economy. This can also suggest a greater activity of the South African economy over the Nigerian economy. Skewness and Kurtosis of the distribution indicate that there is an absence of normality in all the variables. This is consistent with the behaviour of economic series, which are largely leptokurtic (This is a fatter tail distribution with greater likelihood of extreme positive and negative events).

Table 3: Summary of Breakpoint Unit Root Test

NIGERIA								SOUTH AFRICA						
Series	ADDITIVE OUTLIER			INNOVATION OUTLIER				ADDITIVE OUTLIER			INNOVATION OUTLIER			
	ADF STAT	CV@5%	Break Date	ADF STAT	CV@5%	Break Date	Remarks	ADF STAT	CV@5%	Break Date	ADF STAT	CV@5%	Break Date	Remarks
FDI	-5.51	-5.18	2004	-5.24	-5.18	2004	I (0)	-7.69	-5.18	1994	-7.48	-5.18	1992	I (0)
TO	-8.83	-5.18	1997	-8.44	-5.18	2010	I (0)	-8.50	-5.18	1998	-7.95	-5.18	1996	I (0)
REM	-7.87	-5.18	2009	-7.54	-5.18	2009	I (0)	-8.39	-5.18	1998	-7.51	-5.18	1996	I (1)
GDPGR	-7.92	-5.18	1999	-7.31	-5.18	1999	I (0)	-7.94	-5.18	1994	-7.72	-5.18	1994	I (0)
DIVEST	-7.92	-5.18	1999	-7.31	-5.18	1999	I (0)	-7.94	-5.18	1994	-7.72	-5.18	1994	I (0)

In the bivariate correlation analysis, we find a positive correlation between every pair of the variables for both Nigeria and South Africa. This is apart from Trade openness and economic growth rate and divestment that share negative correlation with most of the other series in both Nigeria and South Africa.

The results of the structural break consistent unit root test show that all the variables except Remittance for South Africa (stationary at first difference) are stationary at levels. Also of interest is the fact that the break dates for Nigeria for the variables are predominantly around 1999 and early 2000's. This is the era of movement from protracted military rule to democratic governance which came with the reopening of the Nigerian economy to greater foreign participation and integration. The diverse economic, social and political transformation may have triggered all forms of structural dips as evidenced in the unit root test results. For South Africa, the break dates are predominantly around the twilight of the apartheid era and reintegration into the global economic landscape. The structural shifts in foreign policy and international relations and reopening of the South African economy to the rest of the World may have accounted for the break dates of between 1986 and 1994 in the studied variables.

The mixed stationary properties of the series provide empirical support for the adoption of the ARDL form of regression and cointegration estimation in this study (See Kalu, Arize, Okoro, Onaga, & Alio, 2020)

Table 4: Summary of ARDL Results, Cointegration and Error Correction Representation										
Variables	<i>i = SOUTH AFRICA</i>					<i>i = NIGERIA</i>				
	FDI = f(GDPGR, F TO, DIVEST)	GDPGR = f(FDI, REM, TO, DIVEST)	TO = f(GDPGR, F REM, DIVEST)	REM = f(GDPGR, F TO, DIVEST)	DIVEST = f(GDPGR, TO, REM)	FDI = f(GDPGR, F TO, DIVEST)	GDPGR = f(FDI, REM TO, DIVEST)	TO = f(GDPGR, F REM, DIVEST)	REM = f(GDPGR, TO, DIVEST)	DIVEST = f(GDPGR TO, REM)
FDI	-----	0.18(2.254) **	0.03(1.85) *	0.03(0.131))	0.25(2.45)) **	-----	0.125(3.27 8) **	0.01(0.124)	2.71(0.03 6) **	- 0.20(3.33) **
GDPGR	- 0.06(0.203)	-----	- 0.04(3.253)**	0.25(3.520)**	- 0.19(4.56)**	- 0.67(2.145)*	-----	- 0.12(2.095)**	0.98(1.49 2)	- 0.28(2.55)**
REM	0.83(13.36 4)**	- 0.22(2.104)* *	0.08(4.603)**	-----	0.15(1.34)	0.19(3.74)* *	- 0.29(1.914)*	0.06(2.284)**	-----	- 0.11(3.22)**
TO	- 0.60(3.163) **	- 2.02(1.772)*	-----	5.03(3.825)**	- 0.13(2.96)**	- 1.20(1.87)*	- 0.55(1.062)	-----	0.03(0.03 6)	- 0.10(5.16)**
DIVEST	- 0.05(3.05)* *	- 0.11(1.95)**	0.04(2.453)	0.33(1.23)	-----	- 0.26(2.05)* *	- 0.13(4.15)* *	0.02(2.82) **	0.08(1.56 7)	-----
ECM	- 0.82(6.198) **	- 0.77(6.990)* *	- 0.94(15.20 1)**	- 0.84(8.124)**	- 0.55(3.12)**	- 0.95(7.468)**	- 0.95(5.502)**	- 1.17(8.577)**	- 0.97(10.8 6)**	- 0.67(5.90)**

DIAGNOSTICS										
F	8.67	11.14	42.28	15.35	6.65	10.73	6.70	16.81	25.46	7.34
LM	0.28(0.756)	1.19(0.318)	0.25(0.780)	0.10(0.990)	0.04(1.334)	0.17(0.847)	0.27(0.769)	1.03(0.368)	2.72(0.095)	0.01(1.44)
RESET	0.13(0.722)	1.05(0.304)	27.29(0.000)	0.53(0.471)	0.67(0.335)	0.31(0.594)	6.48(0.018)	0.39(0.535)	1.13(0.302)	0.37(0.678)
HET	0.30(0.975)	1.31(0.288)	2.06(0.103)	3.89(0.004)	1.86(0.230)	0.82(0.603)	0.94(0.486)	4.03(0.010)	0.17(0.995)	1.44(0.335)
CS/SS	STABLE	STABLE	STABLE	STABLE	STABLE	STABLE	STABLE	STABLE	STABLE	STABLE
R ² (Adjusted)	0.61	0.59	0.83	0.83	0.77	0.84	0.57	0.68	0.90	0.60

Next, we present the ARDL estimates, including the bound tests and error correction representation for all the five models across the two studied countries.

In looking at the first model we found FDI as a negative and statistically significant function of economic growth, trade openness and divestment in both Nigeria and South Africa. FDI in Nigeria drops by 6%, 60%, and 5% for every unit change in Economic growth rate, trade openness and divestment respectively while in South Africa, FDI drops by 67%, 19%, and 5% for every unit change in Economic growth rate, trade openness and divestment respectively. This goes to show that the growth of the frontline economies in Africa, their openness and the spate of divestment have not aided Foreign Direct investment. Remittances were found to positively affect FDI in Nigeria and South Africa with elasticity of 83% and 19% respectively for every unit change. With economic growth as the dependent variable, a level of consistency is recorded in the posturing of the variables in both Nigeria and South Africa. FDI is found to positively drive growth in the two countries at 18% for South Africa and 12.5% for Nigeria. Conversely, remittance, divestment and trade openness were found to negatively and significantly affect the growth rate of both the Nigerian and South African economy. Growth rate of the Nigerian economy reduces by 29%, 55% and 11% for every unit change in REM, TO and Divestment respectively while the Growth rate of the South African economy reduces by 22%, 20.2% and 13% for every unit change in Foreign Direct Investment, REM, TO and Divestment respectively.

In measuring the impact of the other variables on trade openness, divestment shows no significant effect on openness in the two of the countries. Growth rate is found to vary inversely with openness in a manner that a unit change in growth rate reduces the degree of openness by 4% in South Africa and 12% in Nigeria. FDI does not exert any significant impact on openness in Nigeria while it produces a 3% incremental impact on openness for every unit change. Remittance causes the same line of effect in both countries; the South African economy becomes more open by 8% for every unit increase in remittances, while it is 6% for the Nigerian economy for the same degree of change. In the fourth model, remittance is found to be an insignificant function of FDI and DIVEST in South Africa as well as GDPGR, TO and DIVEST in Nigeria. On the other hand, every unit change in Growth rate and openness in South Africa produces 25% and 5% changes respectively in remittance.

4.2 Divestment versus Openness, Growth Rate, Remittance and Foreign Direct Investment Inflow

Aside from measuring the interactive impact of the investigated variable, looking at the specific impact of divestment represents the crux of this study. Our estimation result shows openness, growth, foreign direct investment inflow and remittances in

Nigeria can trigger divestment while divestment creates leakages to them as well. Divestment reduces by 20%, 28%, 11% and 10% respectively for every unit increase in FDI, growth, remittance and openness respectively in Nigeria while FDI, GDPGR and Openness reduce by 26%, 13% and 2% respectively for every unit increase in divestment. For South Africa on the other hand, divestment has not significantly affected remittances, a positive driver of FDI and negatively affects both openness and the growth rate of the South African economy. 5%, 13% and 4% reductions occur respectively in FDI, GDPGR and TO for every unit increase in divestment. Conversely, a unit increase in GDPGR and TO respectively reduces divestment by 25 and 5 percent respectively. We found the elasticity of divestment to a unit change in FDI is 25 percent.

In sum, on one hand, divestment creates leakages on growth, FDI, openness while it shares an insignificant relationship with remittances. On a different token, positive changes in growth rate, FDI, and openness stem the tide of divestment in both Nigeria and South Africa.

4.3 Bound Test and Error Correction Representation

We found long run relationship for all the five models in both South Africa and Nigeria. In all the cases, the F-stat respectively exceeds the upper I (1) and the lower I (0) bound which makes us conclude in favour of cointegration for all the investigated relationships (See Arize, Kalu and Nkwor, 2018). We further studied an important. A feature of the short-run dynamics which is the coefficient of the lagged error-correction term. A significant negative coefficient is indicative of an adjustment towards the steady state from the short to the long run. The absolute value of such a coefficient shows the speed of adjustment to the long-run equilibrium after a short-run shock. In all the models, we found a certain return to long run equilibrium from short run deviations in both South Africa and Nigeria. Giving attention to the model with divestment as the dependent variable, there is a 55% speed of adjustment for South Africa and 67% for Nigeria. This implies that it takes a little above 2years for divestment to return to equilibrium following shocks emanating from the studied influencing variables in South Africa while the speed of adjustment for divestment in Nigeria is slightly below 2years. There is a consensus that the endogenous variables in all the models appreciably adjust to the dynamics of the exogenous variables.

Finally, the diagnostic tests were examined. This is reported in the lower part of table 4. The adjusted R^2 is within the range that signify a good fit for all the models without raising suspicion of multicollinearity. To ensure that mean and the variance of the residuals are constant for every succeeding lag, we used the Lagrange multiplier (LM) tests for the autoregressive residual process and the Breusch, Pagan

and Godfrey (BPG) test for heteroscedasticity. Correct functional form and likelihood of specification errors were examined by employing Ramsey's Regression Equation Specification Error Test (RESET) using the square of the fitted values. Furthermore, we utilized the cumulative sum of recursive residuals (CUSUM) to test for structural stability of the overall model. In all, we found our estimates consistent, best and unbiased with emphasis on the underlying assumptions of the deployed estimation techniques.

5. Summary, conclusions, and policy implications

With focus on the two frontier economies in Africa, this article investigated the interactions of foreign investment inflow, trade openness, remittance and economic growth rate for the period 1971 to 2019, considering the impact of divestment. We provide new insights into the short run dynamics and long run elasticities among the variables by applying the ARDL estimator, bound tests and error correction representation.

Prior studies have largely taken a firm-specific look at divestment and its interactions with such macroeconomic and international trade variables as openness, remittance, FDI including overall economic growth (See Boddewyn 1983; Grosse 1981). This study uniquely approached this investigation from a broad-country perspective measuring divestment as negative FDI. This novelty in our study triggered some findings in a manner that have hitherto been overlooked.

We discovered in summary that: FDI is found to be a negative and statistically significant function of economic growth, trade openness and divestment in both Nigeria and South Africa. This goes to show that the growth of the frontline economies in Africa, their openness and the spate of divestment have not aided Foreign Direct investment. Remittance was found to positively affect FDI in Nigeria and South Africa. On the reverse model, FDI is found to positively drive growth in the two countries while remittance, divestment and trade openness were found to negatively and significantly affect the growth rate of both the Nigerian and South African economy. Growth rate is found to vary inversely with openness. FDI does not exert any significant impact on openness in Nigeria while it produces an incremental impact on openness. It was found that it takes a little above 2 years for divestment to return to equilibrium following shocks emanating from the studied influencing variables in South Africa while the speed of adjustment for divestment in Nigeria is slightly below 2 years. We found on one hand that divestment creates leakages on growth, FDI, openness while it shares an insignificant relationship with remittances. On a different token, positive changes in growth rate, FDI, and openness stem the tide of divestment in both Nigeria and South Africa. Also, the fact that the error-correction parameters are between 0 and 1 in addition to the relatively quick

adjustment, suggests that the predictive content of the relationship between the dependent variables in the models and their determinants has not deteriorated over time.

Our findings support the international trade flow argument by Boddewyn (1983) who argues that the more a country's enterprises possess ownership specific advantages; and greater incentive to internalise; while finding it more lucrative to exploit the foreign market, this makes FDI and international production more likely. These engagements are mostly inhibited by divestments which are leakages to FDI and the other areas of gains from international trade. Creating mitigants against such leakages can be seen to be of policy relevance. This policy intervention in line with Grosse (1981) will give attention to International Trade Theory, Location Theory, Investment Theory and the Theory of growth. These interventions are of necessity to countries like Nigeria and South Africa who need economic internationalization that enhances FDI, remittance and openness while engineering overall growth.

References

1. Akinpely, Y.A., Ogunbi, O.J., Bada, O.T., and Omojola, O.S (2013), *Effects of Remittance inflow on Economic Growth of Nigeria*. *Developing Country Studies*, 3(3). ISSN 2224-697x (paper) ISSN 2225-0565 (online), pp 114-123.
2. Anetor, F.O, Esho, E. and Verhoef, G (2020), *The Impact of foreign direct investment, foreign aid and trade on poverty reduction: Evidence from sub-sahara African countries*, *Cogent Economics and Finance*, 8(1), pp 1-14.
3. Arize, A.C., Kalu, E. U., Nkwor, N. N., 2018. *Banks versus markets: Do they compete, complement or Co-evolve in the Nigerian Financial system? An ARDL approach*, *Research in International Business and Finance*, 45, pp 427-434.
4. Batu, M. (2017), *International Worker Remittances and Economic growth in a real Business cycle framework*. *Structural change and Economic Dynamics*, 40, pp 81-91.
5. Boddewyn, Jean J. (1983) *Foreign Direct Divestment Theory: Is It the Reverse of FDI Theory* *Bemerkungen* pp 345 – 354.
6. Dickey, D. A., & Fuller, W. A. (1981). *Likelihood ratio statistics for autoregressive time series with a unit root*. *Econometrica: Journal of the Econometric Society*, pp 1057-1072.
7. *Global Knowledge Partnership on Migration and Development (KNOMAD, 2019), Migration and Remittances: Recent Development and Outlook*. *Migration and Development Brief 31*,.

8. *Global Knowledge Partnership on Migration and Development (KNOMAD, 2020), COVID-19 Crisis Through a Migrant Lens. Migration and Development Brief 32,*
9. *Grosse, Robert (1981) The Theory of Foreign Direct Investment. University of South Carolina, College of Business Administration, Center for International Business Studies; Essays in International Business, No. 3, Columbia SC December, pp 12-25*
10. *Hajer Kratou & Kaouthar Gazdar, 2016. "Addressing the effect of workers' remittance on economic growth: evidence from MENA countries," International Journal of Social Economics, Emerald Group Publishing, vol. 43(1), pages 51-70, January.*
11. *Haynes, M., Thompson, S. and Mike Wright, M. (2002), The Impact of Divestment on Firm Performance: Empirical Evidence from a Panel of UK Companies. The Journal of Industrial Economics, 50 (2), pp 173-196.*
12. *Jude Eggoh, Chrysost Bangake & Gervasio Semedo (2019): Do remittances spur economic growth? Evidence from developing countries, The Journal of International Trade & Economic Development, pp 391-418.*
13. *Kalu, E. U., Arize, A. C., Okoro, O. E., Onaga, F. I., & Alio, F. C. (2020). A cross-country and country-specific modelling of stock market performance, bank development and global equity index in emerging market economies: A case of BRICS countries. PloS one, 15(11), pp 1-20, e0240482.*
14. *Karameliki, H. and Bayar, Y. (2015), Remittances and Economic Growth in Turkey. Ecoforum, 4, 2970. pp 33-40*
15. *Lim, S. and Simmons, W. (2015), Do remittances promote economic growth in the Caribbean Community and Common Market? Journal of Economic and Business, 77, pp 42-59.*
16. *MacDonald and Mark P. Taylor (1991) Exchange Rates, Policy Convergence, and the European Monetary System The Review of Economics and Statistics, Vol. 73, No. 3 (Aug. 1991), pp. 553-558*
17. *Meyer, D and Shera, A. (2017), The Impact of Remittances on Economic Growth: An Econometric model. Economia 18, pp 147-155.*
18. *Michael R. Wickens A Note on the Use of Proxy Variables Econometrica, Vol. 40, No. 4 (Jul. 1972), pp. 759-761*
19. *Modou, D. and Liu, A. (2017), The impact of Asian Foreign Direct Investment, Trade on Africa's economic growth. International Journal of Innovation and economic Development, 3(1), pp 72-85.*
20. *Nahanga Verter (2017), International Trade: The position of Africa in Global Merchandise Trade. INTECH, pp 1-15.*

21. Olusuyi, A.E., Adedayo, A.O., Agbolade < G.B and Egun, A.F. (2017), *Dynamic Impact of Remittances on Economic Growth in Nigeria. Journal of Accounting and Financial Management*, 3(3), pp 26-36 ISSN 2504-8856. www.iiardpub.org.
22. Pesaran, M.H., Shin, Y., and Smith, R.J. (2001). *Bounds testing approaches the analysis of level relationships. Journal of Applied Econometrics*, 16 (3), pp 289-326.
23. Sebil O Oshota and Abdulazeez A Badejo, (2015) "Impact of Remittances on Economic Growth in Nigeria: Further Evidence" *Economics Bulletin*, Volume 35, (1), pp 247-258.
24. Shin Y., Yu B., Greenwood-Nimmo M. (2014) *Modelling Asymmetric Cointegration and Dynamic Multipliers in a Nonlinear ARDL Framework*. In: Sickles R., Horrace W. (eds) *Festschrift in Honor of Peter Schmidt*. Springer, New York, pp. 281-314.