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Investor Sentiment and Firm Market Value in a Frontier Market: The Mediating Role of Stock Return Volatility

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Abstract

This study examines the effect of investor sentiment on firm market value and the mediating role of stock return volatility in this relationship among firms listed on the Nairobi Securities Exchange (NSE) over the period 2016 - 2025. Although empirical evidence is largely concentrated in developed markets, limited empirical research exists on the transmission mechanisms through which investor sentiment influence firm valuation in frontier African markets. Utilizing a panel dataset of 54 firms and employing fixed effects panel regression with bootstrap mediation analysis (5,000 resamples), the study finds that investor sentiment has a positive and significant effect on firm market value. This study further establishes that stock return volatility significantly mediates the relationship between investor sentiment and firm market value. The study contributes to behavioral finance literature by revealing the transmission channel through which investor sentiment affects firm value in a frontier market.

Keywords: Investor sentiment, stock return volatility, firm market value, mediation analysis, Nairobi Securities Exchange, behavioral finance, frontier markets.

1. INTRODUCTION

1.1 Background of the Study

Traditional finance theories, particularly the Efficient Market Hypothesis (EMH), assume that investors are rational and that markets are informationally efficient. Therefore, it becomes virtually impossible for any individual investor to consistently achieve returns that outperform the overall market (Ooi, 2024). Harry Markowitz's Modern Portfolio Theory (MPT) and its extension, the Capital Asset Pricing Model (CAPM) by William Sharpe, focus on risk and return, arguing that in any portfolio only the expected return and risk matter, not individual assets, and the only priced risk is the systematic (market) risk, measured by beta (β), which is non-diversifiable. Idiosyncratic risk, which is the firm specific risks, can be diversified and therefore, not rewarded.

Behavioral finance has progressively contested the rationality assumption of traditional finance theories by incorporating insights from psychology and economics to explain how cognitive errors, emotional influences, social forces, and sentiment fluctuations lead to systematic market

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anomalies. These anomalies can meaningfully influence asset prices, risk perceptions, and firm value (Barberis, 2018; 2025; Shefrin, 2021). Traditional finance theories, particularly the Efficient Market Hypothesis (EMH), assume that investors are fully rational, information is fully reflected in prices, and deviations from fundamental values are random and temporary. However, increasing empirical evidence from both developed and emerging markets demonstrates that investor psychology systematically drives asset mispricing, return anomalies, and market volatility (Basiewicz & Auret, 2022; Cheema & Fianto, 2024; Li & Song, 2025).

1.1.1 Investor Sentiment and Firm Market Value

Investor sentiment reflects the overall mood, expectations, and confidence of market participants toward financial markets, often causing deviations of stock prices from their fundamental values, particularly in contexts where markets are characterized by information asymmetry and imperfect rationality (Ahn & Hambusch, 2024; Ben Youssef & Jouini, 2023; Mahmood et al., 2024). Investor sentiment is core in understanding market dynamics because it significantly affects market trends, trading activity, and valuation levels, thereby influencing stock return volatility and firm market value. Traditional finance theories posit that market value reflects fundamental information about firm's performance and prospects; however, behavioral finance introduces the concept that investors' subjective judgments, emotions, and cognitive biases likewise influence valuation outcomes.

In developed markets, investor sentiment has been shown to systematically influence return dynamics, Bouteska et al. (2023) applied nonlinear Granger causality and artificial neural networks to the S&P 500 and found that investor sentiment significantly influenced trading volumes during the COVID-19 pandemic, highlighting that sentiment driven trading persists under adverse macroeconomic conditions. Using panel data spanning 15 years, Ahn and Hambusch (2024) investigated investor sentiment across international stock indices and found that high investor optimism significantly increased short term overpricing and market volatility, while pessimistic sentiment led to underpricing and slower price corrections. Similarly, Liu and Li (2024), using a dynamic panel model on data from the Tokyo Stock Exchange, reported that investor sentiment had a significantly positive impact on short term returns during periods of heightened uncertainty, amplifying valuation deviations from firm fundamentals.

Emerging and frontier markets, including African markets, also exhibit sentiment driven dynamics, often amplified by thin trading, institutional inefficiencies, and information asymmetry. Mahmood et al. (2024) in their study, examined the moderating role of investor sentiment on stock returns using panel data from 220 listed firms in Pakistan covering period 2010 -2020. By employing a fixed effects model in the study, they reported that sentiment significantly amplified the positive association between firm fundamentals and stock performance, particularly during bullish market periods. Similarly, Chan et al. (2024) analyzed 10 sectoral indices in Malaysian market using a nonlinear autoregressive distributed lag (NARDL) model and a sentiment index constructed through principal component analysis (PCA), their findings indicate that elevated investor sentiment inflated stock prices beyond intrinsic values.

In Kenya, Said and Kaplelach (2019) analyzed investor sentiment and market performance using monthly data from firms listed on the Nairobi Securities Exchange in the period 2008 -2018, their regression and correlation results showed that periods of heightened optimism led to inflated market capitalization and speculative trading. Bett et al. (2024) observed that speculative enthusiasm, rather than fundamentals, drove oversubscription in the Safaricom Limited initial public offering (IPO), suggesting that investor behavior can outweigh fundamental valuation signals. These findings are consistent with international evidence, confirming that sentiment driven mispricing persists in frontier markets where retail investors dominate.

Collectively, the reviewed studies reveal that investor sentiment influences firm market value both locally and globally, though its magnitude and persistence differ by market maturity. In developed markets such as US, sentiment effects tend to be cyclical and self-correcting, while in emerging and frontier markets such as Pakistan, Malaysia, China, and Kenya, they are more prolonged and distortionary due to information asymmetries and behavioral contagion among less sophisticated investors.

1.1.2 Stock Return Volatility as a Mediating Variable

Stock return volatility captures fluctuations in stock prices over time, serving as both a measure of market risk and a mechanism through which behavioral factors affect firm market value (Bouri et al., 2021). Behavioral biases, including sentiment, can induce deviations from fundamental values,

generating excess volatility, which in turn shapes investors' perceptions of risk, required returns, and discounting of future cash flows, ultimately affecting firm valuations (Bouri et al., 2021; Sharma et al., 2025).

Evidence from developed markets shows that variance-based risk measures mediate the risk-return relationship, highlighting volatility as a key conduit through which behavioral biases impact firm value (Osterrieder et al., 2019).

In Kenya, Maina et al. (2025) found no significant direct effect of earnings variability on share price volatility, while Njuguna (2022) shows that cash flow volatility can influence corporate investment decisions and firm value. Similarly, Kengere et al. (2023) established that investor behavior, interest rate fluctuations, and speculative trading amplify market volatility and affect stock valuations in Kenya. These findings underscore the importance of modelling stock return volatility as a mediating mechanism, particularly in understanding the behavioral underpinnings of firm valuation in Kenya's capital markets.

1.1.3 Firm Market Value

Firm market value represents the total value that investors assign to a company through its equity and, in some cases, debt instruments (Damodaran, 2020; Said & Kaplelach, 2019; Pandey, 2006). It reflects the market's perception of a firm's financial health, growth potential, and overall economic standing. Market value is a crucial indicator for assessing investor confidence and plays a significant role in corporate decision making, including financing, investment, and strategic planning (Kuria et al., 2024).

1.1.4 The Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) serves as Kenya's primary securities market. The exchange facilitates transactions in equity and debt instruments, serving a dual purpose of supporting corporate capital formation and providing investment avenues for institutional and retail participants (Kaberia et al., 2025; Said et al., 2022). A critical function of the NSE is its role in determining firm market value, as the prices quoted on the exchange are reflective of investor perceptions, expectations, and reactions to firm-specific and macroeconomic developments. As of

October 2025, the NSE listed approximately 57 companies across various sectors, including banking, manufacturing, insurance, and telecommunications (Nairobi Securities Exchange [NSE], 2025).

1.1.5 Theoretical Framework

This study is anchored on three interconnected theoretical frameworks, which collectively provide a comprehensive conceptual foundation for examining the relationships among investor sentiment, stock return volatility, and firm market value. Behavioral finance theory, developed by Daniel Kahneman and Amos Tversky during the late 1970s and early 1980s, directly challenges the traditional efficient markets hypothesis. It posits that psychological biases and emotional factors systematically shape investor decision making, thereby giving rise to market anomalies and inefficiencies (Shefrin, 2021). Prospect theory, introduced by the same scholars in 1979, extends this perspective by demonstrating that individuals evaluate gains and losses asymmetrically. Losses, it contends, are perceived more intensely than equivalent gains, which induces risk averse behavior in the domain of gains and risk seeking behavior in the domain of losses (Barberis, 2018). In contrast, the efficient market hypothesis (EMH), formalized by Fama (1970), serves as the rational benchmark against which behavioral deviations are assessed. This theory posits that asset prices fully incorporate all available information, thereby providing a baseline for evaluating the extent to which behavioral factors precipitate departures from fundamental valuation (Brown, 2020; Kung'u & Kinyua, 2024). Therefore, EMH is employed in this study as a contrasting theoretical lens, intended to highlight how deviations from rationality, arising from cognitive and affective influences, can account for observed variations in stock return volatility and firm market valuation. Grounded in these theoretical perspectives, the study systematically examines investor sentiment, with stock return volatility positioned as a mediating variable.

1.2 Statement of the Problem

Despite recent increasing scholarly attention to behavioral finance, the empirical evidence specific to the Kenyan market remains limited regarding how behavioral factors influence firm market value through the mechanism of stock return volatility. The research problem that emerges, therefore, is the insufficient empirical knowledge of investor sentiment's influence on firm market valuation, and whether stock return volatility serves as a mediating pathway for firms listed on the

Nairobi Securities Exchange. This gap obstructs the design of well calibrated market regulations, undermines reliable firm valuation practices, and ultimately weakens investor decision making in an environment where psychological factors are gaining prominence.

1.3 Research Objectives

1.3.1 General Objective

To examine the mediating role of stock return volatility in the relationship between investor sentiment and firm market value among firms listed on the Nairobi Securities Exchange.

1.3.2 Specific Objectives

- i. To investigate the effect of investor sentiment on firm market value among firms listed on the Nairobi Securities Exchange.
- ii. To analyze the mediating role of stock return volatility in the relationship between investor sentiment and firm market value among firms listed on the Nairobi Securities Exchange.
- iii.

1.4 Research Hypotheses

H₀₁: Investor sentiment has no significant effect on firm market value among firms listed on the Nairobi Securities Exchange.

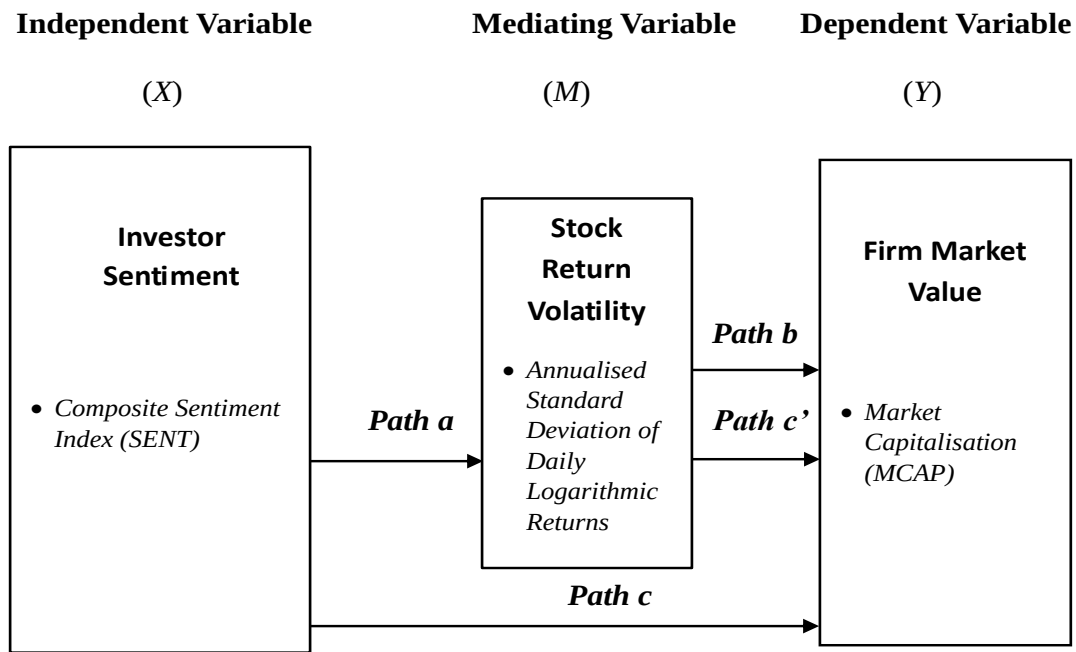
H₀₂: Stock return volatility does not significantly mediate the relationship between investor sentiment and firm market value among firms listed on the Nairobi Securities Exchange.

1.5 Conceptual Framework

The conceptual framework, which is grounded in behavioral finance theory, illustrates the logical structure linking investor sentiment, stock return volatility, and firm market value. Following the standard mediation notation of Hayes (2018), the causal paths are denoted as follows: **a**-path (investor sentiment → stock return volatility), **b**-path (stock return volatility → firm market value), **c**-path (investor sentiment → firm market value), and **c'** (direct effects of investor sentiment on firm market value controlling for volatility). This notation clarifies how total, direct, and indirect effects are computed and interpreted in the empirical models. Stock return volatility is theorized to mediate the impact of investor sentiment on firm market value.

The conceptual framework posits that investor sentiment influences firm market value both directly and indirectly through stock return volatility. Specifically, stock return volatility is hypothesized to mediate the relationship between investor sentiment and firm market value by transmitting the effects of investor sentiment on market prices. Firm market value is the outcome variable, measured using market capitalization.

Figure 2.1: Conceptual Framework



Source. Researcher, 2025

1.6 Study Contribution

The most novel contribution of this study is the demonstration that stock return volatility significantly mediates the relationship between investor sentiment and firm market value. While previous studies have examined direct effects of sentiment on volatility or on value, few have tested the complete mediation pathway in a frontier market using robust bootstrap methods.

2. METHODOLOGY

2.1 Research Philosophy and Research Design

Grounded in the positivist research philosophy, this study employed a quantitative explanatory research design using longitudinal panel data to examine the causal relationships among investor sentiment, stock return volatility, and firm market value for firms listed on the Nairobi Securities Exchange over the 2016–2025 period.

2.2 Target Population and Sampling Design

The target population for this study comprised all the 57 firms listed on the Nairobi Securities Exchange during the period under investigation, spanning 2016 to 2025, representing the full spectrum of sectors within the Kenyan capital market. A census approach was adopted, whereby every firm listed on the Nairobi Securities Exchange was considered for inclusion. To ensure data adequacy and maintain consistency across the observation period, only those firms that remained listed and exhibited active trading throughout the entire 2016 - 2025 window was retained. Non-equity instruments and firms that experienced prolonged periods of trading inactivity were excluded from the sample. The final sample, therefore, consisted of 54 firms that were actively traded throughout the 2016 - 2025 period, drawn from various sectors of the Nairobi Securities Exchange.

2.3 Data Sources and Collection

For the purposes of data collection, the study employed a structured data extraction sheet, which facilitated the systematic gathering of relevant secondary information from audited financial statements, annual reports, and NSE market databases.

2.4 Measurement of Variables

The selected constructs, investor sentiment, stock return volatility, and firm market value, are directly and empirically measurable using secondary trading and firm-level data. This renders them amenable to quantitative modelling, consistent with the study's positivist philosophical orientation and explanatory research design.

2.4.1 Firm Market Value (MCAP)

Firm market value served as the dependent variable in this study, capturing the market-based outcome of investor sentiment and stock return volatility. It provided an externally observable measure of firm performance that integrates financial fundamentals and market perceptions.

Firm market value for firm i in year t computed as:

$$FMV_{it} = P_{it} \times N_{it}$$

Where:

FMV_{it} = market value (market capitalization) of firm i in year t ; P_{it} = closing market price per share of firm i at the end of year t ; N_{it} = number of outstanding ordinary shares of firm i in year t .

To enable comparability across firms and years, firm market value was converted to natural logarithms before analysis to stabilise variance and reduce skewness, Wooldridge (2020).

2.4.2 Investor Sentiment (SENT)

The sentiment index was constructed using proxies such as trading volume, market turnover, and number of daily deals deviations from their historical means. Each proxy was standardized using firm specific z-scores to ensure comparability across firms and time periods.

The composite sentiment index (SENT) for firm i at time t calculated as:

$$SENT_{it} = \frac{1}{3}(Z_{TURNit} + Z_{VOLit} + Z_{DEALSit})$$

Where:

Z_{TURNit} = Standardized value of market turnover for firm i at time t

Z_{VOLit} = Standardized value of trading volume for firm i at time t

$Z_{DEALSit}$ = Standardized value of daily deals for firm i at time t

2.4.3 Stock Return Volatility (SRVOL)

Stock return volatility was measured as the annualized standard deviation of daily logarithmic returns for each firm-year (Liu et al., 2022; Maina et al., 2025; Ondigo & Wepukhulu, 2025), a method widely adopted in panel based financial studies due to its simplicity, robustness, and compatibility with firm year datasets.

Stock Return Volatility value for firm i in year t computed as:

$$\sigma_{i,t}^A = \sqrt{252} \sqrt{\frac{1}{n_{i,t} - 1} \sum_{d=1}^{n_{i,t}} (r_{i,t,d} - \bar{r}_{i,t})^2}$$

Where:

$\sigma_{i,t}^A$ = annual stock return volatility for firm i in year t ; $r_{i,t,d}$ = daily logarithmic return on trading day d ; $\bar{r}_{i,t}$ = mean daily logarithmic return for firm i during year t ; $n_{i,t}$ = number of trading days for firm i in year t ; $\sqrt{252}$ annualises the daily volatility based on the approximate number of trading days in a year.

The daily logarithmic return computed as:

$$r_{i,t,d} = \ln \left(\frac{P_{i,t,d}}{P_{i,t,d-1}} \right)$$

Where:

$P_{i,t,d}$ = closing stock price on day d ; $P_{i,t,d-1}$ = closing stock price on the previous trading day.

This approach captures firm specific volatility patterns and aligns with studies that used panel data to investigate market reactions and behavioural dynamics (Yin, 2025).

2.4.4 Control Variables

Following standard practice in emerging markets research, firm size is measured as the natural logarithm of total assets. Return on assets (ROA) is computed as net income divided by total assets. Leverage is measured as total debt divided by total assets. Liquidity is measured as the current ratio (current assets divided by current liabilities).

2.5 Data Analysis Techniques

The data was analysed using descriptive and inferential statistical techniques. Panel regression analysis was then employed to estimate the effect of investor sentiment on firm market value using the appropriate panel estimator. The mediating role of stock return volatility was assessed using a regression-based mediation approach, with bootstrap resampling to estimate indirect effects and their corresponding confidence intervals. All statistical analyses were conducted using **EViews Version 14.0 University Edition**, which provides advanced tools for panel data estimation, hypothesis testing, mediation analysis, and diagnostic testing.

2.6 Panel Data Diagnostics and Model selection

Prior to estimation, diagnostic tests were conducted to verify the assumptions underlying panel regression analysis. These included the Variance Inflation Factor (VIF) for multicollinearity, panel unit root tests for stationarity, the Chow and Hausman tests for model selection, the Panel Cross-section Likelihood Ratio test for heteroskedasticity, the Wooldridge test for serial correlation, the Breusch-Pagan LM and Pesaran CD tests for cross-sectional dependence, and the Jarque-Bera test for residual normality.

2.7 Model Specification

To examine the relationships between investor sentiment, stock return volatility, and firm market value, panel regression models were employed. Stock return volatility was treated as a mediating variable in the relationship between investor sentiment and firm market value. The models incorporate both firm fixed effects (μ_i) to control for time-invariant unobserved firm heterogeneity and year fixed effects (γ_t) to account for macroeconomic shocks and common time trends.

Model 1: Total Effect Model

Estimated the total effect (c) of investor sentiment on firm market value.

$$MCAP_{it} = \beta_0 + \beta_1 SENT_{it} + \beta_2 X_{it} + \mu_i + \gamma_t + \varepsilon_{it}$$

Model 2: Mediator Model

Estimate the effect (path a) of investor sentiment on stock return volatility.

$$SRVOL_{it} = \beta_0 + \beta_1 SENT_{it} + \beta_2 X_{it} + \mu_i + \gamma_t + \varepsilon_{it}$$

Model 3: Full Mediation Model

Estimate the direct effect (c') of investor sentiment and the effect of stock return volatility (path b) on firm market value.

$$MCAP_{it} = \beta_0 + \beta_1 SENT_{it} + \beta_2 SRVOL_{it} + \beta_3 X_{it} + \mu_i + \gamma_t + \varepsilon_{it}$$

Where:

$MCAP_{it}$ = firm market value (log of market capitalization) for firm i at time t ; $SRVOL_{it}$ = stock return volatility; $SENT_{it}$ = investor sentiment; X_{it} = vector of control variables (Size, Leverage, Profitability and Liquidity); μ_i = unobserved firm specific effect; γ_t = year fixed effect; ε_{it} = error term.

The mediation analysis followed the principles of Baron and Kenny (1986) and was implemented using contemporary best practices outlined by Hayes (2018). The existence of mediation was

determined by a significant indirect effect, quantified as the product of the path from the independent variable to the mediator (Model 2) and the path from the mediator to the dependent variable in the full mediation model (Model 3). The significance of this indirect effect was tested using bootstrapped confidence intervals. The models were formulated in accordance with the regression-based mediation framework described by Hayes (2018) and have been similarly applied in empirical studies by Hussain and Qayyum (2020) and Yin (2025).

3. RESULTS

3.1 Descriptive Statistics

Table 3.1: Overall NSE Investor Sentiment Descriptive Statistics

<i>Statistic</i>	<i>SENT</i>
Mean	0.0058
Median	-0.0368
Maximum	2.4854
Minimum	-1.7743
Std. Dev.	0.3702
Skewness	1.6950
Kurtosis	13.4098
Jarque-Bera	2681.7630
Sigf.	0.000
Obs.	537

Investor sentiment was, on average, close to neutral (mean = 0.0058), although it exhibited substantial variation across firms and years (SD = 0.3702). The wide range of values (minimum = -1.7743; maximum = 2.4854) indicates that the market experienced episodes of both pronounced pessimism and optimism during the study period. The distribution was positively skewed (skewness = 1.6950), suggesting occasional periods of exceptionally high investor optimism, and highly leptokurtic (kurtosis = 13.4098), indicating the presence of extreme sentiment observations. The Jarque - Bera test confirmed that investor sentiment was not normally distributed (JB = 2681.7630, $p < .001$), reflecting the episodic nature of investor sentiment documented in behavioral finance literature.

3.2 Correlation Analysis

Table 3.2: *Correlation Matrix*

Correlation	MCAP	SRVOL	SENT
MCAP	-		
SRVOL	-0.3406***	-	
SENT	0.0572*	0.0422*	-

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Two-tailed tests. $N = 537$

The correlation matrix reveals that investor sentiment has no statistically significant association with firm market value (MCAP) ($p = 0.185$) or stock return volatility (SRVOL) ($p = 0.329$). The lack of significant correlation between sentiment and firm market value at the bivariate level suggests that the relationship may be more complex, potentially operating through mediating channels. All correlation coefficients are well below the commonly accepted multicollinearity threshold of 0.80, therefore, qualifying the variables to be included simultaneously in subsequent regression analyses.

3.3 Panel Data Diagnostics and Estimation Technique

Table 3.3: *Summary of Diagnostic Test Results*

Diagnostic test	Test statistic	p value	Decision
Chow test	$F = 45.13$	$< .001$	Fixed effects preferred
Hausman test	$\chi^2 = 155.19$	$< .001$	Fixed effects selected
Variance inflation factor	$VIF < 2$	-	No multicollinearity
LLC/IPS unit root tests	-	$< .05$	Variables stationary
Cross-section heteroskedasticity LR test	$LR = 441.88$	$< .001$	Heteroskedasticity present
Wooldridge test	$F = 12.56$	0.001	Serial correlation present
Pesaran CD test	$CD = 28.43184$	$< .001$	Cross-sectional dependence present
Jarque-Bera Test	$JB = 270.37$	$< .001$	Residuals are not normally distributed

The Chow and Hausman tests strongly favoured the fixed-effects specification over pooled OLS and random-effects models (both $p < .001$). Diagnostic tests further indicated no evidence of multicollinearity ($VIF < 2$) or unit root problems, confirming that all variables were stationary at level. However, the data exhibited heteroskedasticity, serial correlation, cross-sectional dependence, and non-normality of residuals (all $p < .001$), necessitating the use of robust estimation techniques.

3.4 Panel Regression Results

The study employed a cross-section weighted, cross-section and period fixed effects Panel EGLS estimator with White period (cross-section cluster) standard errors and covariance (d.f. corrected). The sample comprised of 54 cross-sections (firms) and 537 firm-year observations.

3.4.1 Effect of Investor Sentiment on Firm Market Value

Table 3.4: Total Effect of Investor Sentiment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SENT	0.0772	0.0278	2.7748	0.0076
LEV	-0.0343	0.0688	-0.4989	0.6199
LIQ	-0.0045	0.0245	-0.1840	0.8547
ROA	0.0664	0.0252	2.6357	0.0110
SIZE	0.0625	0.0309	2.0212	0.0483
Constant	27.7284	0.7401	37.4677	0.0000

The total effect model (Model 1) indicates that investor sentiment has a positive and statistically significant effect on firm market value ($\beta = 0.0772$, $p = 0.0076$), hence rejecting the null hypothesis. This positive and statistically significant effect indicates that as investor sentiment optimism increases, firm market value tends to rise, this outcome concurs with the findings by Ahn and Hambusch (2024) who found that high optimism significantly increased short-term overpricing in developed markets and Said and Kaplelach (2019) who documented that periods of heightened optimism led to inflated market capitalization. The results indicate that a one-unit increase in market sentiment was associated with a 0.0772 increase in the natural logarithm of market capitalization, *ceteris paribus*. Given the within-firm standard deviation of investor sentiment of 0.3516, a one standard deviation increase in sentiment increases market capitalization by about 0.027 (2.7%) in levels.

3.4.2 Effect of Investor Sentiment on Stock Return Volatility

The mediator model (Model 2) shows that investor sentiment has a marginally positive effect on stock return volatility ($\beta = 0.0254$, $p = 0.0698$), denoting that a one-unit increase in investor sentiment is associated with 0.0254 unit increase in stock return volatility, though only statistically significant at 10%. This result fails to reject the null hypothesis of no significant effect on stock return volatility. This result indicates that, after controlling other biases and firm characteristics,

market sentiment does not independently predict stock return volatility. This weak relationship contrasts with studies such as Bouteska (2020), who found strong asymmetric effect of sentiment on volatility.

Table 3.5: Effect of Investor Sentiment on the Mediator

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SENT	0.0254	0.0139	1.8178	0.0698
LEV	-0.0194	0.0127	-1.5239	0.1283
LIQ	-0.0149	0.0115	-1.2903	0.1977
ROA	0.0058	0.0073	0.7863	0.4321
SIZE	-0.0093	0.0068	-1.3728	0.1705
C	0.6225	0.1612	3.8617	0.0001

3.4.3 Effect of Investor Sentiment and Stock Return Volatility on Firm Market Value

The full mediation model (Model 3) shows that investor sentiment remains positive and statistically significant in the full mediation model ($\beta = 0.0696$, $p = 0.0151$), but its coefficient has decreased by 9.8% compared to the total effect model. This reduction suggests that part of the positive effect of sentiment on market value is mediated by volatility. The results indicate that a one-unit increase in investor sentiment raises log market capitalization by roughly 0.0696, *ceteris paribus*. Given that investor sentiment has a within-firm standard deviation of 0.3516, a one-standard-deviation increase in sentiment raises firm market value by approximately 0.02477 (2.5% in levels). This finding suggests that optimistic investor attitudes significantly enhance firm market value, positive sentiment likely increases demand for shares, pushes stock prices upward, and consequently increases firms' market value.

Table 3.6: Effect of Investor Sentiment and the Mediator on Firm Market Value

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SENT	0.0696	0.0277	2.5122	0.0151
SRVOL	0.1230	0.1065	1.1551	0.2532
LEV	-0.0281	0.0688	-0.4079	0.6850
LIQ	-0.0009	0.0231	-0.0387	0.9693
ROA	0.0686	0.0253	2.7062	0.0091
SIZE	0.0659	0.0322	2.0455	0.0458
C	27.5996	0.7790	35.4288	0.0000

3.5 Mediation Analysis

Table 3.7: Bootstrap Mediation Analysis (5,000 resamples) Results

Path	SENT
a (X→M)	0.0254
b (M→Y, controlling for X)	0.2540
c (X→Y, without M)	0.0772
c' (X→Y, with M)	0.0696
Indirect effect (a x b)	0.0064
Proportion Mediated	8.34%
Bootstrap SE	0.0034
95% CI (Lower)	0.0011
95% CI (Upper)	0.0138
Decision	Significant

The mediation analysis indicates that path **a** is positive and statistically meaningful ($\beta = 0.0254$), implying that higher investor sentiment is associated with an increase in stock return volatility. Path **b** has a positive coefficient ($\beta = 0.2540$), suggesting that higher stock return volatility is associated with higher firm market value after controlling for investor sentiment. The total effect of investor sentiment on firm market value (c) is 0.0772, while the direct effect after introducing stock return volatility (c') decreases to 0.0696. The reduction in the coefficient indicates that part of the influence of investor sentiment operates through stock return volatility. The indirect effect (**a** × **b**) which is 0.0064, suggests that investor sentiment increases firm market value indirectly through its effect on stock return volatility. This finding extends the work of Bouteska (2020) and Chen and Haga (2021), who documented sentiment-volatility links, by showing that this link translates into firm value changes.

The bootstrap standard error is 0.0034, signifying a relatively low sampling variability around the indirect effect estimate. Most importantly, the 95% bootstrap confidence interval ranges from 0.0011 to 0.0138. Since zero does not fall within this interval, the indirect effect is statistically significant. Therefore, this finding confirms that stock return volatility significantly mediates the relationship between investor sentiment and firm market value in the context of Nairobi Securities Exchange. Though the mediation effect is statistically significant, the indirect effect is relatively small compared to the total effect, suggesting partial mediation. Hence, investor sentiment influences firm market value both directly and indirectly through stock return volatility.

4. DISCUSSION AND CONCLUSION

4.1 Summary of Findings

The findings indicate that investor sentiment has a significant total effect on firm market value. Investor sentiment positively enhances market capitalization, suggesting that optimistic investor perceptions increase firm valuation. This result concurs with the findings of Ahn and Hambusch (2024) who found that high optimism significantly increased short-term overpricing in developed markets. Similarly, Chan et al. (2024) reported that elevated sentiment inflated stock prices beyond intrinsic values in Malaysia. In Kenya, Said and Kaplelach (2019) documented that periods of heightened optimism led to inflated market capitalization. However, the marginal significance of sentiment on stock return volatility ($p = 0.0698$) contrasts with studies such as Bouteska (2020) and Chen and Haga (2021), who found strong asymmetric effects of sentiment on volatility. Moreover, the bootstrap mediation analysis reveals that stock return volatility significantly mediates the relationship between investor sentiment and firm market value, as evidenced by a 95% bootstrap confidence interval that excludes zero. Furthermore, the direct effect of sentiment remains significant after controlling volatility, indicating partial mediation. Finally, the findings robustly reject the Efficient Market Hypothesis in the context of the Nairobi Securities Exchange which aligns with critics such as Bouattour and Martinez (2019) and with evidence from emerging markets where information asymmetry and retail investor dominance create fertile ground for behavioral anomalies (Kirera & Mburugu, 2019; Maina et al., 2025) and provide strong support for Behavioral Finance Theory and Prospect Theory.

4.2 Theoretical Contributions

The study extends behavioral finance to a frontier market, introducing stock return volatility as a tested mediator for the relationship between investor sentiment and firm market value. By rejecting EMH, the study provides evidence that the NSE is not efficient in the semi-strong form, aligning with the view that behavioral factors are first order determinants of pricing in less mature markets. The notable influence of sentiment found in this study suggests that stock prices at the NSE don't always efficiently mirror fundamental information. Instead, it seems that investor psychology plays a significant role in how prices are formed, alluding to the view that market participants might either underreact or overreact to new information, leading to prices straying from their true values for longer than expected.

4.3 Practical and Policy Implications

4.3.1 For Investors

Investors on the Nairobi Securities Exchange (NSE) should recognize that their own and others' sentiment materially affects stock prices and ultimately firm market value. The positive effects of sentiment on firm market value might tempt investors to follow market euphoria, but the significant mediation through volatility warns that such price increases may be accompanied by higher risk. The results suggest that a contrarian strategy, buying when sentiment is low and selling when sentiment is high, may be beneficial, as sentiment eventually reverts. Investors should update their expectations based on new information rather than fixating on historical reference points.

4.3.2 For Corporate Managers

Managers of firms listed on the Nairobi Securities Exchange should be aware that investor sentiment influences the market's valuation of their companies. During periods of high sentiment, managers might consider equity issuance to take advantage of overvaluation. Conversely, during pessimistic periods, they might communicate more transparently to counteract negative sentiment. Managers should also recognize that volatility, which can be exacerbated by sentiment, does not directly affect value once sentiment is controlled, so short term price fluctuations need not trigger reactive corporate actions.

4.3.3 For Regulators and Policy Makers (CMA, NSE)

The Capital Markets Authority (CMA) and the Nairobi Securities Exchange (NSE) should consider investor education programmes that specifically address sentiment-driven trading. Given the high positive skewness and leptokurtosis of sentiment, a small number of extreme episodes (for instance the 2024 sentiment spike) can destabilize the market. Regulators might implement circuit breakers or trading halts during periods of extreme volatility to prevent cascades of sentiment-driven behavior. Additionally, improving disclosure standards and reducing information asymmetry could mitigate sentiment effects by providing more timely and relevant information. The evidence that the Nairobi Securities Exchange is not semi-strong efficient suggests that insider trading regulations and enforcement should be strengthened to protect less sophisticated investors.

4.3.4 For Financial Analysts and Valuation Practitioners

Valuation models used for Nairobi Securities Exchange firms should incorporate sentiment as an additional risk or sentiment parameter. Traditional discounted cash flow (DCF) models that assume rational expectations may misprice firms, especially during periods of high sentiment. Analysts could adjust discount rates based on a sentiment index or volatility regime. The significant mediation role of volatility implies that models that only consider volatility without controlling for sentiment are mis specified.

4.4 Conclusion and Recommendation

The findings indicate that investor sentiment has a significant total effect on firm market value and a marginal significance on stock return volatility. Moreover, the bootstrap mediation analysis reveals that stock return volatility significantly mediates the relationship between investor sentiment and firm market value. Future research should conduct sector-specific analysis and explore additional behavioral biases. Comparative studies across frontier markets could also reveal how market development and regulation moderate sentiment effects.

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