The Globalization Wave and Stock Market Return in Africa

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ABSTRACT

The study investigated the effect of globalization on stock market returns in a panel of five (5) African countries (South Africa, Nigeria, Egypt, Morocco and Namibia) over the period of 2000 and 2018. The study used Pooled Mean Group/ARDL estimation with panel unit root and cointegration tests. After establishing cointegration, globalization index, foreign direct investments and exchange rate were found to have positive and significant effects on stock market returns in both in the long run, while trade openness had a negative and significant effect on stock market returns in the long-run. The error correction mechanism showed that the speed of adjustment between globalization, FDI, exchange rate and trade openness was high, that is, the aforementioned variables rapidly adjusted to any disequilibrium in the short-run. The short-run dynamics revealed that globalization index and trade openness had positive effect on stock market returns while FDI and exchange rate exerted negative effect on stock market returns in the short-run. However, only trade openness was significant in the short-run. Finally, the was one-way causal flow running from each of globalization index, exchange rate and trade openness to stock market returns among the selected African stock markets. Hence, it was concluded that globalization is a significant determinant of stock market returns in Africa.

Keywords: *Globalization, Stock market returns, FDI, Exchange rate, Trade openness and Africa.*
JEL Classification: *E54; F03; H10; G15; G20.*

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Highlights of this paper

- This study evaluates the linkages between globalization and stock market returns in Africa.
- The results indicates that globalization affected African stock markets significantly.
- Globalization influenced stock market returns mainly in the long-run.

1. INTRODUCTION

As an important segment of the financial market, a stock market is the hub of interconnected transactions that creates an avenue where buyers and sellers of securities and other financial instruments meet at a certain price. In every economy, stock markets provide business entities with facility for capital formation through trade in shares among investors (both individuals and corporate bodies). This all-important function of the stock market took a new shape following the liberalized economic policies adopted by most countries' government in the mid-1980s (Rakhal, 2015). In fact, since the 1980s, the global financial system has turned into an interconnected system; reducing transportation costs, and increasing information and communication technologies have reduced the problem associated with distance, resulting to appreciable surge in cross border investments. As such, in most countries, there is direct nexus between globalization and firm's stock returns as well as efficiency in financial allocation as globalization considerably influence domestic structure of financial markets, consumers' choices and other aspects of a nation (Asongu, Nnanna, & Tchamypu, 2020; Haghi, Mostafavi, & Behname, 2015).

The term globalization is multifaceted; trade liberalization and increasing economic integration as well as political, cultural, social, military dependency and technological progress has popularized the concept of globalization. The process of globalization affects wide range of factors within the ambit environmental, cultural, political, institutional, economical and health fundamentals throughout the globe. Consequently, globalization is defined depending on the purpose and scope of the discussion. Accordingly, discussions on the influence of globalization varies across academic literature. For instance, some authors focus on economic fundamentals (such as, foreign trade, foreign direct investment, etc.) while others emphasize on the political factors (such as embassies, membership of international organizations, number of contracts signed by other countries, international economic laws, etc.), or promoting social and cultural concepts (Karadagli, 2012). Hence, globalization entails more integration of national economies, political systems, culture and social activities to the global world.

One of the characteristics of globalization is the deep innovations in investment options across national boundaries. As a result, every country have been more or less influenced by this trend, and have sailed on the route of globalization. While availing investors the opportunity to access stock markets beyond their domestic markets, the steady surge in globalization of stock markets is also resulting to a significant change in stock returns of quoted companies around the world. For instance, lower stock return on domestic stocks means domestic investors look towards investing in foreign stock markets with higher returns (Onyele, Opara, & Ikwuagwu, 2017). Although such an effect is mainly common among investors in small countries with limited stock markets, even wholly domestic (though mainly large) firms in well-developed and established stock markets like the U.S. and U.K. are benefiting from this development. Consequently, trends in stock market returns in the face of globalization and emerging market boom have attracted the attention of policy makers, academics, and practitioners across the world.

Theoretically, globalization is seen as having two directly opposite effects on stock markets (Stulz, 1999). On one hand, the elimination of barriers to foreign investments means a fall in risk premium on securities because risks associated with different securities can be shared among many investors-and more efficient spreading of risks among investors with globally diversified portfolios implies lower returns (Stulz, 1999). However, the globalization of both stock markets and real business activities resulting from persistent increase in overseas expansion by

multinational companies implies greater level of synchronization among various international financial markets-that is, a greater likelihood for all markets to move simultaneously. And such, increased correlation among national stock markets implies less benefits to investors from global diversification (Stulz, 1999). These factors have motivated plethora of literature on the link between globalization and stock markets across the globe in recent years.

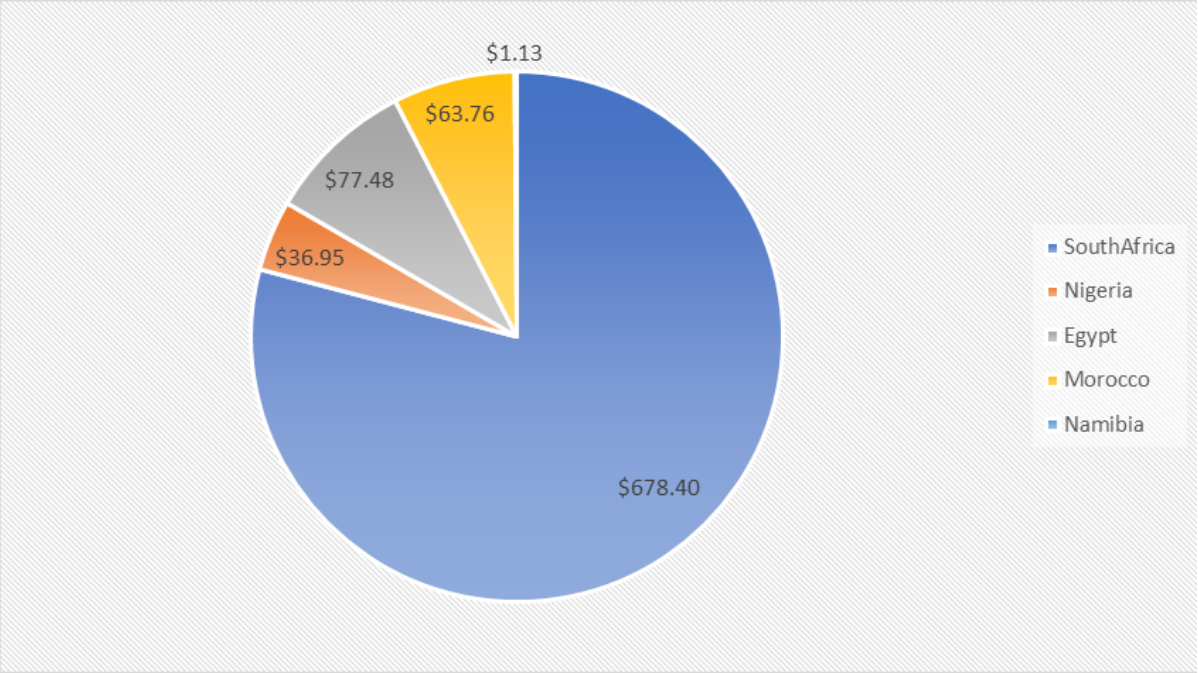

Figure-1. Average market capitalization (2000-2018).

Based on the foregoing, this paper discusses effects of globalization on performance of top performing stock markets in Africa. According to the Price-Water House Cooper (2020) among the numerous stock markets in Africa, the Johannesburg Stock Exchange (South Africa), the Nigerian Stock Exchange (Nigeria), Egyptian Exchange (Egypt), Casablanca Stock Exchange (Morocco) and the Namibian Stock Exchange (Namibia) have been among the largest over a decade. This informs the selection of the aforementioned stock markets for this study covering the period of 2000-2018. Figure 1 above shows the Market capitalization (also known as market value) of the sampled countries. Figure 1 reveals that the Johannesburg Stock Exchange (South Africa) have been the largest stock market when compared to other stock markets with an average market value of $678.40 billion followed by Egyptian Exchange (Egypt), Casablanca Stock Exchange (Morocco) and the Nigerian Stock Exchange (Nigeria) with market values of $77.48 billion, $63.76 billion and $36.95 billion respectively. On the other hand, the Namibian Stock Exchange recorded a market value of $1.13 billion which is the least recorded among the selected African countries.

There are at least three (3) fundamental reasons for inquiring on the effect of globalization on stock market returns in Africa, notably, the increasing relevance of regional integration, concerns over surplus liquidity, and ongoing debates surrounding the effects of global financial and political interactions. In consonance with Asongu. (2013) globalized countries have an edge in terms of increased efficiency in allocation of capital; facilitation of international capital flows, increased trade volumes, enhanced market liquidity, lower cost of transactions, lower asymmetric shocks leading to financial stability, and improved capacity of economies to absorb shocks. Also, Asongu et al. (2020) indicated that financial systems of African countries are often limited by increasing concerns of surplus liquidity that are hindering the efficient transformation of deposits into credit for economic use. The recent

global financial crises (2008/2009) reignited discussions regarding the potential benefits of globalization, especially within the purview of stock market performance in developing countries. In fact, some authors reason that the global financial crisis has unraveled the limitations of globalization because many developing economies that had previously attracted inflows of foreign capital also experienced a sudden and sharp reversal in the same flows (Asongu.. 2014; Chittedi, 2009; Jeelani, Mukhopadhyay, & Vashishtha, 2013). Most importantly, the financial routes that have escalated the global economic upheaval has reemphasized issues bordering on globalization and its corresponding externalities (e.g., changes in stock returns) in developing countries. Hence the main purpose of this study is to investigate the effect of globalization on stock market returns among selected African countries. The main question bothers on whether globalization has a positive effect on stock market returns in Africa?

1.1. Effects of Globalization: Issues of Concern

One of the features of the current globalization wave is capital flows. However, capital flows present both opportunities and challenges to a country (Agenor, 2003). First, large inflows of capital pose serious problems for macroeconomic fundamentals such as the exchange rates, money supply and interest rates. The flow of capital into a country's foreign exchange market accelerates demand for domestic currency, which appreciates as a result. This depletes the balance of trade by reducing competitiveness of exports as imports become cheaper. Furthermore, capital inflows could cause money supply and impact interest rates to surge at a time when the monetary authorities would prefer a credit restriction. Hence, inflows of capital due to persistent integration of countries would call for efficient exchange rate and monetary policy management (Munene, 2016).

Again, in a globalized system, surges in capital inflows causes inverse effect on domestic financial system. As more proportion of foreign capital inflows are through the channels of portfolio investment and short-term funds which are by their nature highly volatile, any sudden and quick withdrawal of capital by foreign investors could upset the recipient country's economic policies being pursued. This was the situation during the global financial crisis of 2008/2009 when the financial system of most developing countries, including Africa crashed as foreign investors reversed their investments to other countries who were less affected or had recovered from the crisis (Devereux & Yu, 2014).

In recent years, African stock markets have experienced these problems and their respective Governments took diverse steps to curtail the adverse effect of sudden capital flight. However, policies looking beyond inward economic adjustments is a step in the right direction (Pagliari & Ahmed, 2017). It also emphasizes the need of creating a global financial mechanism to cushion the stock markets from the shock arising from movements of capital and adverse effects it could have on developing economies (Onyele et al., 2017).

The globalization of African financial markets has resulted to the much-desired depth and liquidity. It has aided strong African corporates to access financial resources from the foreign markets and has led African countries to be part and parcel of the movements in the financial markets globally. However, the financial markets have to understand that there is an upside as well as a downside to the globalization trend and only those who are well fortified will come out stronger (Carney, 2019).

2. LITERATURE REVIEW

To better understand globalization, it is important to first review the three theories associated with the subject. These are the hyper globalists, the sceptics, the transformationalists and the porter's theory.

The hyper globalists see globalization as a constrain to state powers – both territorially and politically due to commitments to international financial and political organizations (Stiglitz, 2007). This, therefore, make foreign

markets seem to get away from effective national regulation as external actors (such as, multinationals, foreign governments, etc.) to appear as major players in any state's political decisions. According to the hyper-globalists, the market itself is a more efficient mechanism of coordination than nation-states and, therefore, active public policies are not required (or welcome). In order to make globalization work, a wide range of liberal political reforms such as deregulation, liberalization, privatization as well as restrictive monetary policy to guarantee price stability is encouraged.

The sceptics are of the view that globalization is an exaggeration. According to them, the world economy is not truly globalized (Went, 2002). Hence, the sceptics prefer the term "highly (or strongly) internationalized" to "fully globalized" (Hirst & Thompson, 1996). The sceptics believes that global economic activities are developed domestically rather than being carried out through companies based abroad. They argued that the competitive performance of firms is largely determined by processes occurring at the national level, i.e. decisions made by domestic economies are superior to those made at the international level. Hence, they concluded that a globalized country is characterized by different nations articulated into the global system by international processes. Much of the increased international activities reflects decisions taken domestically, and the most influential decisions are heavily concentrated in a small group of nations (Soliku, 2013).

To the transformationalists, globalization entails the reorganization of a country's government powers, functions and authority. Transformationalist scholars like Anthony Giddens are of the opinion that globalization is the main force, causing the rapid economic, social and political changes of societies and international system in the modern day. The transformationalists emphasized that societies across the globe are adjusting to a global system in which there is no longer a clear disparity between external (international) and internal (domestic) affairs (Soliku, 2013). The essential philosophy of the transformationalists' entails that globalization cannot simply be a synonym of trade and finance-led integration, but must be seen as an innovative interdisciplinary research programme, combining history, law, sociology and other similar academic fields. So, they see globalization as a historical process in dynamic transformation. They emphasized that globalization is a phenomenon in continuous motion since its developments involve a series of changes taking place through time.

The porter's theory is based on the assumption of competitive advantage. Any nation that integrates with the global system should also possess the ability to cushion any negativity arising from such integration. Porter's theory suggests that the pattern of trade is influenced by four fundamental attributes which include: factor endowments, domestic demand conditions, the presence of related and supporting industries, and firms' strategy, structure and rivalry (Edoumiekumo & Opukri, 2013). These attributes are referred to as "Porter's diamond" as they constitute a nation's diamond of national advantage. Porter argued that a nation which invests in advanced factors (sophisticated labour and technology) has domestic customers who are sophisticated and demanding, has suppliers or related industries that are internationally competitive and appropriate firm strategy as well as a vigorous domestic rivalry (a competitive market structure) will enhance a nation's competitive advantage.

Empirical literature abounds on the effect of globalization on stock markets. Recently, Asongu et al. (2020) analyzed the role of globalization-driven regionalization policies on financial allocation efficiency of four (4) economies in Africa from 1980 to 2008. Efficiency of banking and financial system proxies were used as dependent variables and seven globalization variables were used as independent variables. The empirical analysis was based on fixed effects regression. The findings were that efficiency of financial allocation was more responsive to financial openness compared to trade openness and most responsive to globalization. The link between allocation efficiency and globalization-fueled regionalization policies was positive.

Following the recent surge in global financial integration, Nasir and Du (2018) analyzed dynamics of integration among world financial markets using Panel Vector Autoregressive (PVAR) model on monthly data of nine (9) countries from January, 2003 to October, 2015. The results showed that there was a shift in the association among global financial markets since Global Financial Crisis (GFC). In particular, the emerging markets of China, Brazil and India showed a comparatively more significant impact on the UK financial system implying the increased significance of the latter in the recent past. The German and USA financial sector also indicated a change in its impact in the Post-GFC world. It was revealed that there was increased competition in Germany and USA financial sectors to the UK financial Sector as the increase in them led to a relative response from the UK financial sector which could be associated with the portfolio adjustment.

In another study, Haghi et al. (2015) analyzed the effects of economic globalization on firm's stock. Panel data for selected Asian economies (Iran, Saudi Arabia, India, China, Singapore, Malaysia, Indonesia, South Korea, Russia, Pakistan, Philippines, Sri Lanka) spanning from 1997 to 2013 was used. Results from the panel least squares showed that economic globalization significantly improved stock market index in Asia. Moreover, political globalization had a positive and significant effect on stock market index.

In Nigeria, Nwadike and Nwibo (2014) explored the effect of globalization on Stock Exchange Market. For this purpose, annual time series data spanning from 1981 to 2011 was employed. The study applied ordinary least square regression for the data analysis. The result of the analysis showed that trade openness, total inflow of capital and net flow of capital had a positive linear relationship with total market capitalization, such that if the variables increase, then total market capitalization will accelerate by 1.210, 0.550, and 4.72 percent respectively.

Similarly, Oluwole (2014) analyzed the impact of globalization on growth of the Nigerian stock market using time series data from 1986 to 2012. Regression analysis was used for the data analysis. Based on the results, it was revealed that through free trade, globalization had significant impact on the growth of Nigerian stock market over the period studied. It was equally revealed that globalization stimulated regional and global integration of the Nigerian stock market. However, the study noted that fluctuations associated with globalization could drawdown domestic stock market value.

With emphasis on Association of Southeast Asian Nations (ASEAN), Piumsombun (2013) assessed the trend of capital market integration among Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam using daily and weekly data within the period 2003 and 2013 measured in Japanese Yen and the US Dollar. The period considered was divided into pre, during and after the crisis. Techniques of beta and sigma convergence and cointegration was employed to determine the speed of convergence of the markets. The empirical results indicated that ASEAN capital markets were integrating, but the level of integration was slow. However, the results displayed a positive prospect as the markets were progressing towards integration.

In another study, Masuduzzam, Rahman, and Ahammed (2013) analyzed global financial integration among various segments of the financial market in Bangladesh. Statistical analysis for the study indicated that certain components of the money market such as deposit money banks, nonbank financial institutions and government treasury securities market; and market for the instruments of National Saving Directorate were highly integrated with some sort of divergent tendency due to existence of administered interest rate. On the other hand, the interbank call money market and the stock market were not integrated with the rest of segments of the financial system due to their past volatilities.

Similarly, Goel and Gupta (2011) investigated the impact of economic globalization on Indian stock market development between 1993 and 2007. The data collected was analyzed with the aid of correlation technique. The results revealed that the Indian stock market had experienced exponential growth over the period of study. The

results from the analysis revealed that the selected indicators for stock market development showed commendable improvement. After liberalization of the financial system, market capitalization ratio, value of trading ratio and turnover ratio surged and volatility ratio had reduced. In general, the results indicated overall development in Indian stock market and operational efficiency amidst economic globalization.

The empirical review literature revealed that prior studies have extensively analyzed the relationship between globalization and stock markets across the globe. However, empirical investigation on the subject using globalization index have not received sufficient attention for African countries. Furthermore, previous empirical studies have not explicitly investigated the short-run and long-run effects of globalization in Africa countries. Consequently, this study intends to contribute to the literature by filling these gaps.

3. METHODOLOGY AND DATA ISSUES

The paper used panel data for five (5) African countries (South Africa, Nigeria, Egypt, Morocco and Namibia) spanning from 2000 to 2018 to estimate the effect of globalization on stock market returns in Africa. These countries were selected because they represent the top five stock markets in Africa based on market value/capitalization (see, Price-Water House Cooper, 2020). The choice of the period, 2000 to 2018 was based on the continuous integration of developing countries to the global economy during the period coupled with the transmission effects of global events such as the global financial crisis and Ebola outbreak during the period. The model used for this study was adopted from Haghi et al. (2015) as expressed below:

$$RET_t = \beta_0 + \beta_1 GLB_t + \beta_2 FDI_t + \beta_3 EXR_t + \beta_4 TOP_t + \mu_t \quad (1)$$

Where,

RET = Stock market returns.

GLB = Globalization index.

FDI = Foreign direct investments.

EXR = Exchange rate.

TOP = Trade openness.

β_0 = Constant.

$\beta_1, \beta_2, \beta_3$ and β_4 = coefficients of the explanatory variables.

This study adopted the pooled mean group (PMG) approach to autoregressive distributed lag (ARDL) method of estimations suitable for panel data analysis. The PMG estimator was proposed by Pesaran, Shin, and Smith (1999) when pooling and averaging of coefficients over the cross-sectional units. The PMG-ARDL mechanism was used because it accommodates variables with mix level of stationarity of variables such as I(0) and I(1), but not I(2) like this study. Also, the PMG-ARDL approach captures the short-run and the long-run dynamics of the model. Therefore, the PMG estimation was applied in this study. The PMG-ARDL form of Equation 1 is written as displayed in Equation 2 below:

$$\Delta RET_{it} = \dot{A} + \phi RET_{it-1} + \alpha_i \sum_{i=1}^{p} \Delta RET_{it-1} + \pi_i \sum_{i=1}^{p} \Delta GLB_{it-1} + \omega_i \sum_{i=1}^{p} \Delta FDI_{it-1} + \psi_i \sum_{i=1}^{p} \Delta EXR_{it-1} + \tilde{V}_i \sum_{i=1}^{p} \Delta TOP_{it-1} + \beta_1 RET_{it-1} + \beta_2 GLB_{it-1} + \beta_3 FDI_{it-1} + \beta_4 EXR_{it-1} + \beta_5 TOP_{it-1} + \varepsilon_{it} \quad (2)$$

Where,

φ is the estimated coefficient of past lagged value of the dependent variable (RET).

$\boldsymbol{\alpha_i, \pi_i, \omega_i, \psi_i}$ ***and*** $\tilde{V}_i$ denote the short-run coefficients.

β_1 to β_5 are the long-run estimated coefficients of the model.

3.1. Data Sources and Description

The data were sourced from World Bank database (see, theglobaleconomy.com). Table 1 presents the definition of variables used in the analysis.

Table-1. Definition and measurement of variables.

Variables	Description
Stock market returns (RET)	Stock market return refers to the growth rate of yearly average stock market index. Annual average stock market index is calculated by taking the average of the daily stock market indexes.
Globalization index (GLB)	Overall GLB encompasses economic, social, and political aspects of globalization. Greater values denote increased globalization.
Foreign direct investments (FDI)	FDIs refers to the net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in a company operating in an economy other than that of the investor. The FDI series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.
Exchange rate (EXR)	Exchange rate refers to the rate at which various currencies are exchanged for the USD. It is computed as yearly average based on monthly averages (local currency units relative to the U.S. dollar).
Trade openness (TOP)	Measured by trade (import + export)-to-GDP ratio for the same period, TOP is an indicator that measures the relative significance of international trade in an economy.

4. EMPIRICAL ANALYSIS

The data analysis began with preliminary analysis descriptive statistic and panel unit root test for stationarity of data. The empirical analysis is based on the panel cointegration tests, PMG-ARDL and Granger causality test to show the relationship between globalization and stock market returns.

4.1. Preliminary Analysis

Preliminary analyses, such as descriptive statistic, unit root test, conitegration test cross sectional dependence tests and Jarque-Bera test for normal distribution of data were carried out to ascertain the most suitable statistical approach for estimation as well as having an insight to the properties of the overall model to avoid spurious regression results. Table 2 below presents the descriptive statistic to ascertain the variability and distribution of the variables.

Table-2. Descriptive Statistics of selected variables.

	RET	GLB	FDI	TOP	EXR
Mean	17.40789	61.54947	2.822842	63.44779	73.41158
Median	15.56000	61.35000	2.190000	60.11000	86.60000
Maximum	111.4500	72.53000	10.91000	125.4800	306.1000
Minimum	-55.02000	48.65000	-0.200000	20.72000	3.470000
Std. Dev.	25.64306	6.361681	2.422045	23.61427	65.30561
Skewness	0.475905	-0.224126	1.441664	0.477543	1.041275
Kurtosis	4.316137	2.030771	4.490227	2.569369	4.812509
Jarque-Bera	10.44271	4.513824	41.69851	4.344792	30.17124
Probability	0.005400	0.104673	0.000000	0.113904	0.000000
Sum	1653.750	5847.200	268.1700	6027.540	6974.100
Sum Sq. Dev.	61811.26	3804.272	551.4323	52417.56	400893.4
Observations	95	95	95	95	95

Table 2, reveals the various measures of central tendency, such as mean and median that indicate the estimates of the centre of the distribution. Results from the descriptive statistic shows that all the variables have a high level

of consistency. Their respective mean and medium values were with the range of values obtained for the minimum and maximum values. It could be seen from the table that all the variables, except RET, FDI and EXR were normally distributed as evident from the probability value ($p>0.05$) of the Jarque-Bera which accepted the null hypothesis that the series (GLB and TOP) are normally distributed while the p-values ($p<0.05$) indicates that the series (RET, FDI and EXR) are not normally distributed which was supported by the measures of Skewness and Kurtosis. The values associated with the standard deviation indicates the level of dispersion of each of the series from their mean values.

It is a standard practice to investigate unit root when modeling economic relationship with time series because it evaluates if the set of data is stationary or non-stationary. It is important to check the descriptive statistic prior to analyzing the data in order to establish the level of stationarity of the variables understudy in order to ascertain the dataset are I(0) and purely I(1) or a mixture of I(0) and I(1), and none is I(2) which is suitable for the PMG-ARDL estimation (Pesaran, Shin, & Smith, 2001). The panel unit root test based on Levin, Lin, and Chu (2002) presented in Table 3 below shows that RET, GLB, EXR and TOP are stationary at first difference, meaning that they are I(1) variables. Hence, RET, GLB, EXR and TOP were differenced once to make them stationary. As for the FDI series, it is stationary at levels. The unit root results indicate that the variables are of mixed order of integration i.e. I(0) and I(1) processes which is suitable for the PMG-ARDL approach.

Table-3. Levin, Lin & Chu panel unit root tests results.

Unit root test @ level; I(0)			Unit root test @ first difference; I(1)			
Variable	**t-Statistic**	**Prob.**	**Variable**	**t-Statistic**	**Prob.**	**Decision**
RET	-1.10837	0.1339	RET	-3.34687	0.0004	I(1)
GLB	-1.58852	0.0561	GLB	-1.80630	0.0354	I(1)
FDI	-3.15526	0.0008	FDI	--	--	I(0)
EXR	-0.03001	0.5120	EXR	-2.47362	0.0067	I(1)
TOP	-1.34045	0.0901	TOP	-4.05954	0.0000	I(1)

Having confirmed that the variables are of mixed stationary level based on the panel unit root test, the cointegrating relationship among the variables was investigated using the Pedroni (1999) panel cointegration tests. The Pedroni (1999) investigates the residual-based tests properties for the null hypothesis of no cointegration in which both the short-run dynamics and long-run slope coefficients are allowed to be heterogeneous across individual members of the panel. Both pooled within dimension tests and group mean between dimension tests with individual intercept are considered under the Pedroni test. The outcome of the panel cointegration is presented in Table 4:

Table-4. Pedroni cointegration test results.

	Statistic	**Prob.**	**Statistic**	**Prob.**
Panel v-Statistic	-1.141099	0.8731	-2.015495	0.9781
Panel rho-Statistic	0.869041	0.8076	1.182068	0.8814
Panel PP-Statistic	-4.268470	0.0000	-2.651480	0.0040
Panel ADF-Statistic	-2.910805	0.0018	-2.662367	0.0039
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic	Prob.		
Group rho-Statistic	1.840157	1.840157	0.9671	
Group PP-Statistic	-4.59261	-4.592606	0.0000	
Group ADF-Statistic	-3.22262	-3.222622	0.0006	

As shown in Table 4 above, the Pedroni panel cointegration test indicates that, the null hypothesis of no cointegration is rejected at 5% level of significance. This is because the Pedroni panel cointegration result reveals that 6 out of the 11 of the Pedroni statistics significantly reject the null hypothesis of no cointegration. It then implies that a long-run relationship exists between RET, FLB, FDI, EXR and TOP.

The need to test for cross sectional dependence on the data is to ascertain that the cross section in the panel data are independent for consistent coefficient estimates (Pesaran., 2004). Hence, a cross-section dependence (CD) test that suits larger cross section (N) and smaller time series (T) like this study with N=5 > T=19 was adopted. The results obtained from the cross-section dependence test is presented in Table 5:

Table-5. Cross sectional dependence tests.

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	13.86026	10	0.1795
Pesaran scaled LM	0.863179		0.3880
Bias-corrected scaled LM	0.716121		0.4739
Pesaran CD	1.020247		0.3076

The cross-sectional dependence tests presented in Table 5 above is rejected at 0.05% level of significance as their respective prob. values are greater than 0.05. This shows that there is absence of cross-sectional dependence in the panel data. The outcome of the cross-sectional dependence tests further validates the estimates PMG-ARDL panel results. Furthermore, to obtain unbiased estimates of the analysis, a diagnostic test on the residuals was conducted by applying Jarque-Bera (JB) test of normal distribution. The outcome of the JB residual test (Prob. > 0.05) as presented in Figure 2, shows that the residuals of the model are normally distributed.

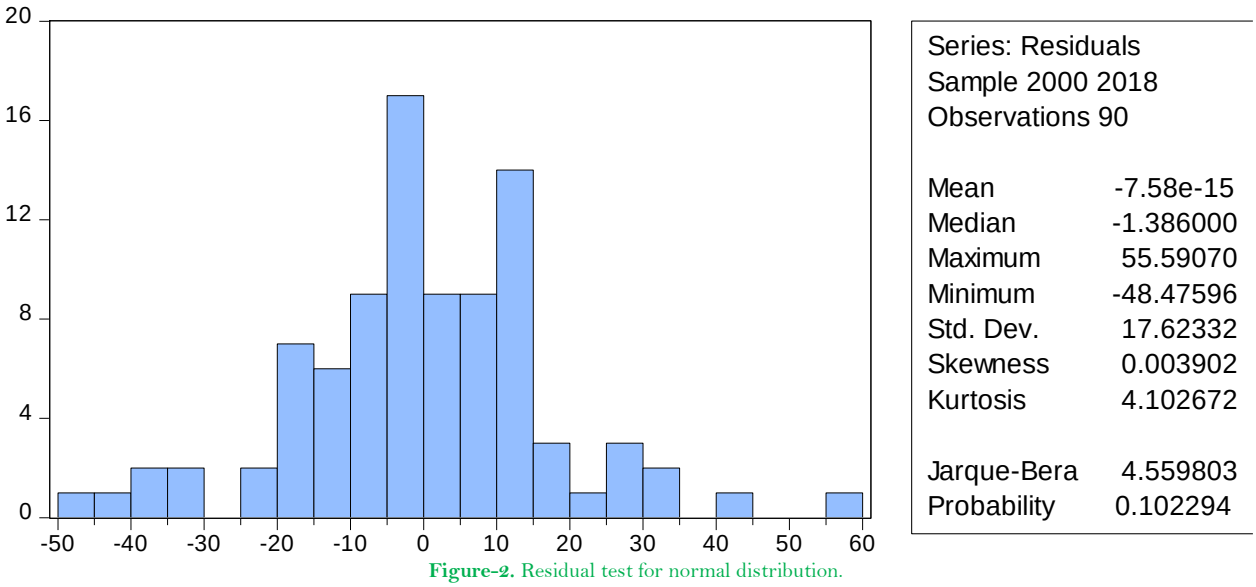

Figure-2. Residual test for normal distribution.

4.2. Presentation and Interpretation of the PMG-ARDL Estimation Results

The outcome of the short-run and the long-run effects of globalization on stock market returns are presented in Table 6 for the PMG-ARDL approach. Based on the Akaike info criterion (AIC), the optimal lag length of panel-ARDL (1, 1, 1, 1, 1) is chosen for the PMG. There are variations in short-run and the long-run results in terms of the relationship between the dependent and the explanatory variables.

Table-6. The long run and short-run PMG/ARDL results.

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Panel A: Long-run estimates				
GLB	2.543579	0.897571	2.833846	0.0062
FDI	8.583571	2.353198	3.647619	0.0005
EXR	0.744528	0.315501	2.359832	0.0215
TOP	-1.683822	0.413048	-4.076577	0.0001
Panel B: Short-run estimates				
ECM(-1)	-0.606153	0.191114	-3.171686	0.0024
D(GLB)	1.223458	1.281045	0.955046	0.3433
D(FDI)	-12.50388	8.839925	-1.414478	0.1623
D(EXR)	-2.432068	1.924610	-1.263668	0.2112
D(TOP)	1.425733	0.536450	2.657719	0.0100
C	-55.23069	23.15319	-2.385446	0.0202

In the long-run, the estimated coefficients of GLB, FDI and EXR are positive while TOP is negative. The coefficient of GLB implies that higher level of globalization among African countries caused increase in stock returns by 2.543579. Also, the coefficient of FDI indicated that increased foreign direct investments raised stock market returns among African countries by 8.583571. Similarly, the positive coefficient of EXR is indicative of higher stock market returns by 0.744528 amidst increased exchange rate. On the other hand, the estimated coefficient of TOP shows that more openness to foreign trade caused stock market returns to diminish by 1.683822. All the variables are significant as their respective probability values (prob. < 0.05) are less than 0.05. The error correction mechanism (ECM) shows the speed of adjustment from short-run disequilibrium to long-run equilibrium. The ECM coefficient is expected to be negative and significant. It is negative and significant only for the PMG estimate. The coefficient of the ECM or the speed of adjustment towards equilibrium for the PMG estimate is -0.606153, indicating that the deviation of variables from the short to the long-run equilibrium is significantly adjusted and corrected by 60.61% annually for the sampled African countries. On the other hand, the differenced coefficient which represents the short-run dynamics indicates that GLB and TOP has positive effect on stock market returns (RET) while the coefficients of FDI and EXR exert negative effect on stock market returns in Africa. However, only the coefficient of trade openness (TOP) is significant with a p-value (prob. < 0.0100). These results imply that globalization as well as foreign direct investments, exchange rate and trade openness significantly increased stock market return in the long-run. This suggests that globalization might make stock markets attractive to foreign investors, who then grant domestic stock markets access to foreign markets at attractive terms. This evidence is in consonance with the findings of Asongu et al. (2020); Haghi et al. (2015); Nwadike and Nwibo (2014) who reported that better globalization fosters stock market development through foreign investments and trade. The insignificance of globalization in the short-run could reflect the direct impact of reforms under globalization of stock markets across Africa.

After establishing the existence of relationship among the variables understudy, a Granger Causality/Block Exogeneity Wald tests for causality based on Vector autoregressive (VAR) model was performed.

The existence of cointegration among stock market returns (RET), globalization (GLB), foreign direct investments (FDI), exchange rate (EXR) and trade openness (TOP) confirms there ought to be at least one existence of causal relationship. The idea of causal relationship emanates from the notion that globalization could motivate stock market returns. The results obtained from the Granger causality test is presented in Table 7:

Table-7. VAR Granger causality/block exogeneity wald test.

Dep. var	RET	GLB	FDI	EXR	TOP
Ind. var	**Chi-sq. {Prob.}**	**Chi-sq. {Prob.}**	**Chi-sq. {Prob. }**	**Chi-sq. {Prob.)**	**Chi-sq. {Prob. }**
RET	--	0.409952 {0.8147}	5.744372 {0.0566}	7.547163 {0.0230}	0.617922 {0.7342)
GLB	6.208665 {0.0440}	--	11.74403 {0.0028}	5.082775 {0.0788}	4.961874 {0.0837}
FDI	2.283478 {0.3193}	0.809335 {0.6672}	--	2.291270 {0.3180}	5.457243 {0.0653}
EXR	9.459377 {0.0088}	0.573197 {0.7508}	5.557007 {0.0621}	--	1.629948 {0.4427}
TOP	10.60334 {0.0050}	0.236119 {0.8886}	10.40938 {0.0055}	4.157988 {0.2151}	--
ALL++	20.39342 {0.0089}*	1.954171 {0.9824}	31.18536 {0.0001}*	18.87059 {0.0156}*	12.89716 {0.1154}

Table 7 reveals that there is unidirectional causality running from globalization to stock market returns and not *vice versa*. The Granger causality results shows that GLB, EXR and TOP individually granger caused stock market returns among African countries and GLB, FDI, EXR and TOP collectively Granger caused stock market returns. Also, RET Granger caused FDI and EXR, while TOP Granger caused FDI. This shows that increase stock market returns are motivated by interactions between degree of globalization, FDI, exchange rate and trade openness following the prob. value (prob. < 0.0089) associated with the link between the independent variables (GLB, FDI, EXR and TOP) and dependent variable (RET). In other words, in the face of globalization, the desire to make more profits by investors could attract foreign investments through trade and FDI to motivate returns in the domestic stock markets. For instance, globalization can equally cause FDI and a recipient country would desire to create a developed stock market to meet investment demands. In terms of unidirectional causal flow from the collective interactions between GLB, FDI, EXR and TOP to RET is in consonance with transformationalists point of view that globalization is the driving force of better financial performance. Similarly, availability of growth potential in the home country may create incentive for investment inflows from abroad. Asongu et al. (2020) reported that foreign investors can respond to lower stock market returns in their home countries by investing more in foreign stock markets with potentials of higher returns.

5. CONCLUSION, AND RECOMMENDATION

This paper investigated the effect of globalization on stock market returns in six (6) selected countries in Africa. The PMG/ARDL model with VAR Granger causality/block exogeneity test were used for the data analysis. After confirming the presence cointegration among the variables, the estimated PMG-ARDL results indicated that globalization, FDI and exchange rate exert significant positive effects on stock market returns in the long-run while trade openness exert significant negative effect on stock market returns in the short-run. In addition, collectively, a one-way causal flow was found from the independent variables (GLB, FDI, EXR and TOP) to stock market returns. On the other hand, on individual basis, a unidirectional causality from GLB, EXR and TOP to stock market returns was found. It was also found that globalization Granger caused FDI, while stock market returns Granger caused exchange rate. The presence of one-way causality from globalization to stock market returns justifies the earlier result of long-run and short-run positive effects of globalization on stock market returns which

suggests a connection between the two variables. This might equally imply that the number of investors that access financial services through the stock markets increased across African countries which generated higher returns. However, low penetration and concentration of FDIs and trade coupled with exchange rate instability could be hindrances to higher stock market returns in the short-run. This study, therefore, concludes that globalization and its components (FDI, trade openness and exchange rate) constitute prominent sources of improving stock market returns and the interrelationship between the globalization index and stock market returns do matter.

The findings of this study have generated important policy implications and recommendations. Most importantly, this study ascertained that globalization do stimulate stock market returns among selected African stock markets which can be explained from the transformationalist view that increase in globalization would result to increase in consumption and investments. Hence, the stock market can then benefit from the increase in demand for investible funds by the private sector through the multiplier effects. Based on the findings and conclusions of this paper, the following recommendations were advanced:

1) With the positive and significant long-run effect of globalization on stock market returns, there is a need to monitor what is allowed into a country. Hence, even when there is lack of policy instruments, African countries must still decide whether to remove restrictions on foreign transactions or not. As such, the primary policy choice to be considered should be the timing of removing or placing these restrictions so as to protect the markets from external factors that could reduce stock returns.
2) Since FDI has a positive and significant effect on stock returns in the long-run with a negative short-run effect, it is vital for authorities to maintain policies aimed at regulating FDI flows. Controls on the FDI are as critical as controls on outflows, since sudden large inflows can be as destabilizing for a stock market as outflows.
3) There is need to implement internationalization of exchange rate. As is known to us all, U.S. dollar occupies a very large proportion in the international price, international settlement and international reserves, once U.S. financial markets fluctuate, the risk will transmit to other countries financial markets through U.S. dollar exchange rate. Therefore, to promote the internationalization of exchange rate can largely reduce the adverse effects of Dollar Standard and also effectively prevent the transmission of financial risks from the US to African stock markets in the long-run.
4) Following the long-run negative and significant effect of trade openness, outward looking policies should be vigorously pursued as it would enable African stock markets to become active player in global financial system. However, ease of doing business must be enhanced to spur the local entrepreneurship and ensure competitiveness in the global scene. Also, payment mechanism must be strengthened so as to have easy, reliable and safe channels of settling transactions made in the course of international trade.

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