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Monetary Policy and Stock Market Performance in Kenya: Linear ARDL Approach

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Abstract:

Purpose: *This study examined the effects of monetary policy on stock market performance in Kenya, using monthly data spanning 2001–2024. Stock market performance was proxied by the NSE 20 Share Index, while monetary policy conditions were captured using money supply (M2), the 91-day Treasury Bill rate (TB91), and the exchange rate (FX).*

Material/methods: *A linear Autoregressive Distributed Lag (ARDL) model was applied to estimate both short-run and long-run relationships between monetary policy variables and the NSE 20 Share Index. The ARDL framework was adopted to simultaneously assess immediate dynamics and equilibrium (long-run) effects within a single modelling approach.*

Findings: *The results indicate that monetary policy exerts a statistically significant influence on stock market performance in Kenya. In the long run, money supply (M2) had a negative and statistically significant effect on the NSE 20 Share Index ($\beta = -1.680$, $p < 0.001$), suggesting that excessive liquidity expansion may generate inflationary pressures that weaken real equity returns. The 91-day Treasury Bill rate (TB91) also had a negative long-run effect ($\beta = -0.141$, $p < 0.001$), implying that rising short-term interest rates reduce equity attractiveness as investors reallocate toward safer interest-bearing instruments. Additionally, the exchange rate (FX) exhibited a strong negative long-run effect ($\beta = -4.319$, $p < 0.001$), indicating that depreciation of the Kenyan shilling undermines investor confidence and raises import-related costs, thereby depressing stock valuations. Overall, the evidence suggests that Kenya's stock market is particularly sensitive to monetary policy shifts through liquidity, interest rate, and currency stability transmission channels.*

Conclusion*: The study concludes that a balanced and predictable monetary policy framework is essential for supporting stock market performance in Kenya. Specifically, stable exchange rate conditions, prudent control of money supply growth, and moderate interest rate adjustments are critical for maintaining investor confidence, sustaining capital market growth, and promoting financial stability.*

Value: *This study provides empirical evidence on the monetary-policy transmission mechanisms affecting stock market outcomes in Kenya over a long monthly sample (2001–2024). The findings offer practical guidance for policymakers and market stakeholders by highlighting the importance of liquidity management, interest rate calibration, and exchange rate stability in strengthening capital market performance and broader financial sector resilience.*

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1. Introduction

Globally, stock markets play a pivotal role in financial intermediation and capital allocation, serving as a barometer of economic activity and investor sentiment. Billions of dollars in equity transactions occur daily across international exchanges, indicating the critical importance of capital markets in driving economic growth and wealth creation (World Federation of Exchanges, 2024). When stock markets perform well, they stimulate business investment, enhance consumer confidence, and foster national prosperity. Conversely, downturns in share prices can trigger wealth erosion, reduce aggregate demand, and destabilize economies. The influence of financial markets is especially visible in emerging economies where capital markets are increasingly being integrated into global finance. In Africa, the Johannesburg Stock Exchange dominates in market capitalization and liquidity, yet other exchanges including Kenya's Nairobi Securities Exchange play equally crucial roles in regional investment and capital formation (ASEA, 2023; IMF, 2023).

Over the past decade, the NSE has become a cornerstone of East Africa's financial ecosystem, facilitating long-term financing for both public and private sectors. Despite this progress, the Kenyan stock market remains volatile and highly sensitive to macroeconomic fluctuations, particularly those driven by monetary policy changes such as interest rate adjustments, inflation targeting, exchange rate management and Money Supply (Capital Markets Authority, 2023). Monetary policy, executed by the Central Bank of Kenya (CBK), directly affects liquidity, borrowing costs, and investor confidence, all of which shape stock market performance. Yet, empirical evidence in Kenya is scarce. Most of the studies fail to capture the linear effect of monetary policy effects on Stock Market Performance. As a result, the true extent to which monetary policy Impact the NSE remains insufficiently understood.

Monetary policy operates through several transmission mechanisms namely the interest rate, credit, exchange rate, and wealth effect channels which collectively determine the direction and magnitude of stock price movements (Suhaibu, Harvey, & Ampidu, 2017; Mishkin, 2001). A reduction in interest rates typically lowers the cost of capital, boosts investment, and raises equity valuations, whereas tightening monetary conditions may reduce liquidity and depress stock prices (Laopodis, 2013). Furthermore, changes in money supply influence investor expectations, asset allocation, and risk appetite, creating feedback loops that amplify market responses. However, in developing markets such as Kenya, these channels may be influenced by structural constraints including shallow investor bases, limited financial literacy, and heightened sensitivity to external shocks (IMF, 2023). This complexity underscores the need for more robust econometric approaches capable of isolating both short-run and long-run policy effects on stock performance..

Empirical findings from emerging economies reveal significant heterogeneity in monetary policy effects on stock performance. For instance, Osuagwu (2009) found that money supply and exchange rate variations significantly drive stock market movements in Nigeria, supporting the liquidity and price-level transmission channels. Similarly, Kirui et al. (2014) reported that in Kenya, exchange rate depreciation had a negative and asymmetric impact on stock returns, while interest rates influenced market volatility. In China, Wang (2010) observed that government-driven monetary interventions had profound long-term impacts on stock market development, both directly and through investor expectations. These studies collectively demonstrate that the interaction between monetary actions and stock market outcomes is not static but evolves dynamically over time.

Within this context, the effects of monetary policy on stock market performance in Kenya remain an area of pressing academic and policy interest. As Kenya deepens financial integration and adopts inflation-targeting frameworks, understanding how interest rate adjustments, liquidity management, and exchange rate interventions shape equity market behavior becomes crucial. This study, therefore, focuses on exploring both the short-run and long-run impacts of monetary policy on the NSE using linear Autoregressive Distributed Lag model (ARDL). Using the ARDL model is justified in examining monetary policy impacts on equity prices because it is flexible with variable stationarity, allows estimation of both short- and long-term effects, works well with small samples, and provides a clear framework for analyzing adjustment dynamics to equilibrium following shocks. In examining these complex interrelationships, the research aims to provide empirical evidence on how policy signals propagate through Kenya's financial system, influencing investor decisions and market stability. The study's findings are expected to enhance the predictive understanding of monetary policy transmission, support informed policy formulation, and contribute to the broader discourse on financial market resilience in emerging economies.

2. Theoretical Foundation

The Keynesian theory (Keynes, 1935) highlights monetary policy as a central tool for stimulating aggregate demand, output, and investment through adjustments in interest rates and liquidity. Lower interest rates reduce the cost of borrowing, encourage private investment, and enhance corporate profitability, which in turn drives stock-market appreciation (Blanchard & Johnson, 2017). Within financial markets, this transmission occurs through the interest-rate and credit channels, where increased liquidity expands credit access and boosts asset prices. Empirical studies affirm that expansionary monetary policy exerts a positive influence on equity returns, particularly under stable inflation conditions. For instance, Nguyen et al. (2021) and Yousaf & Hassan (2022) observed that monetary easing raises stock returns disproportionately during low-volatility periods, confirming asymmetric investor reactions. In Kenya, Otieno & Wekesa (2022) found that money-supply growth positively affects the NSE 20 Share Index in the short run, although the magnitude depends on prevailing inflation and exchange-rate conditions. These outcomes align with Keynesian reasoning that liquidity injections stimulate economic and financial activity, yet their effects can vary nonlinearly depending on macroeconomic stability and market sentiment.

In contrast, the Monetarist school, advanced by Friedman (1970), argues that fluctuations in the money supply are the primary drivers of inflation, output, and nominal asset prices. According to the Quantity Theory of Money (MV = PY),

excessive liquidity may initially raise stock prices but later erode real returns as inflation accelerates (Blanchard & Johnson, 2017). Modern empirical literature refines this view by showing that monetary impacts are conditional on inflation thresholds and regime shifts. Ali et al. (2023) identified an 8 percent inflation breakpoint beyond which further monetary expansion depressed East African equity returns, illustrating nonlinear policy transmission. Similarly, Njuguna & Mburu (2024) revealed that monetary stimulus benefits the NSE only in low-inflation regimes, while high inflation diminishes investor confidence and market efficiency. These findings validate the Monetarist principle that sustained liquidity growth can become counterproductive, emphasizing that the dynamic effects of monetary policy on Kenya's stock market are asymmetric and regime-dependent. Hence, incorporating linear econometric frameworks such as the linear Autoregressive Distributed Lag (NARDL) model is essential to capture the evolving relationship between monetary actions, inflation, and stock-market performance in Kenya's emerging financial environment.

3. Empirical Studies (Hypotheses Development)

Empirical studies conducted globally reveal that the effects of monetary policy on stock markets are neither linear nor uniform. Nguyen et al. (2021) used a quantile regression framework across 18 emerging markets and demonstrated that expansionary monetary policy boosts equity returns during periods of low inflation but loses effectiveness under high inflationary conditions. Similarly, Yousaf and Hassan (2022) found that stock markets react asymmetrically to monetary surprises rate cuts generate stronger positive effects than rate hikes, underscoring behavioral and expectation-driven asymmetries. Chauvet and Jiang (2023) further confirmed that monetary transmission is regime-dependent, where expansionary policies yield higher returns during recessions but smaller impacts during economic booms. Collectively, these findings emphasize the importance of inflation control, investor psychology, and economic cycles in shaping the strength and direction of monetary transmission to stock markets.

In emerging economies, including those in Africa, monetary transmission mechanisms display distinct characteristics shaped by structural and institutional factors. For instance, Prao and Kongoza (2025) applied nonlinear ARDL models to ECOWAS stock markets and revealed that the magnitude and persistence of monetary shocks vary across member states, depending on market liquidity, investor diversity, and financial depth. In Nigeria, monetary shocks had strong and immediate effects on stock returns, while Ghana and the BRVM exhibited slower and weaker responses. Zhou and Zhao (2023) found a similar pattern in China, where initial liquidity injections enhanced stock valuations but rising inflation later eroded gains and increased volatility. These findings suggest that without credible inflation management, monetary expansion can destabilize rather than stimulate markets. Thus, for developing economies like Kenya, ensuring coherence between liquidity provision and inflation stabilization is essential for sustainable market performance.

Recent empirical evidence specific to developing economies further underscores the asymmetric effects of monetary variables on stock markets. In Iran, Ameneh Hashemi Sanjani (2025) employed a Markov Switching VAR model and showed that increases in interest rates depress stock returns more severely during recessions, while liquidity expansion stimulates growth more effectively during booms. This aligns with findings from Otieno and Wekesa (2022) in Kenya, who discovered that positive shocks to money supply raise NSE returns in the short term, but negative shocks and inflationary

pressures exert disproportionately larger adverse effects. Such evidence highlights the necessity of adopting nonlinear models like the Nonlinear Autoregressive Distributed Lag (NARDL) framework, which captures asymmetric and regime-dependent effects that linear models fail to identify. Based on this empirical foundation, the present study hypothesizes three key relationships governing the dynamic effects of monetary policy on Kenya's stock market.

The alternative hypothesis;

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

H_2: Treasury bill rate has a significant effect on stock market performance in Kenya.

H_3: Foreign exchange rate has a significant effect on stock market performance in Kenya.

4. Methodologies

The study adopts a positivist philosophy, emphasizing objectivity, empirical testing, and measurable evidence to explore how monetary policy influence stock market performance in Kenya. By relying on quantitative and time-series econometric techniques, particularly the Linear Autoregressive Distributed Lag (ARDL), the research aims to capture both the short-run and long-run dynamics between monetary policy actions and equity performance over the period from January 2001 to December 2024. The positivist approach underscores neutrality and replicability, ensuring that the findings contribute to generalized knowledge in financial economics and policy research.

Sampling

The study employed a purposive sampling technique targeting the 20 blue-chip companies that constitute the Nairobi Securities Exchange (NSE) 20 Share Index. These firms represent the largest, most liquid, and most actively traded companies, offering an accurate reflection of Kenya's stock market performance. The NSE 20 Share Index serves as an ideal benchmark because it captures broad investor sentiment, sectoral diversity, and consistent trading activity. By focusing on index-level data rather than firm-level data, the study minimizes idiosyncratic risks and measurement noise, ensuring that the analysis reflects macro-level interactions between fiscal and monetary policy shifts and stock market outcomes. This selection also aligns with global financial research practices where benchmark indices are used to represent the general performance of equity markets.

Measurement of Variables

Table 1 presents a summary of the study variables, their types, measurement methods, and descriptions. The dependent variable is the NSE 20 Share Index (NSE20SI), which represents the equity price and serves as a market capitalization-weighted index comprising 20 leading companies listed on the Nairobi Securities Exchange. It is measured using the monthly volume-weighted average price of the index constituents. The independent variables include money supply (M2), exchange rate (FX), and 90-day-Treasury Bill rate (TB91). Money supply (M2) captures the total amount of money circulating in the economy, encompassing both narrow money (M1) and long-term

deposits, measured as a monthly average. The exchange rate (FX) is expressed as the monthly average value of the Kenya Shilling against the US Dollar, indicating changes in the external value of the domestic currency. The Treasury Bill rate (TB91) serves as a proxy for the short-term domestic interest rate and is measured as the monthly average of the 91-day Treasury Bill yield. Together, these variables provide a comprehensive framework for assessing the influence of monetary policy on stock market performance.

Table 1. Measurement of Variables

Type	Variable	Transformation and Measure	Variable Description
Dependent variable	Equity Price	NSE20SI	Market capitalization weighted index of 20 companies. Measured by monthly volume weighted average price of the indices.
Independent Variables	Money Supply	M2	A measure of aggregate money supply that includes M1 and long-term money deposits. Measured by monthly average of money supply.
	Exchange rate (Percentage)	FX	Measured by monthly average rate at which Kenya shillings exchanges with one US dollar.
	Treasury Bill Rate	TB91	Treasury bill rate used as a proxy for domestic rate of interest. It is measured as the monthly average of the 91-day Treasury Bill Rate.

Data Collection Procedure

Secondary data were sourced from reputable public institutions to ensure accuracy, consistency, and credibility. Stock market performance data were obtained from the Nairobi Securities Exchange (NSE), while monetary policy indicators money supply (M2), exchange rate (FX), and Treasury Bill rate (TB91) were retrieved from the Central Bank of Kenya (CBK). Data collection employed structured extraction templates to standardize variable coding and ensure temporal alignment across all datasets. Before analysis, the dataset underwent thorough screening for completeness, duplicate records, and outliers using the three-sigma rule. Seasonal variations were assessed through the Kruskal–Wallis test and autocorrelation function (ACF) plots, and where significant seasonality was detected, deseasonalization was conducted using Seasonal and Trend decomposition via Loess (STL). The entire data preparation process was documented in R Markdown to promote reproducibility and transparency.

Data Preparation

The dataset underwent several screening steps to ensure accuracy and readiness for modelling, including checks for duplicates, outliers, transformations, seasonality, and stationarity. No duplicate entries were found, confirming the integrity of the time series. Outliers were assessed using the 3-sigma rule, which identified unusually low TB91 values in mid-2003; these were retained because they reflected real economic conditions rather than errors. Minor data entry issues were corrected to maintain

consistency. Log transformations were applied to all the variables to address heteroskedasticity, improve interpretability, and account for exponential growth patterns. Seasonality was evaluated using autocorrelation analysis and the Kruskal–Wallis test. Only tax revenue exhibited seasonal fluctuations, leading to deseasonalization to isolate its underlying trend.

Data Analysis

Data analysis began with descriptive statistics to summarize the central tendencies, variability, and distributional properties of the variables, using measures such as the mean, median, standard deviation, skewness, and kurtosis. Pre-estimation diagnostics followed, beginning with unit root and stationarity tests using the Augmented Dickey-Fuller (ADF) and Phillips–Perron (PP) tests to determine the order of integration for each series. Lag length selection was guided by the Akaike Information Criterion (AIC) and the Schwarz Bayesian Criterion (SBIC) to ensure that both short-run dynamics and long-run equilibrium relationships were appropriately captured. Structural breaks were tested using the Bai–Perron multiple-break framework, while multicollinearity was examined through correlation matrices, variance inflation factors (VIF). Post-estimation diagnostic tests ensured the robustness of the model: the Breusch–Godfrey LM test checked for serial correlation, the Breusch–Pagan and White tests assessed heteroskedasticity, and the Jarque–Bera test evaluated the normality of residuals. The stability of coefficients was assessed through CUSUM and CUSUMSQ tests, while the Wald test was used to determine both short-run and long-run asymmetry. All econometric procedures were conducted in R Studio, leveraging its advanced time-series modeling and diagnostic testing capabilities.

Model Specification

The study's baseline empirical model was conceptually adapted from Hsing (2013) but was modified to suit the Kenyan context and expanded to capture nonlinear dynamics in the relationship between monetary policy variables and stock market performance. The general functional relationship was specified:

Baseline empirical relationship:

Hsing (2013) model was modified to take the following form;

$\mathrm{NSE20SI} = \mathrm{f}(\mathrm{TB91}, \mathrm{FX}, \mathrm{M2})$………….…………………………….. (1)

where:

NSE20SI- Nairobi Security Exchange 20 Share Inde,

TB91- 91-Day Treasury Bill Rate,

FX- Foreign exchange rate,

M2-Money supply

The linear ARDL–UECM model is expressed as:

$\Delta y_t = \beta_0 + \sum \delta_i \Delta y_{t-1} + \sum \delta_i \Delta x_{t-i} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta x_{t-1} + \varepsilon_t$……. (2)

A bounds test is performed under the null hypothesis $H_0: \beta_1 = \beta_2 = 0$. If cointegration is confirmed, the long-run and short-run dynamics are estimated, including the speed of adjustment represented by the error correction term (ECT).

5. Results And Discussion

This section presents the results of the data analysis and interpretation based on the study objectives. Data were analyzed and summarized using both descriptive and inferential statistical techniques with the aid of R Studio. Tables and figures were used to simplify interpretation and comparison of results. The analysis focused on assessing how monetary policy variables influenced stock market performance in Kenya. It began with a descriptive summary of the data, highlighting measures of central tendency and dispersion such as means and standard deviations, along with visual representations using box plots. This preliminary analysis provided a clear understanding of the data patterns and distribution before the econometric modeling was undertaken

Descriptive Statistics

The descriptive results presented in Table 2 summarized the behavior and distribution of key monetary policy variables and the equity performance over the 23-year period from January 2001 to December 2024. The NSE 20 Share Index (NSE20SI) recorded a mean value of 3,248.40 with a wide range between 1,043.38 and 5,774.27, indicating substantial volatility in Kenya's equity market. This variation reflected periods of rapid market expansion and contraction, influenced by political transitions, fiscal reforms, and external economic shocks. The 91-day Treasury Bill rate (TB91) had an average of 8.35% with a standard deviation of 3.48, ranging between 0.83% and 21.65%. These fluctuations revealed the Central Bank of Kenya's active role in monetary management through short-term interest rate adjustments aimed at controlling inflation and liquidity in the financial system. The foreign exchange rate (FX) averaged KES 92.31 per USD, with a high of 159.69, demonstrating a long-term depreciation of the shilling consistent with Kenya's widening current account deficits and external shocks affecting Sub-Saharan currencies. Similarly, the broad money supply (M2) averaged KES 1.741 million with a large spread between 0.304 and 4.231 million, underscoring Kenya's monetary expansion and financial deepening efforts over time. The correlation coefficients provided further insights into the relationships among these variables. The NSE20SI exhibited a weak positive correlation with money supply growth (ΔM2 = 0.210), implying that an increase in liquidity may have modestly supported higher equity prices through improved investor confidence and capital availability. In contrast, its correlation with the Treasury Bill rate (TB91 = −0.130) was negative, indicating that rising interest rates could discourage stock market investment as investors shifted preference toward safer fixed-income securities. The NSE20SI's relationship with the exchange rate (ΔFX = 0.020) was nearly negligible, suggesting that currency fluctuations had minimal direct impact on stock market performance during the period.

Table 2: Descriptive Statistics

Variable	Mean	SD	Min	Max	NSE20SI	ΔFX	TB91	ΔM2
NSE20SI	3,248.40	1,237.14	1,043.38	5,774.27	1.000	0.020	-0.130	0.210
TB91	8.35	3.48	0.83	21.65		1.000	-0.130	0.030
FX	92.31	19.56	61.90	159.69			1.000	-0.080
M2 (millions)	1.741	1.215	0.304	4.231				1.000

Keywords: NSE20SI= market capitalization-weighted index of 20 Nairobi Securities Exchange companies based on volume-weighted average prices, TB91 = the monthly average yield of the 91-day Treasury Bill as a proxy for domestic interest rates and FX, the average monthly exchange rate of the Kenyan Shilling against the US Dollar.

Unit Root test

Table 4.2 presented the results of the unit root tests for all the study variables using both the Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) methods. The table showed the p-values and corresponding stationarity decisions for each variable in levels and at first differences. It indicated that the Nairobi Securities Exchange 20 Share Index (NSE20SI), foreign exchange rate (FX), and money supply (M2) were nonstationary at level but became stationary after first differencing, confirming they were integrated of order one, I(1). In contrast, the 91-day Treasury Bill rate (TB91) was stationary in level, as reflected by low p-values in both tests, suggesting an integration order of zero, I(0). These results highlighted that the dataset contained a mix of I(0) and I(1) variables, thereby justifying the application of the Autoregressive Distributed Lag (ARDL) modeling framework, which effectively accommodates variables of different integration orders.

Table 3: Unit Root Test

Variable	ADF_pvalue	PP_pvalue	ADF_Decision	PP_Decision
NSE20SI	0.477	0.841	Non-Stationary	Non-Stationary
FX	0.299	0.466	Non-Stationary	Non-Stationary
M2	0.990	0.990	Non-Stationary	Non-Stationary
TB91	0.010	0.038	Stationary	Stationary

DIFFERENCED (I(1))

Variable	ADF_pvalue	PP_pvalue	ADF_Decision	PP_Decision
NSE20SI	0.010	0.010	Stationary	Stationary
FX	0.010	0.010	Stationary	Stationary
M2	0.010	0.010	Stationary	Stationary
TB91	0.010	0.034	Stationary	Stationary

Linear ARDL- Long-run and Short-run (Hypothesis Testing)

Before conducting the ARDL analysis, a series of diagnostic tests were performed to ensure that the long-run and short-run estimations were statistically reliable. For the linear ARDL long-run model (Hypothesis Testing), the diagnostics revealed the presence of serial correlation (Breusch–Godfrey = 233.390, $p < 0.001$) and heteroskedasticity (Breusch–Pagan = 59.990, $p < 0.001$). These challenges were corrected using robust standard errors to safeguard the validity of statistical inference. The normality assumption was satisfied (Jarque–Bera = 2.380, $p = 0.304$), and the RESET test (1.560, $p = 0.213$) confirmed that the functional form was appropriate. Structural stability tests detected instability, with the CUSUM (1.829, $p < 0.001$) and OLS-based CUSUM (1.994, $p < 0.001$) indicating breaks around 2015–2021. To correct this, structural break dummy variables (break3, break4) were included, which stabilized the long-run relationship. The joint significance test ($F = 23.459$, $p < 0.001$) together with acceptable VIF ranges (1.00–8.70) confirmed the strong explanatory power of FX, TB91, and M2 without multicollinearity concerns.

For the short-run ARDL model, the diagnostics confirmed the robustness of the model structure. There was no evidence of serial correlation (Breusch–Godfrey = 0.1116, $p = 0.738$) and no heteroskedasticity (Breusch–Pagan = 1.728, $p = 0.943$), showing that model dynamics and variance were properly specified. Although the Jarque–Bera statistic (160.120, $p < 0.001$) indicated non-normal residuals, this is not critical in large monthly datasets. The RESET test (0.118, $p = 0.888$) supported the correctness of the functional form. Stability was adequate overall, with the OLS-based CUSUM nonsignificant (1.170, $p = 0.129$), although the recursive CUSUM test indicated minor instability near structural break periods (0.964, $p = 0.044$). VIF values between 1.00 and 2.93 confirmed that multicollinearity was not an issue in the short-run model.

The results presented in Table 4 illustrated both the long-run and short-run effects of monetary policy variables on the Nairobi Securities Exchange 20 Share Index (NSE20SI) using a linear Autoregressive Distributed Lag (ARDL) framework. In the long run, the estimated coefficients (β) showed that the foreign exchange rate (FX), 91-day Treasury Bill rate (TB91), and broad money supply (M2) significantly influenced stock market performance, affirming all three hypotheses of the study. Specifically, the coefficient for FX ($\beta = -3.253$, $p < 0.001$) indicated a strong and negative relationship between currency movements and equity prices. This finding implied that depreciation of the Kenya shilling led to decline in stock market valuations, primarily because a weaker currency raised import costs for listed firms, eroded corporate profit margins, and discouraged foreign portfolio investment. The result aligned with prior evidence from emerging markets, such as Nguyen et al. (2021) and Zhou and Zhao (2023), who found that exchange rate volatility adversely affects equity markets by amplifying uncertainty and reducing investor confidence. Hence, H3, which posited that the exchange rate has a significant effect on stock market performance, was supported, and the null hypothesis was rejected.

Similarly, the TB91 coefficient ($\beta = -0.523$, $p < 0.001$) revealed a significant negative relationship between short-term interest rates and stock prices. Higher Treasury bill rates increased the opportunity cost of holding stocks, diverting capital toward safer interest-bearing assets. This finding supported H2 and confirmed the theoretical expectations of monetary policy transmission, consistent with studies by Yousaf and Hassan (2022) and Ameneh Hashemi Sanjani (2025), which showed that contractionary

monetary policy tends to suppress stock returns. The result also suggested that investors in Kenya's equity market are highly sensitive to changes in short-term rates, reflecting limited diversification opportunities and a preference for liquidity under tight monetary conditions. In contrast, M2 exhibited a positive and significant long-run coefficient ($\beta = 0.748$, $p < 0.001$), indicating that growth in money supply enhanced stock market performance through improved liquidity, higher credit availability, and expanded investment capacity. This finding supported H1 and reinforced earlier results by Otieno and Wekesa (2022), who reported that monetary expansion positively influences NSE returns in the long run. The implication is that an accommodative monetary stance fosters stock market growth by easing credit constraints and stimulating investor participation.

In the short run, the coefficients demonstrated weaker and less persistent effects. The FX coefficient ($\beta = -0.470$, $p = 0.066$) was negative but marginally insignificant, suggesting that currency fluctuations had a limited immediate impact on equity prices, perhaps due to investors' gradual response to exchange rate adjustments or the offsetting effects of capital inflows. The TB91 coefficient ($\beta = -0.119$, $p = 0.006$) remained negative and significant, indicating that increases in short-term interest rates immediately reduced stock returns by tightening liquidity and raising borrowing costs. Conversely, M2 ($\beta = -0.059$, $p = 0.851$) was insignificant in the short run, implying that monetary expansion does not instantly translate into higher equity prices, as the liquidity injection may take time to circulate through the financial system. The error correction term (ECT) ($\beta = -0.041$, $p = 0.015$) was negative and significant, confirming the existence of a stable long-run equilibrium and indicating that approximately 4.1% of disequilibrium from the previous month was corrected in the current period. This moderate adjustment rate reflected the gradual nature of policy transmission in Kenya's financial market, where market rigidities and structural inefficiencies slow the response to policy shifts.

The significance of structural breaks (Break3: $\beta = -0.493$, $p < 0.001$; Break4: $\beta = 0.270$, $p < 0.001$) corresponded to major macroeconomic events such as the 2008 global financial crisis, fiscal reforms of 2015, and the COVID-19 pandemic in 2021, each of which disrupted financial stability and altered investor sentiment. These breakpoints confirmed that policy shocks and external crises had lasting effects on Kenya's stock market, underscoring its vulnerability to global and domestic macroeconomic shifts. The overall model fit was robust in the long run ($R^2 = 0.699$, Adjusted $R^2 = 0.693$; $F = 119.6$, $p < 0.001$), signifying that about 70% of variations in NSE20SI were explained by monetary variables, while the short-run model ($R^2 = 0.049$) exhibited limited explanatory power, consistent with the transitory nature of short-term fluctuations.

In summary, the study rejected all null hypotheses, confirming that money supply (H1), Treasury bill rate (H2), and exchange rate (H3) significantly affected stock market performance in Kenya. The long-run findings underscored the dominance of monetary factors in driving equity valuations, with money supply acting as a stimulus and interest and exchange rates exerting dampening effects. The short-run outcomes highlighted that while monetary policy shocks influence market activity, their immediate effects are often moderated by investor expectations and adjustment lags. These results reinforce the need for a coherent monetary framework that balances liquidity expansion with interest rate and exchange rate stability to sustain investor confidence and long-term growth in Kenya's capital market.

Table 4: Linear ARDL- Long-run and Short-run

	Long run	**short run**
Variable	Coefficient (p-value)	Coefficient (p-value)
(Intercept)	8.156 (<0.001***)	0.002 (0.757)
L(FX, 1)	−3.253 (<0.001***)	−0.470 (0.066†)
L(TB91, 1)	−0.523 (<0.001***)	−0.119 (0.006**)
L(M2, 1)	0.748 (<0.001***)	−0.059 (0.851)
L(break3, 1)	−0.493 (<0.001***)	0.040 (<0.001***)
L(break4, 1)	0.270 (<0.001***)	0.011 (0.280)
L(ECT, 1))		−0.041 (0.015*)
Model Fit		
R-squared	0.699	0.049
Adjusted R-squared	0.693	0.022
F-statistic	119.6 (p < 0.001)	1.812 (0.098†)
Break Dates- 2005-04-01, 2009-01-01, 2015-04-01, 2021-05-01		

6. Conclusions

The study concluded that monetary policy instruments specifically money supply (M2), the 91-day Treasury Bill rate (TB91), and the foreign exchange rate (FX) exerted a significant influence on stock market performance in Kenya. The results from the linear ARDL model revealed that increases in short-term interest rates (TB91) and currency depreciation (FX) significantly reduced stock market returns, while expansion in money supply supported market growth in the long run. These findings confirmed that monetary policy transmission in Kenya operates through interest rate and exchange rate channels, which directly shape investor behavior and capital market dynamics. However, excessive monetary expansion was found to be potentially counterproductive, as it heightened inflation expectations and weakened real returns. The evidence also suggested that the Kenyan equity market reacts asymmetrically to monetary shocks, expansionary policies boost stock performance during low-inflation periods, while contractionary measures or inflationary conditions dampen investor confidence and valuations. Overall, these findings underscored that prudent, transparent, and well-calibrated monetary management is essential for sustaining investor confidence and maintaining a stable capital market environment.

7. Recommendations

Managerial and Practical Implications

Investment managers, fund managers, and portfolio strategists should closely monitor macroeconomic indicators particularly money supply growth, Treasury Bill rates, and exchange rate movements when formulating investment strategies. The study found that increases in short-term interest rates and currency depreciation negatively influence stock prices; therefore, managers should anticipate potential declines in equity returns under tightening monetary conditions and adjust portfolio weights toward defensive assets. Similarly, financial planners and listed firms should integrate macroeconomic monitoring into their strategic and treasury decisions. Recognizing that monetary policy adjustments affect credit availability, borrowing costs, and investor sentiment, corporate leaders should adopt hedging mechanisms against currency volatility and interest rate fluctuations. This proactive approach would help safeguard firm value and sustain profitability during periods of monetary tightening or exchange rate instability.

Policy Implications

From a policy perspective, the Central Bank of Kenya (CBK) and the Monetary Policy Committee (MPC) should carefully calibrate the pace and communication of interest rate changes. The findings showed that abrupt monetary tightening through higher TB91 rates consistently depresses equity valuations and investor sentiment. Thus, rate adjustments should be gradual, well-communicated, and accompanied by transparent guidance to prevent liquidity shocks in the financial system. Exchange rate stability also emerged as a critical determinant of stock performance; hence, CBK should strengthen foreign reserve buffers, manage speculative pressures, and enhance coordination between fiscal and monetary policies to mitigate currency volatility.

Furthermore, the study demonstrated that the equity market responds linearly to monetary policy. Policymakers should therefore complement traditional forecasting tools with linear econometric frameworks such as ARDL and threshold-based models to more accurately capture the transmission of monetary policy effects on stock market performance and strengthen evidence-based decision-making. Given the presence of structural breaks linked to global crises and domestic policy shifts, monetary frameworks must remain flexible and forward-looking, incorporating contingency mechanisms to absorb shocks from external sources such as commodity price fluctuations and capital flow reversals. Coordinated efforts by CBK, the National Treasury, the Ministry of Planning, and research bodies like KIPPRA should aim to institutionalize adaptive policy modeling and scenario-based stress testing to enhance Kenya's financial resilience.

Theoretical Implications

The findings extended both Keynesian and Monetarist theoretical perspectives in explaining stock market behaviour under varying monetary conditions. From a Keynesian standpoint, the results reinforced the stabilizing role of policy interventions, demonstrating that government actions through fiscal and monetary channels significantly influence market confidence, investment cycles and overall economic sentiment. From a Monetarist perspective, the study confirmed that shifts in money supply and interest rates are central to asset price formation, emphasizing the importance of managing liquidity and credit conditions to maintain market stability. Collectively, these insights advance Monetarist theory by providing empirical evidence from a developing-market context, showing that disciplined monetary regulation remains crucial for stock market predictability and long-term financial stability.

8. Future Studies

Future research should extend the current analysis by employing Nonlinear Autoregressive Distributed Lag (NARDL) models to capture asymmetric and regime-dependent effects of monetary policy on stock market performance in Kenya. The findings from this study revealed that monetary variables such as money supply, interest rates, and exchange rates affect stock returns differently across economic conditions, emphasizing the need for models that account for these nonlinearities. Scholars should also examine sectoral heterogeneity, as industries like banking, manufacturing, and technology may respond uniquely to monetary shocks, and utilize high-frequency data (daily or intraday) to capture rapid market adjustments that monthly data may overlook. Incorporating external factors such as global commodity prices, capital flows, and geopolitical risks would further enrich understanding of Kenya's financial sensitivity to international dynamics. Additionally, threshold analyses could identify critical

inflation levels where monetary expansion transitions from stimulative to destabilizing, while integrating behavioral indicators like investor sentiment and risk perceptions would bridge the gap between policy fundamentals and market psychology. Finally, comparative cross-country studies across Sub-Saharan Africa and other emerging markets would enable benchmarking of Kenya's monetary transmission mechanisms, enhancing theoretical development and policy formulation for resilient and adaptive financial markets.

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