Determinants of Stock Market Performance in Malawi: Evidence from Listed Companies on the Malawi Stock Exchange (MSE)

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ABSTRACT

This research aimed to identify the key factors affecting stock market performance among firms listed on the Malawi Stock Exchange, integrating theoretical insights with empirical financial market data. A quantitative approach was used to explore relationships between variables. Firm-level data for 15 listed companies across sectors such as banking, tourism, manufacturing, telecommunications and real estate (2018–2024), together with market and macroeconomic data for 2012–2024, were collected. The analysis involved descriptive statistics, panel regressions (pooled OLS, fixed effects and random effects) and OLS regression. The policy rate ranged from 12% (2020–2021) to 27% (2015) and rose from 24% in 2023 to 26% in 2024 as the central bank sought to curb inflation. Average GDP growth of 3.56% over the period was relatively low, reflecting structural challenges such as reliance on rain-fed agriculture, external shocks, and fiscal imbalances. The study employed the Capital Asset Pricing Model, Arbitrage Pricing Theory, and the Efficient Market Hypothesis to examine relationships among variables. Results showed that leverage was not significant in the preferred random-effects model, was borderline in pooled OLS ($p = 0.058$) and was positive and significant in the fixed-effects model ($p = 0.039$); notably, the positive coefficient in the fixed-effects model contradicted the expectation that higher debt increases financial risk and lowers stock prices. Firm size was the only firm-specific variable with a significant effect on stock prices in all three models, while among the macroeconomic variables the exchange rate was positive and significant across all three indices and inflation was negative but not significant. Financial institutions often can pass inflationary costs to customers, potentially shielding their profits and stock prices from inflation's effects.

Keywords: Stock Price, Inflation, Profit, Listed Companies, Shares

INTRODUCTION

The association between stock market performance and other economic variables has been widely researched across different regions of the globe. Research in developed and emerging markets has identified macroeconomic factors that influence stock market returns, including GDP growth, inflation, interest rates, and exchange rates (Gendy et al., 2025). Furthermore, company-specific characteristics, such as the ratios of return on equity (ROE) to return on assets (ROA), earnings per share (EPS), and dividends, have been observed to have an important influence on the value of individual shares and market indexes (Ekanayake & Indrani, 2023).

Research in Africa on the determinants of stock markets has tended to focus on larger, more developed stock markets, such as the Johannesburg Stock Exchange and the Nigerian Stock Exchange. Although the Dar es Salaam Stock Exchange and other exchanges in the East African region are considered, the MSE of Malawi remains underexplored. The Malawi economy, which is dependent on agriculture, relatively less industrialised, and subject to external influences, may have factors that make its stock market performance distinct from that of the rest of Africa. The MSE is also important in research, as it can explain certain

behavioural and market forces and provide specific recommendations for market development (Mwakabumbe et al., 2023).

The overall health, efficiency, and performance of equity markets are measured by stock market performance. Typically, several indicators are used to assess performance, including market indices, trading volume, volatility, price-earnings ratios, and the performance of specific stocks (Keswani et al., 2024). In the modern financial world, the functioning of the stock market can fulfil many roles: it gathers information from a large number of interest groups, it supports the transfer of capital to the productive components of the economy, it supports the discovery of prices in the stock market through the continuous process of trading, and it provides a structure for wealth creation and transfer.

The performance of stock markets is inherently linked to financial and broader economic conditions, as shown by Keswani et al. (2024). Consistent market performance is likely to indicate strong economic fundamentals, investor confidence, and effective corporate governance. Conversely, inefficient capital allocation can manifest as poor market performance, investor uncertainty, or structural inefficiencies. Keswani and others suggested that stock markets are particularly important for emerging economies, as capital markets are the primary means of mobilising long-term capital for productive investment.

In sub-Saharan Africa, stock trading is typically perceived as a passive savings option, leading to illiquidity and extended periods of inactivity. Consequently, the MSE continued to face the same problems, including low liquidity, concentrated ownership, macroeconomic shocks, inadequate regulation, and information asymmetries. Hence, the study focuses on performance, given that consumption is extremely high, accounting for 97.6 percent of GDP on average since 2000. This is due to the country's reliance on imports, as indicated by (Chalera, 2022).

There are three stock market indices on the MSE: the Malawi All Share Index (MASI), the Domestic Share Index (DSI), and the Foreign Share Index (FSI). Stock market indices track share price movements, and the MSE has shown signs of growth since its inception. The number of listed companies, the volume of shares traded, market capitalisation, and liquidity have all increased. Four industries dominate the market: banking, manufacturing, real estate, and telecommunications. Chalera found that, in keeping with the ever-changing technological world, the market has recently gone digital. This paper attempts to identify macroeconomic variables, such as inflation, GDP growth, and currency stability, as well as firm-specific variables that affect stock market performance.

Hypothesis

- H1: Macroeconomic variables, namely inflation, GDP growth, the policy rate, the exchange rate and the fiscal deficit, have a significant effect on stock market performance on the MSE.
- H2: Company-specific financial variables, namely profitability, leverage and firm size, have a significant effect on the stock prices of firms listed on the MSE.

- H3: Market information and regulatory reforms, including the introduction of electronic trading, have a significant effect on liquidity and trading activity on the MSE.

THEORETICAL REVIEW

Capital Asset Pricing Model

The Capital Asset Pricing Model is one of the foundational models in finance, providing a theoretical framework for the relationship between stock returns and risk. Developed by Sharpe (1964), Lintner (1965), and Mossin (1966), CAPM states that the expected value of a security is the rate of a risk-free market, in addition to a risk premium that is relative to the systematic risk of the security (beta), in contrast to the market portfolio (Kisman & Shintabelle, 2015).

The CAPM equation is given as:

$E(Ri) = Rf + bi(E(Rm) - Rf)$

E(Ri) is the expected return on security i, Rf is the risk-free rate, bi is the coefficient of beta indicating systematic risk exposure, and E(Rm) − Rf is the market risk premium.

Stock Market Performance Implications: The CAPM model implies that the systematic risk exposure of stocks or securities should determine stock returns, and that higher risk should be associated with higher returns.

Idiosyncratic, or firm-specific, risk that can be diversified by rational investors should not be compensated for in equilibrium. This model highlights that the key drivers of stock returns are macroeconomic risks that affect all securities through the market risk premium, as indicated by Kurihara (2006).

Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT) framework can use multiple risk factors, rather than a single market factor as in CAPM. This flexibility accommodates empirically observed determinants of stock returns. Kisman and Shintabelle suggest that there is no need to specify the market portfolio required by APT, which is difficult to observe and verify in practice, especially in emerging markets with incomplete capital markets.

Efficient Market Hypothesis

The efficient markets hypothesis holds that agents use relevant information in asset negotiations, so that prices fully reflect economic fundamentals and other information relevant to them. In a market considered efficient in this sense, investor resources will be allocated more effectively to capital assets, without the possibility of abnormal gains or losses; the role of the regulatory state and investment fund managers will take on different dimensions, in addition to essential characteristics (Roberto De Souza Junior, n.d.).

Forms of Market Efficiency: The hypothesis differentiates between three types of market efficiency. Weak-form efficiency means that prices reflect all information contained in past price patterns. Semi-strong-form efficiency means that prices reflect all publicly available information. Kurihara posits that strong-form efficiency means that all information, including private information, is reflected in prices.

EMPIRICAL LITERATURE

Macroeconomic Factors

Interest rates influence the stock market through their effects on discount rates, the cost of capital, and competition between fixed-income securities and stocks. Keswani and others found that cointegration analysis identified strong and significant long-term relationships among stock prices and the chosen macroeconomic variables. The findings both confirmed a persistent nexus between stock returns and key economic variables and highlighted a persistent negative correlation with interest rates, government policies, exchange rates, and inflation.

Macroeconomic variables from previous studies are presented as uncertain due to the inherently unseasonal nature of economies. A study of short-period trade in pre- and post-liberalisation seasons found that South Africa shows significant evidence of a day-of-week effect on Mondays and Fridays during the pre-liberalisation period, while the Nigerian equity market exhibits a day-of-week effect on Mondays and Tuesdays in the post-liberalisation period (Ndako, 2013).

Calendar effects across 11 countries were studied, and possible explanations for the January and December effects were identified as the tax-loss selling and window dressing hypotheses. The findings provide evidence of evolving stock markets that can be predicted using past prices and volumes.

Under the tax-loss selling hypothesis, investors sell their stocks in December and buy them back in January, increasing demand for stocks and, in turn, raising prices (Murekachiro, 2025). Obalade and Muzindutsi (2019)

examined the markets and concluded that they are adaptive, as calendar return behaviour does not remain the same across different market conditions.

Macroeconomics can also be influenced by unstable fiscal balances. In Zimbabwe, erratic growth occurred during four of the five distinct economic phases, with high real growth rates and near-balanced budgets recorded only during the period of macro-stability (2009–2013). However, the hyperinflation period in Zimbabwe, driven by quasi-fiscal activities of the central bank, entailed the monetisation of fiscal deficits and the financing of entities in both the public and private sectors, including companies on the stock market (Kavila, 2021). A study of Sub-Saharan African countries found that central bank financing of government deficits has been increasing as a percentage of GDP on average, boosting stock trading (Hooley et al., 2021).

Research conducted in Tanzania used a fixed-effects regression model to assess whether the level of stock market development is significantly and positively correlated with economic growth. Mwambene (2013) concluded that African countries can encourage stock market participation to help firms expand, contribute to national revenue, and improve standards of living through quality products and job creation.

On the MSE, a study examined the short- and long-term effects of macroeconomic variables on stock market performance and tested causal relationships between the stock market and macroeconomic variables, including interest rates, money supply, government spending, gross domestic product, real effective exchange rate, and inflation. Chalera applied the Autoregressive Distributed Lag Model (ARDL) to a dataset covering the period from 1997 to 2013.

Furthermore, the study concluded that firms are unlikely to invest in the domestic economy when the cost of capital is very high. To derive the most from the stock market, the government and policymakers are recommended to keep the economy healthy. In the long run, the share price was positive and significant, whereas in the short run, it was negative and significant. The rate of inflation was found to negatively influence the stock market; hence, inflationary pressures reduce consumer disposable income, which is used for savings and investment. Therefore, maintaining tighter monetary policy and minimising government expenditure help address this weakening in the savings and investment culture.

Chalera found no causal relationship between the stock market and the fiscal policy variable, and that government spending had a positive and significant long-run influence on the stock market but no short-run influence. When government expenditure has a substantial positive influence on the stock market, it indicates that the economy consumes more than it invests. In small open economies like Malawi, government expenditure frequently exceeds government investment. Government investment, on the other hand, stimulates economic activity, including demand in the stock market.

Maintaining a tight monetary policy and reducing government spending can address this decline in savings and investment. Saulosi (2017) concluded that, rather than the usual January effect on the MSE, May has a stronger month-of-the-year effect. After controlling for size and value and testing the robustness of these strategies, greater momentum profits were found to be aligned with portfolios of small market capitalisation, as well as with high book-to-market equity. The momentum factor was also statistically significant for momentum portfolios, alongside the size effect and value premium; however, the explanatory power of the momentum factor does not dominate that of size and value, as indicated by Saulosi (2017).

Firm-Specific Factors

Research studies have consistently found that firm size affects stock returns, but the direction and magnitude of the effect vary across situations. The relationship between firm size and dividend policy has been widely reported and could have implications for stock performance. A study of Indonesian banks found that bank size positively affects dividends (Sitinja & Hascaryani, 2025). The authors concluded that leverage negatively affects dividend policy.

Firm-specific factors are affected by the variation of firm sectors on the stock market. Imhanzenobe (2023) observed that market improvements are often driven by changes in investors' behaviour and regulatory standards across stock markets, with effects varying by sector.

Other researchers noted that as Africa moves towards integration into the global economy, the development of stock markets and the banking sector is significant for globalisation while controlling risks (Senbet, 2008). The development of stock markets involves diversifying entities, which will lead to a flow of new listings from the private sector (Isc, 2022).

A study of the MSE recommended that both member and non-member institutions of the MSE should establish research departments to study the stock market and provide information to their investors, including institutional, individual, and tourist investors. The availability of information to investors and potential investors will lead to the disappearance of the day-of-the-week effect. When the MASI is examined across trading days of the week, Saulosi found that all days have a positive and statistically significant effect on market returns. However, Thursday has a significantly stronger effect on market returns, followed by Tuesday at the 1% significance level.

Liquidity

Stronger liquidity implies greater financial flexibility, a lower risk of bankruptcy, and financial soundness, which positively affects stock valuation. In contrast, a more complicated event, as evidenced by empirical evidence, reflects the reality of Asian markets. Banerjee et al. (2007) found that liquidity negatively influences dividend policy in the banking sector.

Asongu (2011) found a significant positive association between stock market performance measures and the quality of government institutions. Government quality dynamics of corruption-control, government-effectiveness, political-stability or no violence, voice and accountability, regulation quality and rule of law have been studied with income levels, religious-dominations, press freedom degrees and legal origins to account for stock market performance qualities of capitalisation, liquidity, value traded, turnover and number of listed companies. Researchers in Nigeria recommended that the government implement additional monetary and fiscal policies and mechanisms to stabilise stock market reforms and stimulate liquidity.

Ahelegbey & Giudici (n.d.) conducted a study in which they constructed a network-based turbulence score that proves useful for analysing the relationship between financial interconnectedness and global market risk and for identifying systematically important markets. They presented findings that the interconnectedness of markets does amplify initial global market risk. Cardamone et al. (2008) tested whether the publication of a social report influences stock prices using a classic formulation with a sample size of nearly 200 companies.

They reported a negative correlation and that accounting information on book value per share is relevant in stock price formation. This finding highlights another need for financials to be publicised. A large, liquid stock market is an important factor in the stock market's influence on economic growth. In Tanzania, Mwambene (2013) found that the sustenance of stock market development, however, is drawn from long-term investigation of the causality between stock market development and economic growth in emerging economies.

METHODOLOGY

The study employed a quantitative approach to document analysis. The study used a purposive sampling technique that incorporated both convenience and criterion aspects. Purposive sampling is suitable when the target population is limited (in this case, the MSE) and when the sample is identified using specific criteria (Naseer et al., 2021).

The dataset comprised company financials, which were analysed using descriptive and inferential approaches to estimate pooled OLS, fixed-effects and random-effects panel regressions for the firm-level data and OLS regressions for the market-level data. The analysis was conducted in R, and statistical significance was assessed at the 5% level.

Data

Secondary financial data covering the period 2012 to 2024 were obtained from the websites of the World Bank, the International Monetary Fund, the National Statistics Office, and the Malawi Stock Exchange.

The potential panel comprised 208 firm-years (16 companies over the 13 years from 2012 to 2024), of which an unbalanced panel of 100 firm-years (15 companies over 2018–2024) with complete financial statements and year-end share prices was used in the firm-level regressions (Table 1); the market-level regressions use 13 annual observations (Tables 2 and 4). This sample size is sufficient to conduct a panel data regression analysis with more than two independent variables**.**

FINDINGS

Listed Companies by Sector

The market data for the Malawi Stock Exchange cover diverse economic sectors. Of the potential 208 firm-years (16 companies over 13 years), an unbalanced panel of 100 firm-years (15 companies, 2018–2024) with complete financial statements and year-end share prices was used in the firm-level regressions. Some companies' financial years run from April to March, so their final reporting period ends in 2024.

Justification of Data Collection

The initial research design targeted a maximum potential sample of 208 firm-years, derived from tracking the population of publicly listed companies on the Malawi Stock Exchange (MSE) across a 13-year study horizon (2012 to 2024 inclusive). However, after applying necessary diagnostic and econometric screening criteria to ensure data integrity, the final active sample was restricted to 100 firm-years (15 companies observed annually from 2018 to 2024; Airtel and FDH enter in 2020 and ICON in 2019, when their shares were first priced on the MSE).

This reduction of 108 firm-years represents a systemic feature of frontier capital markets, characterised by structural shifts, lower listing densities, and localised transparency constraints. The discrepancy between the planned and actual observed firm-years is justified by three major market conditions:

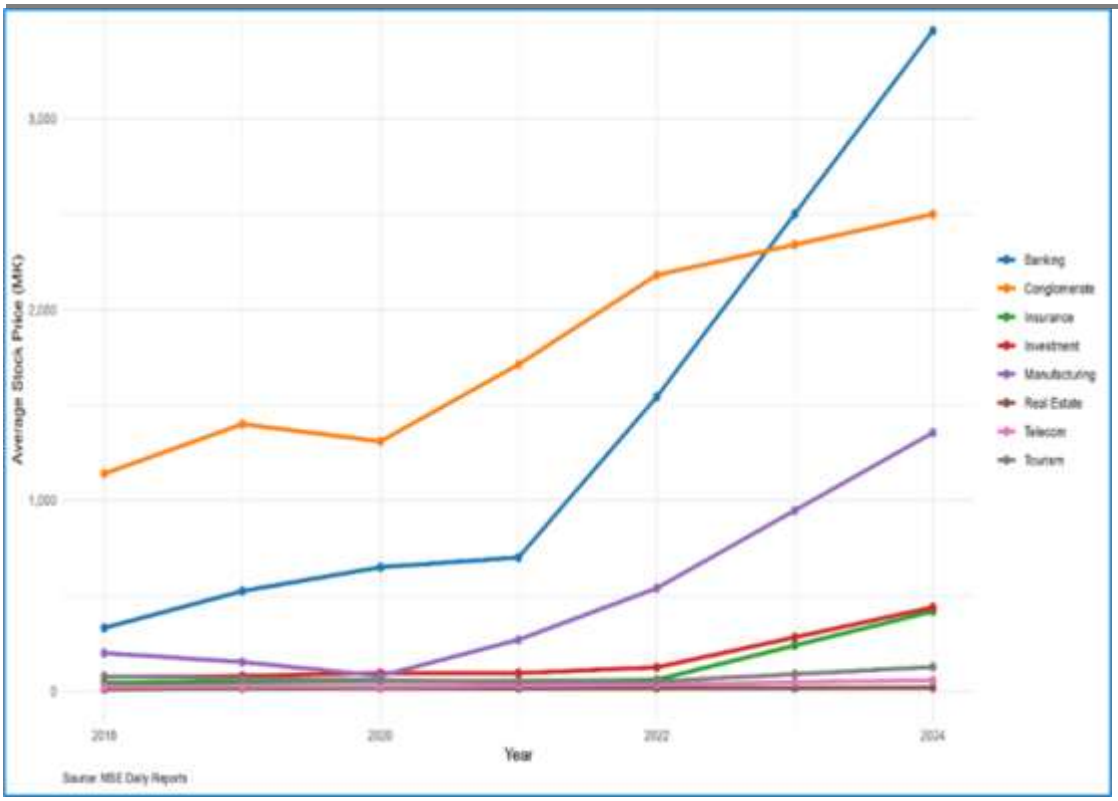
Firstly, Market Entry and Recent Initial Public Offers (IPOs): The study period caught several highly capitalised firms listing well after the 2012 baseline. For instance, Airtel Malawi PLC listed in February 2020, and FDH Bank PLC listed in August 2020. Evaluating these entities prior to their official listing dates was impossible, creating an unavoidable truncation of firm-years for newer listings.

Secondly, Voluntary Corporate Restructuring and Delistings: Mergers, corporate spin-offs, or voluntary structural delistings occurred during the 2012–2024 timeline. These actions cut off continuous reporting streams, preventing these corporations from completing the full 13-year cycle.

Finally, Data Availability and Econometric Filtering: Frontier market data constraints, characterised by sporadic data archives or delays in publishing audited financial reports with the Reserve Bank of Malawi (RBM), required dropping specific firm-years. Years missing core independent or dependent variables were entirely omitted to guard against bias and preserve the mathematical validity of the regression models.

As of 2021, participation in the market by the banking sector, Conglomerate, Insurance, Investment, Manufacturing, and Real Estate grew rapidly, while the remaining sectors of Telecommunication and Tourism saw slight increases in stock prices, as shown in Figure 1 below.

Figure 1: Stock Prices Per Sector



Source: Data analysis by Authors

The banking sector, with 5 listed companies, recorded robust price appreciation, rising from MK 332 in 2018 to MK 3,462 in 2024, possibly reflecting strong profitability and investor confidence. The conglomerate sector grew gradually from MK 1,140 to MK 2,500. The insurance and investment sector, comprising 2 listed companies, reported subdued growth until 2022, followed by a sharp increase. Manufacturing, comprising 1 listed company, exhibited significant volatility: prices declined during COVID but recovered strongly. Real estate and tourism, comprising 4 companies altogether, remained relatively stable at lower levels, while telecom showed moderate growth with some fluctuations.

Firm-Specific Variables

Table 1 below presents panel regression results examining the effects of profitability, leverage, and firm size on stock prices using pooled OLS, fixed-effects, and random-effects models.

The dependent variable (stock price) is measured as the year-end closing stock price to match the reporting period of financial statements (ROA, Leverage, Size).

ROA (Return on Assets): Calculated as Net Income divided by Total Assets, expressing how efficiently a company uses its assets to generate profit.

Leverage: Measured as Total Debt divided by Total Assets (book leverage).

Firm Size: Measured as the natural logarithm of Total Assets to reduce skewness and account for non-linear scale effects.

Table 1: Company-specific Financial Variables and Stock Prices

	OLS Estimate		**Fixed Effect**		**Random Effect**	
	Estimate	Pr	Estimate	Pr	Estimate	Pr

Intercept	-4405.52	<0.001			-4572.54	<0.001
	(SE = 856.79)				(SE = 1,121.00)	
ROA	-5.29	0.68	11.19	0.42	6.89	0.60
	(SE = 12.96)		(SE = 13.74)		(SE = 13.07)	
Leverage	-864.73	0.06	2296.50	0.04	12.50	0.98
	(SE = 450.22)		(SE = 1,094.51)		(SE = 626.13)	
Size	446.89	<0.001	496.49	<0.001	408.27	<0.001
	(SE = 83.11)		(SE = 119.31)		(SE = 100.04)	
	R^2	0.27		0.22		0.24
	Observations	100		100		100
	Hausman Test	$\chi^2(3) = 6.78$, $p = 0.079$				

Source: Data Analysis by Authors

Note: The fixed-effects model has no single intercept because firm-specific intercepts absorb the constant. Standard errors are in parentheses. Year-end closing share prices were obtained from the Malawi Stock Exchange (MSE). Observations: 100 firm-years (15 companies, 2018–2024; the panel is unbalanced because Airtel and FDH have MSE share prices only from 2020 and ICON from 2019). R^2 is the overall R^2 for pooled OLS and random effects and the within R^2 for fixed effects. The Hausman row reports the test comparing the fixed- and random-effects estimates.

Firstly, ROA is not statistically significant in any of the three models (pooled OLS: $\beta = -5.29$, $p = 0.68$; fixed effects: $\beta = 11.19$, $p = 0.42$; random effects: $\beta = 6.89$, $p = 0.60$). The coefficient is negative in pooled OLS but positive in the panel estimators, so changes in profitability do not reliably predict stock prices.

Secondly, leverage has a negative coefficient in pooled OLS ($\beta = -864.73$, $p = 0.058$) that is significant only at the 10% level. Once unobserved firm heterogeneity is controlled for, the sign reverses: the fixed-effects coefficient is positive and significant at the 5% level ($\beta = 2{,}296.50$, $p = 0.039$), whereas in the preferred random-effects model leverage has no effect ($\beta = 12.50$, $p = 0.98$). The leverage–price relationship is therefore not robust across estimators.

Thirdly, firm size is positive and highly significant in all three models (pooled OLS: $\beta = 446.89$; fixed effects: $\beta = 496.49$; random effects: $\beta = 408.27$; all $p < 0.001$). In the preferred random-effects model, a one-unit

increase in Size (the log of total assets) is associated with a MK 408.27 increase in the share price, holding other variables constant, making size the most robust firm-level determinant of stock prices in the sample.

The Hausman test yields $\chi^2(3) = 6.78$, $p = 0.079$ (> 0.05). Because it fails to reject the null hypothesis, the Random Effects model is statistically preferred over the Fixed Effects model as it provides more efficient estimates. Unlike OLS and Random Effects, the fixed-effects model eliminates the time-invariant constant to evaluate within-firm variation; thus, a single global intercept value is intentionally omitted.

The lack of significance of ROA suggests that current profitability may not be the primary driver of stock prices on the Malawi Stock Exchange, possibly because investors prioritise growth prospects, dividend policies, or market sentiment over contemporaneous earnings.

H2 is partially supported at the 5% significance level: firm size has a positive and significant effect on stock prices in all three models, whereas profitability (ROA) is not significant in any model and leverage is significant only in the fixed-effects model ($p = 0.039$), is borderline in pooled OLS ($p = 0.058$) and is not significant in the preferred random-effects model ($p = 0.98$).

The estimated panel model is $Pit = \beta0 + \beta1ROAit + \beta2LEVit + \beta3SIZEit + \mu i + \varepsilon it$, where Pit is the stock price of firm i in year t, ROA is return on assets, LEV is leverage, SIZE is firm size, μi is the unobserved firm-specific effect (excluded in pooled OLS) and εit is the error term.

Market Information Variables

Table 2 below presents the regression results examining how market information variables influence investment behaviour and market performance.

Table 2: Market Information, Investment Behaviour and the Stock Market Performance

Independent variable	Volume	Transactions	Turnover ratio	MASI return
LISTED CO	586.53 (0.0123)	0.71 (0.002)	0.55 (0.307)	6.32 (0.5332)
TS COUNT	436.52 (0.0104)	−0.16 (0.1994)	0.78 (0.066)	1.74 (0.8098)
DIV_COUNT	−237.32 (0.1609)	−0.06 (0.6473)	0.11 (0.798)	−4.58 (0.591)
E TRADE	−164.13 (0.7519)	−0.03 (0.9486)	−0.23 (0.874)	4.76 (0.8629)
N	13	13	13	13
F(4, 8)	5.18	13.63	1.85	0.54
p (F-test)	0.023	0.001	0.214	0.715
R^2	0.722	0.872	0.480	0.211
Adj. R^2	0.582	0.808	0.220	−0.184

Source: Data analysis by Authors. Note: Columns are dependent variables, each estimated in a separate regression; cells show the coefficient with its p-value in parentheses, and each column's fit statistics are reported at its foot. Each dependent variable is estimated in a separate OLS regression on all four regressors; N = 13 annual observations (2012–2024). The turnover ratio is value traded divided by market capitalisation

throughout: the 2013–2017 values are the official MSE ratios; no official ratio is available for 2012, so that value (0.87%) is computed as value traded (MK 2,200 million) divided by market capitalisation (MK 253,947 million); and the 2018–2024 values are value traded divided by year-end market capitalisation.

The electronic trading dummy variable, which takes the value of 1 in the years after 2017 and 0 otherwise, has a mean of 0.54, i.e. 7 of the 13 annual observations (2018–2024). Each model is estimated by OLS on 13 annual observations with four regressors, leaving eight residual degrees of freedom, so the overall F-statistics follow an F(4, 8) distribution. The Volume ($R^2 = 0.722$; adjusted $R^2 = 0.582$; $F(4, 8) = 5.18$, $p = 0.023$) and Transactions ($R^2 = 0.872$; adjusted $R^2 = 0.808$; $F(4, 8) = 13.63$, $p = 0.001$) models are jointly significant at the 5% level, whereas the Turnover ratio ($R^2 = 0.480$; adjusted $R^2 = 0.220$; $F(4, 8) = 1.85$, $p = 0.214$) and MASI return models are not (MASI return: $R^2 = 0.211$; adjusted $R^2 = -0.184$; $F(4, 8) = 0.54$, $p = 0.715$). Given only eight residual degrees of freedom, these results should be interpreted as exploratory.

Each dependent variable is analysed using one multiple regression comprising 4 independent variables simultaneously. Fit statistics are reported at the foot of each column in Table 2.

Equations:

Volume	$\beta + 586.53(Listed) + 436.52(Ts\ Count) - 237.32(Div\ Count) - 164.13(e\ trade) + \varepsilon$
Transaction	$\beta + 0.71(Listed) - 0.16(Ts\ Count) - 0.06(Div\ Count) - 0.03(E\ Trade) + \varepsilon$
Turnover Ratio	$\beta + 0.55(Listed) + 0.78(Ts\ Count) + 0.11(Div\ Count) - 0.23(Etrade) + \varepsilon$
Masi Return	$\beta + 6.32(Listed) + 1.74(Ts\ Count) - 4.58(Div\ Count) + 4.76(E\ trade) + \varepsilon$

Firstly, LISTED CO (Number of Listed Companies): This variable shows a statistically significant relationship with stock market liquidity and activity metrics but does not significantly impact overall market returns. Volume: Significant positive relationship (Coefficient = 586.53, p = 0.0123). An increase in listed companies is strongly associated with higher trading volume. Transactions: significant positive relationship (Coefficient = 0.71, p = 0.002).

Secondly, TS COUNT (Trade Session Count / Number of Trading Sessions): The frequency of trading sessions has a significant positive effect on volume (Coefficient = 436.52, p = 0.0104); its effect on the turnover ratio is positive but not significant at the 5% level (Coefficient = 0.78, p = 0.066). Transactions & MASI Return: No statistically significant impact (p = 0.1994 and p = 0.8098, respectively).

Thirdly, DIV_COUNT (Dividend Count / Frequency of Dividend Payments): This variable measures how often companies distribute dividends. No statistically significant relationship with any of the dependent variables. All p-values heavily exceed the 0.05 threshold (Volume: p = 0.1609; Transactions: p = 0.6473; Turnover ratio: p = 0.798; MASI return: p = 0.591). Changes in dividend frequency do not systematically alter market liquidity or performance in this model.

Fourthly, E TRADE (Electronic Trading Platform Presence / Volume): This variable represents the implementation or scale of electronic trading. All p-values are high and well above conventional significance levels (Volume: p = 0.7519; Transactions: p = 0.9486; Turnover ratio: p = 0.874; MASI return: p = 0.8629). Within this model, electronic trading variables do not yield a statistically reliable effect on market outcomes.

In 2018, the Malawi Stock Exchange made a major technological advancement with the introduction of electronic trading, which has automated the trading process and increased market accessibility for retail investors. The non-significant dividend-count coefficients suggest that dividend information may be less influential in driving trading activity compared to other forms of market information, possibly because

dividend policies in Malawi are relatively stable and predictable, thereby reducing their information content for investors. Finally, the structural divergence observed across the four regression models can be interpreted through the lens of classical market microstructure and development finance theories. The significant positive association of trading Volume with both institutional depth (LISTED CO) and trading-session frequency (TS COUNT), and of Transactions with LISTED CO, aligns strongly with the tenets of Demirguc-Kunt & Levine's Financial Development Theory. This framework suggests that as an emerging bourse like the Malawi Stock Exchange (MSE) matures, improvements in secondary market liquidity lower the capital costs for corporations, structurally incentivising more companies to list.

Macroeconomic and Stock Market Performance Trends

Table 3 presents the descriptive statistics for the five macroeconomic variables considered in this research between 2012 and 2024.

Table 3: Macroeconomic Variables (2012-2024)

Variable	Observations	Mean	Median	Sd	Min	Max
Inflation (%)	13	17.32	17	7.89	7.7	28.8
Exchange Rate (Mwk/Usd)	13	833.98	732.9	443.45	243	1734
Policy Rate (%)	13	20.19	24	5.82	12	27
Gdp Growth (%)	13	3.56	3.5	1.7	0.8	5.6
Fiscal Deficit (% Of Gdp)	13	7.92	6.7	3.88	1	15

Source: Reserve Bank of Malawi, National Statistical Office, World Bank

The wide gap between the lowest and highest inflation rates (7.7% and 28.8%) indicates high inflationary pressure, especially in the years following the currency devaluation and supply-side shocks.

Regression Analysis

Table 4 below presents the regression results examining the effect of macroeconomic variables on the Malawi All Share Index, Domestic Share Index, and Foreign Share Index. The model is specified as $INDEX_t = \beta 0 + \beta 1INF_t + \beta 2PR_t + \beta 3GDP_t + \beta 4EXR_t + \beta 5FD_t + \varepsilon t$, where INDEXt is the DSI, FSI or MASI in year t; INF is inflation; PR is the policy rate; GDP is real GDP growth; EXR is the exchange rate; FD is the fiscal deficit; and εt is the error term.

Table 4: Macroeconomic factors and stock market performance

	DSI		**FSI**		**MASI**	
VARIABLE	**COEFFICIENT**	**P-VALUE**	**COEFFICIENT**	**P-VALUE**	**COEFFICIENT**	**P-VALUE**
INTERCEPT	-59729 (SE=25,205.61)	0.0496	-20186.2 (SE=5,485.28)	0.0079	-84859.2 (SE=32,702.09)	0.0357

INFLATION	-1416.18 (SE=1,187.06)	0.2717	-594.97 (SE=258.33)	0.0547	-2119.59 (SE=1,540.11)	0.2112
POLICY RATE	2328.83 (SE=1,409.65)	0.1425	946.11 (SE=306.77)	0.0177	3443.04 (SE=1,828.90)	0.1018
GDP GROWTH	-1483.14 (SE=3,084.44)	0.6453	-29.82 (SE=671.24)	0.9658	-1639.33 (SE=4,001.79)	0.6943
EXCHANGE RATE	66.31 (SE=23.35)	0.0251	16.07 (SE=5.08)	0.0159	88.51 (SE=30.30)	0.0223
FISCAL DEFICIT	2781.81 (SE=3,210.38)	0.4149	500.01 (SE=698.65)	0.4974	3589.01 (SE=4,165.19)	0.4174
ADJUSTED R^2	0.8715		0.8599		0.8722	
R^2	0.9250		0.9183		0.9255	
F(5,7)	17.28		15.73		17.38	
P	0.0008		0.0011		0.0008	
VIF (same regressors in all three models)						
INFLATION	VIF = 5.97					
POLICY RATE	VIF = 4.58					
GDP GROWTH	VIF = 1.87					
EXCHANGE RATE	VIF = 7.29					
FISCAL DEFICIT	VIF = 10.57					

Source: Data Analysis by Authors

The baseline results demonstrate that macroeconomic indicators significantly explain variations in stock market indices, with the overall models for DSI, FSI, and MASI all revealing high explanatory power ($R^2 \geq 0.91$) and statistical significance ($p < 0.05$). To ensure the structural integrity and validity of these findings, a twofold robustness check framework is instituted. First, to address potential over-specification given the sample constraints indicated by the degrees of freedom (F(5, 7)), a reduced-form model specification is estimated by isolating the core monetary and nominal channels: inflation, policy rate, and exchange rate. This parsimonious model verifies whether the primary economic drivers maintain stable, consistent coefficient signs and significance levels when removing broader fiscal and real-sector controls (GDP growth and fiscal deficit). The reduced-form estimates confirm the stability of the main result: the exchange-rate coefficient remains positive and significant for all three indices (DSI: $\beta = 83.32$, $p < 0.001$; FSI: $\beta = 19.16$, $p < 0.001$; MASI: $\beta = 110.50$, $p < 0.001$), the policy rate remains significant only for the FSI ($\beta = 817.01$, $p = 0.011$), and inflation is not significant at the 5% level (DSI: $p = 0.554$; FSI: $p = 0.050$; MASI: $p = 0.416$). Explanatory power is essentially unchanged (adjusted $R^2 = 0.865$ for the DSI, 0.877 for the FSI and 0.869 for the MASI), so excluding GDP growth and the fiscal deficit does not alter the conclusions. A higher-frequency re-estimation was not feasible because GDP growth and the fiscal deficit are available only annually.

Variance Inflation Factors

Variance inflation factors (VIFs) were used to diagnose multicollinearity among the macroeconomic regressors.

The VIFs are 5.97 for inflation, 4.58 for the policy rate, 1.87 for GDP growth, 7.29 for the exchange rate and 10.57 for the fiscal deficit (Table 4). Only the fiscal deficit exceeds the conventional threshold of 10, reflecting its strong correlation with the exchange rate ($r = 0.90$); the exchange-rate VIF of 7.29 indicates moderate multicollinearity. Multicollinearity inflates standard errors but does not bias the coefficients, and the reduced-form model, which excludes the fiscal deficit, yields the same conclusions.

Inflation coefficients were negative across all three indices, with the MASI showing -2,119.59 ($p = 0.2112$), the DSI -1,416.18 ($p = 0.2717$), and the FSI -594.97 ($p = 0.0547$). None of these is significant at the 5% level, although the FSI coefficient is marginally significant at the 10% level.

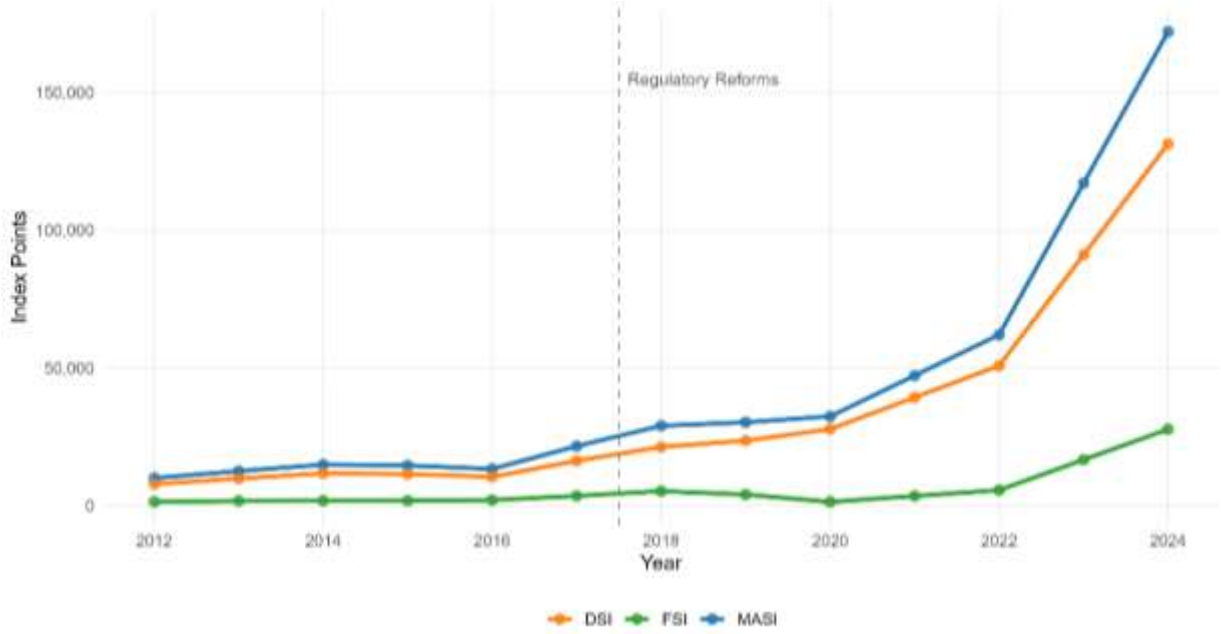
Exchange Rate (The Only Universally Significant Predictor): The exchange rate is the only independent variable that has a statistically significant positive impact across all three market indices. A depreciation of the kwacha (an increase in the MWK/USD rate) is systematically associated with an increase in all three financial/stock market indices.

Policy Rate (Significant Only for FSI): FSI: Statistically significant positive impact (Coefficient = 946.11, $p = 0.0177$). An increase in the policy rate is associated with a significantly higher FSI. DSI and MASI: no statistically significant impact ($p = 0.1425$ and $p = 0.1018$, respectively). Changes in the interest rate policy do not reliably influence these two indices in this model.

GDP Growth and Fiscal Deficit: Neither of these macroeconomic indicators has any statistically reliable relationship with the indices. GDP Growth: shows very high p-values ($p = 0.6453$ for DSI, 0.9658 for FSI, and 0.6943 for MASI), meaning it has no detectable linear effect; the fiscal deficit is likewise not significant ($p = 0.4149$, 0.4974 and 0.4174).

Because each model is estimated with 13 annual observations and five regressors, only seven residual degrees of freedom remain (F(5, 7)), so these estimates should be interpreted with caution. Two consequences follow. First, the high R^2 values (0.9250 for the DSI, 0.9183 for the FSI and 0.9255 for the MASI) are likely to overstate explanatory power, a common symptom of over-fitting in very small samples; the adjusted R^2 values are lower (0.8715, 0.8599 and 0.8722, respectively). Second, statistical power is low: with seven degrees of freedom, the two-tailed 5% critical value of the t-distribution is 2.365 rather than the large-sample 1.960, which raises the risk of Type II errors. For instance, inflation in the FSI model has a t-statistic of −2.30, which would be significant in a large sample but is not significant here ($p = 0.0547$). The estimates are also sensitive to individual observations and may not hold in a larger dataset.

Figure 2: Stock Performance Trend



Source: Malawi Stock Exchange

According to Figure 2 above, all three indices exhibited substantial growth over the period, with particularly sharp increases from 2022 onward. The MASI rose from 10,000 points in 2012 to 172,040 points in 2024, representing a compound annual growth rate of approximately 27%. Both the DSI and FSI grew rapidly from 2017 onwards, the DSI from 16,273 to 131,363 points and the FSI from 3,519 to 27,738 points by 2024, implying compound annual growth of approximately 35% and 34%, respectively.

H1 is partially supported at the 5% significance level: the exchange rate has a positive and significant effect on all three indices, and the policy rate is significant for the FSI only, whereas inflation, GDP growth and the fiscal deficit are not statistically significant.

As shown in Table 4, the policy rate had a significant effect on the Foreign Share Index, with a 1-percentage-point increase associated with a 946.11-point rise ($p = 0.0177$). For the MASI, the coefficient was 3,443.04 ($p = 0.1018$), and for the DSI, 2,328.83 ($p = 0.1425$), neither of which is significant at the 5% level.

This trend suggests that foreign investors may respond more sensitively to monetary policy signals, viewing higher rates as indicators of stability or attractive yield opportunities, compared with domestic investors.

H3 is not supported at the 5% significance level: the electronic trading dummy has no statistically significant effect on volume, transactions, turnover ratio or MASI return (Table 2).

DISCUSSION

Macroeconomic and Stock Market Performance Trends

The negative coefficients on inflation, which are statistically non-significant across all three indices, are consistent with the theoretical explanation that price growth reduces real returns and raises discount rates, thereby lowering equity valuations (Liu & Serletis, 2022). The insignificance could be due to the unusual nature of the Malawi Stock Exchange, where a few giant capitalisation banking stocks dominate the market. Consistent with the Arbitrage Pricing Theory, the significant exchange rate coefficients suggest that currency movements act as a relevant systematic factor for MSE stocks, whereas inflation and GDP growth do not.

Financial companies usually possess the pricing power to pass inflationary costs on to customers, which may cushion their profits and stock prices against the actual impact of inflation. Furthermore, inflation and the

exchange rate are only moderately correlated over the sample (r = 0.46), whereas the exchange rate and the fiscal deficit are strongly correlated (r = 0.90), so the separate effects of these variables are estimated imprecisely in a 13-year sample. Across the three indices, larger positive exchange-rate coefficients coincide with larger negative inflation coefficients (from the FSI to the MASI), suggesting that the two channels partly offset each other. This observation is consistent with the literature by Keswani and others, which established that inflation has no effect on stock returns in emerging markets at very high thresholds or over long periods. Similarly, Mwambene found that, although market capitalisation (market size) is not statistically significant, it shows a positive correlation with economic growth in both the short run and the long run, as indicated by positive coefficients in each case.

Market Information Variables

Even though automation should, in theory, increase market accessibility and activity, the electronic trading dummy had no statistically significant direct impact on any of the dependent variables. This outcome can be explained by a number of factors. First, the sample size (7 post-reform observations) is too small to detect the effects, especially when the effects of electronic trading were realised over several years. Second, other regulatory changes were introduced alongside electronic trading, and their effects cannot be separated from the other simultaneous reforms, such as the reinforcement of the Central Securities Depository and the increase in disclosure requirements. Third, according to Biekpe & Mlambo (2007), the effects of technological upgrades in frontier markets can be slow to manifest, as investors' and brokers' capabilities are still developing. The non-significant coefficients may also indicate multicollinearity with other information that captures the broader regulatory era, suggesting that the impacts of electronic trading are absorbed by the larger regulatory factor. Differing from the findings, a study of the MSE presented the market as seasonal, which provides the basis for the January (Month) effect, as Saulosi hypothesised that investors tend to sell out the securities held at the end of the tax year to realise capital losses and reduce the firms' tax liabilities. From the perspective of the Efficient Market Hypothesis, such calendar anomalies suggest that the MSE is not fully weak-form efficient, which may also explain why reforms such as electronic trading have been slow to translate into measurable changes in trading activity.

Company-Specific Financial Variables and Stock Prices

Leverage was not significant in the preferred random-effects model (p = 0.98) and was borderline in pooled OLS (p = 0.058), but it was positive and significant at the 5% level in the fixed-effects model (p = 0.039), and the positive coefficient in the fixed-effects specification directly contradicts the theoretical assumption that increases in debt increase financial risk and depress stock prices. This exception can be attributed to the sectoral structure of the sample. More structurally levered banks and insurance companies are also valued at higher multiples, since leverage is part of their profitability. Similar positive correlations between leverage and firm performance were established by Essel (2024) in Ghana, where the benefits of the tax shield of debt are attributed to situations in which other sources of financing are insufficient. In Malawi, where the corporate bond market is virtually non-existent, bank debt can be the sole source of external finance, and moderate leverage can indicate access to credit rather than financial distress. Because the Hausman test does not reject the random-effects model, which is the more efficient estimator and shows no leverage effect, the overall evidence indicates that leverage has no robust effect on stock prices in this market. Under the CAPM, firm-specific characteristics should not be priced once systematic risk is accounted for; the significant firm size effect therefore suggests that size may proxy for risk factors not captured by market beta, consistent with multifactor models such as the APT.

CONCLUSION

In conclusion, stock market performance on the MSE is associated more strongly with the exchange rate and firm size than with inflation, GDP growth, profitability or leverage. Contrary to the expectation of an inverse relationship, the policy rate is positively associated with the Foreign Share Index, which may reflect foreign investors interpreting higher rates as a signal of stability or yield. Given the small number of annual observations, these associations should be interpreted with caution and do not establish causality; the specific insights are summarised below.

Macroeconomic Variables

The correlation between inflation and exchange rate depreciation is moderate over the full period (r = 0.46) but became strong after 2021 (r = 0.74 for 2021–2024), when both rose sharply, making it difficult to determine the independent impact of inflation in Malawi. This observation is consistent with the literature by Keswani and others, which established that inflation has no effect on stock returns in emerging markets at very high thresholds or over long periods. Chalera suggested that the influence of a highly inflationary environment on stock market performance is negative because high inflation reduces real income and, in turn, the marginal propensity to save.

However, the negative (not significant) coefficients of GDP growth are counterintuitive to the positive correlation found in many other studies (Humpe et al., 2025; Agarwal, 2025). This anomaly is attributable to the sectoral composition of the Malawi Stock Exchange, which is greatly skewed to banking and financial services. Adopting a recommendation from Tanzania, the author stated that the stock market enables companies to grow by supplying relatively low-cost capital, improving corporate governance and performance. Governments can benefit from high-performing companies that report high taxable profits in a transparent manner, as pressured by stock market forces (Mwambene, 2013).

Firm-Specific Variables

Leverage had no significant effect in the preferred random-effects model, and the positive coefficient in the fixed-effects specification directly contradicts the theoretical assumption that increases in debt increase financial risk and depress stock prices. (It is significant in the fixed-effects model, p = 0.039, and borderline in pooled OLS, p = 0.058.) Firm size was the only variable that was significant in all three specifications. This finding is consistent with the literature reporting that larger firms have higher stock prices because they are better known, more operationally stable, and have easier access to capital (Fama & French, 2004; Novita Andriani et al., 2025). Listed firms in Malawi can also adopt Tanzania's recommendation to develop individual firm financial literacy strategies, which can enlighten and encourage people to adopt a savings culture and acquire the skills and confidence essential for making investment decisions to pursue opportunities available in the stock market.

Liquidity

The fact that the relationship between liquidity measures and indicators of investor confidence was not significant implies that the introduction of electronic trading did not directly translate into higher turnover. A plausible explanation is the sequence of events after the reforms: the official turnover ratio remained low (between about 1% and 8%) both before and after 2018, and the increase in transaction volume took many years, as the market was opened incrementally to retail investors. These findings suggest that, although the regulatory reforms modernised trading, any effect on investor confidence is more likely to have operated through enhanced market infrastructure and reduced information asymmetry than via the liquidity measures themselves.

Furthermore, companies are encouraged to publish their end-of-year results in various media, which record the highest returns and the lowest risks, and there should be major improvements in the trading infrastructure, such as a central depository and settlement system, and a computerised system to speed up clearing and settlement.

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