

FOREIGN DIRECT INVESTMENT AND CAPITAL MARKET DEVELOPMENT: THE MODERATING IMPACT OF INFLATION

OKOLI, Theresa

Department of Accounting,
Bingham University,
Karu, Nasarawa State

E- Mail: okolitesspeter@gmail.com, No:+234 8039705136

ABSTRACT

The study examines the moderating impact of inflation on the relationship between foreign direct investment (FDI) and capital market development in Nigeria from 1985 to 2019. Ex-post facto research design was adopted by the study while Ordinary least square was used to determine the relationship between the variables. The study found that foreign direct investment has positive significant impact on market capitalization while moderated foreign direct investment has positive but insignificant impact on market capitalization. From the findings, the study concludes that foreign direct investment is a significant factor that affected Nigeria capital market but if foreign direct investment is moderated, it has insignificant impact on Nigeria capital market. Based on this, the study recommends that the interactive effects explain that FDI has a positive impact on MC and the inflation rate insignificantly influences the MC. Therefore, if at least a positive market capitalization is to be maintained, the rate of inflation should at least be at the threshold level if not, there will be an insignificant market capitalization. With the relevance of inflation in this study, the government should be very proactive in enacting policies to ensure moderate inflation rate that would draw foreign investors and pin down the already established ones.

KEYWORDS: Foreign Direct Investment, Capital Market Development, Inflation Rate

1. INTRODUCTION

One of the key macroeconomic policies for most of developing and emerging economies is to achieve sustainable economic growth. The craving for capital by developing countries as complement to domestic savings for growth and development has existed for many decades. Growing unemployment across the world, particularly in developing nations, demands measures that can help create jobs and improve the economy. The success of a country's stock market, among other things, is a significant component in determining the country's overall economic

and financial health. As a result, stock market performance provides an overall indicator of the value of shares over a given time period (Onyinyechi & Ekwe, 2017). This means that stock market plays a critical role in any country's financial development (Ali, 2014). The stock market is also responsible for the structure that channels long-term fund to deficit units in the economy.

The underdeveloped nature of the Nigerian economy has essentially hindered the pace of her economic growth and this has necessitated the demand for capital from overseas or foreign capital investment into the country, in order to supplement domestic capital. Nigeria as a developing country has adopted a number of measures aimed at accelerating growth and development in the domestic economy, one of which is to attract foreign direct investment. Irrespective of this, it is imperative to note that foreign direct investments and multinational investors are extremely sensitive to events in their host nations (more especially developing nations). The economic and political environments of developing nations are highly unstable (Waller-Hunter & Jones, 2002) due to lack of continuity in economic policies. This motivates investors to pull their investments and funds due to contrived economic policies (Yaqub, Adam & Jimoh, 2013). The intense instability of capital from developing countries lead to rising inflation, cost of capital and declining employment figures which invariably render the host nation in an awkward position (Obadan & Obioma, 1999).

The slow spate of development in the third world is usually traceable to inadequate resources to speed up economic growth and development. Saving in this part of the world is usually less than the investment needs. Most economies have resorted to foreign borrowings while others geared efforts toward attracting foreign contributions to stimulate development. Hence, the importance of foreign investment either by private or public agencies in promoting growth and development in developing countries cannot be overemphasized. Foreign investment is expected to serve as a

means of complementing Nigeria's domestic resources in order to ensure development and improve the standard of living of the people (Olugbenga & Grace, 2015).

It is widely acknowledged that governments in emerging economies have not only focused their efforts on providing an enabling environment for businesses to thrive, but have also attempted to establish a business climate that is appealing to international investors.

The formation of the Lagos Stock Exchange, which was registered on March 1, 1959, incorporated on December 15, 1960, and began operations on June 5, 1961, completed the achievement of the aforesaid goal. It was later renamed the Nigerian Stock Exchange in 1977 to pave way for performance of capital market activities. As a result, the capital market provides a platform for continuous attraction and operation of foreign capital for Nigeria's economics development.

Despite the hoopla surrounding international public and private investments in Nigeria, the nation has not seen reasonable growth and development that can be traced back to its capital market. In fact, some analysts believe that the capital market's function as a legitimate avenue for foreign direct investment is yet to be completely appreciated (Olugbenga & Grace, 2015).

The importance of foreign direct investment is very pertinent; hence its relevance cannot be overemphasized. The extent to which it matters in providing new technologies, products, management skills and competitive business environment, overtime has been a strong force for economic growth drive. However, the viability of foreign direct investment in host countries depends on some macroeconomic fundamental of which inflation play a major part.

Inflation no doubt plays an expedient role on influencing the level of FDI of an economy. Exploring inflation-growth relationship is of serious concern that has spurred considerable theoretical and empirical research dating back right from the onset of understanding the link as

very important for effective monetary policies (Seleteng, Bittencourt & Van Eyden, 2013). Over the years as seen in previous studies, low inflation rate has been seen to draw foreign investors to prompt growth, and with this knowledge, the various governments have made fervent efforts to keep inflation rates attractive, that is, at a relatively low rate. Whether inflation is indispensable for growth or not it is the bone of contention. Even with the variations in theoretical and empirical literatures on inflation-growth relationship, there are abundant empirical studies that confirm the negative effects of high inflation on economic growth (Fisher, 1993; Khan & Sen Hadji, 2001). The fusion of a high growth rate and stable inflation – at a low rate – is the major goal of macroeconomic policies for every economy (Seleteng, Bittencourt, & Van Eyden, 2013; Vinayagathan, 2013) because inflation at high level halts economic growth courtesy of its unwanted re-distributional and welfare effects (Eggoh & Muhammad, 2014). By fostering investment and enhancing the efficiency in the usage of productive resources, low inflation stimulates growth (Ahortor, Adenekan & Ohemeng, 2012). This calls for this question; at what level exactly does low inflation become high? With high inflation, uncertainty makes the economy more unpredictable, and the resulting effect is that sustainable growth becomes more difficult.

Despite burgeoning research on the importance of foreign direct investment (FDI) and stock market performance such as Azeez and Obalade (2019); Iriobe, Obamuyi and Abayomi (2018); Adigun, Sakariyahu and Lawal (2017); Musa and Ibrahim (2014), there is a lack of consensus about their relationship; importantly, the studies failed to document the role of inflation in affecting the relationship between the foreign direct investment and capital market development. The studies that acknowledge the moderating effect of inflation on the relationship between the foreign direct investment and capital market development are Kelvin and Ogbonna (2019); Vera

(2020) however, Kelvin and Ogbonna (2019) runs from 1981-2017 which requires a study that will extend the period to 2019 while Vera (2020) study was carried out in Kenya which findings cannot be applied in Nigeria. This therefore create gap in literatures which this study intends to bridge.

The main objective of the study is to examine the moderating impact of inflation on the relationship between foreign direct investment and capital market development in Nigeria from 1985 to 2019.

H₀₁: Inflation has no moderating significant impact on the relationship between foreign direct investment and capital market development in Nigeria

2. LITERATURE REVIEW

2.1 Concept of Foreign Direct Investment

Foreign direct investment is defined by Nkoro and Furo (2012) as consisting of the movement of financial resources from one country to another; not minding the direction which could be either ways. Foreign Direct Investment (FDI) involves the entry of foreign capital into a country with the goal of producing goods for both domestic and international consumption. It is a direct investment in a country by an individual or a corporation from another country, either through the purchase of a company in the target country or the expansion of an existing business in that country. (Adeleke, Olowe & Fasesin, 2014). Nwankwo, Ademola and Kehinde (2013) opined that FDI can be measure in terms of new of new equity capital inflows, re-invested earnings, trade and supplier's credit, net borrowings and other commitments from the parent company or its affiliates.

According to OECD (1996), FDI is an investment made to acquire a long-term interest in businesses that operate outside of the investor's economy. An incorporated or unincorporated direct investment enterprise is one in which a single foreign investor holds 10% or more of the ordinary shares or voting power of the company (unless it can be proven that the 10 per cent ownership does not allow the investor an effective voice in the management) or holds less than 10% of an enterprise's ordinary shares or voting power but has a significant influence on management (Organisation for Economic Co-operation and Development; OECD, 1996). Foreign direct investment therefore emerges due to the elimination of hindrances across country borders and improved trade between countries (Adetula, Nwobu & Owolabi, 2014). Based on IMF (2004), Foreign Direct Investment also arises due to an investment in an organization's business by an investor from a foreign country. Hossein and Yazdan (2012) also saw FDI as the main channel for the growth in economy through technological transfer. FDI is considered as an essential avenue for direct technology distribution and a major channel for technological transfer consequent upon the dearth of fund in less advanced countries (Hossein & Yazdan, 2012).

2.2 Empirical Framework

Using data from 2007 to 2017, Iriobe, Obamuyi and Abayomi (2018) looked into the impact of foreign portfolio investment inflows on the performance of the Nigerian capital market. The autoregressive distributive lag model was used to analyze the influence of the dependent variable, stock market development, and the independent variable, foreign portfolio investment inflows in Nigeria, using an ex post facto research methodology. The study found that foreign portfolio direct investment inflows are a trigger for the Nigerian capital market's success.

Azeez and Obalade (2019) Market capitalization was used as the dependent variable in the study, which also included gross domestic product, banking sector development, stock market liquidity,

foreign capital inflow, inflation, and aggregate domestic savings levels in Nigeria. The model's long run equilibrium connection and short run dynamics were determined using the autoregressive distributive lag model. According to the findings, the long-term and short-term factors of stock market development include the banking sector's resilience, stock market liquidity, and foreign direct investment inflows. It also emerged that inflation and aggregate domestic savings were insignificant determinants of the stock market development in Nigeria.

Vera(2020) looks at how inflation affects the link between foreign direct investment, financial market development, and economic growth in Kenya. The study integrated a macroeconomic variable (inflation rate) to moderate between the dependent and independent variable for a period of 36 years 1980 to 2016. Correlation research design utilized in the study with a target population of six variables; GDP per capita income, FDI inflows, inflation rate, market capitalization/GDP, stock traded/GDP and domestic credit/GDP over a period of 36 years. Data analysis carried out using SPSS implementing descriptive and inferential statistics; the study findings revealed that the linear financial market development and foreign direct investment have positive effect on economic growth in Kenya. However, the interaction term between financial development and inflation rate has a negative effect on economic growth. The marginal effect of FDI evaluated on inflation rate resulted to a positive interaction term.

Kelvin and Ogbonna (2019) determined the impact of inflation on FDI-growth relationship for the period 1981-2017. In the results, there's a positive long-run relationship between the three variables in question. An addendum to the findings shows a nonlinear relationship, such that the Nigerian economy is at its highest growth rate when inflation is less than or equal to 2.80 percent threshold level of inflation and above which it becomes harmful to growth. Further findings show that the marginal effect of FDI at less than threshold level of inflation is positive to growth

while at higher than threshold level of inflation is negative to growth. In conclusion, the Nigerian government should harness, develop and stabilize her macro economy to prevent the repulsion of foreign investors by maintaining its inflation at its threshold level or less.

Adigun, Sakariyahu and Lawal (2017) examined the impact of foreign direct investment on stock market development in the era of post structural adjustment programme in Nigeria. Secondary data spanning 1986 to 2016 was collated and estimated using the Autoregressive Distributive Lag model to establish the relationship between the variables of the study. The dependent variable is market capitalization, while foreign direct investment is the explanatory variables and inflation and foreign exchange rate were used as the control variables of the study. The results indicated that capital inflow has a long run equilibrium relationship with the development of the Nigeria capital market. However, it also found the lack of short run equilibrium causal relationship between foreign capital inflows and stock market development in Nigeria.

Eze and Timipere (2020) examined the impact of stock market development from 1985 to 2018 on the inflow of foreign direct investment into the Nigerian economy. The empirical results show that the market value and the value of foreign exchange transactions have a positive effect on the flow of foreign direct investment in Nigeria. However, other observations indicate that only market capitalization has a statistically significant impact on Nigeria's FDI inflows. Furthermore, it emerged that all share index is negative and has a statistically invalid impact on foreign direct investment inflows in Nigeria. The study concluded that market value and transaction value, which are a measure of the development of the stock market, stimulated the inflow of foreign direct investment into Nigeria.

Musa and Ibrahim (2014) examined the effect of capital inflow, foreign exchange rate and inflation on stock market development in Nigeria. Time series data spanning 1981 to 2010 using

the co-integration test to establish the existence of a long run relationship in the model and the error correct technique was also employed to determine the magnitude and direction of interaction amongst the variables of the study. The results indicate the existence of long-term equilibrium relationship in the model. The study also found that there is an insignificant linear relationship between capital inflows and stock market development. The measures of price stability showed mixed results. Inflation rate exerted an insignificant positive relationship with the dependent variable, this was however, found to be nonlinear and statistically insignificant between foreign exchange rate and stock market development in Nigeria.

2.3 Eclectic Paradigm (O-L-I Theory): Developed by Dunning in 1979, according to Dunning, the structure of an organization is not the only important factor, but there are three important factors that successfully promote the participation of foreign direct investment. The first factor is the company's ownership advantage in domestic and foreign markets. They reduce monopoly power (trademarks, patent rights, ownership of limited resources), capabilities (innovation, business skills and technology), R&D (product differentiation) and dimensional advantages (economies of scale and scope, broad financial base). The second factor is location advantage; this is related to the geographical location of the organization. This is related to property advantages, which are manifested in political stability and economic advantages (start-up costs, production factor costs, market scale, and climate economy) through political advantages. Finally, the social advantage. The third factor is the advantage of internationalization, that is, the advantage of independent production compared with cooperation agreements such as joint ventures. Companies are more willing to use their core competencies and influence decisions such as partnerships.

According to Dunning (1981), if a company owns property rights, it can grant a license, which is cheaper than other forms of internationalization. However, FDI is a capital-intensive activity, so if it has the advantages of ownership, location and internalization, it can be realized. The study places great emphasis on this theory because it can help companies assess the framework to follow when determining the benefits of seeking foreign direct investment (FDI).

3. METHODOLOGY

The study adopts ex-post facto research design. This design explains the moderating impact of inflation on the relationship between foreign capital flow and capital market development in Nigeria after the events have taken place from 1985 to 2019. Ordinary least square is used to determine the relationship between the variables. various diagnostic tests were also conducted.

The model is explicitly expressed as:

$$MC_t = \alpha + \beta_1 FDI_t + \beta_2 INF_t + \beta_3 FDI_t * INF_t + \mu_t$$

Where;

MC = Market Capitalization

FDI = foreign direct investment

INF= Inflation

α = Constant term

μ = error term

t= time

$\beta_1 - \beta_3$ = Coefficient of the variables

Variable Measurement

VARIABLE	MEASUREMENT
Market Capitalization	The annual amount of market

	capitalization in the capital market
Foreign direct investment	Amount of foreign investment in Nigeria
Inflation	Nigeria annual inflation rate

4. RESULT AND DISCUSSION

TABLE 1: DESCRIPTIVE STATISTICS

	MC	FDI	INF	FDI_INF
Mean	6221.907	3642.076	19.34767	44228.77
Median	764.9000	1245.717	12.21780	20821.53
Maximum	25890.22	20121.42	72.83550	229319.8
Minimum	6.600000	5.621800	5.388000	32.14095
Std. Dev.	8083.426	4640.257	17.91300	54257.99
Skewness	0.976828	1.571203	1.698688	1.554863
Kurtosis	2.527314	5.531743	4.528880	5.198837
Jarque-Bera	5.891960	23.74815	20.24114	21.15353
Probability	0.052551	0.000007	0.000040	0.000026
Sum	217766.8	127472.7	677.1685	1548007.
Sum Sq. Dev.	2.22E+09	7.32E+08	10909.77	1.00E+11
Observations	35	35	35	35

Source: Generated from Eview, 2021

The result shows that capital market development has maximum ₦ 25890.22 billion market capitalization while the minimum capitalization is ₦ 6.6 billion. On average, the Nigerian capital market had ₦6221.907billion market capitalization for the past 35 years. In the same way, foreign investment on an average is ₦ 3642.076 billion with maximum and minimum foreign direct investment of ₦ 20121.42 and ₦ 5.621800 billion. Furthermore, Nigeria over the past years had experience high inflation with its maximum of 72.83550 and minimum of 5.388000 while moderated foreign direct investment had maximum and minimum value of 229319.8 and 32.14095 respectively.

UNIT ROOT TEST

Table 2: Foreign Direct Investment

Null Hypothesis: D(FDI,2) has a unit root

Exogenous: Constant

Lag Length: 7 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.403895	0.0002
Test critical values:		
1% level	-3.724070	
5% level	-2.986225	
10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.

Source: Generated from Eview, 2021

The stationarity of the data was tested using augmented dickey fuller (ADF) unit root test. The result shows that FDI is not stationary at level and first difference but becomes stationary at second difference with t-statistics of -5.403895 and P-value of 0.0002. At

this point, the critical values at 1%, 5% and 10% are all greater than the t-statistics which indicates the presence of stationary at second difference.

Table 3: Market Capitalization

Null Hypothesis: D(MC) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.702378	0.0000
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Source: Generated from Eview, 2021

The MC is stationary at first difference with t-statistics of -5.702378 and P-value of 0.0000. At this point, the critical values at 1%, 5% and 10% are all greater than the t-statistics which indicates the presence of stationary.

Table 4: Inflation

Null Hypothesis: D(INF,2) has a unit root

Exogenous: Constant

Lag Length: 4 (Automatic - based on SIC, maxlag=8)

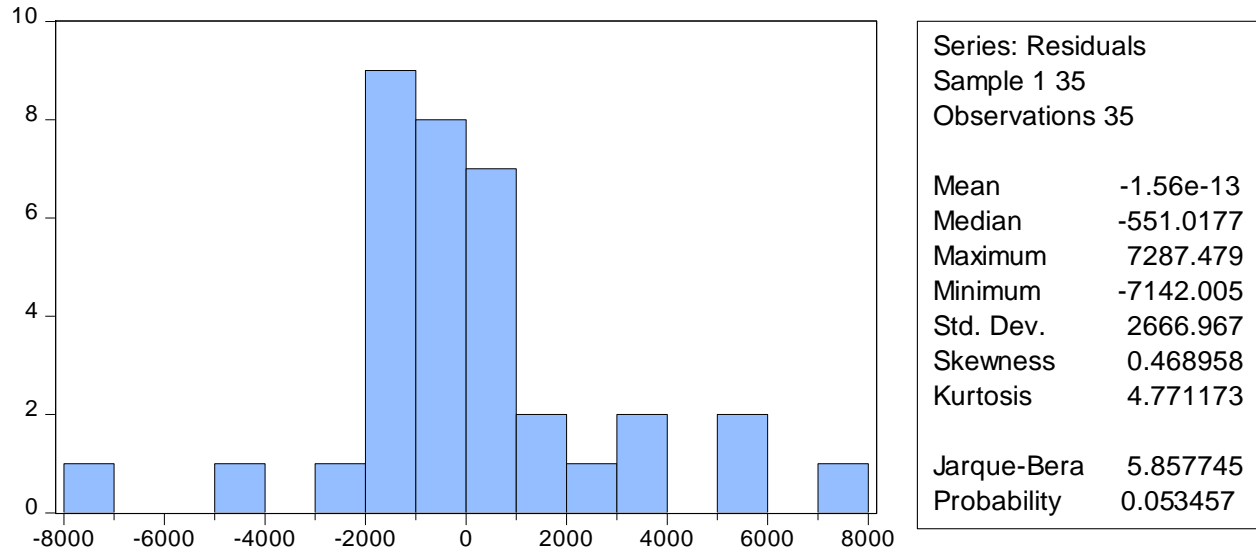
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.284763	0.0000
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

*MacKinnon (1996) one-sided p-values.

Source: Generated from Eview, 2021

The INF is stationary at first difference with t-statistics of -6.284763 and P-value of 0.0000. At this point, the critical values at 1%, 5% and 10% are all greater than the t-statistics which indicates the presence of stationary.

FIGURE 1: NORMALITY TEST



Source: Generated from Eview, 2021

The normality test of the variables was tested to ascertain its normality, from the probability of Jarque-Bera with p-value greater than 55 level of significance; it is evident that the residuals of the variables are normality distributed.

Table 5: REGRESSION AND TEST OF HYPOTHESIS

Dependent Variable: D(MC,2)

Method: Least Squares

Date: 05/29/21 Time: 14:05

Sample: 1 35

Included observations: 33 after adjustment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI,2)	1.550025	0.407485	3.803884	0.0006
D(INF,2)	-20.90397	30.57238	-0.683753	0.4992
D(FDI_INF,2)	0.005947	0.033708	0.176424	0.8611

C	718.0187	921.0840	0.779537	0.4416
R-squared	0.891146	Mean dependent var	6221.907	
Adjusted R-squared	0.880612	S.D. dependent var	8083.426	
S.E. of regression	2793.034	Akaike info criterion	18.81486	
Sum squared resid	2.42E+08	Schwarz criterion	18.99261	
Log likelihood	-325.2600	Hannan-Quinn criter.	18.87622	
F-statistic	84.59504	Durbin-Watson stat	1.241577	
Prob(F-statistic)	0.000000			

Source: Generated from Eview, 2021

It was gathered that foreign direct investment has positive significant impact on market capitalization with p-value less than 5% level of confidence. This shows that any increase in market capitalization by ₦1 will improved capital market by 1.550025 coefficient. Thus, foreign direct investment is an important factor that affect Nigeria capital market. The study is in line with Iriobe, Obamuyi and Abayomi (2018); Vera (2020); Kelvin and Ogbonna (2019); Adigun, Sakariyahu and Lawal (2017).

However, inflation has negative insignificant impact on market capitalization. This shows inflation is not a significant factor that affect market capitalization. Furthermore, moderated foreign direct investment has positive insignificant impact on market capitalization. This signifies that inflation had not improve Nigeria capital market. The study is in line with Azeez and Obalade (2019).

The model explains 89% variation on capital market development, while the remaining changes were explained by other variables not included in this study. In the same way, the model is fit because it is significant at a confidence level below 5%.

5. CONCLUSION AND RECOMMENDATIONS

The study examines the moderating impact of inflation on the relationship between foreign direct investment and capital market development in Nigeria. From the analysis, the study concludes that foreign direct investment is a significant factor that affected Nigeria capital market but if foreign direct investment is moderated, it has insignificant impact on Nigeria capital market. Based on this, the study recommends the following:

- i. That Nigerian government should ensure the stability of policies to ensure the attraction and retention of foreign capital.
- ii. The interactive effects explain that FDI has a positive impact on MC and the inflation rate insignificantly influences the MC. Therefore, if at least a positive market capitalization is to be maintained, the rate of inflation should at least be at the threshold level if not, there will be an insignificant market capitalization. With the relevance of inflation in this study, the government should be very proactive in enacting policies to ensure moderate inflation rate that would drag foreign investors and pin down the already established ones.

REFERENCES

- Adigun, R., Sakariyahu, O. R., & Lawal, R. Y. (2017). Foreign capital inflows and stock market development in Nigeria: A Post-Structural Adjustment Programme Analysis. 135-152.
- Ahortor, C. R., Adenekan, A., & Ohemeng, W. (2012). An Estimate of Inflation Threshold in the WAMZ: *The Case of Ghana and Nigeria*. *WAMIJ*, 11, 158-201.
- Ajayi, L. B., Adejayan, A. O., & Obalade, A. A. (2017). Impact of foreign private investment on the development of Nigerian capital market. *International Journal of Economics, Business and Management Research*, 1(2), 120-132.
- Azeez, B. A., & Obalade, A. A. (2019). Macroeconomic determinants of stock market development in Nigeria: (1981- 2017). *Acta Universitatis Danubius*, 15(1), 203-216.
- Dunning, J. (1979). The Eclectic Paradigm of International Production. *Journal of International Business Studies*, 1-31.
- Dunning, J. (1981). Explaining the International Direct Investment Position of Countries Towards a Dynamic or Developmental Approach. *Weltwirtschaftliches Archive*, 30- 64.
- Eggoh, J. C., & Khan, M. (2014). “On the nonlinear relationship between inflation and economic growth. *Research in Economics*, 68(2), 133-143.
- Eze, G. P., & Timipere, E. T. (2020). Foreign Direct Investment and Stock Market Development in Nigeria. *International Journal of Research and Scientific Innovation (IJRSI)*, VII (II), 136-141

- Iriobe, G. O., Obamuyi, T. M., & Abayomi, M. A. (2018). Foreign portfolio equity investment and the performance of the Nigerian stock market: A sectoral distribution analysis. *International Business and Management, 16*(1), 29-38.
- Kelvin, K. K., & Ogbonna, O. E. (2019). Moderating effect of inflation on foreign direct investment and economic growth relationship in Nigeria. *Journal of Economics and Allied Research, 3*(2).
- Musa, S. U., & Ibrahim, M. (2014). Stock market development, foreign direct investment and macroeconomic stability: Evidence from Nigeria. *Research Journal of Finance and Accounting, 18*, 258-264.
- Olugbenga, A. A., & Grace, O. O. (2015). Impact of Foreign Direct Investment on Nigerian Capital Market Development. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 5*(1), 103–108
- Seleteng, M., Bittencourt, M., & Van Eyden, R. (2013). Non-linearities in inflation–growth nexus in the SADC region: A panel smooth transition regression approach. *Economic Modelling, 30*, 149-156.
- Vera, O. M. (2020). The moderating effect of inflation on the relationship between foreign direct investment, financial market development and economic growth in Kenya. A research project submitted to the school of business in partial fulfilment of the requirement for the award of the degree of master of business administration (finance) of Kenyatta university.

APPENDIX

FDI

Null Hypothesis: FDI has a unit root
Exogenous: Constant
Lag Length: 8 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	3.727814	1.0000
Test critical values: 1% level	-3.711457	
5% level	-2.981038	
10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(FDI) has a unit root
Exogenous: Constant
Lag Length: 8 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.322523	0.9748
Test critical values: 1% level	-3.724070	
5% level	-2.986225	
10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.

MC

Null Hypothesis: MC has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.013025	0.9958
Test critical values: 1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

INF

Null Hypothesis: INF has a unit root
Exogenous: Constant
Lag Length: 7 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.209790	0.2075
Test critical values: 1% level	-3.699871	
5% level	-2.976263	
10% level	-2.627420	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(INF) has a unit root
 Exogenous: Constant
 Lag Length: 8 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.364837	0.0224
Test critical values: 1% level	-3.724070	
5% level	-2.986225	
10% level	-2.632604	

*MacKinnon (1996) one-sided p-values.