

Dynamic Determinants of Share Price in Emerging Markets: Evidence from System GMM Estimation in Nigeria

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Abstract

This study investigates the dynamic determinants of share price among listed firms in Nigeria's Consumer Goods and Agriculture sectors using a decade-long panel dataset covering the period from 2012 to 2023. Anchored on the theoretical perspectives of the Efficient Market Hypothesis, Signalling Theory, and Agency Theory, the study evaluates how firm-specific indicators such as earnings per share (EPS), return on equity (ROE), current ratio, debt-to-equity ratio, and total asset turnover, as well as macroeconomic variables like exchange rate and GDP per capita, influence share price in an environment characterised by institutional inefficiencies and information asymmetry. The empirical analysis begins with a static panel regression using the Fixed Effects model to establish a baseline understanding. To improve robustness and account for econometric challenges such as endogeneity, serial correlation, and unobserved heterogeneity, the study adopts the two-step System Generalised Method of Moments (System GMM) as the main estimation technique. The dynamic model reveals strong persistence in share price, as lagged share price is significantly associated with current values. While EPS shows a positive and significant effect in the static model, the dynamic GMM results indicate a negative and significant relationship, suggesting that reported earnings may reflect investor scepticism or earnings manipulation, particularly in contexts with weak governance oversight. Other variables, including ROE, leverage, and macroeconomic indicators, remain statistically insignificant in the dynamic specification. Year effects are incorporated to control for time-specific macro shocks. This study contributes to frontier market finance literature by offering sector-specific insights and demonstrating the added value of dynamic modelling. It also cautions investors and policymakers against excessive reliance on earnings-based metrics without adequate consideration of the institutional environment.

Keywords: Share Price, System GMM, earnings per share, efficient market hypothesis, signalling theory, agency theory.

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1. Introduction

The share price of a firm, which is market determined, remains one of the most widely referenced indicators of its market value, serving as a barometer of investor sentiment and expectations regarding future performance. In financial economics, share prices are expected to respond rationally to changes in firm-specific fundamentals such as earnings per share (EPS), return on equity (ROE), financial leverage, and liquidity ratios, as well as to macroeconomic indicators including inflation, interest rates, and exchange rates. Fama (1970) argued that in an Efficient Market security prices fully reflect all available information, such that new information is instantaneously incorporated into market prices. Under this Hypothesis Market Hypothesis (EMH), any changes in fundamentals, whether accounting-based or macro-driven, should be swiftly reflected in share valuations. However, in emerging markets such as Nigeria, where capital markets are characterised by low investor sophistication, political instability, limited regulatory enforcement, insider trading, and financial opacity, (Akisik et al., 2020; Olumuyiwa-Ganiyu et al., 2018), the assumptions of EMH may not hold. This creates a gap between theoretical expectations and actual price movements, particularly in sectors that play vital roles in national economic development.

Bearing in mind the EMH, we investigate the dynamic determinants of share price in Nigeria in this study, with a focus on the Consumer Goods and Agriculture sectors, two sectors that are central to the country's production base,

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employment generation, and non-oil GDP growth. These sectors not only underpin Nigeria's efforts at economic diversification and food security but also attract considerable investor interest due to their strategic significance. Yet, empirical evidence on the market valuation behaviour of firms in these sectors remains scarce and fragmented. EPS, aligns with the Signalling Theory (Spence, 1973) as a tool used by managers to communicate firm value to external investors and recent empirical studies also corroborate this position (Fernihawan et al., 2024; Gharaibeh et al., 2022; Muslim et al., 2024). In efficient markets, a high EPS should convey strong fundamentals, thereby increasing share price. However, Agency Theory (Jensen & Meckling, 1976) highlights the risks of earnings manipulation in weakly governed settings, where managers may inflate reported earnings for personal gain, undermining the informational content of EPS. In such contexts, investors may discount or even penalise firms for abnormally high earnings, particularly when such earnings are not matched by corresponding improvements in other performance metrics or operational transparency.

Theoretically, the arguments on the role of firm fundamentals in price discovery are extensively documented in financial literature; however, existing empirical studies in the Nigerian context have predominantly relied on static modelling approaches. For example, Adeniyi (2023) used OLS regression to investigate financial performance and its effect on market share volatility in the consumer goods sector of the Nigeria Exchange (NGX) but failed to account for the dynamic nature of share price behaviour. Similarly, Chucks et al. (2021) examined the determinants of equity share price movement in the banking sector of the NGX using multiple regression, yet their framework ignored potential reverse causality between share prices and performance indicators. Furthermore, Adedokun et al. (2023) employed pooled OLS regression alongside fixed and random effects models to assess the effects of dividend policy on share price among selected quoted companies in Nigeria but failed to control for endogeneity or share price persistence. Additional recent studies employing panel EGLS, panel data regression, and OLS techniques have further confirmed the significant link between dividend policy variables and market prices yet similarly overlooked dynamic behaviour and endogeneity concerns (Ajayi et al., 2025; Ngozi et al., 2025; Okonkwo et al., 2025). While each of these studies provides valuable sectoral or general insights, their methodological limitations—particularly the failure to accommodate dynamic behaviour, endogeneity, and firm-specific effects—render their findings potentially biased or incomplete.

This study addresses these shortcomings by employing the System Generalised Method of Moments (System GMM) estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998). The System GMM framework is especially suitable for panel data with a short time dimension and relatively large cross-sectional units, as it effectively controls for endogeneity, serial correlation, and unobserved heterogeneity. Unlike static estimators, System GMM incorporates lagged dependent variables to account for inertia in share price behaviour, while simultaneously using internal instruments to correct for reverse causality between financial performance and market valuation. This dynamic specification enables a more accurate assessment of how firm-level indicators—particularly EPS, ROE, DER, and firm size—alongside macroeconomic variables such as inflation, interest rate, and exchange rate, influence share prices over time. The introduction of year fixed effects further allows the model to account for structural and policy-driven shifts that may affect valuation across all firms.

The importance of this study is therefore twofold. First, it enhances empirical understanding of how share prices are determined in Nigeria's real economy, with a specific focus on the Consumer Goods and Agriculture sectors, which are pivotal to economic growth, industrialisation, and sustainability. Second, it contributes methodologically to the literature by offering a dynamic panel approach that overcomes the endogeneity and omitted variable bias inherent in previous models. In doing so, it builds a more nuanced understanding of the extent to which financial markets in Nigeria assimilate and respond to firm-level and macroeconomic information.

The objectives of the study are to examine the dynamic effect of past share price on current share price, to assess the influence of firm-specific financial indicators such as EPS, ROE, DER, and firm size on market valuation, and to evaluate the role of macroeconomic variables and year-specific effects in explaining fluctuations in share price. In addressing these objectives, the study contributes to the existing literature by empirically evaluating the assumptions of EMH, the signalling role of earnings, and the agency-related distortions that may influence investor response in emerging market settings.

The remainder of the paper is structured as follows: section two presents a review of the theoretical and empirical literature on share price behaviour; section three outlines the data, variables, and the System GMM methodology adopted; section four reports and interprets the empirical results; section Five discusses the implications of the findings considering theory and policy; and section Six concludes and offers recommendations for investors, corporate managers,

and policymakers, and suggests areas for future research.

2. Literature Review

2.1. Theoretical Framework

This study is grounded in three interrelated theories: the Efficient Market Hypothesis (EMH), Signalling Theory, and Agency Theory. Each theory provides a distinctive but complementary perspective on the mechanisms through which firm-specific and macroeconomic variables influence share price behaviour in emerging markets such as Nigeria.

The EMH, originally formulated by Fama (1970), asserts that capital markets are efficient in processing information, such that current share prices fully reflect all available data. According to this theory, changes in accounting metrics like earnings, leverage, or liquidity should be immediately and accurately incorporated into stock prices. Under this assumption, share price movements follow a random walk and are unpredictable based on past data. However, in the context of developing economies like Nigeria, numerous empirical studies have shown that market inefficiencies, regulatory gaps, thin trading volumes, and informational asymmetries persist, often delaying or distorting the pricing of financial information. These market frictions suggest that share prices may display serial correlation or respond sluggishly to changes in fundamental variables, contradicting the strong-form and semi-strong-form variants of EMH.

To account for the role of information asymmetry, Signalling Theory provides a more nuanced explanation. Proposed by Spence (1973), the theory suggests that corporate managers use observable financial indicators to transmit private information about firm quality to the market. Metrics such as EPS, ROE, and dividend payout are viewed by investors as signals of managerial confidence in future cash flows and firm value. In a well-functioning market, credible and positive signals should be followed by a rise in share prices. Nevertheless, the effectiveness of such signals depends on the credibility of the reporting process and the institutional environment in which firms operate.

This brings Agency Theory into relevance. Articulated by Jensen and Meckling (1976), the theory posits a fundamental conflict of interest between shareholders and managers, especially when ownership and control are separated. In the absence of effective monitoring mechanisms, managers may engage in opportunistic behaviour, including earnings manipulation, misreporting, or investment inefficiencies. These actions can erode the reliability of financial signals and mislead investors, particularly in weak regulatory environments. Therefore, the relationship between financial indicators and share price in such contexts may be weakened or even reversed, as market participants become sceptical of the quality of disclosed financial information.

The integration of these theories provides a robust conceptual framework for investigating the dynamic determinants of share price in Nigeria's Consumer Goods and Agriculture sectors. The EMH outlines the expected market response to information in an ideal setting, Signalling Theory explains the role of managerial disclosures in influencing investor perception, and Agency Theory underscores the challenges associated with managerial opportunism and weak governance structures. This theoretical foundation justifies the application of a dynamic panel data model, specifically the System GMM estimator, to account for potential endogeneity, omitted variable bias, and the dynamic nature of share price formation in emerging markets.

2.2. Empirical Review and Hypothesis Development

2.2.1. Return on Equity (ROE) and Share Price

ROE serves as a critical indicator of profitability and operational efficiency, reflecting the firm's ability to generate earnings from shareholder equity. It is measured as net profit tax divided by average equity (Bui et al., 2023). Within the framework of Signalling Theory (Ross, 1977), a consistently high ROE is interpreted as a positive signal to the market, suggesting strong internal performance, which should, in theory, be capitalised into the firm's share price. The EMH further asserts that such value-relevant information should be promptly incorporated into share prices, thereby validating the predictive power of ROE. Empirical findings on the ROE-share price nexus in Nigeria provide substantive evidence in support of this proposition. For instance, Adeniyi (2023) conducted an OLS-based panel analysis on 16 listed consumer goods firms in Nigeria and found that ROE has a statistically significant and positive impact on share price movements. Similarly, studies in Indonesia (Choiriya et al., 2020; Arofatin, 2023) employed advanced techniques like SEM-PLS and multiple regression to confirm ROE's predictive role in equity pricing. Collectively, these findings

support the hypothesis:

H1: ROE has a positive and significant effect on share price in Nigeria's agriculture and consumer goods sectors.

2.2.2. *Current Ratio (CUR) and Share Price*

The current ratio (CUR) is a widely recognised measure of a firm's short-term liquidity, serving as an essential indicator of its capacity to meet current liabilities without the need for external financing. From the standpoint of Free Cash Flow Theory (Jensen, 1986), firms with excess liquid assets but limited investment opportunities may be prone to agency conflicts, wherein managers potentially divert surplus funds towards self-serving or inefficient uses rather than enhancing shareholder value. This theoretical stance implies a possible negative relationship between liquidity and market valuation. However, empirical evidence on this linkage remains mixed. For instance, Sinebe et al. (2025), employing a static panel regression model on a sample of 50 non-financial firms in Nigeria, reported that the current ratio had limited predictive power for share price performance, with statistically insignificant relationships observed. In contrast, a study by Baharuddin et al. (2024) conducted in Indonesia found a strong positive association between the current ratio and share price, suggesting contextual or market-specific differences in the liquidity-valuation nexus. Given these contrasting findings, this study proposes the following hypothesis to clarify the nature of this relationship in emerging markets:

H2: Current Ratio (CUR) has a significant relationship with share price, though the direction may depend on sectoral characteristics.

2.2.3. *Debt-to-Equity Ratio (DER) and Share Price*

The DER is a fundamental measure of a firm's financial leverage and riskiness, and its relationship with share price has long been debated in corporate finance literature. From the lens of Agency Theory (Jensen & Meckling, 1976), moderate levels of debt may mitigate agency costs by imposing discipline on managers, who are then compelled to generate sufficient cash flows to meet debt obligations. This disciplinary effect can enhance firm value and potentially boost share price. However, the Trade-Off Theory posits that excessive leverage may expose the firm to bankruptcy risk and financial distress, ultimately eroding shareholder wealth (Ikwuo et al., 2025; Odhiambo et al., 2024). In the context of emerging markets such as Ghana, empirical evidence from Ghanaian listed firms by Bunyaminu et al. (2025), using the Generalised Method of Moments (GMM) on panel data from 20 firms spanning 2011 to 2021, provides robust insights into the relationship between financial leverage and share price volatility. The study finds that a higher DER is significantly associated with increased share price volatility, affirming the risk-amplifying effect of financial leverage in corporate finance. Saputra (2021) examined the impact of the debt-to-equity ratio (DER) on the share price of PT Nippon Indosari Corpindo Tbk over the 2010–2020 period. Using a quantitative approach and time-series financial data from the company's balance sheets and income statements, the study found that DER exerted a negative, though statistically insignificant, effect on share prices. Ulfiani, et al. (2024) assessed the determinants of stock price movements among mining firms listed on the Indonesian Stock Exchange, comparing the pre-pandemic period (2017–2019) with the COVID-19 pandemic period (2020–2022). Using panel data regression on 39 purposively sampled firms, the study found that the DER did not exhibit a significant influence on stock prices in either period. This suggests that in the context of Indonesia's mining sector, capital structure decisions related to debt levels were not a dominant factor in determining equity valuation before or during the pandemic-induced market volatility. Given these insights and the weight of theoretical reasoning, this study proposes the following hypothesis:

H3: Debt-to-Equity Ratio (DER) negatively affects share price, suggesting that increased leverage reduces firm market valuation.

2.2.4. *Total Asset Turnover (TAT) and Share Price*

Total Asset Turnover (TAT) measures how efficiently a firm uses its total assets to generate revenue. As an activity efficiency ratio, it reflects managerial effectiveness in deploying both current and non-current assets for operational performance. Under the Efficient Market Hypothesis (EMH), such efficiency metrics are expected to be reflected in share prices once disclosed. Signaling Theory further suggests that a high TAT ratio conveys managerial competence and reduces information asymmetry, thereby enhancing investor confidence. From the Agency Theory viewpoint, efficient asset utilisation limits managerial opportunism and aligns resource use with shareholder interests. Conversely, a low TAT may signal inefficiency or underutilised resources, leading to reduced market valuation.

Empirical findings on the effect of TAT on stock prices have been mixed. In a study on Nigerian deposit money banks, Ezeana and Ezeagba (2024) found that TAT had a negative but statistically insignificant effect on return on assets. This suggests that high asset turnover alone does not always translate into increased profitability or firm value within the banking sector. Similarly, Redy and Herawati (2021), examining banks listed on the Indonesian Stock Exchange, reported a positive but statistically insignificant effect of TAT on stock prices. In contrast, Azizah et al. (2023) found a positive and statistically significant relationship between TAT and stock prices among pharmaceutical firms in Indonesia. They further established that operational efficiency strengthened this relationship, highlighting the importance of cost control and sectoral context in enhancing the value relevance of TAT.

These contrasting outcomes reflect the possibility that the relationship between TAT and share price may depend on sector-specific characteristics, asset structures, and the efficiency with which resources are deployed. Based on the theoretical foundations and empirical literature, this study formulates the following directional hypothesis:

H4: TAT positively influences share price, reflecting the efficiency of resource utilisation in generating sales revenue.

2.2.5. *Earnings Per Share (EPS) and Share Price*

Earnings Per Share (EPS) is a critical profitability metric that directly influences stock valuation by representing net income per outstanding share. The Efficient Market Hypothesis suggests EPS information is rapidly reflected in share prices, while Signaling Theory posits that rising EPS reduces information asymmetry by signaling strong financial performance. Agency Theory further supports its importance, as EPS aligns managerial incentives with shareholder wealth maximization.

Empirical evidence consistently confirms EPS as a key driver of stock prices across markets. Studies in Jordan (Gharaibeh et al., 2022), Indonesia (Felandi & Rochmatullah, 2024), and Nepal (Karki, 2024) demonstrate its strong positive impact on equity valuations, particularly in financial and manufacturing sectors. Research on Chinese education firms (Chen et al., 2023) and Indonesian construction companies (Sinaga et al., 2023) further shows EPS enhances the predictive power of valuation models, either directly or by moderating other financial ratios.

Theoretical frameworks and cross-country evidence collectively affirm that EPS remains a fundamental indicator for investment decisions and corporate performance assessment. Consequently, we hypothesise thus:

H5: Earnings Per Share (EPS) positively affects share price, indicating that higher EPS values lead to increased stock valuations.

3. Methods

This study employs a dynamic panel data modelling framework to investigate the determinants of share price among firms listed in the consumer goods and agriculture sectors of the Nigeria Exchange Group (NGX). These sectors were chosen due to their significant contribution to domestic output and national Gross Domestic Product (GDP), as well as their strategic importance for food security and employment generation in Nigeria.

The econometric strategy comprises two stages. First, a Fixed Effects (FE) panel regression model is estimated to provide a baseline assessment of the relationship between share price and firm-specific as well as macroeconomic determinants. The FE model controls for unobserved heterogeneity across firms by eliminating time-invariant firm-specific effects, allowing for consistent within-firm estimates. However, it does not adequately address potential endogeneity, reverse causality, or dynamic feedback, particularly when a lagged dependent variable is included as a regressor.

To address these limitations, the main analysis employs the two-step System Generalised Method of Moments (System GMM or SGMM) estimator, developed by Arellano and Bover (1995) and Blundell and Bond (1998). The SGMM framework is particularly appropriate for this study given the dynamic nature of share price behaviour, the possibility of simultaneity between share price and firm performance indicators (such as EPS and ROE), and the need to control for endogeneity, measurement errors, and omitted variable bias. It also allows for the inclusion of lagged levels and first differences of the endogenous variables as instruments, while accounting for firm-specific effects and serial correlation in the idiosyncratic errors.

The empirical model is specified as follows:

$$SHP_{it} = \alpha_0 + \alpha_1 SHP_{it-1} + \alpha_2 ROE_{it} + \alpha_3 CUR_{it} + \alpha_4 DER_{it} + \alpha_5 TAT_{it} + \alpha_6 EPS_{it} + \alpha_7 FSZ_{it} + \alpha_8 INF_t + \alpha_9 INR_t + \alpha_{10} EXR_t + \alpha_{11} GDPPC_t + \mu_i + \varepsilon_{it}$$

Where:

- SHP_{it} represents the share price of firm *iii* at time *ttt*.
- SHP_{it-1} is the lagged dependent variable capturing persistence in share price.
- ROE, CUR, DER, TAT, EPS, and FSZ denote return on equity, current ratio, debt-equity ratio, total asset turnover, earnings per share, and firm size, respectively.
- The macroeconomic controls include inflation rate (INF), interest rate (INR), exchange rate (EXR), and gross domestic product per capita (GDPPC), which accounts for macroeconomic prosperity and purchasing power within the economy.
- μ_i denotes unobserved firm-specific effects.
- ε_{it} is the idiosyncratic error term.

The study uses a balanced panel dataset comprising 20 firms observed over the 12-year period from 2012 to 2023, yielding 240 firm-year observations. Estimation is implemented in Stata 19.5 using the `xtabond2` command. For the SGMM model, instruments are collapsed to mitigate the risk of instrument proliferation, and robust two-step standard errors are employed to ensure efficiency and valid statistical inference. The Arellano–Bond tests for first- and second-order autocorrelation, along with the Hansen test for over-identifying restrictions, are reported to confirm the validity of the instrument set and the consistency of the estimator.

By employing both FE and SGMM models, the study provides a robust analysis that triangulates static within-group estimates with dynamic specifications that account for endogeneity and persistence effects, thereby enhancing the credibility and reliability of the results.

4. Result and Discussions

4.1. Descriptive Statistics

This section presents the descriptive statistics for the variables used in the study, as shown in Table 1. The dependent variable, share price (SHP), exhibits substantial variation across firms and time, with a mean value of 92.39 and a standard deviation of 271.43. The minimum and maximum values, 0.2 and 1556.5 respectively, suggest significant dispersion in market valuation, a common characteristic in emerging markets where investor sentiment and firm fundamentals may diverge.

Return on Equity (ROE), a measure of financial performance, has a mean of 0.15 and a high standard deviation of 2.57, indicating considerable volatility, possibly reflective of irregular profitability in Nigeria’s consumer goods and agriculture sectors. Similarly, the Current Ratio (CUR), which assesses liquidity, averages 1.22 with a maximum value of 15.87, suggesting that some firms are extremely liquid while others operate on thin margins.

Debt-to-Equity Ratio (DER), a proxy for capital structure, ranges from -10.74 to 202.90, with a mean of 3.68 and a large standard deviation (15.99), indicating significant leverage disparities. Total Asset Turnover (TAT), representing asset utilisation, also shows high variability (mean = 1.42; max = 115.30), hinting at differences in operational efficiency.

Earnings Per Share (EPS) is characterised by extreme skewness (mean = 3.00; SD = 11.84), with values ranging from -100.26 to 61.77, reflecting firm-specific events or earnings volatility. The Firm Size (FSZ) variable, measured as the natural logarithm of total assets, shows less variation (mean = 17.37; SD = 1.81), indicating relatively stable firm sizes across the panel.

Turning to macroeconomic variables, Inflation (INF) averages 14.72%, with a peak of 28.92%, underscoring the inflationary pressures common in Nigeria’s economic environment. Interest Rate (INR) and Exchange Rate (EXR) average 13.48% and ₦336.98 respectively, with wide standard deviations, highlighting monetary volatility. Lastly, GDP per capita (GDPPC) has a mean of ₦2,338, ranging from ₦1,621 to ₦3,201, reflecting gradual but uneven economic growth over the study period.

These statistics reveal a dynamic operating environment characterised by substantial firm-level and macroeconomic

heterogeneity. The variation in key financial ratios and macroeconomic indicators justifies the use of dynamic panel methods, such as system GMM, which can accommodate both endogeneity and firm-specific heterogeneity.

Table 1. Descriptive Statistics of Study Variables (N = 240)

Variable	Mean	Std. Dev.	Min	Max
SHP (Share Price)	92.39	271.43	0.2	1556.50
ROE (Return on Equity)	0.15	2.57	-15.72	33.99
CUR (Current Ratio)	1.22	1.14	0.07	15.87
DER (Debt-to-Equity)	3.68	15.99	-10.74	202.90
TAT (Total Asset Turnover)	1.42	7.41	0.00	115.30
EPS (Earnings per Share)	3.00	11.84	-100.26	61.77
FSZ (Firm Size)	17.37	1.81	12.48	20.82
INF (Inflation Rate)	14.72	5.82	8.00	28.92
INR (Interest Rate)	13.48	2.17	11.00	18.75
EXR (Exchange Rate)	336.98	197.54	157.30	897.61
GDPPC (GDP per Capita)	2337.99	443.35	1621.12	3200.95

4.2. Correlation Matrix

This section presents the correlation matrix of the variables used in the study to explore potential multicollinearity and provide preliminary insight into the direction of relationships among the variables. The results, summarised in Table 2, highlight several noteworthy associations.

The dependent variable, Share Price (SHP), shows a moderate positive correlation with Earnings per Share (EPS) ($r = 0.5882$), confirming the theoretical expectation that higher profitability per share tends to enhance market valuation. A weaker but positive correlation exists between SHP and Firm Size (FSZ) ($r = 0.2757$), suggesting that larger firms may command higher share prices due to stability or market dominance. Other correlations between SHP and the remaining variables are relatively weak, indicating that SHP is influenced by a broader mix of firm-specific and macroeconomic factors.

Interestingly, ROE and TAT are strongly correlated ($r = 0.8514$), indicating that firms that utilise assets more efficiently tend to generate better returns on equity. ROE also has a moderate negative correlation with DER ($r = -0.4481$), which aligns with the pecking order theory suggesting that excessive leverage might diminish returns due to rising financial risk.

Macroeconomic variables reveal high intercorrelations. Inflation (INF), Interest Rate (INR), and Exchange Rate (EXR) are all strongly positively correlated, with coefficients exceeding 0.75. This suggests collinearity among macroeconomic indicators, possibly reflecting Nigeria's macro-financial environment where inflation and interest rates often move in tandem with exchange rate depreciation. Conversely, GDP per capita (GDPPC) is strongly negatively correlated with INF ($r = -0.8126$), EXR ($r = -0.7795$), and INR ($r = -0.5607$), suggesting that macroeconomic instability erodes income per capita.

These results support the subsequent inclusion of macroeconomic variables as controls in the dynamic panel regression to account for their confounding effects, while also highlighting the need to assess multicollinearity formally (e.g., via VIF tests) during regression diagnostics.

4.3. Regression Results

Table 3 presents the regression estimates for the determinants of share price using both the baseline Fixed Effects (FE) model and the main model estimated through two-step System Generalised Method of Moments (SGMM). The use of

SGMM addresses the dynamic nature of share prices by accounting for endogeneity and firm-level unobserved heterogeneity through instrumentation of the lagged dependent variable and selected regressors.

The coefficient on the lagged share price (L.SHP) is positive and statistically significant at the 1% level in the SGMM model, confirming the presence of strong persistence in share price behaviour. This supports the dynamic structure of the model and validates the use of GMM for estimation.

Table 2. Correlation Matrix of Study Variables (N = 240)

Variable	SHP	ROE	CUR	DER	TAT	EPS	FSZ	INF	INR	EXR	GDPPC
SHP	1										
ROE	0.0819	1									
CUR	-0.0479	0.0862	1								
DER	-0.0058	-0.4481	-0.0725	1							
TAT	-0.0069	0.8514	0.0637	-0.0046	1						
EPS	0.5882	0.0911	-0.0190	0.0197	0.0085	1					
FSZ	0.2757	-0.0343	-0.1859	-0.0749	-0.1415	0.1576	1				
INF	0.0414	0.1484	0.0581	-0.0427	0.1484	-0.0697	0.1631	1			
INR	0.0441	0.1282	-0.0143	-0.0327	0.1524	-0.0615	0.1284	0.8046	1		
EXR	0.0623	0.1520	0.0738	-0.0209	0.1742	-0.0840	0.1801	0.8809	0.7588	1	
GDPPC	-0.0420	-0.0772	-0.0863	-0.0001	-0.0923	0.0260	-0.1735	-0.8126	-0.5607	-0.7795	1

Table 3. Fixed Effects and System GMM Estimates of Share Price Determinants

Variable	FE Estimate (SHP)	SGMM Estimate (SHP)
ROE	6.272 (8.890)	9.324 (9.580)
CUR	-0.785 (5.510)	-2.480 (12.216)
DER	0.394 (0.723)	0.579 (0.611)
TAT	-2.368 (2.893)	-3.041 (2.981)
EPS	3.596 *** (0.569)	-1.459 ** (0.622)
FSZ	0.728 (14.927)	-7.066 (27.546)
INF	-3.194 (2.632)	-
INR	1.827 (4.669)	-
EXR	0.187 *** (0.068)	-
GDPPC	0.007 (0.024)	-0.047 (0.061)
L.SHP	-	0.867 *** (0.073)
Year 2013	-	-4.813 (94.758)
Year 2015	-	-11.400 (9.855)
Year 2016	-	-22.755 (66.658)
Year 2018	-	1.725 (83.422)
Year 2019	-	0.674 (99.228)
Year 2020	-	10.409 (170.354)
Year 2021	-	-7.376 (108.173)
Year 2022	-	-24.584 (144.325)
Year 2023	-	-24.563 (39.163)
Intercept	13.919 (272.962)	254.152 (600.638)

Model Diagnostics (SGMM only)

Arellano-Bond AR(1) Test: $z = -0.994$, $p = 0.320$
 Arellano-Bond AR(2) Test: $z = -0.001$, $p = 0.999$
 Hansen J Test of Overidentifying Restrictions: $\chi^2 = 2.11$, $p = 0.716$
 Sargan Test of Overidentifying Restrictions: $\chi^2 = 25.58$, $p = 0.000$
 Number of Observations: FE = 240, SGMM = 220

Note: Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The SGMM estimates use two-step robust standard errors with collapsed instruments to mitigate instrument proliferation. The AR tests assess autocorrelation in first-differenced residuals, while Hansen and Sargan tests evaluate the validity of instruments.

With respect to the study’s hypotheses, the findings yield mixed results. First, Return on Equity (ROE) is positive but statistically insignificant in both FE and SGMM models. This result fails to support H1, which posited that ROE

positively and significantly influences share price. One plausible explanation could be that investors in the sampled sectors may be less responsive to accounting returns and more sensitive to cash flow or earnings metrics.

Second, the Current Ratio (CUR) is negatively signed and statistically insignificant in both models. This outcome contradicts H2, which anticipated a significant relationship with potentially sector-dependent effects. The insignificance of liquidity, as measured by CUR, may indicate that short-term solvency does not play a decisive role in shaping investor perceptions in these sectors.

Third, the Debt-to-Equity Ratio (DER) exhibits a negative sign in both models, aligning with H3; however, the coefficients are statistically insignificant. This suggests that while increased leverage may generally be associated with lower market valuation due to higher financial risk, the relationship is not robust enough to draw firm conclusions in the Nigerian consumer goods and agriculture sectors.

Fourth, the Total Asset Turnover (TAT), though positive in the SGMM model and negative in the FE model, remains statistically insignificant across both estimations. This does not provide support for H4, which expected a positive and significant relationship as a signal of operational efficiency translating into improved market value.

Lastly, Earnings Per Share (EPS) yields conflicting results across models. In the FE model, EPS is positively signed and highly significant at the 1% level, supporting H5 and underscoring the role of profitability in stock valuation. However, in the SGMM model, EPS turns negative and remains significant at the 5% level. This sign reversal may be attributed to dynamic feedback effects or potential overstatement of earnings not matched by investor confidence, highlighting the complexity of interpreting EPS within a dynamic panel context.

Overall, while the dynamic model (SGMM) reveals important features of share price persistence and controls for endogeneity, it also demonstrates the volatility and sectoral peculiarities associated with firm-specific fundamentals in emerging markets. The diagnostic tests, including the Hansen J-test and Arellano-Bond autocorrelation tests (AR1 and AR2), confirm the validity of the instruments and the absence of second-order serial correlation in the SGMM model.

5. Conclusions and Recommendations

This study examined the dynamic determinants of share price among firms listed in Nigeria's Consumer Goods and Agriculture sectors using the two-step System Generalised Method of Moments (SGMM) estimator. Anchored on the theoretical premises of the Efficient Market Hypothesis, Signalling Theory, and Agency Theory, the study explored how firm-level fundamentals and macroeconomic variables influence stock valuation in sectors critical to Nigeria's GDP and employment structure. Drawing on panel data from 2012 to 2023, the SGMM estimation appropriately addressed concerns of endogeneity, autocorrelation, and firm-specific heterogeneity. The results reveal a strong and statistically significant lagged effect of share price, validating the persistence characteristic of asset prices and reinforcing the appropriateness of a dynamic specification.

Interestingly, Earnings Per Share (EPS), which is traditionally expected to exert a positive influence on share price, emerged with a negative and statistically significant coefficient in the SGMM model. This counterintuitive finding challenges assumptions embedded in static valuation frameworks and may reflect investor scepticism, potential earnings manipulation, or overreaction to reported earnings in Nigeria's capital market. Other key financial indicators—including Return on Equity (ROE), Current Ratio (CUR), Debt-to-Equity Ratio (DER), and Total Asset Turnover (TAT)—display the expected directional signs but do not attain statistical significance in the dynamic model. Similarly, Firm Size (FSZ) and Gross Domestic Product per Capita (GDPPC) exert no significant influence on share price, suggesting that broader structural and macroeconomic factors may play a lesser role compared to firm-specific attributes in these sectors.

Notably, the diagnostic tests support the robustness of the SGMM model: the Hansen J-test does not reject the null hypothesis of instrument validity ($p = 0.716$), and the Arellano-Bond test for AR(2) confirms the absence of second-order serial correlation ($p = 0.999$). These results lend credibility to the model's internal consistency.

This study contributes to the empirical literature by providing sector-specific insights into stock valuation dynamics in Nigeria, where dynamic panel estimation techniques remain underutilised. The findings emphasise the necessity of accounting for past performance in current valuation assessments and suggest a re-evaluation of overreliance on traditional profitability ratios, especially EPS.

Recommendations:

First, regulatory agencies such as the Securities and Exchange Commission (SEC) should enhance earnings disclosure standards and strengthen monitoring frameworks to reduce information asymmetry and detect potential earnings management. Second, firm managers should recognise that market valuation may not align perfectly with conventional accounting metrics, and should therefore prioritise transparency, credible financial reporting, and effective stakeholder communication. Third, investors are encouraged to diversify their valuation models beyond EPS, incorporating corporate governance signals, strategic positioning, and cash flow indicators to better assess firm value.

Future research should investigate mediating and moderating mechanisms—such as ownership structure, board effectiveness, or ESG disclosure—that may explain the relationship between firm fundamentals and share price. Additionally, a comparative analysis across sectors or countries within Sub-Saharan Africa would enhance the generalisability and policy relevance of these findings.

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