Effect of Macroeconomic Variables on Stock Market Performance in Nigeria

Abstract

This paper examined the effect of macroeconomic variables on stock market performance in Nigeria using annual time series data spanning 1981 to 2016.The data were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin. Four macroeconomic variables, namely: money supply, interest rate, exchange rate and inflation rate were used as independent variables, while market capitalisation (proxy for stock market performance) was employed as the dependent variable. The results of Augmented Dickey-Fuller (ADF) test revealed that all the variables studied were stationary at first difference except money supply which was stationary at second difference. The Ordinary Least Square (OLS) regression results showed that money supply has a significant positive effect; interest rate has a significant negative effect; whereas, exchange rate and inflation rate have no statistically significant effect on stock market performance in Nigeria. The cointegration test results disclosed that there exists a long-run relationship between the macroeconomic indicators and stock market performance. The Granger Causality test results revealed that a unidirectional causality runs from money supply and exchange rate to stock market performance. Therefore, the study concluded that money supply and interest rate are the true determinants of stock market performance in Nigeria. The reason is that out of the four independent variables considered in the study, only money supply and interest rate exhibited a significant effect on stock market performance. Consequently, the recommendations are: Monetary policies that favour the supply of money in the economy should be pursued in order to ensure a better performance of the stock market; Interest rate should be relatively low to guarantee a higher performance of the stock market because high interest rate has a significant negative effect on the Nigerian stock market. Finally, investors should not fail to consider interest rate and level of money supply in the economy whenever investment decisions are to be taken in order to improve their returns.

Keywords: Macroeconomic variables, stock market performance, Nigeria

1. Introduction

Investment in the stock market could be very rewarding but also very risky. As such, potential investors attempt to analyse and predict the trend of stock market prices in order to maximise their returns and minimise risk. In doing this, investors consider how certain macroeconomic variables like interest rate, inflation rate, exchange rate, money supply, etc. affect the performance of their stocks. According to Masuduzzaman (2012), Macroeconomic variables play an important role in the performance of a stock market. They can be a yardstick to the investors to forecast the performance of the stock market, as well as a perfect alternative to get additional information about the behaviour of the stock market (Jamaludin, Ismail & Manaf, 2017).

Stock markets play a pivotal role in growing industries and commerce of a country that eventually affect the economy (Naik & Padhi, 2012). The stock market makes long-term capital available to firms for investment purposes. The market performs the intermediation process by pooling funds from different investors who wish to put their surplus funds in alternative investment avenues. The investors carefully watch the performance of stock markets by observing the composite market index, before investing funds. The market index provides a historical stock market performance, the yardstick to compare the performance of individual portfolios and also provides investors the key to forecasting future trends in the market.

Despite the notion of efficient market hypothesis (EMH), that it is impossible for investors to earn abnormal profit because all the available information are fully reflected in prices in the stock market, many researchers believe that macroeconomic determinants have an effect on stock returns (Ibenta, 2005). This believe tends to agree with the proposition of the arbitrage pricing theory (APT) formulated by Ross (1976), that returns on stocks are subject to series of factors like inflation rate, size of the company, dividend yield, exchange rate, gross domestic product, consumer price index, industrial production index, unemployment rate, interest rate, real income (GDP per capita income), domestic savings, stock market liquidity, et cetera. Thus, this study is geared towards providing an indebt analysis of the effect of certain macroeconomic fundamentals on the performance of stock market in Nigeria. Though some studies have been conducted in this area in the past, this study used recent data on four important macroeconomic variables, namely, money supply, interest rate, exchange rate and inflation rate to ascertain their effects on stock market performance in Nigeria. Also, this study will build a model that captures the reality of the Nigerian stock market and thus contributes to knowledge.

The specific objectives of the study are as follows:

1. To examine the effect of money supply on stock market performance
2. To assess the effect of interest rate on stock market performance
3. To determine the effect of exchange rate on stock market performance
4. To ascertain the effect of inflation rate on stock market performance

This study on effect of macroeconomic variables on stock market performance in Nigeria covered the period 1981 – 2016. The base year, 1981 is the year that oil price boom ended in Nigeria. This triggered the need for alternative ways of growing the economy including stock market development. The macroeconomic variables considered in this study include money supply, interest rate, exchange rate and inflation rate. Market capitalisation was used as a proxy for stock market performance.

As at the time of conducting this research, 2017 data were not published by the CBN. However, the outcome of this study is not affected as the 35 years period covered by the study is long enough to give reliable results.

2. Review of Literature

2.1 Conceptual Framework

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Stock market performance or stock market returns are gains (including dividends) that investors generate from buying and selling of stocks in a stock market. Returns are usually subject to market risks. To maximise returns, investors should buy at low prices and sell at high prices. Rational investors act on informed decisions and conduct either technical or fundamental analysis to determine the future trend of stocks (Ibenta, 2005). Technical analysis mainly focuses on scrutinizing the historical price movements of a particular stock to predict the future trend of the stock. However, fundamental analysis focuses more on the cash flows, profit growth of companies and any other information that could potentially lead to an increase in the share price of a particular stock. Different macroeconomic factors contribute to the change in earnings of the market. For instance, changes in inflation, exchange rate, interest rate, money supply, and so forth, usually influence the long-term stock market trends.

The stock market is an impulsive environment with trends that can either give investors positive or negative returns. Increase in volatility of the stock market raises the level of risk involved and decreases the returns on stocks.

2.2 Theoretical Framework

2.2.1 Arbitrage Pricing Theory (APT)

This study is anchored on Arbitrage Pricing Theory (APT) propounded by Ross in 1976. This theory opined that returns on assets are subject to some factors such as interest rate, exchange rate, inflation rate, dividend yield, gross domestic product, consumer price index, industrial production index, unemployment rate, interest rate, domestic savings, stock market liquidity, etc. The APT is a risk-return equilibrium based model (Izedonmi & Abdullahi, 2011). In 1986, Chen, Roll and Ross tested the validity of APT in the U.S security market using the US macroeconomic variables (Izedonmi & Abdullahi, 2011). They tested seven macroeconomic variables; term structure, industrial production, risk premium, inflation, market return, consumption and oil prices in the period of January, 1952 to November, 1984. They assumed that the underlying variables are not serially correlated and all innovations are unexpected. In their research, they found several of these economic variables to be significant in explaining expected stock return during the tested period. They observed that industrial production, changes in risk premium, twist in the yield curve, and measure of unanticipated inflation and changes in expected inflation during period when these variable, are highly volatile, are significant in explaining expected return. They found that consumption, oil prices and market index are not priced by the financial market. They concluded that stock returns are exposed to systematic economic news that is priced by the

market (Izedonmi & Abdullahi, 2011). The Arbitrage Pricing Theory was developed from Capital Asset Pricing Model.

2.2.2 Capital Asset Pricing Model (CAPM)

The model states that prices of assets are determined in such a way that risk premiums are proportional to the systematic risk. CAPM describes the way prices of individual assets are determined in markets where information is freely available and reflected instantaneously in asset prices (Ibenta, 2005). In market equilibrium, it is expected that a security provides a return to compensate for the level of unavoidable risk. In CAPM, there is no reward for assuming any unsystematic risk which can be avoided or easily diversified.

The CAPM is used to determine the appropriate price of securities and whether the security is over-priced or under-priced by the market. Portfolios are correctly priced if they fall on the security market line (SML). The value of beta is equal to 1 if the security is located on the SML, which means that the market price is equal to the appraised (intrinsic) value. However, the value of beta is greater than 1 (high risk) if the security is located above the SML, i.e. the market price is more than the appraised value, inferring that the security is overpriced. On the other hand, if the value of beta is less than 1, which means low risk, the security is located below the SML. This means that the market price is less than the security's intrinsic value, and the security is said to be under-priced.

In the case of the overvalued security, the security will be unattractive to investors. According to CAPM, the reduced demand for the security will cause the market price to fall. On the other hand, undervalued securities will be attractive to investors and the increased demand will cause the market value of the securities to rise. This equilibrating process, according to Ibenta (2005) will cause the prices of securities to adjust continuously around the SML depending on the intrinsic value of a security which is determined by economic factors surrounding the firm; and the market forces or other qualitative factors of the environment which influence the expectation of investors about the future prospects of the economy.

2.3 Empirical Review

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Ditimi, Sunday, Emma-Ebere and Onyedikachi (2018) examined the dynamic interrelationship between macroeconomic fundamentals and stock prices in Nigeria using time series data spanning from 1980 to 2016. The study made use of co-integration test and the error correction mechanism. Empirical estimates revealed that there is a long run correlation between macroeconomic fundamentals and stock prices in Nigeria. Similarly, in the short run, the values of money supply and interest rate were found to demonstrate a significant effect on stock prices. Also, the values of stock market return were found to show significant influence on the current stock prices. The results also revealed that the natural logarithm of real gross domestic product is a leading indicator that stimulates stock prices in the long and short run. Based on the above findings the study recommends that the Central Bank of Nigeria should carry out prudent macroeconomic policies to derive the best from the stock market. Furthermore, the government should look into the high rate of inflation since it is one of the most significant macroeconomic indicators used to analyse the

economic conditions of a country. Imegi and Wali (2018) assessed the macroeconomics variables and financial marketing stability and its implication for marketing financial services in the Nigeria banking sector. The quantitative research design was adopted for this study and secondary data was sourced and analyzed using Ordinary Least Square (OLS) estimation technique for the purpose of providing answers to key research hypotheses. The study found a long-run relationship between macroeconomic variables and Nigeria financial market stability.

Kolapo, Oke and Olaniyan (2018) explored the impact of macroeconomic fundamentals on stock market performance in Nigeria for the periods from 1986 to 2015. This investigation helps to understand certain peculiarities in the Nigerian stock market; being an emerging stock market. Gross domestic product (GDP) and money supply (MS) was found to have significant impacts on stock market performance in Nigeria. Furthermore, all the features in this study except money supply (MS) and interest rate (INTR) were positively related to stock market performance, and there is the presence of a long run relationship (co-integration) between macroeconomic fundamentals and stock market performance. Auto Regressive Distributed Lag (ARDL) bounds testing technique was adopted in this study as its estimation technique. Based on the findings of this study, it was recommended among others that policies such as reducing poverty and unemployment rates and increasing gross capital formation among others should be strengthened. Udoka, Nya and Bassey (2018) examined the effect of macroeconomic determinants of stock price movements in Nigeria using data on macroeconomic variables such as gross domestic product, exchange rate, inflation, interest rate and absolute stock price. The autoregressive distributive lag (ARDL) model was employed in the study. The ADF unit root test revealed that only interest rate was stationary at levels while the remaining variables became stationary when differenced once. The ARDL findings revealed that the determinants variables (GDP, EXCHR, INTR, and INFL) were not jointly co-integrated with the dependent variable, ASTP, hence, no existence of a long run relationship. The study concluded that there was no long run relationship between macroeconomic determinants and stock price movements in Nigeria. It was recommended among others that, government should create conducive business environment, strengthen the real sector to stimulate the economy, boost savings and stock investment.

Jamaludin, Ismail and Manaf (2017) examined the effect of macroeconomic variables namely inflation, money supply (MS), and exchange rate (ER) on both conventional and Islamic stock market returns in the three selected ASEAN countries (Singapore, Malaysia, Indonesia) by utilizing monthly data over the period of January 2005 to December 2015. Applying the panel least square regression techniques, the results showed that both stock market returns are significantly affected by the ER and inflation rate. MS was found to be insignificant. The paper concluded that inflation poses a greater effect and inversely related to the stock market returns. The paper recommended the need for amendment in monetary policy to ensure that inflation rate is set at a low level, since the results would be able to bring an impact to boost the capital market in the selected ASEAN countries. Jareno and Negrut (2016) analysed the relationship between the US stock market and some relevant US macroeconomic factors, such as gross domestic product, the consumer price index, the

industrial production index, the unemployment rate and long-term interest rates. According to the paper, all the relevant factors show statistically significant relationships with the stock market except for the consumer price index, and the signs are consistent with the findings of previous literature.

Owiredu, Oppong and Asomaning (2016) examined the macroeconomic determinants of stock market development in Ghana for the period 1992 to 2012 using annual secondary data from Bank of Ghana Quarterly Economic Bulletins, Ghana Statistical Service, Ghana Stock Exchange Market Statistics, the World Bank and IMF's International Financial Statistics. The macroeconomic indicators such as the real income (GDP per capita income), domestic saving, stock market liquidity, financial intermediary growth, macroeconomic stability (inflation) and private capital flows with stock market capitalization used as a proxy for the study were collected and used for the analysis. These variables were examined to establish a relationship with stock market developments based on a linear regression model. The regression analysis found stock market liquidity to be statistically significant to stock market developments as opposed to the other determinants (such as macroeconomic stability (inflation) real income and domestic savings and private capital flows) which were found to be non-significant. This result suggested that macroeconomic stability (inflation), real income, domestic savings and private capital flows proved not to have any significant impact on stock market development, since their regression coefficients were not statically significant at 5% level of significance.

Shrestha and Subedi (2014) examined the determinants of the stock market performance in Nepal using monthly data for the period of mid-August 2000 to mid-July 2014. The impact of major changes in politics and Nepal Rastra Bank's policy on lending against share collateral has also been assessed. Empirical results obtained from OLS estimations of behavioural equations revealed that the performance of stock market is found to respond positively to inflation and broad money growth, and negatively to interest rate. According to the study, this suggests that, in Nepal, share investors seem to take equity as a hedge against inflation and consider stock as an alternative financial instrument. Furthermore, availability of liquidity and the low interest rates stimulate the performance of the Nepalese stock market. More importantly, stock market has been found to respond significantly to changes in political environment and the policy of Nepal Rastra Bank.

Singh (2014) examined the relationship between macroeconomic variables and Indian stock market. The multivariate stepwise regression analysis was used to analyse the impact of macroeconomic factors on Indian stock market. Granger causality test was applied to analyse the dynamic causal relationship among the variables. The data used in the study is in the monthly frequency and period of the study has been considered from January 2011 to December 2012. The empirical result of the study shows significant impact of macroeconomic variables on Indian stock market. The gold prices have its negative impact on the stock market. The study found that gold has been used as best alternative for investment which hampers the stock prices of share market. According to the study, the Indian Stock market improves with the increase in the inflow of foreign investment. Thus, foreign investment as well as money supply exhibits its significant positive impact on the

stock market. It was also found that the exchange rate shows its adverse effect on the stock market during the study period. Granger causality test, according to the study, signifies that there exists unidirectional causal relationship from exchange rate to stock market. Thus, any movement in the value of exchange rate has influence on stock market. The causality is running from index to the variables in case of trade deficit and foreign institutional investors. According to the study, there exists requirement for the initiative to be taken by government to reduce interest of investors in yellow metal and enhance the investment in share market through improving the confidence level of investors in the Indian stock market.

Sukruoglu and Nalin (2014) studied the effects of macroeconomic variables on development of stock market in selected European countries by estimating a dynamic panel data for the period spanning 1995 to 2011. The study found that income, monetisation ratio, liquidity ratio; saving rate and inflation have effect on stock market development. According to the paper, monetisation ratio and inflation have negative effects while income, liquidity ratio, saving rate have positive effects on stock market development. The study added that liquidity ratio emphasizes that the stock market liquidity help to improve stock market development. It was also found that income and saving rate are correlated with stock market growth. Alam and Rashid (2014) examined the relationship between Karachi stock market 100 index and macroeconomic variables, i.e., inflation, industrial production, money supply, exchange rate and interest rate. The long term relationship between macroeconomic variables and stock market returns has been analysed by using Johansen Cointegration test, Augmented Dicky Fuller (ADF) and Phillip Perron (PP) tests. The Autoregressive Conditional heteroskedasticity Lagrange Multiplier (ARCH LM) test provided prudent evidence about the presence of heteroskedasticity in the data. The Generalized Autoregressive Conditional heteroskedasticity (GARCH) model was used to find out the relationship between stock returns and the variance of the squared error terms as there was heteroskedastic trend in the data. The results showed that the cointegrating relationship exists between stock prices and the macroeconomic variables in Pakistani stock market. The GARCH model showed the significant relationships after mitigating the heteroskedasticity. The consumer price index (CPI), money supply (MS), exchange rates (ER) and interest rates (IR) proved to be negatively associated with the stock returns (SR), while industrial production index (IPI) was found to be positively associated with the stock returns. All the variables were significantly associated to stock market returns except inflation. According to the study, investors can use the GARCH results for investment decisions.

Miseman, Ismail, Ahmad, Akit, Mohamad and Mahmood (2013) assessed the impact of macroeconomic forces on five ASEAN stock market movement including Malaysia, Indonesia, Thailand, Singapore and the Philippines. Four macroeconomic influences (interest rate, broad money supply, domestic output and inflation rate) were used to explain the variation of the stock market movement. Applying generalized least squares regressions, the results showed significant impact of interest rate, broad money and inflation rate on the stock market movement, while domestic output is found to be insignificant. According to

the study the quantum effect of time onto the stock market movement also showed significant impact and is unchanged over time. It added that this is also another wake-up call for investors who had been relying on economic growth rate forecasts to synthesize an investment strategy. Masuduzzaman (2012) investigated the long-run relationship and the short-run dynamics among macroeconomic fundamentals and the stock returns of Germany and the United Kingdom. Each case was examined individually, by applying Johansen co-integration, error correction model, variance decomposition and impulse response functions, in a system incorporating the variables such as consumer price index (CPI), interest rates, exchange rates, money supply and industrial productions between the periods of February 1999 to January 2011. The Johansen cointegration tests indicated that the UK and German stock returns and chosen five macroeconomic variables are cointegrated. The findings also indicated that there are both short and long run causal relationships between stock prices and macroeconomic variables. The results, according to the study, imply the existence of short-term adjustments and long-term dynamics for both the UK and the German stock markets returns and the certain macroeconomic fundamentals.

Naik and Padhi (2012) assessed the relationship between the Indian stock market index (BSE Sensex) and five macroeconomic variables, namely, industrial production index, wholesale price index, money supply, treasury bills rates and exchange rates over the period 1994:04–2011:06. Johansen co-integration and vector error correction model were applied to explore the long-run equilibrium relationship between stock market index and macroeconomic variables. The analysis revealed that macroeconomic variables and the stock market index are co-integrated and, hence, a long-run equilibrium relationship exists between them. It was observed that the stock prices positively relate to the money supply and industrial production but negatively relate to inflation. The exchange rate and the short-term interest rate were found to be insignificant in determining stock prices. In the Granger causality sense, macroeconomic variable causes the stock prices in the long-run but not in the short-run. There is bidirectional causality between industrial production and stock prices, whereas, unidirectional causality from money supply to stock price, stock price to inflation and interest rates to stock prices were found.

Izedonmi, and Abdullahi (2011) empirically test the performance of the Arbitrage Pricing Theory (APT) in the Nigerian Stock Exchange (NSE) for the period of 2000 to 2004 on monthly basis. Three macro-economic variables (inflation, exchange rate and market capitalization) were investigated against 20 sectors of the Nigerian Stock Exchange. Using Ordinary Least Square (OLS) the study observed that there are no significant effects of those variables on the stocks' return in Nigeria. According to the study, the results are broadly consistent with similar studies carried out for most developed and emerging economies. Using the Box-Jenkins ARIMA model, Gay (2008) investigated the relationship between stock market index prices and the macroeconomic variables of exchange rate and oil price for Brazil, Russia, India, and China (BRIC). The study recorded no significant relationship between exchange rate and oil price on the stock market index prices of the BRIC countries; this, according to the study, may be due to the influence of other domestic and international macroeconomic factors on stock market returns, warranting further research.

Also, there was no significant relationship found between present and past stock market returns, suggesting that the markets of Brazil, Russia, India, and China exhibit the weak-form of market efficiency.

3. Methodology

The paper used descriptive and analytical research designs in determining the effect of macroeconomic factors on stock market performance in Nigeria.

The data used in this study were collected from Central Bank of Nigeria (CBN) Statistical Bulletin from 1981 to 2016. Jarque-Bera (JB) test was used to assess the normality of the data series. Augmented Dickey-Fuller (ADF) test was employed to determine the stationarity of the variables. Ordinary Least Square (OLS) was used to establish the effect of the independent variables on the dependent variable. Johansen cointegration test was carried out to ascertain the existence of a long-run relationship between the variables. Granger Causality test was employed to determine direction of causality between stock market performance and the macroeconomic variables. Eviews 9 econometric software was used for the analysis.

The model for the study is specified as follows:

$$SMP = \beta_0 + \beta_1 MS_t + \beta_2 ITR_t + \beta_3 EXR_t + \beta_4 IFR_t + \mu \quad - \quad - \quad - \quad (1)$$

Where:

SMP = Stock market performance proxied by market capitalisation (MCP) of Stocks/Securities

MS = Money supply

ITR = Interest rate

EXR = Exchange rate

IFR = Inflation rate

β_0 = *Constant term*

$\beta_1 - \beta_4$ = *Coefficients*

μ = *Error term*

To improve on the linearity of the model, logarithm was introduced as follows:

$$LogSMP = \beta_0 + \beta_1 LogMS_t + \beta_2 LogITR_t + \beta_3 LogEXR_t + \beta_4 LogIFR_t + \mu$$

$$LSMP = \beta_0 + \beta_1 LMS_t + \beta_2 LITR_t + \beta_3 LEXR_t + \beta_4 LIFR_t + \mu \quad - \quad - \quad (2)$$

4. Data Presentation, Results of Analyses and Discussion

4.1 Data Presentation

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Table 1: Market Capitalisation (MCP), Money Supply (MS), Interest Rate (ITR), Exchange Rate (EXR) and Inflation Rate (IFR) in Nigeria from 1981 to 2016

Year	MCP(N Billion)	MS (N Billion)	ITR	EXR	IFR
1981	5.0	14.47	10.00	0.61	20.9
1982	5.0	15.79	11.75	0.67	7.7
1983	5.7	17.69	11.50	0.72	23.2
1984	5.5	20.11	13.00	0.76	39.6
1985	6.6	22.30	11.75	0.89	5.5
1986	6.8	23.81	12.00	2.02	5.4
1987	8.2	27.57	19.20	4.12	10.2
1988	10.0	38.36	17.60	4.54	38.3
1989	12.8	45.90	24.60	7.39	40.9
1990	16.3	52.86	27.70	8.04	7.5
1991	23.1	75.40	20.80	9.91	13.0
1992	31.2	111.11	31.20	17.30	44.5
1993	47.5	165.34	36.09	22.05	57.2
1994	66.3	230.29	21.00	21.87	57.0
1995	180.4	289.09	20.79	21.87	72.8
1996	285.8	345.85	20.86	21.87	29.3
1997	281.9	413.28	23.32	21.87	8.5
1998	262.6	488.15	21.34	21.87	10.0
1999	300.0	628.95	27.19	92.69	6.6
2000	472.3	878.46	21.55	102.11	6.9
2001	662.5	1,269.32	21.34	111.94	18.9
2002	764.9	1,505.96	30.19	120.97	12.9
2003	1,359.3	1,952.92	22.88	129.36	14.0
2004	2,112.5	2,131.82	20.82	133.50	15.0
2005	2,900.1	2,637.91	19.49	132.15	17.9
2006	5,120.9	3,797.91	18.70	128.65	8.2
2007	13,181.7	5,127.40	18.36	125.83	5.4
2008	9,563.0	8,008.20	18.70	118.57	11.6
2009	7,030.8	9,411.11	22.62	148.88	12.6
2010	9,918.2	11,034.94	22.51	150.30	13.7
2011	10,275.3	12,172.49	22.42	153.86	10.8
2012	14,800.9	13,895.39	23.79	15749	12.2
2013	19,077.4	15,160.29	24.69	157.31	8.5
2014	16,875.1	17,679.29	25.74	158.55	8.0
2015	17,003.4	18,901.30	26.71	193.28	9.0
2016	16,185.7	21,607.68	27.29	258.94	15.7

Source: Central Bank of Nigeria Statistical Bulletin 2016

Table 2: LogMCP, LogMS, LogITR, LogEXR and LogIFR

Year	LMCP	LMS	LITR	LEXR	LIFR
1981	0.699	1.160	1.000	-0.215	1.320
1982	0.699	1.198	1.070	-0.174	0.887
1983	0.756	1.248	1.061	-0.143	1.365
1984	0.740	1.303	1.114	-0.119	1.598
1985	0.820	1.348	1.070	-0.051	0.740
1986	0.833	1.377	1.079	0.305	0.732
1987	0.914	1.440	1.283	0.615	1.009
1988	1.000	1.584	1.246	0.657	1.583
1989	1.107	1.662	1.391	0.869	1.612
1990	1.212	1.723	1.442	0.905	0.875
1991	1.364	1.877	1.318	0.996	1.114
1992	1.494	2.046	1.494	1.238	1.648
1993	1.677	2.218	1.557	1.343	1.757
1994	1.822	2.362	1.322	1.340	1.756
1995	2.256	2.461	1.318	1.340	1.862
1996	2.456	2.539	1.319	1.340	1.467
1997	2.450	2.616	1.368	1.340	0.929
1998	2.419	2.689	1.329	1.340	1.000
1999	2.477	2.799	1.434	1.967	0.820
2000	2.674	2.944	1.333	2.009	0.839
2001	2.821	3.104	1.329	2.049	1.276
2002	2.884	3.178	1.480	2.083	1.110
2003	3.133	3.291	1.359	2.112	1.146
2004	3.325	3.329	1.318	2.125	1.176
2005	3.462	3.421	1.290	2.121	1.253
2006	3.709	3.580	1.272	2.109	0.914
2007	4.120	3.710	1.264	2.010	0.732
2008	3.981	3.904	1.272	2.074	1.064
2009	3.847	3.974	1.354	2.173	1.100
2010	3.996	4.043	1.352	2.177	1.137
2011	4.012	4.085	1.351	2.187	1.033
2012	4.170	4.143	1.376	2.192	1.086
2013	4.281	4.181	1.393	2.197	0.929
2014	4.227	4.247	1.411	2.200	0.903
2015	4.231	4.276	1.427	2.286	0.954
2016	4.209	4.335	1.436	2.413	1.196

Source: Author's computation 2017

The data in Table 2 was used to run the analyses. The results are presented in Tables 3, 4, 5, 6 and 7.

4.2 Descriptive Statistics

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Descriptive Statistics consider the mean, median, maximum value, minimum value and standard deviation of a data set. Whereas, the mean reports the average value for each data series, the median explains the middle or centre point for each data series in the model. The maximum value presents the highest value for each data set, while minimum value shows the least value for each data set. Standard deviation is used to measure the dispersion or spread in each data series. It shows how volatile or stable each variable is (Hejase & Hejase, 2013).

Table 3: Descriptive Statistics

	LMCP	LMS	LITR	LEXR	LIFR
Mean	2.507694	2.760972	1.312000	1.428056	1.164500
Median	2.466500	2.744000	1.329000	1.655000	1.105000
Maximum	4.281000	4.335000	1.557000	2.413000	1.862000
Minimum	0.699000	1.160000	1.000000	-0.215000	0.732000
Std. Dev.	1.307854	1.078086	0.131161	0.844338	0.315482

Source: Author's using Eviews 9

The results of the descriptive statistics presented in Table 3 points out that LMS has the highest mean value of 2.760972, while LIFR has the lowest mean value of 1.164500. The median is 2.466500 for LMCP; 2.744000 for LMS; 1.329000 for LITR; 1.655000 for LEXR and 1.105000 for LIFR. LMS has the highest (Maximum) value of 4.335000 recorded in 2016, whereas, LEXR has the lowest (Minimum) value of -0.215000 attained in 1981. LMCP has the highest standard deviation of 1.307854. This means that market capitalisation is the most volatile among the variables considered in this study.

4.3 Normality Test

Normality test is used to ascertain if a data series is normally distributed or not. The normality test is conducted under the null hypothesis of a normal distribution against the alternative hypothesis of non-normal distribution. Jarque-Bera test of normality was employed in this study to determine if each series is normally distributed or not. In Jarque-Bera test, the null hypothesis of a normal distribution is rejected at 5% level of significance.

Table 4: Normality Test Results

	LMCP	LMS	LITR	LEXR	LIFR
Jarque-Bera	3.351606	2.920932	3.564921	4.192342	3.111395
Df	2	2	2	2	2
Prob.	0.187158	0.232128	0.168224	0.122926	0.211042

Source: Author's using Eviews 9

From the normality test results presented in Table 4, Jarque-Bera statistic for each of the variables studied (LMCP, LMS, LITR, LEXR and LIFR) has a probability greater than 0.05. Thus, the null hypothesis of a normal distribution is accepted for all the variables considered in the study. This implies that the data series (variables) were normally distributed.

4.4 Stationarity (Unit Root) Test

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Embarking on a regression analysis on non-stationary time series data gives spurious results. In order to avoid this, the study employed Augmented Dickey-Fuller test to determine the stationarity of the data. The results of the unit root test are presented in Table 5.

Table 5: Stationarity (Unit Root) TestResults

Variable	Augmented Dickey-Fuller Test Statistic	1% Level Critical Value	5% Level Critical Value	10% Level Critical Value	Order of Integration	Prob.*	Durbin-Watson Statistic
LMCP	-3.065735	-2.634731	-1.951000	-1.610907	1(1)	0.0032***	2.064322
LMS	-4.247195	-2.644302	-1.952473	-1.610211	1(2)	0.0001***	2.037405
LITR	-5.758056	-2.636901	-1.951332	-1.610747	1(1)	0.0000***	1.838677
LEXR	-4.023156	-2.634731	-1.951000	-1.610907	1(1)	0.0002***	2.070100
LIFR	-6.006444	-2.634731	-1.951000	-1.610907	1(1)	0.0000***	1.825915

***, ** and * connotes that variables are stationary at 1%, 5% and 10% significance level respectively.

Source: Computed by the author with the help of Eviews 9

The results in Table 5 reveal that all the variables are stationary at 1%, 5% and 10% significant level. The variables are non-stationary at levels. However, LMCP (market capitalisation), LITR (Interest rate), LEXR (exchange rate) and LIFR (Inflation rate) are stationary at first difference, while, LMS (money supply) is stationary at second difference. It is observed that the Augmented Dickey-Fuller test statistic is less than the critical values for each of the variables tested, which confirms their stationarity. Furthermore, the Durbin-Watson statistic for each of the variable is approximately 2.0. This confirms the reliability of the results and also depicts that there is no problem of autocorrelation in the time series data.

4.5 Ordinary Least Square Regression

The study used OLS regression technique to analyse the short-run relationship between the dependent and independent variables in the study.

Table 6: Regression Results

Dependent Variable: LMCP
Method: Least Squares
Date: 01/12/18 Time: 00:00
Sample: 1981 2016
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.231141	0.344465	0.671015	0.5072
LMS	1.166778	0.065176	17.90209	0.0000
LITR	-0.809350	0.271585	-2.980094	0.0056
LEXR	0.121024	0.099092	1.221328	0.2312
LIFR	-0.047961	0.071732	-0.668606	0.5087

R-squared	0.992415	Mean dependent var	2.507694
Adjusted R-squared	0.991436	S.D. dependent var	1.307854
S.E. of regression	0.121032	Akaike info criterion	-1.257280
Sum squared resid	0.454110	Schwarz criterion	-1.037347
Log likelihood	27.63104	Hannan-Quinn criter.	-1.180518
F-statistic	1013.959	Durbin-Watson stat	1.206926
Prob(F-statistic)	0.000000		

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Source: Computed by the author using Eviews 9

SMP (LMCP) = 0.231141 + 1.166778LMS – 0.809350LITR + 0.121024LEXR – 0.047961LIFR + μ

- - - - - - - - - - *(3)*

The regression results presented in Table 6 show that two variables (money supply and interest rate) out of four independent variables studied were found to be significant at 5% level. The implication is that only money supply and interest rate affect stock market performance in Nigeria. Whereas, money supply has a positive effect, interest rate has a negative effect on stock market performance. The results further explain that an increase in money supply by 1 standard deviation will result in 116.679% of standard deviation increase in stock market performance. However, an increase in interest rate by 1 standard deviation will cause stock market performance to decrease by 80.935% of a standard deviation. The other two variables – exchange rate and inflation rate have no significant effect on stock market performance as their regression coefficients were not statistically significant at 5% level. Therefore, it can be inferred from the results that money supply and interest rate are the main determinants that influences stock market performance in Nigeria.

The R-squared value displayed in Table 6 shows that 99% of the variations in stock market performance in Nigeria are caused by the determinants, that is, money supply and interest rate. The adjusted R-squared supports this result, meaning that the model is fit. Again, the results show that the model is significant at 1% and 5%. This is evidenced by the Probability (F-statistic) of 0.000000. However, Durbin-Watson stat of 1.206926 rejects the hypothesis of no autocorrelation. This prompted the running of another test (Correlogram) to prove the existence or non-existence of autocorrelation.

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4.6 Ljung-Box Q-Statistic

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This is another approach to check for autocorrelation by plotting the correlation of the residual with the residual lagged once; the residual with the residual lagged twice, and so on (Richard Startz, 2015). This plot is known as correlogram of the residuals.

Table 7: Ljung-Box Q-Statistic (Correlogram) Test Results

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Date: 06/08/18 Time: 20:19
Sample: 1981 2016
Included observations: 35

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. |*. |	. |*. |	1	0.118	0.118	0.5303	0.466
. | . |	. | . |	2	-0.026	-0.040	0.5566	0.757

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Source: Author's computation using Eviews 9

Table 4.7 presents the Correlogram. Differencing once with lags = 2, the Q-Statistic of both the first and the second rows has a Probability value that is greater than ~~0~~0.~~05~~05 which supports the hypothesis of no autocorrelation.

4.7 Cointegration Test

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Cointegration test is employed in this study to analyse the long-run relationship between the dependent and the independent variables.

Table 8: Cointegration Test Results

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Date: 01/11/18 Time: 21:32
Sample (adjusted): 1983 2016
Included observations: 34 after adjustments
Trend assumption: Linear deterministic trend
Series: LMCP LMS LITR LEXR LIFR
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.755512	92.67647	69.81889	0.0003
At most 1	0.476966	44.78449	47.85613	0.0945
At most 2	0.296658	22.74881	29.79707	0.2586
At most 3	0.199583	10.78379	15.49471	0.2251
At most 4	0.090215	3.214610	3.841466	0.0730

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.755512	47.89198	33.87687	0.0006
At most 1	0.476966	22.03569	27.58434	0.2185
At most 2	0.296658	11.96502	21.13162	0.5511
At most 3	0.199583	7.569179	14.26460	0.4242
At most 4	0.090215	3.214610	3.841466	0.0730

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Author's computation using Eviews 9

The first panel of Table 7 presents the results for the Trace statistic. From the results, the Trace statistic of 92.67647 is higher than the critical value of 69.81889 and has a probability of 0.0003 which less than 5%. Thus, the null hypothesis of no cointegrating vectors is rejected. The results points to the fact that the variables are cointegrated, implying that a long-run relationship exists between the dependent and independent variables.

The second panel of Table 7 shows the results of the Max-Eigen statistic. It is observed that the Max-Eigen statistic of 47.89198 is greater than the critical value of 33.87687, confirming the cointegration of the variables. The result is significant at 0.05 level. This means that there is a long-run relationship between the variables (the dependent and the independent) employed in the study.

4.8 Causality Test

The study employed Granger Causality Test to determine the direction of causal effect between stock market performance and the macroeconomic variables. In Granger Causality, the null hypothesis is rejected at 5% level of significance.

Table 9: Causality Test Results

Pairwise Granger Causality Tests

Date: 03/03/18 Time: 08:22

Sample: 1981 2016

Lags: 2

Null Hypothesis	Observations	F-Statistic	Prob.
LMCP does not Granger Cause LEXR	34	1.05434	0.3718
LEXR does not Granger Cause LMCP		6.02945	0.0065
LMCP does not Granger Cause LIFR	34	2.36265	0.1120
LIFR does not Granger Cause LMCP		1.36049	0.2724
LMCP does not Granger Cause LITR	34	0.42773	0.6560
LITR does not Granger Cause LMCP		2.62638	0.0895
LMS does not Granger Cause LMCP	34	4.95981	0.0140
LMCP does not Granger Cause LMS		1.48543	0.2431

Source: Computed by the author using Eviews 9

The results presented in Table 8, reveal in the first panel that no causality runs from stock market performance (as represented by market capitalisation) to exchange rate (Prob. = 0.3718). However, causality runs from exchange rate to stock market performance (Prob. = 0.0065). This implies that there exists a unidirectional causality running from exchange rate to stock market performance.

The second panel reveals that Stock market performance is not granger causal for inflation rate (P value = 0.1120). Also, inflation rate is not granger causal for stock market performance (P value = 0.2724). Similarly, the third panel shows no causal relationship between stock market performance and interest rate.

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The fourth panel reveals a unidirectional causal effect running from money supply to stock market performance (Prob. = 0.0140).

4.9 Test of Hypotheses

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Decision Rule:

i. *Accept the null hypothesis and reject the alternative hypothesis if the regression result is not positive and significant at 5% level.*
ii. *Reject the null hypothesis and accept the alternative hypothesis if the regression result is positive and significant at 5% level.*

Hypothesis 1

H_0: Money supply has no significant positive effect on stock market performance

H_1: Money supply has a significant positive effect on stock market performance

From the results of the regression analysis presented in Table 6, money supply has a positive and significant effect on stock market performance as proxied by market capitalisation. Therefore, the null hypothesis is rejected, while the alternative hypothesis is accepted.

The result is in-line with the studies of Singh (2004) and Shrestha and Subedi (2014) who found that money supply exhibits a significant positive impact on the stock market. Ditimi, Sunday, Emma-Ebere and Onyedikachi (2018) reports a significant effect of money supply on stock prices. However, the result is contrary to the findings of Alam and Rashid (2014) and Kolapo, Oke and Olaniyan (2018) who found that money supply is negatively associated with stock returns. Jamaludin, Ismail and Manaf (2017) did not find any significant effect of money supply on stock market returns.

Hypothesis 2

H_0: Interest rate has no significant positive effect on stock market performance

H_1: Interest rate has a significant positive effect on stock market performance

The regression results presented in Table 6 show that interest rate has a negative and significant effect on stock market performance. Thus, the null hypothesis is accepted, whereas, the alternative hypothesis is rejected.

This result is consistent with the findings of Alam and Rashid (2014) who found that interest rate has a negative effect on stock returns. Ditimi, Sunday, Emma-Ebere and Onyedika (2018) found a significant effect of interest rate on stock prices. However, Kolapo, Oke and Olaniyan (2018) found a negative but not significant effect of interest rate on stock market performance.

Hypothesis 3

H_0: Exchange rate has no significant positive effect on stock market performance

H_1: Exchange rate has a significant positive effect on stock market performance

The results of the regression analysis displayed in Table 6 indicate that exchange rate has a positive but not significant effect on stock market performance. Hence, the null hypothesis is accepted, whilst the alternative hypothesis is rejected.

The result is contrary to the findings of Jamaludin, Ismail and Manaf (2017), Singh (2014) and Alam and Rashid (2014) who all found that stock market returns are significantly affected by exchange rate.

Hypothesis 4

H_0: Inflation rate has no significant positive effect on stock market performance

H_1: Inflation rate has a significant positive effect on stock market performance

The regression results point to the fact that inflation rate has a negative and not significant effect on stock market performance. As such, the null hypothesis is accepted, implying that the alternative hypothesis is rejected.

The result is contrary to the findings of Shrestha and Subedi (2014) and Jamaludin, Ismail and Manaf (2017) who found a significant negative effect of inflation on stock market performance. However, Kolapo, Oke and Olaniyan (2018) found a positive effect of inflation on stock market performance.

4.10 Discussion of Findings

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The study revealed that money supply has a significant positive effect on stock market performance in Nigeria. This implies that an increase in money supply will result in a rise in stock market performance. The result is in agreement with the findings of Shrestha and Subedi (2014) who found that broad money supply has a positive effect on stock market performance. However, the result of this study is contrary to the findings of Alam and Rashid (2014) who found that money supply is negatively associated with stock market returns.

The result of this study also disclosed that interest rate has a significant negative effect on stock market performance. The implication is that a rise in interest rate will cause a decline in stock market performance. The result is in line with the studies of Shrestha and Subedi (2014); Alam and Rashid (2014) who found a negative effect of interest rate on stock market performance.

According to the study, exchange rate has no statistically significant effect on stock market performance. The result of this study agrees with the findings of Izedonmi, and Abdullahi (2011) who found no significant effect of exchange rate on stock returns. This result is contrary to the findings of Jamaludin, Ismail and Manaf (2017) who found that both conventional and Islamic stock market returns are significantly affected by exchange rate. However, Alam and Rashid (2014) found a negative effect of exchange rate on stock market returns.

The Findings of this research also revealed that inflation rate has no significant effect on stock market performance. This result agrees with the findings of Owiredu, Oppong and Asomaning (2016); Izedonmi, and Abdullahi (2011) who found no significant effect of inflation on stock market performance. This finding is opposing the findings of Jamaludin,

Ismail and Manaf (2017); Miseman, Ismail, Ahmad, Akit, Mohamad and Mahmood (2013) and Kolapo, Oke and Olaniyan (2018) who found a significant effect of inflation rate on stock market performance.

5. Implications, Conclusion and Recommendations

5.1 Implications of the Study

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The study considered four macroeconomic variables to ascertain the true determinants of stock market performance in Nigeria. The macroeconomic (independent) variables include money supply, interest rate, exchange rate and inflation rate. The results of Johansen cointegration test showed that there exists a long-run relationship between the independent variables and stock market performance (as proxied by market capitalisation). The OLS results showed that money supply has a significant positive effect on stock market performance. It means that the supply of money, to a greater extent, affects the performance of stock market in Nigeria positively. Therefore, if money supply increases, other factors being normal, stock market performance increases too. The results also indicated that interest rate has a significant negative effect on stock market performance, implying that an increase in interest rate will result in decrease(s) in stock market performance. Conversely, exchange rate and inflation rate have no statistically significant effect on stock market performance.

The knowledge from this study will guide policy makers in formulating and adjusting policies to promote macroeconomic stability and foster the performance of the stock market which will in turn promote economic development. Furthermore, this study serves an eye opener to investors as it provides useful guides concerning investments in the capital market. Having this knowledge will enable them to make good returns on their investments. Also, this research work serves as a reference material for further research on this field of study. In addition, it serves as a study material for both Lecturers and Students interested in this topic. Moreover, as the study guides policy makers in making and adjusting policies to achieve macroeconomic stability; helps investors to make good returns on investments; it will help the economy to grow resulting in enhanced standard of living of the people.

5.2 Conclusion and Recommendations

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In conclusion, money supply and interest rate are the true determinants of stock market performance in Nigeria. The reason is that out of the four independent variables considered in this study, only two of them (money supply and interest rate) exhibited a significant effect on stock market performance.

Therefore, this study recommends that monetary policies that favour the supply of money in the economy of Nigeria should be pursued in order to ensure a better performance of the stock market. This is necessary because money supply has a significant positive effect on stock market performance in Nigeria. The study also recommends that interest rate should be relatively low to guarantee a better performance of the stock market. This is indispensable judging from the fact that interest rate demonstrated a significant negative effect on stock market performance.

5.3 Suggestions for Further Studies

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The study used four macroeconomic indicators, namely: money supply, interest rate, exchange rate and inflation rate as independent variables whilst market capitalisation (proxy for stock market performance) was employed as the dependent variable. However, there are other variables that were not captured in this study but could be employed in a study of this nature. Thus, further studies in this area should capture other relevant variables like stock market liquidity, industrial production index, consumer price index, wholesale price index, unemployment rate, et cetera.

References

Alam, Z. & Rashid, K. (2014). Time Series Analysis of Relationship between Macroeconomic Factors and the Stock Market Returns in Pakistan. *Journal of Yasar University, 9(36), 6261-6380*

Akani, H. W. & Lucky, L. A. (2014). Money Supply and Aggregate Stock Prices in Nigeria. An Analysis of Co-integration and Causality Tests. *Researchjournal's Journal of Finance, 2(10), 1-24*

Azeez, A. A., Yonezawa, Y. (2003). Macroeconomic factors and the empirical content of the arbitrage pricing theory in the Japanese stock market. *Japan and the World Economy, 18(4), 568-591*

Bissoon, B., Seetanah, B., Bhattu-Babajee, R., Gopy-Ramdhany, N. & Seetah, K. (2016). Monetary Policy Impact on Stock Return: Evidence from Growing Stock Markets. *Theoretical Economic Letters, 6, 1186-1195*

Ballester, L., Ferrer, R. and González, C. (2011). Linear and nonlinear interest rate sensitivity of Spanish banks. *Spanish Review of Financial Economics, 9(2), 35-48*

CBN (2018). CBN Exchange Rates

Ditimi, A., Sunday, K., Emma-Ebere & Onyedikachi (2018). Dynamic Interrelationship between Macroeconomic Fundamentals and Stock Prices in Nigeria. *J Fin Mark., 2(1), 50-59*

Elyasiani, E. and Mansur, I. (1998). Sensitivity of the Bank Stock Returns Distribution to Changes in the Level and Volatility of Interest Rate: A GARCH-M Model. *Journal of Banking and Finance. 22(5), 535–563*

Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance, 25, 383-417*

Flannery, M.J. and James, C. (1984). The Effect of Interest Rate Changes on the Common Stock Returns of Financial Institutions. *Journal of Finance, 39(4), 1141-1153*

Gay, R. D. (2008). Effects of Macroeconomic Variables on Stock Market Returns for Four Emerging Economies: Brazil, Russia, India and China. *International Business and Economic Research Journal, 7(3)*

Hejase, A. and Hejase, H. (2013). *Research Methods: A Practical Approach for Business Students* (2nd edition). Philadelphia, PA, Masadir Inc.

Imegi, J. C. and Wali, A. F. (2018). Macroeconomic Variables and Financial Market Stability in the Nigeria Financial Services Sector. *European Journal of Accounting, Auditing and Financial Research, 6(1), 55-66*

Izanami and Abdullahi (2011). Effects of Macroeconomic Factors on the Nigerian Stock Returns: A Sectoral Approach. *Global Journal of Management and Business Research, 11(7)*

Jamaludin, N., Ismail, S. & Manaf, S. A. (2017). Macroeconomic Variables and Stock Market Returns: Panel Analysis from Selected ASEAN Countries. *Journal of Economics and Financial Issues, 7(1), 37-47*

Jareno, F. & Negrut, L. (2016). US Stock Market and Macroeconomic Factors. *The Journal of Applied Business Research, 23(1)*

Kganyago, T, & Gumbo, V. (2015). An Empirical Study of the Relationship between Money Market Interest Rates and Stock Market Performance: Evidence from Zimbabwe (2009-2013). *International Journal of Economics and Finance Issues, 5(3), 638-646*

Kolapo, F. T., Oke, M. O. & Olaniyan, T. O. (2018). Unravelling the Impact of Macroeconomic Fundamentals on Stock Market Performance in Nigeria: An Ardl-bound Testing Approach. *Journal of Economics, Management and Trade, 21(3), 1-15*

Kumar, R. (2013). The Effect of Macroeconomic Factors on Indian Stock Market Performance: A Factor Analysis Approach. *IOSR Journal of Economics and Finance (IOSR-JER), 1, 14-21*

Masuduzzaman, P. (2012). Impact of Macroeconomic Variables on the Stock Market Returns: The Case of Germany and the United Kingdom. *Global Journal of Management and Business Research, 12(16)*

Miseman, M. R. , Ismail, F., Ahmad, W, Akit, F.M., Mohamad, R. & Mahmood, W. M. W (2013). Macroeconomic Fundamentals and Stock Market Performance. *World Applied Sciences Journal, 23, 61-66*

Naik, P. K. and Padhi, P. (2012). The Impact of Macroeconomic Fundamentals on Stock Prices Revisited: Evidence from Indian Data. *Eurasian Journal of Business and Economics, 5(10), 25-44*

Nwakoby, C. & Bernard, A. (2016). Effect of Monetary Policy on Nigerian Stock Market Performance. *International Journal of Scientific Research and Management, 4(9)*

Olulu-Briggs, O. V. & Ogbulu, O. M. (2015). Money Supply and Asset Prices in Nigeria (2008-2018): An Empirical Review. *Research Journal of Finance and Accounting, 6(10), 45-56*

Osisanwo, B. G. & Atanda, A. A. (2012). Determinants of Stock Market Returns in Nigeria: A Time Series Analysis. *African Journal of Scientific Research, 9(1), 478-496*

Owiredu, A., Oppong, M. & Asomaning, S. A. (2016). Macroeconomic Determinants of Stock Market Development in Ghana. *International Finance and Banking, 3(2)*

Ross, S. A. (1976). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory, 13, 340-362*

Singh, P. (2014). Indian Stock Market and Macroeconomic Factors in Current Scenario. *IMPACT: International Journal of Research in Business Management (IMPACT: IJRBM), 2(11), 43-54*

Staikouras, S.K. (2003). The Interest Rate Risk Exposure of Financial Intermediaries: A Review of the Theory and Empirical Evidence. *Financial Markets, Institutions and Instruments, 12(4), 257-289*

Staikouras, S.K. (2006). Financial Intermediaries and Interest Rate Risk: II. *Financial Markets, Institutions and Instruments, 15(5), 225-272*

Startz, R. (2015). Eviews Illustrated for Version 9. University of California, Santa Barbara. IHS Global Inc. 4521 Campus Drive, No. 336 Irvine CA, 92612-2621

Sukruoglu, D. & Nalin, H. T. (2014). The Macroeconomic Determinants of Stock Market Development in Selected European Countries: Dynamic Panel Data Analysis. *International Journal of Economics and Finance, 6(3), 64-71*

Shrestha, P. K. & Subedi, B. R. (2014). Determinants of Stock Market Performance in Nepal. *NRB Economic Review – Working Paper Series, NRB-WP-24*

Talla, J. T. (2013). Impact of Macroeconomic Variables on the Stock Market Prices of the Stockholm Stock Exchange (OMXS30). Master's Thesis of Jonkoping University

Udoka, O. C., Nyah, M. J. and Bassey, J. G. (2018). The Effect of Macroeconomic Determinants of Stock Price Movements in Nigeria, *International Journal of Research-Granthaalayah, 6(1), 203-218*

Vena, H. (2014). The Effect of Inflation on the Stock Market Returns of the Nairobi Securities Exchange. An M.Sc. Thesis Submitted to School of Business, University of Nairobi

Zubair, A. (2013). Causal Relationship between Stock Market Index and Exchange Rate: Evidence from Nigeria. *CBN Journal of Applied Statistics, 4(2), 87-110*