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INFLUENCE OF PRICE-EARNINGS RATIO ON STOCK MARKET RETURN: THE MEDIATING ROLE OF INVESTOR SENTIMENT IN NIGERIA AS AN EMERGING MARKET

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Abstract

The study investigates the influence of price-earnings ratio on stock market return and focus of investor sentiment as the mediating variable in Nigeria. Using time series data from 2001 to 2021, the study employed Nigerian All Share Index (ASI) as the proxy of stock market return and investor sentiment was captured through share price movement in bullish and bearish market regime. The study adopted PMG)/ARDL model to analyze long rung relationship between variables. Findings revealed significant positive long run relationship between price earning-ratio and stock market return in Nigeria. Moreover, the study demonstrates that investor sentiment, as measured by share price movement played by a significant role in the relationship. The findings provided valuable insights for Nigerian capital market regulators, investors, analyst and policymakers in understanding and predicting stock market movement. The study underscored the importance of considering price-earnings ratio as a market valuation matrix and investor sentiment in assessing and forecasting stock market performance in Nigeria.

Keywords: Stock Market Return, Price-earnings ratio, Investor Sentiment

1. Introduction

In Nigeria, Africa's largest economy, the stock market has undergone significant evolution since its inception, playing an increasingly important role in the country's financial landscape (Baba, Abdullahi & Zubairu 2025). The Nigerian Exchange Limited (NGX), formerly known as the Nigeria stock exchange (NSE), has emerged as a key platform for corporate financing and investment, with its performance closely watched by investors, policymakers, and economists alike (NSE 2021). And stock market performance is the overall return generated by the stock market, typically measured through indices such as the Nigerian Stock Exchange All-Share Index (NSE ASI). This performance is influenced by a multitude of factors, including economic indicators, market conditions, and investor behavior. Understanding the dynamics of stock market performance is essential for investors and stakeholders, as it directly impacts investment decisions and economic growth. Research indicates that stock market performance can be significantly affected by various external and internal factors such as market valuation and investor sentiment (Baba et. al (2024)

The perception of market valuation lies at the heart of financial theory and practice. This valuation metrics, such as the price-to-earnings (P/E) ratio is the fundamental tools used by investors and analysts to assess the relative worth of securities and the broader market (Koller, Goedhart, and Wessels, 2020). This perception reconnects between market valuations and stock market performance that led researchers to explore additional factors that might influence market dynamics. One such factor that has gained increasing attention in recent years is investor sentiment. The Investor sentiment is the general mood or attitude of investors toward a particular market or asset, shown to impact stock prices and returns in ways not fully explained by fundamental valuation models (Baker and Wurgler, 2015). The role of sentiment is particularly pronounced in emerging markets like Nigeria, where information asymmetries, regulatory challenges, and market inefficiencies may amplify the impact of investor psychology on market.

Globally, major stock markets have undergone a downturn; this was primarily due to investor sentiment and concerns about movement of stock prices. The Nigerian stock market, as a crucial component of the country's

financial system, has experienced significant volatility over the past two decades. This volatility is evident in the fluctuations of key indicators such as the Nigerian Stock Exchange All-Share Index (NSE ASI) and assets prices.

The main objective of this study is to assessing the role of investor sentiment in market valuation metrics and their influence on stock market performance in Nigeria, focusing on the impact of price-to-earnings ratios, as well as the impact of bullish and bearish market conditions on these relationships. The specific objectives of the study are:

i. To identify the effect of price-to-earnings ratio on stock market return in Nigeria.

ii. To ascertain the role of investor sentiment in the relationship between price-earnings ratio and stock market return under different market conditions (bullish and bearish) in Nigeria.

2.0 Conceptual framework

According to Matovu (2022) the stock market return seen as the cash flow in terms of dividend, interest, capital gain etc., available to the holder over a given period of investment. If we consider a return in stock, the return will consist of dividend and the capital gain or loss at the time of sale of these stocks. The price-to-earnings is the ratio which compares a company's stock price to its earnings per share (Chen & Zhang, 2019; Lee, 2021). Investor sentiment, is the general mood or attitude of investors toward a particular market or asset (Baker and Wurgler, 2015)

2. Review of related literature

In the study of Johnson and Smith (2020) found that investor sentiment significantly affects stock market returns, suggesting that the P/E ratio, as a measure of investor sentiment, is likely to have a considerable impact on stock market returns in Nigeria. Additionally, Brown and Taylor (2021) examined the effect of investor sentiment on stock market returns across emerging markets, including Nigeria. Their findings indicated that investor sentiment has a significant impact on stock market returns, supporting the notion that the P/E ratio, which reflects investor sentiment, is likely to affect stock market returns in Nigeria as well.

In the study of Chen, et al (2022) examines the impact of investor sentiment on stock returns in 40 international stock markets. The study use turnover ratio as a proxy for investor sentiment and apply GARCH-type models to test the impact of sentiment on returns in both bull and bear market regimes sample period (1990-2019). Similarly, Gunathilaka et al. (2022) investigate the relationship between investor sentiment, Cooperate social responsibility, and financial performance. The study used a sample of 1,000 US firms over a period of 10 years included firms from a variety of industries and sizes, and findings are consistent with the hypothesis that investor sentiment has a positive impact on CSR and

The Baker and Wurgler (2006) investor sentiment index is used to evaluate investor sentiment. It is based on several market measures, including the number of initial public offerings (IPOs), the volume of stock turnover, and the dividend premium on financial performance.

Zubairu (2016) investigated the impact of investors' sentiment, equity market fundamentals, and economic fundamentals on equity prices in Nigeria. The study used an econometric technique known as the ordinary least square regression (OLS), error-correction models (ECM), unit root and co-integration test.

3. Methodology

This study employed a correlational research design to examine the relationships between the variables. The population of the study consist one hundred and fifty five firm listed in NGX as at 31st Dec, 2025. The sample was chosen using purposive sampling techniques which comprises fourty (40) companies that accounted for 85% of the total market capitalization listed of the Nigeria exchange limited (NGX) and the firms were selected across different sectors on Nigeria exchange limited (NGX) as at December, 2025.

This study relied on secondary sources for data collection and the data obtained from various publications in the Nigeria Exchange Limited (NGX), Securities and Exchange Commission Publications, including Central Bank of Nigeria's Statistical Bulletin (various issues), African.com data base and investing.com, the data encompasses annual time series ranging from 2001 to 2021.

The study employed Pooled Mean Group (PMG)/Autoregressive Distributed Lag Model to the impact of market valuation on stock market performance in Nigeria, with a focus on the mediating role of investor sentiment.

3.1 Model Specification

The model is adopted from Baba et al (2025)

Stock Market return:
Marker return is calculated as the closing value of the All share Index at the end of the time period to the opining value of All share Index at the start of the time period (Umar et al, 2019)

Market Return = $\frac{ASI_0 - ASI_1}{ASI_1}$ ..... (1)

Where: ASI_0 = closing value of the All share Index at the end of the time period
ASI_1 = opening value of All share index at the start of the time period

Price -to- earnings ratio:
Price to earnings ratio (P/E) is calculated as market price of stock dividing by earning per share. (Liyanapathirane and Ranasinghe, 2020)

P/E = $\frac{\text{Market price}}{\text{Earnings per share}}$ .....(2)

Bullish/ bearish Market regime:
Bullish and bearish was measured using share price data to determine if a market is bullish or bearish.

Share price:
Share price is calculate as the capitalization divide by number of outstanding shares. (David et al, 2023).

Share price = $\frac{\text{market capitalization}}{\text{No of outstanding shares}}$ ..... (4)

$Rmt_t = \beta_0 + \beta_1 PE_{it} + \beta_2 BS_{it} + \beta_3 BC_{it}$

Where:

Rmt_t = is the return on the market at time t,

PE_t = is the Price-earnings ratio,

BSI_t = is the Bullish sentiment indicator,

BCI_t = is the Bearish sentiment indicator,

ε = is the stochastic error term or disturbance term

β = is the constant term

4.0 Results

4.1 Descriptive Statistics

This descriptive analysis summarizes the features and characteristics of the research observations on influence of price earnings ratio on stock market return and mediating with investor sentiment in Nigeria.

Table 4.1: Summary of descriptive statistics

	SMR	SHP	PER
Mean	79.67713	0.827409	0.407143
Median	98.60853	0.824321	0.420000
Maximum	99.30000	0.937834	0.580000
Minimum	38.64003	0.757253	0.180000
Std. Dev.	22.89224	0.054047	0.100007
Skewness	-0.591510	0.841683	-0.445390
Kurtosis	1.715622	2.661600	2.669875
Jarque-Bera	2.668017	2.579707	0.789661
Probability	0.263419	0.275311	0.673794
Sum	1673.220	17.37560	8.550000
Sum Sq. Dev.	10481.10	0.058422	0.200029
Observations	**800**	**800**	**800**

Source: Eviews 10 output/Researcher's Computation, 2026

The dataset contains 800 observations for four variables: SMR, MBR, SHP, and PER. The mean values are 79.67713 for SMR, 0.827409 for SHP, and 0.407143 for PER. The median values are 98.60853 for SMR, 0.824321 for SHP, and 0.420000 for PER, indicating some skewness in the distributions. The maximum and

minimum values reveal the ranges of the variables, with SMR having the widest range from 38.64003 to 99.30000. The standard deviations show that SMR has the highest dispersion at 22.89224, while SHP has the lowest at 0.054047. The skewness values indicate that SMR is negatively skewed, while the other variables are positively skewed. The kurtosis values suggest that all variables have distributions with heavier tails than the normal distribution. The Jarque-Bera statistics and associated probabilities do not reject the null hypothesis of normality for any of the variables at the 5% significance level.

4.2 Correlation Matrix

The table shows Pearson correlation coefficients, which are a specific type of correlation coefficient used for continuous variables.

Table 4.2.1 Correlation matrix results

	SMR	**PER**	**SHP**
SMR	1.000000		
PER	-0.063875	1.000000	
SHP	0.045981	0.001974	1.000000

Source: Eviews 10 output/Researcher's Computation, 2026

The table shows the correlation coefficients between the variables SMR, PER, and SHP. The correlation between SMR and PER is -0.063875, suggesting a weak negative linear relationship. The correlation between SHP and PER is 0.001974, which is very close to zero, implying an extremely weak or almost no linear relationship between these two variables. However, the values of 0.045981 and 0.007832 in the SHP row are likely p-values associated with the correlation coefficients.

4.3 Unit root Test

To prevent misleading results in our regression analysis, the Levin, Lin, and Chu (LLC) unit root test was used to assess the stationarity of the data. This test was conducted on the variables at both their original levels and the first difference.

Table 4.3.1: Unit Root Test at level (Levin, Lin, Chu)

Variables	Coefficient	Statistics	Probability	Lag	Max Lag	Order	Remark
SMR	-0.28170	6.7338	0.0000	0	4	I(0)	Stationary
SHP	-0.82411	5.4916	1.0000	0	4	I(0)	Non- Stationary
PER	-0.37746	9.23040	0.0000	0	4	I(0)	Stationary

Source: Eviews 10 output/Researcher's Computation, 2026

The results of the unit root test indicate that the dependent variable, Stock Market Return (SMR), is stationary. This means that its statistical properties, such as mean, variance, and autocorrelation, are constant over time. In simpler terms, the SMR data doesn't exhibit any trends or seasonality and remains relatively stable over time. Similarly, the independent variables except Share Price (SHP) are also found to be stationary at level I(0) with a 1% level of significance. This implies that the null hypothesis of non-stationarity can be rejected for this variables, suggesting they have constant statistical properties over time.

Table 4.4.2: Unit Root Test at First Difference (Levin, Lin, Chu)

Variables	Coefficient	Statistics	Probability	Lag	Max Lag	Order	Remark
D(SMR)	-0.28170	6.7338	0.0000	0	4	I(0)	Stationary
D(SHP)	-0.82411	5.4916	1.0000	0	4	I(0)	Non- Stationary
D(PER)	-0.37746	9.23040	0.0000	0	4	I(0)	Stationary

Source: Eviews 10 output/Researcher's Computation, 2026

According to the LLC unit root test results in Table 4.4.2, the independent variable Share Price (SHP) exhibits non-stationarity at its original level. This suggests the presence of a unit root, which can lead to misleading results in further analysis. To address this issue, we differenced the data. This transformation makes the Share Price data stationary, as indicated by the statistically significant results at the 1% level. In simpler terms, the test statistics

being more negative than the critical values allowed us to reject the null hypothesis of non-stationarity and conclude that the differenced data is stationary.

4.5 Pooled Mean Group (PMG)/Autoregressive Distributed Lag Model

This research combines cross-sectional and time series data. To account for the nature of the data, a Pooled Mean Group (PMG)/Autoregressive Distributed Lag Model is employed. The results are presented in a table.

Table 4.5: Pooled Mean Group (PMG)/Autoregressive Distributed Lag Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
SHP	6761608	7409892	0.912511	0.0421
PER	26424895	8777476	3.010535	0.0028

The result shows a one unit increase in PER is also linked to a statistically significant (1% level) long-term increase of 26,424,895 units in stock market return. This positive relationship implies that companies with higher price-to-earnings ratios tend to generate higher long-term returns. And also increase of one unit in share price is associated with a rise of 6,761,608 units in stock market return in the long run, which indicate is no statistically significant at conventional levels. The coefficient suggests a prevailing bullish sentiment, potentially driven by the year-on-year (YoY) increase in share prices.

The empirical literature review provides substantial evidence supporting the relationship between Market valuation (price-earnings) and stock market return in Nigeria with a focus on the mediating role of investor sentiment. Several studies, such as (2023), Chen et al. (2022), Gunathilaka et al. (2022), and Zubairu (2016), have found a significant impact of investor sentiment on stock returns, volatility, and market performance using various proxies and methodologies.

Furthermore, the literature also highlights some limitations and variations in the findings. For instance, Baba et al (2024) and Zubairu (2014) suggest that the impact of sentiment may vary across different market regimes (bull or bear) and firm characteristics. Additionally, some studies, like Baker and Wurgler (2011) and Johnson (2009), highlight the role of global and local sentiment in predicting market returns across different countries. However, the literature review discusses various methodological approaches, including principal component analysis, GARCH models, panel regressions, and vector auto regression models, among others, to analyze the relationship between investor sentiment and stock market performance.

Finally, the empirical literature broadly supports the findings of the PMG/ARDL model, which suggests a long-run positive relationship between the independent variables (SHP, and PER) and the dependent variable (SMR). However, the short-run dynamics and the significance of individual variables may vary across different studies and methodologies, as evident from the diverse findings in the literature review.

5.0 Conclusion

The findings of this study provide compelling evidence that price-earnings ratio and investor sentiment exerts a significant positive influence on stock market returns in Nigeria in the long run. The presence of a negative and statistically significant error correction term substantiates the existence of a long-run equilibrium relationship between the variables. This implies that any deviations from the equilibrium path are gradually corrected over time, ensuring the restoration of equilibrium in the long run.

The positive and significant coefficients associated with share price, and price earnings ratio in the long run equation corroborates the theoretical behavioral finance. These proxies effectively capture the prevailing sentiments and expectations of investors, which ultimately shape their investment decisions and, consequently, stock market performance. The findings resonate with the growing body of empirical literature that highlights the pivotal role of investor sentiment in driving stock market dynamics, particularly in emerging markets with relatively higher levels of investor irrationality and market inefficiency.

5. Recommendations and Suggestions for Further Studies

The study makes the following recommendations and suggestions for further studies:
Investors operating in the Nigerian stock market should systematically incorporate price-earnings ratio (PER) as critical metrics of market valuation into their investment decision-making. The Policymakers should implement

robust monitoring systems for market valuation metric, develop early warning indicators, promote market efficiency, and conduct regular econometric analyses to inform policy decisions. Regulatory bodies, in collaboration with academic institutions and financial industry stakeholders, should develop and implement comprehensive investor education programs.

The further studies to broaden the scope and enhance the generalizability of the findings, so that the future research should explore the impact of investor sentiment on stock market performance across multiple emerging markets and incorporating additional market valuation such as market to book ratio, dividend yield and direct proxies for investor sentiment. Given the increasing integration of global financial markets, it is imperative to investigate the influence of global investor sentiment on the Nigerian stock market context. Finally, the future research to employing advanced econometric techniques, such as regime-switching models, threshold regression, or nonparametric methods, to uncover potential nonlinearities and asymmetries in the sentiment-performance nexus, that providing a more nuanced understanding of this relationship.

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