

Impact of Investors' Sentiment and Gross Domestic Product on Stock Return in Nigeria**Mathew Yusuf**

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Abstract

The objective of this study is to empirically establish the relationship between investors' sentiment and Real Gross domestic product (RGDP) on stock return in Nigeria. The study is correlational in nature and used panel regression model to test the hypotheses. Using 10 listed firms as the sample size from 1st January 2008 to 31st December 2021 out of the 156 firms listed on the Nigerian stock exchange. The study found the presence of a positive and insignificant link between investor sentiment and stock return, also showed the presence of negative and statistically insignificant relationship between RGDP on stock returns. Consequently, the study recommended that, there is need for the policy makers and regulators of the Nigerian capital market to consider sentiment amongst investor as an indicator for price movement in the stock market. The central Bank of Nigeria should consistently implement economic growth policies which will increase both aggregate demand and supply to making the economy more productive which will positively affect the GDP. This will result in the rise in stock prices. These policies may be considered by the government: monetary policies (cutting interest rate), fiscal policy (cut taxes) increase money supply, privatization/deregulation and investment in education.

Keywords: Stock returns, investors' sentiment, Gross Domestic Product

1.0 Introduction

Stock market is facility that stimulates trading of financial assets, that is buying and selling of stocks of publicly listed companies by the buyers and sellers who converge to trade (Kibara, 2021). Similarly, the stock market is a kind of financial market where platforms are created for traders to buy and sell financial assets. Thus, the stock market trends behaves in an upward or downward direction which most often signifies stock prices variation either high or low (Haritha, 2020). As suggested by Dhamandra (2018) stock prices are seen as a measure of both performance and shareholders wealth. When lagged over a period, stock prices give rise to stock returns which investor used to measure values created by their investment (Sathesh & Vidya 2018).

According to Naseem, (2020) the economic condition such as RGDP of a country has a strong impact on the stock prices, and it is important to note that any regular rise and fall in the prices of stock market might impact the economy negatively because the exchange or trade of financial products are completed with prices, and this will therefore determine the propensity of investors' investing in the market. It is important to note that, the benefit of stock returns all over the world

cannot be overemphasized; reason is that investors whether individual or institutional investors depend largely on the market performance to direct their investing decision (Omodero & Mlang, 2019).

This study provided measurements for stock return variation that is caused by macroeconomic variable that is the gross domestic product and investors' sentiment. However Nigeria as a developing market has diverse structure and institutional features from the developed market. In addition, investors are interested in getting insight into the activities of companies in the country, it is imperative to find out whether stock returns in Nigeria respond differently from the effect of macroeconomic factor (GDP) and investor sentiment or not. This study therefore examines the impact of macroeconomic factor (gross domestic product) and investors' sentiment on stock return on some selected listed firms in Nigeria.

Many researchers have attempted to examine the impact of macroeconomic factor on stock returns (Ejike, 2021; Olugbenga, 2014, Onyinyechi & Mlang 2019, Josiah, & Akpoveta, 2019; Agwu et.al 2020). Similarly, there are handful of studies on the area of investor sentiment and its impact on stock return in Nigeria. Though, some researchers have attempted to examine the impact of investor sentiment on stock returns in Nigeria (Adejekwu & Okoro 2019;) it is against backdrop that this study seek to combine the both effect that is the impact of macroeconomic factor (Gross Domestic Product) and investor sentiment on stock returns in Nigerian as a gap of this study. Furthermore, this study adds to the existing literature in this area by constructing an investor sentiment index along the panel regression model which to the best of researches' knowledge no studies have been conducted with these combined variables and models

The significant contribution of this paper includes the following: first it expands literature and adds to the existing body of knowledge on the impact of macroeconomic factor (gross domestic product) and investors' sentiment on stock returns on firms listed on the Nigeria exchange Group (NXG). Second it provides policy direction for regulators and policy makers, particularly the security and exchange commission (SEC). Lastly, the study serves as a guide for capital market operators in their investing advisory services they offer to investors.

Consequently, this study aims at empirically analyzing the impact of investors' sentiment and gross domestic product on stock returns in Nigeria. The specific objectives includes to:

- i. Determine the effect of in investors sentiment on stock returns in Nigeria
- ii. Examine the effect of gross domestic product on stock returns in Nigeria

To achieve this, the paper hypothesized that, there exist no significant relationship between investors' sentiment and stock return in Nigeria, also gross domestic product has no significant effect on stock returns in Nigeria

2. Empirical Review

2.1 Macroeconomic variables on stock returns

Hsing (2011) investigate the impact of macroeconomic variables on stock returns on the stock market in Croatia, using a period of 10 years from 2007 to 2009. The objective of the study was examining the impact of macroeconomic variable on stock returns, GARCH model was used to analyze the data. The study report positive association with the macroeconomic variable used in the study, however, the study was conducted in Bulgaria not in Nigeria, so variation on

macroeconomic policies could limit its application in Nigeria. Hussain (2012) examined the impact of macroeconomic variable on prices in Karachi stock market in Pakistan; the research objective was to find a long term link between macroeconomic variables and stock prices. Secondary data were used and utilizing a period of 10 years spanning from 2001 to 2010; vector error correction model as (VECM) to test for relationships. The study revealed a positive connection between macroeconomic variables and stock prices; the short coming of the study was the use of 9 years period to test for long term relationship.

However, Issahaku (2013) employed monthly time series data spanning from January 1995 to December 2010, and vector error correction model (VECM) was used to establish a relationship. This was to evaluate the impact of macroeconomic variable on stock returns, with the objective of examining the existing causality between macroeconomic variable on stock return in Ghana. The study revealed a positive connection between macroeconomic variables on stock return both in the short run and long run, however, the study may have been over taken by time due to new development in the financial sectors.

Olugbenga (2014) assessed the impact of macroeconomic variable on stock return in Nigeria from 1985 to 2009. The study used Johansen co-integration techniques to establish a relationship. The objective was to examine whether each of the macroeconomic variable have any significant impact on the stock prices. The study showed that, macroeconomic variables have strong positive and significant impact on stock prices; the study did not reveal how unstable asset prices are as a result of changes in macroeconomic policy.

Josiah and Poveta (2019) used a period spanning from 1986 to 2014 to examine the impact of macroeconomic variable on stock returns. The objective was to assess the influence of macroeconomic variable on stock return in Nigeria stock market. Error correction model and granger causality test were utilized to establish a connection. The study found that, positive relationship, but the need to expand the period to 2023 and conduct a study in Nigeria is critical in view of monetary policies stance of government in recent times. Nigeria has experience unstable exchange rate regime and inflation rate.

Abbas (2019) evaluated the impact of macroeconomic variables and stock return and the objective was to examine the relationship between macroeconomic variable and stock in KSE index. Secondary data were employed using 10 years period ranging from 2002 to 2012 using regression and correlation model. The finding of the study showed a positive relationship between inflation rate and stock return, GDP has positive link with stock return. The limitation of the study is that, the domain differences and period cover may affect the application in Nigeria.

Sahoo et al (2020) investigates the impact of macroeconomic variable on stock return, with the objective of examining the linkages among macroeconomic indicators and stock return during the period 2015 to 2019. The study applied t-test and ANOVA model to test for relationship. The empirical finding presents a positive relationship. However, a period longer than 4 years would have been better

2.2 Investors' sentiment and stock returns

In the work of Baker et al. (2012) evaluated the global, local and contagion investor sentiment, the purpose of the study was to construct an investors sentiment index in the United States of America (U.S.A). Using 25 years period spanning from 1980 to 2005 and data were obtained from Mathias Van Dijk of listed companies. The empirical finding revealed a positive relationship between sentiments and stock prices. Xintian (2017) evaluated the impact of investor sentiment on stock return; the purpose of the study is determining the relationship between sentiment and stock return. The study used 4 years period ranging from 2010 to 2014 utilizing ARMA model, and Granger causality test to establish the relationship. The finding revealed a positive relation between investors' sentiment and stock return. The inability of the study to expose the period in which sentiment is low or high reveals its shortcoming

In another similar study, Rupande et.al (2019) investigated the impact of investors' sentiment on stock returns in South Africa. The data collected were analyzed using GARCH model and E-GARCH model of Nelso (1991) from the period between 2002 to 2018. The empirical findings show that, there is a positive and significant connection between investor sentiment and stock returns. Also the study fails to utilize a single model to prevent the findings from being ambiguous. In a related study, using 13 years period spanning from 2006 to 2019 Lan and Yan (2020) assessed the impact of investors' sentiment on stock return, and the objective of the study is to determine the link between sentiment and stock returns in Shanghai stock market. Regression model was used for data analysis and to establish relationship. The empirical findings indicated a positive relationship between sentiment and stock returns. Also, Madhumita and Subramanian (2020) evaluated the impact of investors' sentiment on stock. The objective is to assess the connection between sentiment and stock volatility in India utilizing a period from 2012 to 2018 using market sentiment index. The study reveals that investors' sentiment positively determines stock return. However, GARCH model would have been best suited in testing volatility

Finally, Wang et.al (2021) empirically explore the relationship between investors sentiment on stock return in the United Kingdom (UK) utilizing a total of 50 stock market from 2001 to 2015. The objective of the study is to determine the relationship between investor sentiment and stock returns. The study uses regression model to analyze the connections between variables, the empirical finding reveal that investor sentiment negative predict stock return

2.3 Theoretical framework

2.3.1 Arbitrage Pricing Theory

The arbitrage pricing theory was developed by the economist Ross in (1976). This model explains the relationship between return and risk, the theory links the expected return of an asset to the return from the risk-free asset and a series of other common factors that systematically increase or decrease the expected return. Arbitrage Pricing Theory assumes markets sometimes misprice securities whether underpricing or over pricing the market.

Arbitrary pricing theory (APT) factors are those systematic risks that cannot be eliminated by the diversification of an investment portfolio; the macroeconomic factor (Gross Domestic Product) that has proven most reliable as price predictor. The study used arbitrary pricing theory (APT) to underpin the study. The APT has the explanatory power of determining risky and returns of

security, and also explains systematic risk that affect not only individual security returns, but the market returns

3. Methodology

For better insight of this study, correlational research design was adopted. The justification was that, correlational design establishes the existence and nature of association between variables (Kumar, 2013). Regression panel data on multiple phenomena of 10 firms were observed over multiple periods of 14 years (2008 - 2021). The population of the study is the 156 firms that are listed in the Nigeria Exchange Group (NXG). While selecting the sampling from the 156 listed firms, a firm is regarded as eligible to filter into the sample if it satisfied the following requirements: first it must be a listed firm. Second the firms that did its IPOs in 2008. The period of sample is 14 years; from 2008 to 2021. This sample period in my opinion is sufficient to draw reliable conclusions

The study utilized secondary data; the main source of the data was the Nigerian Exchange group (NXG), Central Bank of Nigeria (CBN) statistical bulletin, security and exchange commission (SEC) and investing.com

A panel regression analysis was used to achieve the objectives of the study. The Jarque-bera statistic was used to describe the normality of the residuals. Correlation matrix was used to describe the degree of relationship linking the regressors (gross domestic product variable and investor sentiment) with the dependent parameters/ variable (stock return)

The econometric model to measure the impact of macroeconomic variable (GDP) on stock returns and as well the investors' sentiment index was constructed in an agreement with the objective of the study

$$\text{Sentiment index} = \beta_1 (TURN)_t + \beta_2 (RIPO)_t + \beta_3 (NIPO)_t + \beta_4 (DIVP)_t \dots\dots\dots(1)$$

Where

TURN = turn over

RIPO= return on initial public offering

NIPO= number of initial public offering

DIVP= dividend premium

Turnover is measured as

$$TO = \frac{\text{vototal lume}}{\text{market capitalization}}$$

Initial public offering first day return is measures as

$$RIPO = \frac{Pi1 - Pio}{Pio}$$

Where

RIPO = the return on IPO

P_{i1} = the first day closing price

P_{i0} = the offer price

Number of initial public offering will be measure as follow

NIPO = The number of IPO for the particular year

Dividend premium or volatility premium is measure as

DIVP = Standard deviation of the monthly returns base on daily returns

Therefore the basic form of a model is the parsimonious equation to be estimated as direct relationship

$$SR_{it} = \alpha_0 + \beta_1 INVS_{it} + \beta_2 RGDP_{it} + \varepsilon_{it} \dots \dots \dots (2)$$

Where

SR_{it} = Stock return of security at time t

$INVS_{it}$ = Investor sentiment at time t

$RGDP_{it}$ = Real Gross Domestic product at time t

ε_{it} = stochastic disturbance term for stock return

Stock return is measured using this model

$$SR_{it} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

Where

SR_{it} is as previously defined

P_t = Price of the asset at time t

P_{t-t} = Previous price of an asset at time t

Gross domestic product is measure based on the following model

$$R = \frac{\text{nominal GDP}}{\text{GDP deflator}}$$

Where

R = real GDP

N = nominal

D = GDP deflator

Table 1 Variable Measurement

Variable	Variable type	Variable measurement	Source	Apriori
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Stock return (SR)	Dependent	Measure as the closing price of listed firm to the opening price of listed firms of NGX	Techno (2018)	N/A
Investor sentiment index				
Turnover (TURN)	Independent variable	Measure as the total naira volume over the years divided by total market capitalization	Hu et al. (2021) Baker and wugler(2004)	+
Dividend premium (DIVP)	Independent variable	Measure as the standard deviation of the monthly returns base on compounded daily return	Zheng (2020)	+
Number of initial Public offering (NIPO)	Independent variable	Measure as the number of initial public offerings	Baker and Wurgler (2007)	+
Return on initial public offering (RIPO)	Independent variable	Measure as the first day average initial returns	Baker and Wurgler (2007)	+
Gross Domestic Product (GDP)	Independent variable	Measures as the Real GDP ie economic output minus inflation	Kibara et al (2021)	+

Source: Researcher's compilation 2024

4. Results and Discussion

In order to determine the inter-relationship of the variables, this section commence by evaluating the summary statistic. This gives an insight of the pattern in the data. The summary statistic and correlational matrix are presented below

Table 2 Summary of Descriptive Statistics

	SR	ISD	RDGP
Mean	0.04	0.31	3.68
Minimum	-0.54	-3.50	3.55
Maximum	0.54	2.59	3.80
Std. Dev.	0.27	0.96	0.06

Skewness	-0.18	-0.82	-0.24
Kurtosis	3.11	4.82	2.43
Jarque-Bera	0.8230	34.8402	3.1632
Probability	0.6626	0.0000	0.2056
Observations	140	140	140

Source: Researcher's computation using Eviews 10, 2024

As shown table 2, the average mean value for stock return (SR) is 0.04, suggesting a positive return around the center of the return. The minimum value is -0.54 to the maximum value of 0.54 indicating the highest return within the variable. The standard deviation of 0.27 showing that there is a small dispersion of the stock return around the mean, and the skewness of return is -0.18 indicating a negative skewness with a kurtosis of 3.11, meaning that the returns are fairly perfectly distributed. In addition to that, the Jarque-Bera normality statistics value for stock return is 0.8230 while the probability value is 0.6626 therefore, the data do not have a normal distribution given the null hypothesis assumption that there is a normal distribution, similarly, the Jarque_Bera statistic is small and a p-value of 0.6626 which greater than critical value we therefore reject the null hypothesis.

ISD analysis show that there is an average value of 0.31 indicating the average value of ISD around mean, and the minimum value is -3.50 and maximum value of 2.59 showing the highest ISD around the mean. Given the standard deviation of 0.96 also indicate that the dispersion is small around the mean which could possibly not affect the investment returns. The skewness of -0.82 and the kurtosis of 4.82 indicate a normal distribution but peak and platykurtic since 4.82 is greater than 3. The Jarque-Bera normality is 34.8402 while the probability is 0.000 which is highly significant therefore we accept the null hypothesis.

The table further show that the average is 3.68 meaning that there are more positive values than negatives in data, and a standard deviation of 0.06 indicating a small dispersion around the mean. The maximum value is 3.80, and the minimum value is 3.55 indicating that 3.80 is the largest RGDP in the variable within the study period, the skewness -0.24 and kurtosis of 2.43 suggesting an abnormal distribution and leptokurtic. The Jarque-Bera normality statistics is 3.1632 and with a p-value of 0.2056 suggesting that there is normal distribution since the p-value is greater than 0.05. we therefore accept the null hypothesis.

Table 3 Correlation Matrix

	SR	ISD	RGDP
SR	1		
ISD	-0.0441	1	
RGDP	0.3605	-0.0479	1

Source: Researcher's computation using Eviews 10, 2024

The above matrix depicts the degree of direction and association between each variables being analyzed. A correlation coefficient with negative sign reveals that, there is an opposite relationship between the two variables. The correlation result indicates that investor sentiment and GDP are positively correlated to stock returns. These correlations are given by the coefficient of -0.0441

and 0.3605 respective. Similarly, a correlation coefficient with positive signs reveals that, there positive relationship between the two variables.

4.1 Cross section fixed effect test

This section presents the results of cross section fixed effect with (AR). It also draw its conclusions in line with the hypotheses formulated in section one. The summary of the result obtain from the cross-section fixed effect is presented table 4

Table 4 Cross-section fixed effect with AR (1)

Variables	Coefficient	Std. Error	t-statistics	P-values	Decision
C	1.136469	2.266162	0.501495	0.6170	
ISD	0.000105	0.000459	0.227706	0.8203	Accept
LRGDP	-0.397322	0.590385	-0.672988	0.5023	Accept
R-squared					0.392486
Adjusted R-squared					0.311842
Standard error					0.225268
Durbin- Watson stat					1.992265
F-statistics					4.866926

Source: Researcher's computation using Eviews 10, 2024

4.2 Testing of Hypotheses

On this section, the study tested two hypotheses to determine direct relationship between investor sentiment and Gross Domestic product on stock return in Nigeria.

4.3 Investor Sentiment and Stock Return

Given the regression result in above table, have coefficient value of 0.000105 and an insignificant p-value of 0.8203. This indicates that, investor sentiment is positive and insignificantly influencing the stock returns of firms listed in the Nigeria Exchange Group (NXG). This is suggesting that, investor sentiment is positively and insignificantly influencing stock return in Nigeria. This signifies that for every increase in investor sentiment will result to an increases in stock returns.

The result shows that there is an insignificant relationship between investor sentiment and stock return of listed firms in the Nigeria Exchange Group. Hence, the study fails to reject the null hypotheses which state that investor sentiment has no significant effect on stock return in Nigeria.

4.4 Real Gross Domestic Product and Stock Return.

Table 4 above showed that, real gross domestic product had negative coefficient value of -0.397322 and p-value of 0.5023. Meaning that, in every increase in real gross domestic product it would lead to decrease of returns of firms listed in Nigeria stock exchange. In conclusion, the study fails to reject the null hypothesis of the study which state that, real gross domestic product has no significant effect on the stock return in Nigeria

5. Conclusion and Recommendations

Investor sentiment is found to be positively and statistically insignificant in influencing the stock returns of firms listed in Nigeria Exchange Group as indicated by a coefficient value of 0.000105 and p-value of 0.8203. This concludes that as investor sentiment increases stock returns of listed firms also increases. This result agrees with prior studies of Rupendee (2019), Madhumita and Subramanian (2020). Conversely the study did not agree with the findings of Wang et. al (2021), Grigaliuie, (2010), Bathia and Bredin (2012).

Real gross domestic product (RGDP) has a negative and statistically insignificant in impacting the stock returns of firms listed in Nigeria stock exchange with coefficient value of -0.397322 and a p-value of 0.5023 respectively. This result suggest that, as the number of real gross domestic product increases by one it leads to decrease the stock returns of firms listed in the stock exchange. The study finding is in tandem with the study of Abbas (2019),

Given the findings and conclusions, the study makes the following recommendations with a view to strengthening the market activities, particularly to listed firms in Nigeria stock market

There is need for the policy makers and regulators of the Nigerian capital market to consider sentiment amongst investor as an indicator for prices movement in the stock market; and adequate quantitative data on sentiments should be made available to guiding both existing and potential investors on their behavioral approaches towards the market.

The central Bank of Nigeria (CBN) should consistently implement economic growth policies which will increase both aggregate demand and supply to making the economy more productive which will positively affect the GDP. This will result in the rise in stock prices. These policies may be considered by the government: monetary policies (cutting interest rate), fiscal policy (cut taxes) Quantitative easing (increase money supply), privatization/deregulation and investment in education

References

- Abbass, G., Bashir, U., Wang, S., Zebende, G.F & Ishfag, M. (2019). The return and volatility nexus among stock market and macroeconomic fundamentals in China, *statistical Mechanic and Application*
- Adejekwu & Okoro (2019). Effect of investor sentiment on future returns in the Nigerian stock market, *International Journal of Trend in Scientific Research and Development*, 1(5), 2456-6470
- Agwu, E.C., Godfrey, O.U., & Maxwell, O.O. (2020). Dynamic interactions of Nigeria stock market and macroeconomic variables, *Journal of Finance and Accounting*, (8), 22-34.
- Baker, M., & Wurgler, J. (2004). A Catering Theory of Dividend, *Journal of Finance*, 59(2), 1125-1165.
- Baker, M., & Wurgler, J. (2007). Investor Sentiment in the Stock Market, *Journal of Business* 21(2), 129-151
- Baker, M., Wurgler, J., & Yuan, Y. (2012). Global local and contagious investor sentiment, *Journal of Financial Economics*, 104,272-287
- Bathia, D., &Bredin , D. (2012). An examination of investor effect on G7 stock market returns, *The European Journal of Finance*, 19(9), 909-937.

-
- Dharmandra, S. (2018). Stock price determinants: Empirical evidence from Muscat securities market, *Oman*, 52(4), 141-157
- Ejike, N.C. (2021). Effect of macroeconomic variables on share price movement in Banking sector in Nigeria, 8(2)
- Grigaliuniene, Z., & Cibulskiene, D. (2010). Investor sentiment effect on stock returns in Scandinavian stock market, *Journal of Economic and management science*, 8(2), 22-55
- Haritha, P.H, & Rishad, A. (2020). An empirical examination of investor sentiment and stock market volatility: evidence from India, *Journal of Financial Innovation* (3), 1-15
- Hsing, Y. (2011). macroeconomic variables and the stock market: the case of Croatia
- Hu, J., Sui, Y., & Ma, F. (2021). The measurement of investor sentiment and its relationship with stock market, *Computational Intelligence Neuroscience* 11
- Hussain, M.M., Amir, M., Rasoil, N. (2012). The impact of macroeconomic variables on stock prices: An empirical analysis of Kurachi stock exchange, *Mediterranean Journal of Social Sciences* (3)
- Issahaku, H., Ustarz, Y., & Domanban, P.B. (2013). Macroeconomic variables and stock returns in Ghana: Any causal link? *Asian Economic and Financial Review*, 3(8), 1044-1062
- Issahaku, H., Ustarz, Y., & Domanban, P.B. (2013). Macroeconomic variables and stock returns in Ghana: Any causal link? *Asian Economic and Financial Review*, 3(8), 1044-1062
- Josiah, M., & Akpoveta, E.B. (2019). Macroeconomic variables and Nigeria stock market return, *International Journal of Accounting and Taxation Research Group* 3(1), 55-68
- Josiah, M., & Akpoveta, E.B. (2019). Macroeconomic variables and Nigeria stock market return, *International Journal of Accounting and Taxation Research Group* 3(1), 55-68, *Journal of Research and Management* 2(11), 2588-2292
- Kibara W.J. (2021). The effect of macroeconomic variables on stock returns of companies listed in Nairobi securities exchange, thesis submitted to Egerton university
- Kibara W.J. (2021). The effect of macroeconomic variables on stock returns of companies listed in Nairobi securities exchange, thesis submitted to Egerton University
- Kumar, R. (2003). Research Methodology: A step by step guide for beginners (2nded). Los Angeles: sage publications.
- Lan, Y., Huang, Y., & Yan, C. (2020). Investor sentiment and stock prices: Empirical Evidence from Chinese SEOs, *Economic Modelling*
- Madhumita, C., & Subramaniam, S. (2019). Assymmertic relationship of investor sentiment with stock return and volatility: evidence from India. *Review of Behavioral Finance*, 16 (3), 394-408
- Markowitz, H. M. (1952). Portfolio selection, *Journal of Finance*, 7(1), 77-91.
- Naseem, S.D (2020). Impact of macroeconomic variables on stock market: evidence from emerging market and developed market, A thesis submitted to capital university of science and technology Islamabad, the department of management science
- Olugbenga, A.A (2014). The impact of macroeconomic variable on stock prices in Nigeria, thesis submitted to the Department of finance, university of Lagos, Nigeria.
- Olugbenga, A.A (2014). The impact of macroeconomic variable on stock prices in Nigeria, thesis submitted to the Department of finance, university of Lagos, Nigeria.
- Omodero, C.O., & Mlaga, S. (2019). Evaluation of the impact of macroeconomic variables on stock market performance in Nigeria, *Business and Management Studies*, 5(2), 2374-5916,
-

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- Onyinyechi, C., & Mlangi, S. (2019). Evaluation of the impact of macroeconomic variables on stock market performance, *Business and Management Studies Journal*, 5(2), 2374-5916
- Pradhan, R.P.(2019). The FDI-led hypothesis in ASEAN-5 countries :Evidence from co-integration panel Analysis, *International Journal for Business Management*, 4(12), 153-164
- Ross, S. A. (1976). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory*. 13(3), 341-360.
- Rupande, L., Muguto, H.T & Muzindatsi, P. (2019). Investor sentiment and stock return volatility: evidence from the Johannesburg stock exchange, *Cogent Economic and Finance*, 7(1)
- Sahoo, A.P., Patnaik, B.C.M, & Satpathy, I. (2020). Impact of Macroeconomic Variables on Stock Market –A study between India and America, European, *Journal of Molecular and Clinical Medicine* (7),11, 1-16
- Sathesh, & Vidya, A. (2018). Testing of efficient market hypothesis: A study on semi-strong efficiency of Indian stock market, *International Journal of Management*, 7(5), 44-50
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425-442.
- Wang, W.W., Su, C., & Duxbury, D. (2021). Investor sentiment and stock returns: Global evidence, *Journal of Empirical Finance*, 64, 365-391.
- Xintian, Z., Chi, L. & Song, D (2014) Investors Sentiment In The Chinese Stock Market: An Empirical Analysis. *Applied Economic Journal* 19 (4), 345-348
- Zheng, J. (2020). How investor sentiment have impact on stock returns and volatility in the growth enterprise in China, Masters Dissertation, School of Management, University of Ottawa