

Interest Rate, Foreign Exchange Rate, and Stock Market Development in Nigeria

Edward Adedoyin Adebowale¹; Akindele Iyiola Akosile²

¹Banking and Finance Department, School of Business and Management Studies, Moshood Abiola Polytechnic
Dele Oyefesobi Way, Abeokuta, Nigeria

²Department of Accounting, College of Management Sciences, Joseph Ayo Babalola University
Akure Ilesha Rd, Ilara-Mokin, Nigeria

¹adedowale.edward@mapoply.edu.ng; ²akindele_iyiola@yahoo.com

Received: 20th August 2018/ Revised: 26th October 2018/ Accepted: 29th October 2018

How to Cite: Adebowale, E. A., & Akosile, A. I. (2018). Interest Rate, Foreign Exchange Rate, and Stock Market Development in Nigeria. *Binus Business Review*, 9(3), 247-253. <https://doi.org/10.21512/bbr.v9i3.4941>

ABSTRACT

This research investigated the effect of interest rate and foreign exchange rate on stock market development in Nigeria. This research was centered on two research problems. First, it was whether interest rate had a significant effect on stock market development in Nigeria. Second, it was whether foreign exchange rate had a significant impact on stock market development in Nigeria. The scope of the research covered the period from 1981 to 2017. Data for this period were chosen because it covered pre and post-liberalization periods of Nigerian financial system. This research made use of ex post facto research design. Secondary data were sourced from Nigerian Stock Exchange reports, Central Bank of Nigeria statistical bulletins, and National Bureau of Statistics publications. Data were collected on Stock Market Capitalization (SMC), Prime Lending Rate (PLR) and Real Exchange Rate (RER) (Nigerian Naira in relation to American Dollars of the United States). Data analysis was carried out with Ordinary Least Squares (OLS) and Cochrane-Orcutt Iterative techniques. The findings reveal that interest rate has a significant negative effect, and foreign exchange rate has a significant positive effect on Nigerian stock market development during the period covered. It is suggested that monetary authorities should strive to formulate policies that will make interest and foreign exchange rates stable, competitive, and at a level that will stimulate the investment of funds in the stock market.

Keywords: interest rate, foreign exchange rate, stock market development, post-liberalization, capitalization

INTRODUCTION

The stock market is an essential part of the financial system in the economy. It serves as a veritable channel that business organizations and government can raise long-term funds. A well-functioning and the developed stock market is expected to broaden the access to finance, reduce risks associated with the rise of capital, and reduce borrowing on long-term funds. On the other hand, a shallow stock market reduces funds availability for long-term investment (Aduda, Chogii, & Murayi 2014).

Nigerian stock market has experienced significant changes and improvements since it was established in 1961. Nigerian Stock Exchange (NSE) (2018) revealed that with just ten securities in 1961

including six government bonds, one industrial loan stock, and three equities, the number of securities have increased over time. The number of financial instruments listed on the market as of June 2018 was 278. It comprised 169 equities, 54 Federal Government of Nigeria bonds, 24 corporate bonds, 23 states and municipals bonds, 9 exchange-traded products, and 1 supranational bond. The market capitalization has also increased tremendously from about 5 billion Naira in 1981 to over 23 trillion Naira as at the end of June 2018.

The interest rate is the return on earning assets or opportunity cost of deferring current consumption into the future. Some examples of the interest rate include savings rate, lending rate, and discount rate (Adebiyi, 2002). The behavior of the interest rate

to a large extent determines the level of investment and subsequently level of economic growth. This is because the investment depends on the cost of the fund from the market. Meanwhile, the economic growth to a large extent depends on the level of investment. According to Jhingan (2003), if the interest is on the high side, the investment will be low. Vice versa, if the interest rate falls, the investment will rise. Therefore, to achieve the stock market development, there is the need to promote the interest rate regime that will ensure the moderate cost of fund for necessary investment in the stock market.

The concept of foreign exchange has been described from different perspectives by researchers. However, it is adjudged that foreign exchange refers to the price of a country's currency in relation to another currency (Adesoye, 2012). Likewise, the price which unit of domestic currency is converted to a unit of foreign currency referred to the foreign exchange rate (Jhingan, 2003). Due to some factors, the foreign exchange rate of a country's currency can appreciate or depreciate in relation to another currency over time. Even though the depreciation will reduce the purchasing power of the currency in the international market, appreciation can lead to the current account problems. This can result in the overvaluation of the currency.

Moreover, volatility is an important concept in finance, especially in relation to stock market activities. Volatility refers to a situation that assets are not fairly priced due to disturbances in the stock market. These disturbances can be caused by several factors, one of which is rapid changes in foreign exchange rate. Foreign exchange rate volatility leads to uncertainty in the stock market. This is because there will be a deviation from the expected returns and a fall in the net present value of financial assets (Ogunleye, 2008). This underscores the need by government to put in the measures that will promote competitive exchange rate regime. It will make the stock market attractive for foreign investments.

According to The World Bank (2016), stock market development occurs when the market is strengthened, and there is diversification in the provision of financial services to meet the need of economy effectively and efficiently. In turn, this will stimulate the activities in the market and result in economic growth. This is why the stock market is seen as a channel which long-term economic growth can be sustained through the efficient allocation of fund and risk reduction for optimal returns (Adigwe, Nwanna, & Ananwude, 2015).

This research is underpinned by theories of exchange rate determination and financial market theory of development. Under the traditional flow model of exchange rate determination, Fleming (1968) in Gardencz and Mehorotra (2013) stated that foreign exchange rate was the price which brought the equilibrium the supply and demand for domestic currency payments arising from international trade of goods, services, and financial assets.

The portfolio balance approach of exchange rate determination emphasizes the relative supply of domestic and foreign bonds. It includes related money supply conditions in the determination of the exchange rate. The model assumes the perfect capital mobility and the imperfect substitutability due to the presence of country risk. Because of risk averseness of investors, they tend to demand higher returns on risky assets. Therefore, this suggests covering interest parity that the portfolio of shares is insensitive to the expected rate of return, but to a risk premium between the rate of return on domestic and foreign bonds. Then, the equilibrium can be attained when market participants hold stocks of all financial assets willingly (Frankel, 1992).

Schumpeter (1912) in Abdallah (2016) was the first researcher to put forth the idea that financial development promoted economic growth. Several theories had been developed on this causal link. These include Shaw financial deepening hypothesis and financial market theory, and others. According to Shaw (1973) and Mckinnon (1973) in Olowofela, Adebowale, and Adejowo (2018), financial liberalization tends to raise the ratio of private domestic saving and foreign capital inflows to income. This will make investors have access to borrowings and give them incentives to invest in the stock market. Liberalization enables superior allocation of savings through widening and diversifying of financial markets which make stock market develop more rapidly.

Financial market theory of development as put forth by The World Bank (2016) suggested that capital deprived developing countries could formulate policies to attract foreign investors about the prospects of their country. They can sell equities or bonds to borrow from foreign investors instead of relying on the slow process of capital accumulation in the domestic economy. This will stimulate faster economic growth and accelerate stock market development.

In the research conducted by Lin and Ye (2011), annual data for 1974-2005 were gathered from 102 countries. The research used a logit regression model for investigating the role of financial development in the selection of the exchange rate system. The findings indicated that economies that had a high rate of financial development regarding stability, efficiency, depth, and accessibility were able to withstand volatility of foreign exchange rate and restore to normalcy more than the countries with low level of financial development.

Ajao and Igbekoyi (2013) investigated the determinants of Real Exchange Rate (RER) volatility in Nigeria and their effect on economic growth. The research covered the period from 1981 to 2008 and used Generalized Autoregressive Conditional Heteroskedasticity GARCH and error-correction model. The collected variables included the RER, government expenditure, money supply, and the degree of openness of the economy. The results showed that there were a significant relationship and causal links among the variables.

Khalid (2017) examined the effects of interest rate and exchange rates on Stock Market Capitalization (SMC) in Pakistan. Cointegration approach and annual data covering period between 1990 to 2017 were used for the study. The findings revealed that there were long-term relationships among the variables. Therefore, the reduction of bank rate to stimulate a higher investment level in the stock market was recommended.

Emenike (2014) conducted similar research. Vector error-correction model (VECM) technique was used on data from 1986-2011 to investigate the effect of financial development on economic growth in Nigeria. Data on market capitalization and banks' credits to the private sector as a percentage of the gross domestic product were used to proxy financial development. Meanwhile, the industrial production index was used to proxy economic growth. It was discovered that there was no significant relationship between the independent and dependent variables.

Moreover, Lawal, Somoye, and Babajide (2016) investigated the effect of oil price volatility and exchange rate volatility on stock market behavior. Data were collected for the period from 1984 to 2014. The research adopted GARCH model. Their findings showed that both oil price and exchange rate volatility had a significant influence on Nigerian stock market behavior.

Boachie, Mensah, Frimpong, and Ruzima (2016) examined the effects of interest rate and liquidity growth on Ghana stock market performance. Monthly data were collected from Ghana Stock Exchange and Bank of Ghana from 2010 to 2013. The researchers adopted the use of linear regression (M-estimation). It was discovered that interest rate had a significant positive relationship with stock market index during the period.

Another research was conducted by Abraham (2016) to investigate the impact of crude oil price movement on the stock market in Nigeria. From the outcome of the research, it was suggested that sound exchange rate policy could be used to reduce the decline of foreign portfolio investment in the stock market as a result of crude oil price fluctuation.

Suriani, Kumar, Jamil, and Muneer (2015) investigated the relationship between exchange rates and stock prices in Pakistan. Data were from 2004 to 2009. The researchers adopted Granger causality test to determine whether the variables have effects on each other or not. They found out that there was no relationship between exchange rates and stock prices.

Then, it is discovered that there are several ways in which stock market development can be measured. These include the level of accessibility (Bayraktar, 2014), depth of instruments (Aduda, Chogii, & Murayi, 2014) efficiency (Gardencz & Mehorotra, 2013), and stability (Bhuvaneshwari & Ramya, 2017). The researchers have studied in different countries using these indices to access the level of stock market development. These include Demir (2013) in Turkey, Ajao and Igbekoyi (2013) in Nigeria, Tsuji (2011) in

Japan, and Bhuvaneshwari and Ramya (2017) in India. However, adequate attention has not been devoted to the relationship among interest rate, foreign exchange rate, and stock market development, especially in Nigeria. Hence, the focus of this study is on the relationship between these three phenomena.

From the theories stated, it is expected that low cost of funds (lending rate) and stable foreign exchange rate will impact positively on the development of Nigerian stock market. Therefore, this research work is guided by the portfolio balance approach and financial market theory of development to achieve the research objectives.

The researchers hope to highlight salient effects of interest rate and foreign exchange rate on stock market development in Nigeria and the benefits to be derived by stakeholders from the outcome of the research. The specific stakeholders that will benefit from the outcome of this research are market participants, market regulators, academic, and government. It will assist market participants to adjust their portfolio of assets to earn better returns and reduce risks by knowing the dynamic relationship between the three variables. Then, the market regulators will benefit by understanding the urgent importance of introducing more sophisticated financial instruments such as derivatives and hedging instruments into the market to cushion the effects of interest rate and foreign exchange rate volatility. For academics, this research is expected to stimulate further researches on this subject. It is also expected to assist government to intensify actions on diversifying the economy. It can attract more foreign investment in the form of direct and portfolio investment. Then, this research hopefully leads to further development of Nigerian stock market.

This research has two specific objectives. First, it is to examine the effect of interest rate on stock market development in Nigeria. Second, it is to evaluate the effect of foreign exchange rate on stock market development in Nigeria. Likewise, this research tests two hypotheses.

Ho1: Interest rate has no significant effect on stock market development in Nigeria.

Ho2: Foreign exchange rate has no significant effect on stock market development in Nigeria.

METHODS

This research uses the ex post facto research design. The secondary data cover the period from 1981 to 2017 (37 years). Those are obtained from statistical bulletins from Central Bank of Nigeria, NSE reports, and National Bureau of Statistics publications. Moreover, data on SMC, Prime Lending Rate (PLR), and RER (Nigeria Naira in relation to American Dollars of the United States) are collected. SMC is used to proxy stock market development. Then, PLR proxies interest rate, and RER is for the foreign exchange rate.

Ordinary Least Squares (OLS) technique is

used to analyze the data collected. The research has one dependent variable (SMC) and two independent variables (PLR and RER). The model used is adapted from the OLS technique. It is stated as follows:

$$Y_i = B_0 + B_1x_i + U_i \quad (1)$$

Therefore, the model used is specified as:

$$SMC = f(PLR, RER) \quad (2)$$

The model is specified in a linear estimation form as:

$$SMS = B_0 + B_1PLR + B_2RER + U_t \quad (3)$$

Those mean:

B_0 = Intercept

$B_1, B_2,$ = The various slopes coefficients

U_t = Stochastic error term

SMC = Stock Market Capitalization

PLR = Prime Lending Rate

RER = Real Exchange Rate

This model is adopted for the research because of good results achieved by Akingunola, Adekunle, and Ojodu (2012) in similar research. Moreover, Subair and Salihu (2010) and Sichoongwe (2016) used similar models and resulted in robust results.

SMC is used as a proxy for stock market development because it represents the total value of all securities listed on the Nigerian stock market. It can be used to measure performance and level of development of the market. Moreover, the PLR is used as a proxy for the interest rate because it represents the competitive cost of funds in the economy. Likewise, the RER is for the proxy of foreign exchange rate because it shows the inter-bank and official exchange rate. Foreign investors can access it for the participation and exit from the stock market.

The a priori expectation for this research is $B_1 < 0$ and $B_2 > 0$ or $SMC/PLR < 0$. It means there is a negative relationship between SMC and PLR. When the cost of funds (lending rate) is low, it is expected that there will be an increase in investment in financial instruments on the stock market and vice versa. Meanwhile, $SMC/RER > 0$ means there is a positive relationship between SMC and RER. The increase in the foreign exchange rate of Dollars to Naira is expected to encourage foreign portfolio investment into the stock market. A priori expectation refers to the size and sign of the parameters of a model as postulated or established by economic theories (Hogan, 2003).

RESULTS AND DISCUSSIONS

Unit root test was carried out on the data collected using Augmented Dickey-Fuller (ADF). It finds out the stationarity of the time series data used and avoids spurious results. The ADF test is used to

determine the order of integration, $I(0)$, of the data. The results of unit root tests are shown in Table 1.

Table 1 Unit Root Test

Variable	ADF	Critical Values	
LOGSMC	-3,632900	1% Level	-3,219675
		5% Level	-2,948404
		10% Level	-2,612874
PLR	-2,982890	1% Level	-3,670170
		5% Level	-2,963972
		10% Level	-2,621007
RER	-3,303330	1% Level	-3,612911
		5% Level	-2,746412
		10% Level	-2,642131

*Description: LOGSMC is Log of Stock Market Capitalization, PLR is Prime Lending Rate, RER is Real Exchange Rate.

Table 1 shows that the three variables have unit roots. Log of Stock Market Capitalization (LOGSMC) is stationary at 1%, 5%, and 10% level of significance. PLR and RER are stationary at 5% and 10% level of significance. Then, the data are initially analyzed with OLS technique. Table 2 shows the results of the analysis.

Table 2 OLS Technique in Dependent Variable of LOGSMC

Variable	Coefficient	Std. Error	T-statistic	Prob.
C	23,0521	0,8925	25,8283	0,0000
PLR	0,0433	0,0485	0,8939	0,0377
RER	1,1336	0,0028	21,8804	0,0000
R2	0,810217	F-statistics	72,57588	
R-2	0,799053	Prob. (F-stat)	0,00000	
DW	1,3015			

*Description: C is Constant, PLR is Prime Lending Rate, RER is Real Exchange Rate, R2 is R Squared, R-2 is Adjusted R Squared, DW is Durbin Watson.

Table 2 shows the relationship between the dependent variable (LOGSMC) and the independent variables (PLR and RER). SMC figures are logged because of the huge figures. The results of the analysis show that there is a positive relationship between SMC and PLR. It signifies that they are linearly related. An increase in PLR will increase SMC by 0,043362. This does not agree with a priori expectation. There is also

a positive relationship between RER and SMC. It signifies that they are also linearly related. An increase in RER will increase SMC by 1,133621. This agrees with the a priori expectation.

Next, the t-test is statistically significant for both PLR and RER at 0,893909 and 21,88048 respectively. Then, the f-test is statistically significant at 1% level using the probability statistic of 0,00000. Similarly, the R Squared (R2) is a good fit. It shows that about 81% of the variation in SMC is accounted for within the model. However, about 19% is not accounted for due to the error term. The adjusted R Squared (R-2) is also a good fit. It shows that about 79% of the variation in SMC is in the model.

Moreover, the Durbin Watson (DW) is 1,3. It shows that there is autocorrelation in the time series data used. A test of the overall significance of the model shows that it is significant at both 1% and 5% level of significance.

The defects in the results of OLS analysis lead to the use of the Cochrane-Orcutt Iterative technique. If DW statistic detects that the error terms are serially correlated over time, Cochrane-Orcutt technique can be used to correct it. It is done by modeling the residuals. If the process of generating the residuals is found in the stationary first-order autoregressive structure, the model can be transformed by taking its quasi-difference. Then, the sum of the squared residuals will be minimized which will lead to the correction of autocorrelation (Gujarati & Porter, 2009).

Table 3 Cochrane-Orcutt Iterative Technique in Dependent Variable of LOGSMC

Variable	Coefficient	Std. Error	T-statistic	Prob.
C	26,3057	3,1645	8,3125	0,0000
PLR	-0,0137	0,0088	-1,5525	0,0307
RER	2,1114	0,0047	36,3115	0,0000
AR(1)	0,9901	0,0366	27,0070	0,0000
MA(1)	0,6657	0,2203	3,0208	0,0050
R2	0,990246	F-statistics	629,4281	
R-2	0,988673	Prob. (F-stat)	0,0000	
DW	1,9118			

*Description: C is Constant, PLR is Prime Lending Rate, RER is Real Exchange Rate, AR(1) is Autoregressive of Order One, MA(1) is Moving Average of Order One, R2 is R Squared, R-2 is Adjusted R Squared, DW is Durbin Watson.

From the results in Table 3, all the coefficients have their expected relationships. Moreover, the autocorrelation which was previously detected in the OLS technique is eliminated after applying Cochrane-Orcutt Iterative technique. From the results, there is a negative relationship between PLR and SMC. It shows that they are inversely related. An increase in PLR

will reduce SMC by -0,013707. This is in agreement with a priori expectation. However, there is a positive relationship between RER and SMC. It signifies that they are linearly related. An increase in RER will increase SMC by 2,111476. This conforms with a priori expectation. Therefore, both PLR and RER are in line with a priori expectation ($B1 < 0$, $B2 > 0$).

The t-test is statistically significant for RER at 36,311515. Meanwhile, PLR is insignificant at -1,552567. The f-test is statistically significant at 1% level. R2 is a very good fit. About 99% of the variation in SMC is accounted for in the model. The adjusted R-2 is also a very good fit, about 98% of the variation in SMC in the model. The DW is 1,9. It reveals that there is no autocorrelation. A test of the overall significance of the model shows that it is significant at 1% and 5% level of significance.

The results reveal that there is a significant negative relationship between interest rate and stock market development as measured by the PLR and SMC respectively. It has t-statistic of -1,552567 and p-value of 0,0307. It shows that the interest rate has a significant negative effect on stock market development. Therefore, the hypothesis which states that interest rate has no significant effect on stock market development is rejected.

The results also show that there is a significant positive relationship between foreign exchange rate and stock market development. It is measured by RER and SMC respectively. It has t-statistic of 36,311515 and p-value of 0,00000. It shows that the foreign exchange rate has a significant positive effect on stock market development. Therefore, the hypothesis that foreign exchange rate has no significant effect on stock market development is rejected.

The results of this research conform to the findings by Akingunola, Adekunle, and Ojodu (2012). The research uses similar variables to find out the effect of interest rate on stock market performance. Akingunola, Adekunle, and Ojodu (2012) discovered that interest rate had a significant effect on stock market performance. Similar results are also achieved by Subair and Salihu (2010), and Ihsan, Baloch, and Kakakhel (2015). They found out that the foreign exchange rate had a significant effect on stock market performance.

From the results, there is a need for monetary authorities in Nigeria to pay attention to the interest rate in the economy. Macroeconomic policies should be designed in a way that will make interest rate (lending rate in particular) at a level that will stimulate easy transfer of funds from surplus sector to deficit sector. When the cost of funds (lending rate) is low and competitive, more funds will be invested in the stock market. It will increase the level of stock market development.

In addition, more attention should be given to foreign exchange rate so that foreign investors will have more trust in Nigerian stock market. When the foreign exchange rate is not stable, it can lead to a loss of trust in the stock market by foreign investors. It can

also cause the sudden withdrawal of foreign portfolio investment from the market. Moreover, there is also the urgent need for Nigerian stock market regulators to design and introduce derivative instruments into the market. It can give opportunities for participants in the market to hedge against adverse effects of interest rate and foreign exchange rate in the market.

CONCLUSIONS

This research is conducted to find out the effect of interest rate and foreign exchange rate on stock market development in Nigeria. The findings show that interest rate has a significant negative effect on stock market development. However, foreign exchange rate has a significant positive effect on stock market development in Nigeria. Therefore, there is a need for government and monetary authorities to formulate and implement policies that will reduce the cost of funds (lending rate) and make the exchange more stable and competitive. This will hopefully stimulate further development of Nigerian stock market.

Limitation of this research includes the inability to get data on the variables used from 1961 when Nigerian stock market was established. It is to get a more comprehensive trend of how interest and foreign exchange rates have impacted on stock market development in Nigeria.

Further research on the relationship between RER and foreign ownership of securities in Nigerian stock market is suggested. Moreover, the research on effects of others variables that can impact on stock market development in Nigeria is suggested. These variables include the rate of inflation, growth of money supply, degree of economy openness, and others.

REFERENCES

Abdallah, Z. T. (2016). An evaluation of simultaneous openness hypothesis in the context of stock market development: Evidence from a panel of fifty three countries based a GMM Study. *Modern Economy*, 7(02), 153-163.

Abraham, T. W. (2016). Exchange rate policy and falling crude oil prices: Effect on the Nigerian stock market. *CBN Journal of Applied Statistics*, 7(1), 111-123.

Adebisi, M. A. (2002). The role of real interest rates and savings in Nigeria. *First Bank of Nigeria PLC, Quarterly Review*, March.

Adesoye, A. B. (2012). Exchange rate policy and price determination in Nigeria: Testing the long run relevance of PPP model. *European Journal of Humanities and Social Science*, 14(1), 667-683.

Adigwe, P. K, Nwanna, I. O., & Ananwude, A. (2015). Stock market development and economic growth in Nigeria: An empirical examination (1985-2014). *Journal of Policy and Development Studies*, 9(5), 134-154.

Aduda, J., Chogii, R., & Murayi, M. T. (2014). The effect of capital market deepening on economic growth in

Kenya. *Journal of Applied Finance and Banking*, 4(1), 141-159.

Ajao, M. G., & Igbekoyi, O. E. (2013). The determinants of real exchange rate volatility in Nigeria. *Academic Journal of Interdisciplinary Studies*, 2(1), 459-471.

Akingunola, R. O., Adekunle, O. A., & Ojodu, H. (2012). Impact of interest rate on capital market growth (A case of Nigeria). *Universal Journal of Management and Social Sciences*, 2(11), 1-24.

Bayraktar, N. (2014). Measuring relative development level of stock markets: Capacity and effort of countries. *Borsa Istanbul Review*, 14(2), 74-95.

Boachie, M., Mensah, I., Frimpong, A., & Ruzima, M. (2016). Interest rate, liquidity and stock market performance in Ghana. *International Journal of Accounting and Economics Studies*, 4(1), 46-51.

Bhuvaneshwari, D., & Ramya, K. (2017). Cointegration and causality between stock prices and exchange rate: Empirical evidence from India. *SDMIMD Journal of Management*, 8(1), 39-45.

Demir, F. (2013). Growth under exchange rate volatility: Does access to foreign or domestic equity markets matter? *Journal of Development Economics*, 100(1), 74-88.

Emenike, K. O. (2014). Volatility transmission between stock and foreign exchange markets: Evidence from Nigeria. *Journal of Banking and Financial Economics*, 1(1), 59-72.

Frankel, J. A. (1992). Monetary and portfolio-balance models of exchange rate determination. In J. M. Letiche (Ed.), *International economic policies and their theoretical foundations* (Second edition). USA: Academic Press, Inc.

Gardencz, B., & Mehorotra, A. (2013). The exchange rate, real economy and financial markets. *BIS Paper*, 73, 11-23.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed). New York: McGraw- Hill/Irwin.

Hogan, W. (2003). *Management of financial institutions* (2nd ed). Wiley.

Ihsan, A., Baloch, Q. B., & Kakakhel, S. J. (2015). Relationship between exchange rates and stock market index: Evidence from the Pakistani stock market. *Abasyn Journal of Social Sciences*, 8(1), 17-36.

Jhingan, M. L. (2003). *Macroeconomic theory*. Delhi: Vrinda Publication.

Khalid, W. (2017). Effects of interest rate and exchange rate on the stock market performance of Pakistan: A cointegration approach. *Journal of Finance and Economics*, 5(5), 219-232.

Lawal, A. I., Somoye, R. O., & Babajide, A. A. (2016). Impact of oil price shocks and exchange rate volatility on stock market behavior in Nigeria. *Binus Business Review*, 7(2), 171-177.

Lin, S., & Ye, H. (2011). The role of financial development in exchange rate regime choices. *Journal of International Money and Finance*, 30(4), 641-659.

Nigerian Stock Exchange (NSE). (2018). *NSE Q2 2018 factsheet*. Retrieved 29th June, 2018 from http://www.nse.com.ng/market_data-site/other-market-

information-site/NSE%20Fact%20Sheet/Q2%20Fact%20Sheet%202018.pdf

- Ogunleye, E. K. (2008). *Exchange rate volatility and foreign direct investment inflows in selected Sub-Sahara African Countries, 1970-2005* (PhD Dissertation). University of Ibadan.
- Olowofela, E. O., Adebawale, E. A., & Adejonwo, A. Q. (2018). Financial Sector Reforms and Economic Growth: Evidence from Nigeria. *Binus Business Review*, 9(2), 171-176.
- Sichoongwe, K. (2016). Effects of exchange rate volatility on the stock market: The Zambian experience. *Journal of Economics and Sustainable Development*, 7(4), 114-119.
- Subair, K., & Salihu, O. M. (2010). Exchange rate volatility and stockmarket: The Nigerian experience. In *Academic and Business Research Institute International Conference*.
- Suriani, S., Kumar, M. D., Jamil, F., & Muneer, S. (2015). Impact of exchange rate on stock market. *International Journal of Economics and Financial Issues*, 5(1S), 385-388.
- The World Bank. (2016). *The little data book on financial development 2015/16*. Retrieved from <https://data.worldbank.org/products/data-books/little-data-book-on-financial-development>
- Tsuji, C. (2011). A test of relations between Japanese industry stock prices and exchange rates. *International Journal of Humanities and Social Science*, 1(8), 50-53.