

## Stock Market Development and Economic Development in Emerging Economies

### Abstract

*This study investigated the effect of stock market development on economic development in developing economies which include Nigeria, South Africa, Angola and Kenya using time panel data between the periods 1986 to 2018. The study employed panel co-integration test, panel regression and granger causality test. We **measured** stock market development using all share index, market capitalization, foreign portfolio investment and total volume traded while human development index is used as proxy for economic development. Findings reveal that stock market activities in most African countries have not significantly impacted their economic development except for few African countries which had adequate market regulations. We further find evidence to assert that activities in South African stock market significantly promote economic development in their nation when compared to other countries under investigation. Although the Nigerian stock market activities are also significant in contributing to economic development process, but in a negative manner while Angola perform less to Nigeria and finally, Kenya stock market activities do not significantly promote economic development in their nation. As such, we recommended that adequate regulation should be implemented ~~introduced~~ as this will help in ascertaining stable stock market and thereby encouraging foreign participant to operate in the market.*

**Key words:** *Stock market Development, Economic development and panel co-integration test.*

### INTRODUCTION

Stock markets play critical and immeasurable roles in the economic development of both developed or developing countries. These markets generally contribute to series of economic and political development by facilitating efficient trading, investment, speculation, hedging, economic growth and development. However, stock markets also serve as channels for price discovery and spreading of information in the process of providing opportunity for raising finances for companies and government. Owiti (2017) opines that stock markets are the bed rock to implement privatization programs and play an immense role in the economic development of emerging economies. Majorly, stock markets remains at the heart of financial systems and primary function is to serve as a mechanism for transforming savings into financing for the real sector. Consequently, more savings will be used to fund corporate sector while efficient stock markets make corporations compete on an equal basis for funds and help make investment more effective (Kamal, 2016). From a theoretical vantage point, stock markets can accelerate economic growth by mobilizing and enhancing domestic savings and promoting the quantity and quality of investment. Increase in savings mobilization have the potential in creation of capital

for allocation to more investment projects resulting in higher returns and thereby increasing the rate of return to savers which in turn can make more savings more attractive.

However, the controversial argument among the authors on the relevance of stock market activities on the economic growth and development have been a point of concern among the researchers. Bagehot (1873) argues that finance plays a critical role in economic growth and development. Schumpeter opines that banking system play important role in economic growth and development through technology innovation to boost entrepreneurial development in emerging economies. The study of Goldsmith (1969), McKinnon (1973) and Shaw (1973) reveal that financial system play a vital in economic growth which is in support of Schumpeter ideology. Contrary to this, Caporale et al (2004) and Beck et al. (2008) argue that a well regulated stock market helps the investors to avoid risk when embarking on the long term project which the financial institution like banks could not afford. Also, an efficient stock market contributes to the total productivity and promotes economic development. The effect of the stock market on economic development has been a debatable issue as many prior studies explained stock market from different point of view.

Araoye, Ajayi, Aruwaji, (2018) reveal that the important benefits associated with the activities of stock market makes it an interesting topic for so many authors, economists and policy makers. Nigeria stock market enjoyed tremendous foreign direct investment from 1985 that boost the economic growth with market capitalization of paltry #6.6 billion to average of N13 trillion in 2014. Stock market is regarded as a guide to business and argues that an active capital market is a reliable platform to measure general economic activities with the use of market index (Obadan, 1998). The development of the stock market in an economy especially the developing economies can provide a better distribution of resources in two different ways. Firstly, reduces the cost of informing investors about investment projects forecast by companies. Secondly, stock markets play a decisive role in guarding the interests of investors by spreading and pooling risks in order and allowing investors and firms to make appropriate investment decisions (Mamun et al., 2018).

In addition, the liquidity created by the stock markets enables investors to buy or sell stocks without changing their long-term investment plans, while providing long term capital to companies (Pan and Mishra, 2018). Equity markets increases the expertise of financial intermediaries, allocate resources to the most productive areas and increased the amount of production (Mamun et al., 2018). Through the stock markets, investors can provide capital allocation to the economy at relatively lower costs and gain profits. However, well-organized exchanges encourage the financing provided by the market, rather than the financing provided by the banking sector, thus creating a growth effect on the economy (Mamun et al., 2018). In addition, the stock markets that in particular operating in the emerging markets, support economic growth through foreign capital investments. Therefore, the role of capital markets in developing countries where there is high economic growth rate is very important. An increase in the per capita income of individuals can force them to invest in long-term financial assets through the financial system mechanism (Geyikçi, 2017).

One of the problems studied as part of this study is that stock market is expected to boost economic development in any emerging economy, but in the African context, the stock markets lack speedy development due to poor government policies resulting in financial market performance in African countries. Further, economic fluctuations such as recession in most African countries is another problem affecting stock market development in emerging economy. Economic instability in Africa has crippled the financial system and further lingered into poor economic development. As such, this study set out to investigate the extent to which stock market development has been able to boost economic development in an emerging economy. The other part of the study is designed as follows: **Section 1 introduces the study**, Section 2 reviews empirical studies on the effect of stock market development on economic development in developing countries. Section 3 is basically presentation of the collected data and methodology of the data analysis and presentation of the study. Section 4 is result and discussion of findings. Finally, Section 5 presents the conclusion and recommendations of the study

## **2. LITERATURE REVIEW**

### **2.1 The Nigerian Stock Exchange Market**

The stock exchange market was pioneered by the Lagos Stock Exchange in 1960. The Lagos Stock Exchange there after metamorphosed into Nigeria stock exchange in 1977 with establishment of branches in parts of Nigeria. By 1999, the exchange has spread its tentacle to several cities in the country including Kaduna, Port Harcourt, Kano, Onitsha, Ibadan and Lagos as head office. The growth of stock market has been phenomenon since 1960 when it was established with a number of market instruments traded. The market operators and size of the market capitalization has also multiplied in great dimension and which eventually impacted on the economy. Hamid and Sumit (1998) actually confirm the positive impact of market indicators on economic growth of developing countries.

#### **2.2.1 Rational Expectations Theory**

Rational expectations theory states that the players in an economy will act in a way that conforms to what can logically be expected in the future. That is, a person will invest, spend, etc. according to what he or she rationally believes will happen in the future. Although this theory has become quite important to economics, its utility is doubtful. For example, an investor thinks a stock is going to go up, and by buying it, this act actually causes the stock to go up. This same transaction can be framed outside of rational expectations theory. An investor notices that a stock is undervalued, buys it, and watches as other investors notice the same thing, thus pushing the price up to its proper market value. This is the problem with Nigerian stock market trying to restore market confidence since after the global financial crunch. The general expectation of Nigerian investors is pessimistic and hence the market is dragging irrespective of the innovations introduced by the regulatory agency and the Nigerian stock exchange.

#### **2.2.2 The Efficient Frontier**

Markowitz work is important in the context of a portfolio. The risk of a portfolio takes into account each investment risk and return and investment correlation with other investment in the portfolio. A portfolio is efficient if it gives a high expected return with lower level of risk when compared to another investment. Efficient frontier is a plot of those efficient portfolios that yield higher return for each level of risk.

### **2.3 Empirical Studies**

Bilgehan Tekin and Erol Yener (2019) statistically examine the causal relationship between the value of stock markets, which is a dimension of financial development and economic growth in order to reveal the possible differences between developed and developing countries, the stock market data and GDP values obtained from different countries are considered. As analysis method, Toda-Yamamoto Granger causality analysis was used for the period of 1998Q1-2017Q4. In conclusion, unilateral causalities from stock market indexes to economic growth are determined in United States, BRICS countries and Turkey. Therefore, we may observe that the development of stock markets leads to economic growth. This result is not different in terms of developed and developing countries. The supply-leading hypothesis, which is one of the two economic growth hypotheses with one-way causality, is valid. However the results for Germany indicate the two-way relations. This means that feedback hypothesis is valid for Germany.

Araoye, Ajayi and Aruwaji (2018) statistically investigated the nexus between stock market development and economic growth in Nigeria using time series data between the periods 1985 to 2015. The study considers Gross Domestic Product as proxy for economic growth while stock market activities like market capitalization and market turnover were used as proxies from stock market development. The study employed unit root test, Cointegration test and error correction model. Findings reveals that the stock market is significant in determining economic growth in Nigeria using the error correlation model and it was found that the stock market has insignificant impact on the economic growth. It is recommended that policy makers should ensure improvement in the market capitalization, by encouraging foreign direct investment participation in the market.

Osakwe and Ananwude (2017) statistically explored the short run and long run relationship between stock market development and economic growth by comparing two leading emerging economies in Africa: Nigeria and South Africa from 1981 to 2015. Growth rate of gross domestic product was used to measure economic growth, while stock market development was surrogated by market capitalization ratio to gross domestic product and stock value traded ratio. Data were carefully sourced from World Bank development indicators of both countries. The ARDL co-integration divulged equilibrium long run relationship between stock market development and economic growth in Nigeria but not for South Africa. In both short and long run, there was a positive but insignificant relationship between stock market development and economic growth in Nigeria and South Africa. The granger causality analysis deduced that economic growth of South Africa is significantly affected by market capitalization but not so in

Nigeria. The study concluded that stock market development is relevant to economic growth as postulated in theoretical literature. Information disclosure in the stock markets of both countries needs to be improved upon in an attempt to reduce information asymmetries investing their funds.

Frank, Micheal and Swalie (2017) statistically investigated the extent to which stock exchange market has contributed to economic development in South Africa using time series data between the periods 1980 to 2015. The study employed unit root test, multiple regressions and granger causality test where proxies for stock market activities were market capitalization rate, total volume of trade, foreign direct investment and all share index. Findings report that inflows of foreign direct investment have helped in promoting the South African economy over the year.

Hansen and Medlies (2017) reported that the level of economic development in South Africa can be credited to its speedy improved stock market. The study further explained that the stock market in South Africa is managed and controlled by foreign practitioners with more knowledge about the dealing in the market. As such, the market has the capacity to contest in the international market and thus promote economic development. The study examines stock market development and economic growth in South Africa between the periods 1990 to 2016 using time series data where granger causality methodology is adopted. In the Nigerian context however, Moses (2017) examined the restructuring exercise in the Nigerian stock market and how it has affected economic development in Nigeria. The study covers a period of 1980 to 2016 where cointegration test and error correction model methodology is employed. Findings report that large inflows of foreign capital in the form of foreign portfolio investment has helped the Nigerian stock market and also increased the number of participants in the market. The study further identified that the review of rules and guidelines for operation has also encouraged participants in the market and thus speed up economic development in Nigeria. Nduka (2016) using five countries examined the African stock market vice versa the level of development recorded in the African continent from independent to 2015. The study employed the panel data methodology where Hausman test and fixed effect model are designed. Countries considered in his study include Nigeria, Angola, Kenya, Tunisia and South Africa. Findings reveal that South African and Nigerian stock markets are performing better when compared to other African countries. Although adequate regulation is needed to enable them meet up international standards.

In another related study in Nigeria, Akanyo and Ajie (2016) reported that Nigerian stock exchange market is performing better when compared to the era of low regulation. This assertion stems from the performance of stock exchange activities on the exchange flows and the numbers of foreign participants and traders in the market. The study thus recommended that the market should meet up international standards if adequate regulation is put in place to checkmate undue dealings in the market. The study set out to investigate the Nigerian stock exchange market in the pre and post regulation era using time series data between the periods 1980 to 2015. The study employed the ANOVA technique to ascertain the test of difference. Haddisa and OPhsan (2015) studied the stock market in Angola. The objective of the study was to identify the causes of low level of

development of the Angola stock exchange market when compare to other African countries. The study employed the granger causality test methodology and finding shows that low level of foreign participant has affected the market. However, this is due to poor regulation system which hinders most investors from trading in the market. The study thus conclude that the Angola stock market has the potential of revamping if the government can step into the system through prudential guild line which will control operations in the market. Silva, Perera and Silva (2018) investigated the relationship between Sri Lanka's stock market performance and economic growth. According to the findings of their study on regression and correlation analyzes, there is a strong positive relationship between stock market performance and Sri Lanka's economic growth.

Pradhan, Arvin, Hall and Bahmani (2014) found that banking sector development, stock market development, economic growth, and four key macroeconomic variables are cointegrated in the ARF countries. And also they found that banking sector development and stock market development, as well as other macroeconomic variables, matter in the determination of long-run economic growth. Ngare, Nyamongo and Misati (2014) investigated the role of stock market development on economic growth in Africa for the period 1980-2010. Panel data econometrics technique was used in their data analysis. They found that countries with stock markets tend to grow faster compared to countries without stock markets and countries which are relatively developed and have stock markets tend to grow less faster compared to small countries with stock markets. Furthermore stock market development has a positive effect on economic growth in Africa. Osho (2014) examined the role of stock market development and economic growth in Nigeria. He used ordinary least square with the following variables; market capitalization, turnover ratio and value of traded ratio. Granger causality methodology is used on the data between the periods 1980 to 2013. Results concluded that total value of traded ratio and stock market capitalization negatively affect gross domestic product while turnover ratio had positive effect on Gross domestic product the dependent variable.

Shuaib and Ahmed (2015) examined capital formation impact on the economic development with data from 1960 to 2013. They are of the opinion that capital formation has a significant relationship with economic development. Ifeoluwa and motilewa (2015) examine the stock market liquidity and economic growth in Nigeria using time series data between the periods 1980 to 2012. This study tends to examine the responsiveness of the stock market to the Nigeria economy while some variables were proxies for stock market liquidity. The Study employed Ordinary least square, unit root test and co-integration test. Their Findings shows that stock market liquidity is not statistically significant in promoting economic growth in the Nigerian context. The observation from the review of previous studies is that the relationship between stock market development and economic development is either positive or negative and in some countries, no relationship at all. As such, the variation in the results may be due to similarity of the country under study or the nature of data.

### **3.0 METHODOLOGY**

### 3.1 Data Sources and Variables

For the purpose of this study, secondary data which were time series data between the periods 1986 to 2018 is considered. We sourced and extracted our data from Nigerian stock exchange market, Index Mundi, Central Bank of Nigeria (CBN) statistical Bulletin 2018 issues and World Bank data base. The study population consists of all economic variables associated with stock market development and economic development in Nigeria, where countries like Nigeria, South Africa, Angola and Kenya were considered. The variables used are all share index, market capitalization, foreign portfolio investment and total volume traded as proxies for stock market development while human development index is used as proxy for economic development in emerging economies.

### 3.2 Model Estimation

We formulate our model in the functional form following the classical linear regression model assumption thus;

$$HDI_t = f(MCAP_t, TVA_t, ASI_t, FPI_t) \text{ ----- (1)}$$

We transform the above model into a mathematical form by introducing the constant term ( $\beta_0$ ) and slope

$$HDI_t = \beta_0 + \beta_1 MCAP_t + \beta_2 TVA_t + \beta_3 ASI_t + \beta_4 FPI_t + \text{ ----- (2)}$$

We transform the above model into an econometrics form by introducing the constant term ( $\beta_0$ ) and slope and error term ( $\mu$ )

$$HDI_t = \beta_0 + \beta_1 MCAP_t + \beta_2 TVA_t + \beta_3 ASI_t + \beta_4 FPI_t + \mu_t \text{ ----- (3)}$$

$$\text{On a priori } \beta_1, \beta_2, \beta_3, \beta_4 > 0 \text{ .....(4)}$$

Where, HDI represent the Human development index, MCAPs stand for Market capitalization TVAs denotes Total volume traded ASIs stands for All share index, FPIs represents Foreign portfolio investment.  $\beta_0$  serves as a Constant,  $\beta_1 - \beta_4$  is the Estimation parameters and  $\mu$  represent the Error term. Therefore, it is expected that all the variables used should be positive and significant to promote economic development as being represented on a priori  $\beta_1, \beta_2, \beta_3, \beta_4$ , should be greater than zero.

### 3.3 Panel Unit Root Tests

One of the econometric problems in empirical analysis is non-stationarity of time series data. Spurious regression and inconsistent results are likely to be obtained if we run a regression in the

level form while the variables in the model are non-stationary and therefore inference based on such data are likely to be meaningless. Due to this economic problem, the variables in the models will be subjected to panel unit roots using the Fisher unit root tests. The Fisher unit root test, is based on the null hypothesis that each individual time series contains a unit root against the alternative that each time series is stationary. It can be mathematically model thus:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^p \alpha_i Y_{t-i} + \sigma_1 \Delta Y_{t-1} + \mu_{1I=1}$$

Where,  $\Delta Y_t$  is the different at first instance.

### 3.3.1 Kao Co-integration

This model is developed by Engle and Granger to estimate the long run equilibrium relationship among two or more variables.  $Y_t = \mu + \gamma t + \sum_{i=1}^p \alpha_i Y_{t-i}$

$$\Delta x_t = \sum_{i=1}^p \alpha_i \Delta x_{t-i} + \mu_0 + \mu_{de} + \sum_{i=1}^p \alpha_i \Delta x_{t-i}$$

### 3.3.2 Panel Least Square

We estimated a panel Least Square to enable us ascertain the short run dynamics of the time series under investigation. To ensure that our estimate exhibit the best linear unbiased result, we further introduces the random and fixed effect estimate as this will enable us make comparison between the panel regression, random effect and the fixed effect estimate thus choosing the most appropriate model. It must be noted that the essence of random effect is to solve the problem of ignoring some specific effect which would have led to bias result in the panel regression. Hence, an individual specific intercept is introduce into the model which is assumed to be random while the fixed effect gives the best consistence estimates but the individual specific parameters will be ignored. The decision rule state that if the Breusch Pagan LM test is greater and 5% alpha level, it means that the variance across entities are not zero which suggest that the pooled ordinary least square is appropriate hence, we reject the null hypothesis and if otherwise, we do not reject. Finally, the Hausman test will be use in choosing the most appropriate model between the random effect and the fixed effect. The null hypothesis states that the random effect is preferred while the alternative hypothesis is that the fixed effect is at least as consistent and preferred (Momodu and Monogbe 2018)

## 4.1 Results and Interpretation

**Table 1: Results of Stationarity Test:**



Variables	ADF Stat	Mackinnon 5%critical value	Order	Remark
D(HDI)	-7.94053	-2.95112	I(1)	Stationary
D(MCAP)	-4.60442	-2.95112	I(1)	Stationary
D(FPI)	-4.23638	-2.9511	I(1)	Stationary
D(ASI)	-2.95112	-2.37534	I(1)	Stationary
D(TVA)	-3.79536	-2.95402	I(1)	Stationary

Source: Extraction

The results shown in table 3 above confirm that the absolute values of all the study variables' ADF statistics are respectively higher than their corresponding Mackinnon's critical values at 5% respectively. Thus, they are all stationary at first difference and consequently integrated of order I, that is I(1). This confirms the data set suitable for adoption in subsequent analyses.

#### 4.2: Presentation of Kao Residual Co-integration Test Results:

The results of Kao Residual Co-integration test are presented in table 2 below:

Table 2: Results of Kao Residual Co-integration Test:

Kao Residual Cointegration Test
Series: HDI ASI FDI MCAP TVA
Date: 11/04/19 Time: 12:09
Sample: 1986 -2018
Included observations: 1089
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 1

Newey-West automatic bandwidth selection and Bartlett kernel		
	t-Statistic	Prob.
ADF	3.173202	0.0008
Residual variance	0.001853	
HAC variance	0.000154	

Source: Extraction from E-view

The results of **Kao Residual** Co-integration test shown in table 2 above provided an evidence of prevalence of Co-integrating equations. This is evidenced from its significant P-value of 0.0008. Thus, it implies that a significant long run relationship prevails among this study's set of variables. However, since we are now cleared that the series are stationary with absence of long run equilibrium bond; we therefore proceeded to panel regression to enable us ascertain the short run relationship among the employed variables as this will enable us conduct Fixed and Random effect on the selected variables while Hausman test is used to choose the appropriate model between the two.

**Table 3 Presentation of Panel Least Square Result for Developing Country (Nigeria, SA, Angola and Kenya.**

Variables	Nigeria		Angola		Kenya			
	Coefficient	P-val	Coeffi	P-val	Coeffici	P-val		
C	0.02073	0.4938	0.5580	0.0000	0.9503	0.04356	0.0243	0.0065
MCAP	0.000123	0.5839	0.0017	0.1712	0.3456	0.0656	0.0632	0.0864
ASI	-2.5378	0.0101	-0.0008	0.0000	-0.9530	0.0526	-0.3489	0.0354
FPI	0.0013	0.0127	0.0029	0.0011	-0.4728	0.0401	-0.6832	0.6043
TVA	0.0023	0.4496	0.0012	0.0000	0.1032	0.0689	0.3024	0.2103

R	0.5904		0.5464		0.5104		0.4983	
R <sup>2</sup>	0.5847		0.5394		0.5037		0.4839	
F-Sta	3.7425		88.6456		78.590		55.9433	
DW	1.90853		1.60840		1.3465		40.8409	

Source: Extracts from E-views 10.0 Output

The result of the pool regression provided an evidence to ascertain that of the four developing countries considered under this study, stock market development in Nigeria and South Africa is better when compare to that of Angola and Kenya.

From the Nigeria context, all share index exhibited a negative coefficient of -2.5378 alongside a significant P-value 0.0101 while foreign portfolio investment has 0.0127 which suggest that foreign portfolio investment and all share index significantly promote economic development in Nigeria. However, market capitalization and total volume trade does not promote economic development in Nigeria. The report from this study is in consonant with the empirical study of Akanyo and Ajie (2016), (NBS, 2017), Moses (2017) whose study suggested that Nigerian economic has benefited more from foreign capital inflow in the last three decades compare to foreign direct investment.

Consequently, the adjusted R<sup>2</sup> exhibited an average coefficient of 0.5847 which implies that about 58 percent variation in stock market development indices is capable of changing economic development in Nigeria to the tune of 58 percent. Further, Durbin Watson statistics exhibited a coefficient of 1.9085 which implies absence of autocorrelation.

From the South Africa perspectives, three (all share index, foreign portfolio investment and total volume trade) of the four proxies for stock market development are significant in predicting economic development in South Africa. This is identified from their significant P-value of 0.000, 0.0011 and 0.000 respectively. Although, all share index exhibited a negative coefficient -0.0008 which implies an inverse relationship. However, market capitalization does not seem to be significant in promoting economic development in South Africa. The report here is in consonant with our apriori expectation and also in line with the empirical report of Frank, Micheal and Swalie (2017) whose study report that South Africa benefits more of the foreign capital inflows into the Africa continent due to her restructured stock market. This however gives the country opportunity to content with some European countries through the windows of international trade. However, adjusted R2 stood at 0.5394 which implies that about 54 percent variation in economic development is caused by stock market activities in South Africa. Meanwhile, F-statistics exhibited a coefficient of 88.6456 alongside a Durbin Watson coefficient of 1.6084 which suggest absence of auto correlation.

In comparison, South Africa stock market activities seem to be better when comparing to the Nigerian stock market. This is identified from the number of significant variables considered under this study. For instance three (foreign portfolio investment, total volume traded and all share index) of the four proxies for stock market operation in south Africa were significant in determining economic development while in the Nigerian context, only two (foreign portfolio investment and all share index) are significant in promoting economic development in Nigeria.

Consequently, Angola and Kenya stock market similar in terms of its performance. In Angola, all share index and foreign portfolio investment are significant in promoting economic development in Angola. This is identified from their significant P-value of 0.0526 and 0.0401 alongside a negative coefficient of -0.9530 and -0.4728. This suggest the existence of negative relationship among the series. The report from this study is in line with the empirical report of Haddisa and OPhsan (2015) whose study suggest that Angola has not really benefited from the quantum of inflows into the African communities when compare to other African countries like Nigeria and south Africa. This study further explains that the inefficient inflows of foreign investment has affected and prevented the stock exchange market in this wing to remain under developed. However from the global statistics, an average adjusted  $R^2$  of 0.5037 is identified which implies that 50 percent variation in in economic development in Angola is accounted for by stock market activities. Also, the Durbin Watson statistics exhibited a coefficient of 1.3465 which implies presence of autocorrelation.

Finally, Kenya stock market activities are quite difference from other part of the Africa countries. From the four measures of stock market development, only all share index exhibited a significant P-value of economic development in Kenya while other considered variables are not significant. This goes a long way to establish the fact that of the four emerging economies considered under this study, Kenya stock market does not match up the performance of other emerging economies.

#### **Table 4: Presentation of Breusch Pagan LM Test**

Breusch Pagan LM test is one of the estimation technique used in ascertaining if the pooled regression is appropriate for the study or not. The decision rule here holds that if Breusch Pagan LM test is greater than 5% alpha level, we accept the null hypothesis of pooled regression been the most appropriate model and if otherwise, we do not accept.

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided

(all others) alternatives			
Test Hypothesis			
	Cross-section	Time	Both
Breusch-Pagan	0.152276 (0.0364)	12.49149 (0.0604)	12.64377 (0.0604)

Source: Extraction from E-view

We employed the LM test in ascertaining which of this model is appropriate. The decision rule here states that if the Breusch Pagan LM test is greater than 5% alpha level, it means that the variance across entities are not zero which suggest that the pooled ordinary least square is appropriate and viz versa. The report of this study shows that the LM Breusch Pagan coefficient stood at 0.0604 which suggest that the variance across the entities is zero hence, the pooled effect of Ordinary Least Square is enough for this study.

**Table 5: Results of Pair-Wise Granger Causality Tests For Nigeria and South Africa**

Pairwise Granger Causality Tests					
Date: 11/04/19 Time: 14:18					
Sample: 1986 2018					
Lags: 1					
Nigeria			South Africa		
Null Hypothesis:	Obs	F-Statistic	Prob.	F-statistics	Prob
MCAP does not Granger Cause HDI	1089	0.27905	0.0552	0.4396	0.0703
HDI does not Granger Cause MCAP		0.86761	0.3596	0.4694	0.0864
TVA does not Granger Cause HDI	1089	0.47469	0.4965	0.0643	0.0305
HDI does not Granger Cause TVA		1.68820	1.68820	0.5230	0.0710
ASI does not Granger Cause HDI	1089	1.76853	0.0043	0.0843	0.0022
HDI does not Granger Cause ASI		0.70087	0.4096	0.3596	0.0745
FPI does not Granger Cause HDI	1089	1.01294	0.0153	0.0843	0.0202
HDI does not Granger Cause FPI	1089	0.37919	0.0670	0.2039	0.0603

Source: Extracts from E-views 10.0 Output

The results of Pair-Wise Granger Causality test shown in table 5 above indicate presence of unidirectional relationship among the series under investigation. From the Nigerian perspective, (i) unidirectional relationship exist between all share index and human development index and (ii) foreign portfolio investment and human development index in Nigeria while causality is not found between market capitalization rate, total volume of trade and human development index in Nigeria. The report here is in consonant with the panel regression result. However, from the South Africa perspective, three unidirectional relationships is identified (i) between all share index and human development index, (ii) between total volume of trade and human development index, and (iii) between foreign portfolio investment and human development index.

In comparison, report here shows that south Africa stock market perform better than the Nigerian stock market. This assumption is drawn from the number of significant variables from each of the countries model.

**Table 6: Results of Pair-Wise Granger Causality Tests For Angola and Kenya**

Pairwise Granger Causality Tests						
Date: 11/04/19 Time: 14:18						
Sample: 1986 2018						
Lags: 1	Angola				Kenya	
Null Hypothesis:	Obs	F-Statistic	Prob.	F-statistics	Prob	
MCAP does not Granger Cause HDI	1089	0.2190	0.2039	0.1254	0.0703	
HDI does not Granger Cause MCAP		0.3204	0.1203	0.0650	0.3029	
TVA does not Granger Cause HDI	1089	1.0943	0.4965	1.9403	0.3012	
HDI does not Granger Cause TVA		1.0436	0.1204	1.9430	0.1470	
ASI does not Granger Cause HDI	1089	0.2393	0.0230	2.0393	0.0769	
HDI does not Granger Cause ASI		0.7008	0.1032	0.3596	0.1432	
FPI does not Granger Cause HDI	1089	0.3014	0.0659	0.0843	0.1023	
HDI does not Granger Cause FPI	1089	0.1024	0.0790	0.1087	0.2098	

Source: Extracts from E-views 10.0 Output

The results of Pair-Wise Granger Causality test shown in table 6 above indicate presence of uni-directional relationship among the series under investigation. From the Angola perspective, (i) unidirectional relationship exist between all share index and human development index in Nigeria while causality does not found between market capitalization rate, foreign portfolio investment, total volume of trade and human development index in Nigeria. The report here is in consonant with the panel regression result. However, from the Kenya perspective, we found absence of uni and bi directional relationship among the series.

### **Discussion of findings.**

Market capitalization rate is not significant in promoting economic development in all the emerging economies under investigation. The insignificant contribution of market capitalization rate to economic development of emerging economies could be attributed to economic instability, poor financial market regulation, financial market instability and lack of customer interest in the financial market. The report here is however similar to the report of Nduka (2016) whose study provided an evidence to assert that African financial market has no capacity to attract foreign investors. As such, the level of economic development is slow.

All share index seem to be significant in predicting economic development in Nigeria, South Africa and Angola while in Kenya, it's not significant. One of the peculiarities of all share index is that it exhibited negative coefficient in all the developing economies under study. The negative effect of all share index on economic development poor financial market regulation which result into sharp practices among the participant and investors. The report here is however inconsonant with the empirical study of Hansen and Medlies (2017) whose study report that financial market in South Africa will enjoy more participant when its adequately regulated.

Foreign portfolio investment contributed more to economic development in Nigeria, South Africa and Angola. This is evidenced from its significant P-value and positive coefficients. Of course the result is in line with our apriori expectation and thus suggests that more inflows of foreign portfolio investment is capable of boosting the Nigerian, South African and Angola economic development accordingly. The report here further support the empirical report of Akanyo and Ajie (2015), (NBS, 2017), Moses (2011) whose study suggested that Nigerian economic has benefited more from foreign capital inflow in the last three decades compare to foreign direct investment.

Lastly, total volume trade appear to be significant only in the South African perspective. This is evidenced from its significant P-value and positive coefficient. Consequently, significant relationship does not seem to exist between total volume of trade and economic development in Nigeria, Angola and Kenya. The report of the causality test also provided an evidence to assert that the South African stock market seem to perform better to other African stock market. The report of Mandal (2016) provided justification for the significant contribution of South African stock market to their economic development. The study presented that South Africa stock market is controlled and patronise by the foreign practitioners who invest their resources to earn better

returns. As such, the government enact an adequate regulations that guild the operation of the market such that shape practices is hedge against.

Conclusively, stock market activities in most African countries have not impacted significantly on their economy development except for few African countries with adequate market regulations. Findings from our study provided an evidence to assert that South African stock significantly promote economic development in the nation when compare to other countries under investigation. Although, the Nigerian stock market activities also seem to be significant in contributing to economic development process, but in a negative manner while Angola perform less to Nigeria and finally, Kenya stock market activities does not significant promote economic development in their nation.

In order to achieve the objectives of this study, four emerging economies are considered in the study include, the Nigerian stock market, South African stock market, Angola stock market and Kenya stock market. The finding from this study provide compelling evidence to assert that irrespective of the prevailing long run relationship established between stock market development proxies and economic development only all share index and foreign portfolio investment proves to be significant in promoting economic development in Nigeria while other proxies of stock market appear to be insignificant accordingly. However, the Granger Causality results provide substantial evidence of two causal relationships between all share index, foreign portfolio investment and human development index.

In the South African context, three (all share index, foreign portfolio investment and total volume traded) of the four proxies for stock market development seem to be significant in promoting economic development in South Africa. Result of the panel regression and granger causality test provided an evidence to assert that South African stock market is performing more when compare to other African countries. This is however identified from its significant P-value and a positive relationship which stem from the series.

The case of Angola and Kenya is not quite different as we found only all share index significant in promoting economic development while in Kenya, significant relationship does not prevail amidst all the proxies for stock market development and economic development.

## **5. Conclusion**

Conclusively, stock market activities in most African countries have not impacted significantly on their economy development except for few African countries with adequate market regulations. Findings from our study provided an evidence to assert that South African stock significantly promote economic development in their nation when compare to other countries under investigation. Although, the Nigerian stock market activities also seem to be significant in contributing to economic development process, but in a negative manner while Angola perform less to Nigeria and finally, Kenya stock market activities does not significant promote economic development in their nation.



## Recommendation

Based on the country specific differences identified in this study,

- We recommended that adequate regulating scheme should be introduced as this will help in ascertaining stable stock market and thereby encouraging foreign participants to operate in the market.
- Adequate sensitization and awareness exercise should be embarked upon as most citizens don't understand the importance and benefit of trading in the stock exchange market. This exercise will help inform members of the public and other interested practitioners.

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