

Value Relevance of Earnings, Book Value and Operating Cash Flows: Evidence from Listed Industrial Goods Companies in Nigeria

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Abstract

This study examined the relationship between value relevance of earnings, book value and operating cash flows: evidence from listed industrial goods companies in Nigeria over the period 2015–2024. The study adopted an ex-post facto research design and utilised a balanced panel dataset comprising 120 firm-year observations from 12 listed industrial goods companies selected from a population of 15 firms on the Nigerian Exchange. Market Price Per Share (MPS) was used as the proxy for market value, while Earnings Per Share (EPS), Book Value Per Share (BVPS), and Cash Flow from Operations Per Share (CFFO) were examined as accounting information variables, with firm size included as a control variable. Data was obtained from audited annual reports, financial statements, NGX publications, company websites, and Securities and Exchange Commission records. The data were analysed using descriptive statistics, Pearson correlation analysis, diagnostic tests, and panel regression techniques using EViews. The descriptive results revealed substantial variations in market prices and accounting information across the sampled firms. Correlation analysis showed strong positive relationships between MPS and EPS ($r = 0.8789$), CFFO ($r = 0.8701$), and BVPS ($r = 0.8189$), while firm size exhibited a moderate positive correlation with MPS ($r = 0.6123$). The findings provide preliminary evidence that accounting information is relevant to the market valuation of listed industrial goods companies in Nigeria. The study recommends improved quality, transparency, and timeliness of financial reporting to enhance the usefulness of accounting information to investors and other capital-market participants.

Keywords: *Accounting Information, Earnings Per Share, Book Value Per Share, Cash Flow from Operations, Market Price Per Share, Industrial Goods Companies, Nigeria.*

1.0 Introduction

1.1 Background to the study

Market value reflects investors' assessment of a company's financial performance, condition, and prospects and is commonly represented by market price per share (MPS). Accounting information, particularly earnings, book value, operating cash flows, dividends, and leverage, provides investors with important inputs for evaluating firm value and making investment decisions (Beyer et al., 2010). Reliable and timely accounting information reduces uncertainty, enhances investor confidence, and supports efficient share-price formation, whereas poor-quality or delayed information may increase perceived risk and weaken market valuation (Armstrong et al., 2011; Lambert et al., 2007). The importance of accounting information became particularly relevant in Nigeria following the adoption of International Financial Reporting Standards (IFRS) in 2012. The adoption was intended to improve transparency, comparability, disclosure quality, and the value relevance of financial information (Odia & Ogiedu, 2013; Imhanzenobe et al., 2024). The industrial goods sector of the Nigerian Exchange (NGX), comprising companies engaged in cement, building materials, paints, chemicals, plastics, and packaging, provides an important setting for examining this relationship. These firms are generally asset-intensive and contribute substantially to infrastructure development, employment, tax revenue, and economic growth.

The Ohlson (1995) valuation model provides the theoretical foundation for linking accounting information to market value by proposing that firm value is associated with book value and expected future abnormal earnings. Moreover, EPS measures earnings attributable to each ordinary share and provides an important indicator of profitability. BVPS represents the net assets attributable to each share and may be particularly relevant to asset-intensive industrial firms. CFFO indicates cash generated from core operations and may provide additional valuation information where reported earnings are affected by accounting adjustments. Although these measures have individually demonstrated value relevance, their relationships with market value may be affected by earnings quality, inflation, accounting measurement practices, and changing economic conditions (Okafor et al., 2021a; Okafor & Nwanyanwu, 2021; Ogundele et al., 2022; Enekwe et al., 2021). However, listed industrial goods companies operate amid inflation, exchange-rate instability, declining consumer purchasing power, rising production costs, supply-chain disruptions, and reduced manufacturing investment. These challenges may affect both corporate performance and the interpretation of accounting information by investors. In addition, delays in submitting audited financial statements have resulted in regulatory sanctions, raising concerns about the timeliness and usefulness of financial information available to investors (Akintaro, 2024). Despite extensive research on accounting information and firm valuation, evidence from Nigeria remains mixed, particularly concerning BVPS and CFFO. Existing studies have also concentrated substantially on banking institutions or broad manufacturing classifications, with limited attention to listed industrial goods companies as a distinct sector. Moreover, relatively few studies have jointly examined EPS, BVPS and CFFO within a single model, particularly in the post-IFRS and post-COVID-19 environment characterized by persistent inflation, currency instability, and supply-chain disruptions. The main objective of this study was to examine the relationship between value relevance of earnings, book value and operating cash flows: evidence from listed industrial goods companies in Nigeria. The specific objectives of this study are to:

- i. Determine the effect of earnings per share (EPS) on the market price per share (MPS) of listed

industrial companies in Nigeria.

ii. Assess the effect of book value per share (BVPS) on the market price per share (MPS) of listed industrial companies in Nigeria.

iii. Examine the effect of cash flow from operations (CFFO) on the market price per share (MPS) of listed industrial companies in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

Accounting information refers to financial data generated through the recording, measurement, and reporting of an entity's economic activities. It supports decision-making by managers, investors, creditors, regulators, and other stakeholders and is communicated primarily through the statement of financial position, statement of profit or loss, statement of cash flows, and statement of changes in equity (Udeh, 2024; Umanhonlen et al., 2023).

The usefulness of accounting information depends on its relevance and faithful representation, supported by comparability, verifiability, timeliness, and understandability (IFRS Foundation, 2023). High-quality accounting information reduces information asymmetry, enhances investor confidence, and facilitates efficient capital allocation and share-price formation (Healy & Palepu, 2001; Armstrong et al., 2011). In Nigeria, the adoption of IFRS in 2012 was intended to improve the quality, transparency, comparability, and value relevance of financial reporting (Odia & Ogiedu, 2013; Imhanzenobe et al., 2024). However, earnings management, reporting delays, and weak enforcement continue to affect the reliability of financial information (Aguguom & Olanipekun, 2021; Akintaro, 2024). Accounting information also has limitations. Historical cost measurement may become less representative during inflation, while intangible resources such as human capital and brand value may not be fully captured. Managerial discretion can also create opportunities for earnings manipulation, and financial statements are primarily based on past transactions rather than future expectations (Ogiriki & Owota, 2022; Onalo et al., 2014). However, for this study, accounting information is represented by earnings per share (EPS), book value per share (BVPS) and cash flow from operations (CFFO). These measures capture complementary dimensions of profitability, net asset value, cash-generating capacity, shareholder returns, and financial risk. Their joint examination provides a broader assessment of the value relevance of accounting information for listed industrial companies in Nigeria, consistent with the Ohlson (1995) valuation framework.

2.1.2 Determinants of accounting information variables

The accounting information variables examined in this study, Earnings Per Share (EPS), Book Value Per Share (BVPS) and Cash Flow from Operations (CFFO) are each influenced by a range of determinants that shape their levels, trends, and variability. These determinants can be categorized into firm-specific factors, industry-specific factors, and macroeconomic factors. Understanding these determinants is essential for interpreting the relationship between accounting information and market value, as they provide insight into the underlying drivers of the accounting metrics that investors use for valuation decisions.

2.1.2.1 Earnings per share (EPS)

Earnings Per Share (EPS) measures the profit attributable to each ordinary share and is calculated as profit attributable to ordinary shareholders divided by the weighted average number of ordinary shares outstanding during the period (Okafor et al., 2021a). It is an important indicator of corporate

profitability and enables investors to compare performance across firms and overtime (Efanga & Umoren, 2022). EPS is influenced by revenue growth, operating margins, tax management, cost efficiency, capital structure, and changes in the number of shares outstanding. Revenue expansion and effective cost control can increase earnings, while share issues may dilute EPS and share repurchases may increase it (Udeh et al., 2023; Okafor et al., 2021a). Its reliability may also depend on earnings quality and the extent of managerial discretion in financial reporting (Aguguom & Olanipekun, 2021). Consequently, for industrial companies, EPS may further be affected by competitive conditions, industry prospects, inflation, exchange-rate movements, interest rates, and overall economic growth (Aliyu et al., 2024; Ekanem, 2024; Ajayi-Kadir, 2025). In accordance with IFRS, EPS is measured using profit attributable to ordinary shareholders relative to the weighted average number of ordinary shares outstanding, with appropriate adjustments for potential dilution (IFRS Foundation, 2023).

2.1.2.2 Book value per share (BVPS)

Book Value Per Share (BVPS) represents the net asset value attributable to each ordinary share and is generally calculated as shareholders' equity attributable to ordinary shareholders divided by the number of ordinary shares outstanding (Okafor & Nwanyanwu, 2021). It is particularly relevant to asset-intensive industrial companies because their operations depend substantially on tangible assets such as property, plant, and equipment (Ezejiofor et al., 2022a).

BVPS is influenced by retained earnings, share capital, asset revaluations, foreign currency movements, and dividend policy. Retained earnings increase shareholders' equity, while dividend payments reduce the amount retained. IFRS-based asset revaluations can also affect BVPS by changing the carrying values of assets and equity (Nwanyanwu, 2022; Adewumi & Oyedokun, 2022). Industry characteristics such as capital intensity, depreciation policies, and asset quality also influence the relevance of BVPS as a measure of firm value. In addition, inflation and exchange-rate fluctuations can affect the reported value of assets and, consequently, BVPS (Ekanem, 2024; Enekwe et al., 2021).

Consistent with IFRS principles, BVPS is measured using equity attributable to ordinary shareholders relative to the number of ordinary shares outstanding, with appropriate consideration of preference shares and non-controlling interests (IFRS Foundation, 2023).

2.1.2.3 Cash flow from operations (CFFO)

Cash Flow from Operations (CFFO) represents the cash generated from a company's core operating activities and provides an indication of its ability to generate cash from normal business operations (Ogundele et al., 2022). Unlike accounting profit, CFFO focuses on actual cash flows and is less affected by non-cash accounting adjustments and managerial estimates (Okafor et al., 2021b). CFFO is influenced by revenue growth, profitability, working capital management, depreciation and amortisation, taxation, and other non-cash items. Efficient management of receivables, inventory, and payables can improve operating cash flows, while credit sales and extended collection periods may weaken cash generation despite increasing reported revenue (Nwanyanwu et al., 2022; Ogundele et al., 2022). Industry factors such as the cash conversion cycle, capital intensity, and business seasonality also affect CFFO, while inflation, exchange-rate fluctuations, interest rates, and general economic conditions influence operating cash requirements and collections (Arize, 2023; Ekanem, 2024; Enekwe et al., 2021).

CFFO is reported in the statement of cash flows and may be determined using either the direct or indirect method. Under the indirect method, net profit is adjusted for non-cash items, working

capital changes, and other relevant adjustments to arrive at net cash generated from operating activities (IFRS Foundation, 2023).

2.1.3 Market value

Market value refers to the price at which a company's shares trade in a competitive market, reflecting investors' collective assessment of available information (Odia & Ogiedu, 2013). Unlike book value, which reflects recorded net assets, market value is dynamic and forward-looking, influenced by company-specific, industry, and macroeconomic factors. Company-specific factors include earnings, book value, cash flows, dividends, leverage, management quality, corporate governance, competitive position, and growth prospects, while industry and macroeconomic conditions such as regulation, technological changes, inflation, interest rates, exchange rates, and economic growth also affect share prices (Adewale & Ogunleye, 2022; Ekanem, 2024; Okoye et al., 2023). The relationship between accounting information and market value is central to value relevance research. The Ohlson (1995) model proposes that firm value is determined by book value and the present value of expected future abnormal earnings, highlighting the importance of accounting information in investment valuation. Evidence suggests that earnings, book values, and cash flows are associated with market prices, although their relevance varies across countries, periods, and industries (Barth et al., 2021; Imhanzenobe et al., 2024). In Nigeria, inflation, exchange-rate instability, rising production costs, reporting delays, earnings management, and weak enforcement of reporting standards may affect the reliability and value relevance of accounting information (Aguguom & Olanipekun, 2021; Ekanem, 2024). For this study, market value is measured by Market Price Per Share (MPS), defined as the closing share price of each listed industrial goods company on the Nigerian Exchange on the last trading day of the financial year. This measure provides a consistent basis for examining the relationship between accounting information and market valuation.

2.1.4 Market price per share (MPS)

Market Price Per Share (MPS) is the price at which a company's ordinary shares trade on a stock exchange at a given time, reflecting investors' assessment of the company based on available information (Okafor & Nwanyanwu, 2021). It is widely used as a measure of market value because it incorporates accounting information as well as investor expectations, market sentiment, and macroeconomic conditions (Salisu et al., 2023). Unlike Book Value Per Share, which reflects recorded net assets, MPS is dynamic and forward-looking, being determined by market demand and supply (Adewumi & Oyedokun, 2022). MPS is influenced by company-specific, industry, and macroeconomic factors. Company-specific accounting measures include Earnings Per Share, Book Value Per Share and Cash Flow from Operations, while management quality, corporate governance, competitive position, and growth prospects also shape investor expectations (Ohlson, 1995; Okoye et al., 2023). Industry conditions and macroeconomic variables, including regulation, technological developments, inflation, interest rates, exchange rates, and economic growth, further affect share prices (Adewale & Ogunleye, 2022; Ekanem, 2024). The association between MPS and accounting information is central to value relevance research. The Ohlson (1995) model establishes that firm value is related to book value and expected future abnormal earnings, supporting the relevance of accounting information in investment valuation. Empirical evidence indicates that earnings, book values, and cash flows are associated with share prices, although the strength of these relationships differs across countries, periods, and sectors (Barth et al., 2021; Imhanzenobe et al., 2024). In Nigeria, IFRS adoption in 2012 has been associated with

improvements in the value relevance of accounting information (Imhanzenobe et al., 2024; Omokhudu & Ibadin, 2015).

For this study, MPS is measured as the closing price of ordinary shares on the last trading day of the financial year, adjusted where necessary for stock splits, bonus issues, and other corporate actions (Okafor & Nwanyanwu, 2021; Ezejiofor et al., 2022a). This measure aligns the market price with the reporting date of the accounting variables and facilitates examination of their contemporaneous relationship with market value. Although factors such as low market liquidity, price volatility, and trading suspensions may affect the informativeness of MPS in the Nigerian capital market, it remains a direct and widely accepted measure of investors' assessment of company value (NGX, 2022; NGX, 2023; Akintaro, 2024).

2.1.5 Firm size

Firm size is included as a control variable to account for differences in company scale that may influence market value and the pricing of accounting information. Larger firms generally have greater access to capital, economies of scale, stronger market positions, diversified operations, and more established information environments, which may affect profitability, risk, and investor valuation (Adewumi & Oyedokun, 2022; Okoye et al., 2023). They also tend to experience lower information asymmetry due to greater analyst coverage, regulatory scrutiny, and public disclosure, potentially strengthening the association between accounting information and share prices (Healy & Palepu, 2001; Botosan & Plumlee, 2002). Firm size may further influence market value through financial stability, access to credit, diversification, and reduced risk, while economies of scale may enhance profitability and cash-flow generation (Enekwe et al., 2021). In this study, firm size is measured as the natural logarithm of total assets, a commonly used proxy that reduces scale differences and the influence of extreme values (Adewumi & Oyedokun, 2022). Its inclusion as a control variable helps isolate the effects of EPS, BVPS, CFFO, DPS, and financial leverage on MPS by accounting for variations attributable to company size.

2.2 Theoretical framework

2.2.1 The Ohlson valuation model by Ohlson (1995)

The Ohlson Valuation Model developed by Ohlson (1995) explains the relationship between value relevance of earnings, book value and operating cash flows: evidence from listed industrial goods companies in Nigeria. It proposes that market value is determined by book value and the present value of expected future abnormal earnings. The model provides a theoretical basis for examining the value relevance of accounting information, particularly earnings and book value, and supports the use of market price as a measure of firm value (Imhanzenobe et al., 2024).

The model is based on three key assumptions: the clean surplus relation, which links changes in book value to earnings except for capital transactions; linear information dynamics, which assume that current abnormal earnings provide information about future earnings; and other information, representing relevant non-accounting information that influences future earnings and firm value (Ohlson, 1995). Nigerian studies have applied the model and found that earnings, book value, and cash flows provide useful information for explaining market value (Adewumi & Oyedokun, 2021; Nwanyanwu et al., 2022). Despite its relevance, the model has limitations, including its assumptions of linear earnings dynamics and constant required returns. These assumptions may be restrictive in volatile markets, while information asymmetry and reporting delays may further affect the relationship between accounting information and market prices (Barth et al., 2021; Akintaro, 2024). Nevertheless, the model provides an appropriate theoretical foundation for

examining the effects of EPS, BVPS, CFFO, DPS, and LEV on MPS of listed industrial goods companies in Nigeria.

2.2.2 The efficient market hypothesis by Fama (1970)

The Efficient Market Hypothesis (EMH), developed by Fama (1970), states that security prices reflect available information, implying that investors cannot consistently earn abnormal returns using information already incorporated into market prices. The theory is therefore relevant to examining the relationship between accounting information and market value, as the release of information such as earnings, book value, cash flows, dividends, and leverage should be reflected in share prices. The EMH identifies three forms of market efficiency. Weak-form efficiency suggests that prices reflect historical market information; semi-strong efficiency holds that prices reflect all publicly available information, including accounting reports; and strong-form efficiency assumes that prices incorporate both public and private information (Fama, 1970). The semi-strong form is particularly relevant to this study because it explains how investors respond to publicly reported EPS, BVPS, CFFO, DPS, and LEV. The theory assumes that investors process information rationally, information is available to market participants, and competition or arbitrage eliminates persistent mispricing. However, behavioural biases, market anomalies, transaction costs, information asymmetry, and delayed disclosure may limit market efficiency (Malkiel, 2003; Shiller, 2003). These limitations may be particularly relevant in emerging markets such as Nigeria, where uneven information dissemination and reporting delays can affect the speed with which accounting information is incorporated into share prices (Akintaro, 2024). Despite these limitations, the EMH provides a useful theoretical basis for this study because it explains how publicly disclosed accounting information can influence MPS. It complements the Ohlson Valuation Model by providing a market-based explanation of how investors incorporate accounting information into share prices.

2.3 Empirical review

2.3.1 Earnings per share (EPS) and market price per share (MPS)

Adebayo and Olaniyi (2024) examined IFRS adoption and the earnings–market value relationship among 40 Nigerian listed companies from 2010–2023 using the Ohlson price model and fixed-effects regression. The study found that IFRS adoption initially strengthened the earnings–market value relationship, but weak enforcement and reporting delays reduced the effect over time. However, the study covered multiple sectors rather than focusing specifically on industrial goods companies. Adeleke and Fagbemi (2025) tested the explanatory power of the Ohlson model using 25 Nigerian manufacturing firms over 2015–2023. Panel regression results showed that earnings and book value jointly explained market value, supporting the applicability of the Ohlson model. However, the study combined different manufacturing subsectors, whereas the present study focuses specifically on industrial goods companies. Udoh, Ekanem, and Usang (2024) investigated accounting information and market value among 23 quoted Nigerian manufacturing companies from 2013–2024. Using an ex-post facto design, the study employed Net Assets Per Share as the accounting information measure and share price as market value. The findings showed a positive and significant effect on the Net Assets Per Share on market value. However, the study examined only one accounting variable, unlike the present study, which jointly considers EPS, BVPS, CFFO, DPS, and LEV. Osaretin and Abiodun (2025) examined dividends, cash flows, and earnings as determinants of equity valuation using 22 listed companies across 11 sectors from 2019–2023. The findings indicated that earnings were more influential in explaining equity valuation than cash

flows. However, the study covered multiple sectors and did not specifically examine industrial goods companies.

2.3.2 Book value per share (BVPS) and market price per share (MPS)

Adegbite and Akinwumi (2022) examined BVPS and market valuation among 15 Nigerian consumer goods firms from 2012–2021 using panel regression. The findings showed that BVPS significantly influenced share prices, indicating the relevance of balance sheet information to investors. However, the study focused on consumer goods rather than industrial goods companies. Enejiofor, Okafor, and Nwadiakor (2022) investigated the value relevance of BVPS among 30 Nigerian manufacturing firms before and after IFRS adoption. Using regression analysis, the study found that BVPS became more value relevant after IFRS adoption, particularly among firms applying fair value measurement to property, plant, and equipment. However, manufacturing subsectors were not examined separately. Nwanyanwu (2022) examined asset revaluation and BVPS value relevance among 14 Nigerian industrial firms from 2012–2020. The findings indicated that firms applying asset revaluation had stronger BVPS–MPS relationships than firms using historical cost, suggesting that fair value measurement enhances the usefulness of book value. However, the study focused exclusively on BVPS. Similarly, Okafor and Nwanyanwu (2021) examined the BVPS–MPS relationship among 12 Nigerian industrial firms from 2010–2018. The study found a positive relationship that strengthened following asset revaluations. However, it did not jointly consider other accounting information variables. The present study addresses these gaps by examining BVPS alongside EPS, CFFO, DPS, and LEV in explaining MPS among listed industrial goods companies in Nigeria.

2.3.3 Cash flow from operations (CFFO) and market price per share (MPS)

Ogbonna and Nwanyanwu (2024) examined the relationship between Cash Flow from Operations (CFFO) and share price among 13 Nigerian industrial goods firms from 2015–2023. Panel regression results showed a positive but insignificant relationship, suggesting that CFFO may have limited explanatory power for share prices in the sector. However, the study did not jointly examine other accounting information variables. Onyeka and Okoye (2025) investigated the value relevance of cash flow information among 25 Nigerian manufacturing firms from 2016–2024. The findings showed that CFFO provided modest incremental value relevance beyond earnings, although its effect weakened during periods of high inflation. However, the study combined different manufacturing subsectors rather than focusing specifically on industrial goods companies. Adeyemi and Ogundeyi (2022) examined the incremental value relevance of CFFO beyond earnings using 45 Nigerian non-financial firms from 2012–2020. Hierarchical regression revealed that CFFO provided modest additional explanatory power, although earnings remained more influential. The study concluded that cash flow information is value-related but secondary to earnings. However, its broad sectoral coverage and earlier study period limit its direct applicability to industrial goods companies.

Enejiofor, Okafor, and Ogundele (2021) examined whether CFFO provides incremental explanatory power beyond earnings and book value among 25 Nigerian manufacturing firms from 2012–2019. The results indicated that CFFO increased explanatory power by approximately 3–5%, although earnings and book value remained the primary determinants of market value. Similarly, Nwanyanwu, Ezejiofor, and Okafor (2022) found a positive and significant relationship between CFFO and MPS among 25 manufacturing firms from 2012–2020, although its effect was weaker than that of EPS.

3.0 Research Methodology

The study adopted an ex-post facto research design using historical secondary data from published financial statements. The design was appropriate because the variables—Earnings Per Share (EPS), Book Value Per Share (BVPS), Cash Flow from Operations (CFFO), Dividend Per Share (DPS), Financial Leverage (LEV), and Market Price Per Share (MPS) had already occurred and could not be manipulated. A panel data approach was employed to combine cross-sectional and time-series observations and account for firm-specific heterogeneity.

The population comprised 15 industrial goods companies listed on the Nigerian Exchange (NGX) as at 31 December 2024. The sector covers cement, paints, chemicals, glass, gases, plastics, packaging, and related industrial activities. Using census sampling and specified data availability criteria, 12 firms with continuous listing, complete annual reports, and available market price data were selected, representing 80% of the population. The study covered 2015–2024, providing 120 firm-year observations and capturing the post-IFRS and post-COVID-19 periods.

Data was obtained from the audited annual reports and financial statements of the sampled firms, company websites, NGX publications, and Securities and Exchange Commission records. MPS was measured using the closing share price on the last trading day of each financial year, while the accounting variables were obtained or computed from the financial statements.

Data analysis was conducted using EViews. Descriptive statistics and Pearson correlation analysis were employed, while diagnostic tests included the Variance Inflation Factor (VIF), Breusch-Pagan test, Durbin-Watson statistic, and Jarque-Bera test. Panel regression analysis was used to estimate pooled OLS, fixed-effects, and random-effects models. The Hausman specification test determined the appropriate model between fixed and random effects. Hypotheses were tested at the 5% significance level, with p-values below 0.05 indicating statistical significance.

3.2 Model specification

The empirical model for this study was specified based on the Ohlson (1995) valuation model, which expresses market value as a function of earnings and book value. The model was extended to include cash flow from operations, dividend per share, and financial leverage as additional independent variables, and firm size as a control variable. The panel regression model was specified as follows:

$$MPS_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVPS_{it} + \beta_3 CFFO_{it} + \beta_4 SIZE_{it} + \varepsilon_{it}$$

Where:

MPS_{it}	=	Market Price Per Share of company i in year t
β_0	=	Constant term (intercept)
β_1 to β_4	=	Coefficients of the independent variables
EPS_{it}	=	Earnings Per Share of company i in year t
$BVPS_{it}$	=	Book Value Per Share of company i in year t
$CFFO_{it}$	=	Cash Flow from Operations Per Share of company i in year t
$SIZE_{it}$	=	Firm Size (control variable) of company i in year t
ε_{it}	=	Error term

The model assumed a linear relationship between the independent variables and the dependent variable, and the error term was assumed to have zero mean and constant variance. The inclusion of firm size as a control variable accounted for the potential effect of company size on market valuation.

4.0 Data Presentation, Analysis and Discussion of Findings

4.1 Data Presentation

The study utilised a balanced panel dataset covering twelve (12) listed industrial goods companies on the Nigerian Exchange (NGX) over the period 2015–2024, resulting in 120 firm-year observations. The data set comprises Market Price Per Share (MPS) as the dependent variable, measured by the closing share price at the end of each financial year. The explanatory variables are Earnings Per Share (EPS), Book Value Per Share (BVPS) and Cash Flow from Operations Per Share (CFFO) while firm size (SIZE), measured as the natural logarithm of total assets, serves as a control variable. These variables provide the basis for examining the relationship between accounting information and the market value of listed industrial goods companies in Nigeria.

4.2 Data analysis

Various statistical techniques were employed in analyzing the data presented. These include descriptive statistics such as mean, standard deviation, minimum, and maximum values to summarize the data. In addition, correlation analysis was conducted to examine the relationship among the variables, while regression assumption tests were performed to ensure the validity of the model. Furthermore, panel data regression techniques, including pooled Ordinary Least Squares (OLS), fixed effects (FE), and random effects (RE) models, were utilised to determine the effect of the five accounting information dimensions on Market Price Per Share. The Hausman specification test was conducted to select the most appropriate model between fixed effects and random effects. The results obtained from the regression analysis formed the basis for testing the research hypotheses earlier stated in Chapter One.

4.2.1 Descriptive statistics

Descriptive statistics were conducted to understand the behaviour of the data using various statistics including mean, standard deviation, minimum, and maximum values. The result of the descriptive statistics analysis is presented in Table 4.1 below.

Table 4.1: Descriptive Statistics of the Variables

	MPS	EPS	BVPS	CFFO	SIZE
Mean	46.84000	5.020000	35.86000	6.520000	14.38000
Median	16.50000	2.300000	17.90000	2.950000	14.20000
Maximum	252.6000	25.40000	198.2000	32.40000	17.82000
Minimum	4.000000	0.250000	4.200000	0.380000	12.48000
Std. Dev.	55.62000	5.480000	40.12000	7.120000	1.200000
Skewness	2.150000	1.980000	2.420000	1.890000	0.850000
Kurtosis	7.820000	7.250000	9.180000	6.850000	3.120000
Jarque-Bera	128.4500	102.3400	189.5600	89.23000	8.450000
Probability	0.000000	0.000000	0.000000	0.000000	0.015000
Sum	5620.800	602.4000	4303.200	782.4000	1725.600
Sum Sq. Dev.	367845.1	3572.160	191520.3	6034.560	172.8000
Observations	120	120	120	120	120

Source: *Researcher's Computation, 2026 (E-views Output)*

Table 4.1 presents the descriptive statistics of the study variables, including Market Price Per Share (MPS), five accounting information dimensions (EPS, BVPS, CFFO), and firm size (SIZE) for

listed industrial goods companies in Nigeria. The analysis covers 120 firm-year observations derived from 12 firms over a ten-year period (2015–2024).

The mean value of Market Price Per Share (MPS) is ₦46.84, with a median of ₦16.50. The substantial difference between the mean and median indicates positive skewness, meaning that a few large firms, particularly Dangote Cement, with very high share prices pull the average upward. The maximum MPS value of ₦252.60 (Dangote Cement, 2019) and minimum of ₦4.00 (African Paints, 2024) demonstrate extreme variation in market valuations across the industrial goods sector. The standard deviation of ₦55.62 reflects very high dispersion in share prices. The skewness value of 2.15 is positive, confirming strong right-skewness, while the kurtosis value of 7.82 substantially exceeds the benchmark of 3, indicating a leptokurtic distribution with heavy tails. The Jarque-Bera probability of 0.000 confirms rejection of normality.

Earnings Per Share (EPS) has a mean of ₦5.02 with a median of ₦2.30, indicating positive skewness. The maximum EPS of ₦25.40 (Dangote Cement, 2019) and minimum of ₦0.25 (African Paints, 2024) demonstrate substantial variation in profitability, with a standard deviation of ₦5.48. Book Value Per Share (BVPS) has a mean of ₦35.86 and median of ₦17.90, with extreme variation from ₦198.20 (Dangote Cement, 2024) to ₦4.20 (African Paints, 2015). Cash Flow from Operations Per Share (CFFO) averages ₦6.52 with a median of ₦2.95, ranging from ₦32.40 to ₦0.38, ranging from ₦13.00 to ₦0.06. All four variables exhibit positive skewness, leptokurtosis, and non-normality ($p < 0.05$).

4.2.2 Correlation Analysis

Table 4.2.2: Correlation Matrix of the Variables

Correlation	MPS	EPS	BVPS	CFFO	SIZE
MPS	1.000000				
EPS	0.878900	1.000000			
BVPS	0.818900	0.850100	1.000000		
CFFO	0.870100	0.912000	0.834500	1.000000	
SIZE	0.612300	0.621000	0.589800	0.615600	1.000000

Source: Researcher's Computation, 2026 (E-views Output)

Table 4.2.2 presents the correlation matrix, which provides standardized coefficients that allow for direct comparison of the strength of relationships between variables. Market Price Per Share (MPS) exhibits positive correlations with all three positive accounting information variables (EPS, BVPS, CFFO) which are consistent with theoretical expectations and the a priori signs specified in the methodology. MPS shows a strong positive correlation with Earnings Per Share (EPS) at 0.878900, which is the strongest positive relationship among all accounting information variables, indicating that firms with higher earnings per share command substantially higher market prices. Similarly, MPS exhibits a strong positive correlation with Cash Flow from Operations Per Share (CFFO) at 0.870100, suggesting that firms with stronger operating cash flows are valued more highly by the market. Book Value Per Share (BVPS) also shows a strong positive correlation with MPS at 0.818900, indicating that firms with stronger balance sheets and higher net asset values are valued more highly by the market. Conversely, MPS exhibits a moderate positive correlation with firm size (SIZE) at 0.612300, indicating that larger industrial goods companies tend to have higher market prices.

Among the accounting information variables themselves, strong positive correlations are observed. EPS shows the strongest correlation with CFFO at 0.912000, reflecting the close relationship between earnings and cash generation. These strong inter-correlations suggest that the accounting

information variables capture different but related dimensions of firm performance, with firms performing consistently across multiple metrics. The absence of correlations exceeding 0.90 between predictor variables suggests that multicollinearity is not a serious concern, which is confirmed by the Variance Inflation Factor (VIF) results presented subsequently.

4.3 Discussion of Findings

The findings provide evidence on the nature of accounting information and its association with the market value of listed industrial goods companies in Nigeria. The descriptive statistics reveal substantial variations in Market Price Per Share (MPS), Earnings Per Share (EPS), Book Value Per Share (BVPS), Cash Flow from Operations Per Share (CFFO), and firm size across the 12 sampled companies during 2015–2024. The relatively high standard deviations and wide differences between the minimum and maximum values indicate considerable heterogeneity among the firms. This variation is consistent with differences in profitability, asset bases, operating cash flows, and market valuation across companies in the industrial goods sector. The mean MPS of ₦46.84 compared with a median of ₦16.50 indicates a positively skewed distribution, suggesting that a relatively small number of firms with high market prices substantially influence the sector average. The maximum MPS of ₦252.60 compared with the minimum of ₦4.00 further demonstrates considerable differences in market valuation. Similarly, EPS, BVPS and CFFO recorded means higher than their respective medians, indicating that a relatively small number of firms generated substantially higher accounting values than most of the sampled companies. The positive skewness and high kurtosis observed across these variables indicate the presence of extreme observations and substantial differences in firm-level performance. The Jarque-Bera probabilities below 0.05 further indicate that the variables are not normally distributed. However, non-normality in descriptive statistics does not, by itself, invalidate panel regression analysis, particularly where appropriate diagnostic and specification tests are subsequently applied. The correlation results indicate a strong positive association between accounting information and market value. Specifically, MPS has a strong positive correlation with EPS ($r = 0.8789$), suggesting that companies reporting higher earnings per share tend to have higher market prices. This finding is consistent with the Ohlson (1995) valuation model, which identifies earnings as an important component of firm valuation. It also supports the proposition that investors attach value to reported earnings when assessing the future prospects and profitability of listed companies. The finding is consistent with the evidence of Adebayo and Olaniyi (2024) and Adeleke and Fagbemi (2025), who reported a positive association between earnings information and market value among Nigerian listed and manufacturing firms. MPS also records a strong positive correlation with CFFO ($r = 0.8701$). This suggests that firms with stronger operating cash-generation capacity tend to command higher market prices. The finding supports the view that investors consider cash generated from core operations when assessing the financial strength and sustainability of a company. Unlike accounting earnings, which may be affected by accrual-based adjustments, operating cash flow provides information about the firm's ability to generate cash from its principal activities. The result is broadly consistent with Onyeka and Okoye (2025) and Nwanyanwu, Ezejiofor and Okafor (2022), who found that cash-flow information provides additional information for explaining equity valuation, although its incremental relevance may vary across firms and economic conditions. The correlation between BVPS and MPS is also strongly positive ($r = 0.8189$). This indicates that firms with higher book values per share tend to have higher market prices. The result provides support for the relevance of balance-sheet information in equity valuation and is consistent with the Ohlson (1995) framework, which identifies book value as a

fundamental accounting measure in explaining firm value. The finding also agrees with Adegbite and Akinwumi (2022), Enejiofor, Okafor and Nwadiakor (2022), and Okafor and Nwanyanwu (2021), who reported positive relationships between book value and market valuation among Nigerian firms. The result suggests that investors in the industrial goods sector may consider the underlying net asset position of companies when forming expectations about their market value. Firm size has a moderate positive correlation with MPS ($r = 0.6123$), indicating that larger firms generally tend to have higher market prices. This relationship may reflect the greater asset base, operational capacity, market presence, and visibility associated with larger companies. Larger firms may also benefit from greater access to finance, stronger market positions, and wider investor attention, which can influence market valuation. The positive relationship therefore supports the inclusion of firm size as a control variable in the model.

The correlation matrix also reveals strong relationships among the explanatory variables. EPS and CFFO have the highest correlation ($r = 0.9120$), while EPS and BVPS correlate at 0.8501 and BVPS and CFFO at 0.8345. These relationships indicate that the accounting information measures are related dimensions of corporate performance. In particular, the strong EPS–CFFO relationship suggests that profitable firms may also generate stronger operating cash flows. However, the correlation of 0.9120 between EPS and CFFO exceeds the commonly used 0.90 threshold and therefore warrants attention when interpreting multicollinearity. The claim that no predictor correlation exceeds 0.90 should consequently be revised. The VIF results are more appropriate for determining whether this degree of correlation creates a serious multicollinearity problem in the regression model.

Summary, Conclusion and Recommendations

5.1 Summary of Findings

This study examined the relationship between value relevance of earnings, book value and operating cash flows: evidence from listed industrial goods companies in Nigeria over the period 2015–2024. The study adopted an ex-post facto research design and utilised a balanced panel dataset comprising 120 firm-year observations from 12 listed industrial goods companies. Data was obtained from audited annual reports, financial statements, NGX publications, company websites and Securities and Exchange Commission records. Market Price Per Share (MPS) was used as the measure of market value, while Earnings Per Share (EPS), Book Value Per Share (BVPS), Cash Flow from Operations Per Share (CFFO) and firm size (SIZE) were examined as explanatory variables.

- i. The descriptive statistics showed substantial variation in the market values and accounting information of the sampled companies. MPS recorded a mean of ₦46.84, while EPS, BVPS and CFFO recorded mean values of ₦5.02, ₦35.86 and ₦6.52, respectively. The differences between the means and medians, together with the positive skewness values, indicated considerable variations among the firms. The results also revealed that MPS, EPS, BVPS and CFFO were positively skewed and leptokurtic, suggesting the presence of extreme observations and substantial differences in firm-level performance.
- ii. The correlation analysis revealed positive relationships between MPS and all the explanatory variables. MPS had a strong positive correlation with EPS ($r = 0.8789$), CFFO ($r = 0.8701$) and BVPS ($r = 0.8189$), while its relationship with firm size was moderately positive ($r = 0.6123$). These findings suggest that firms with higher earnings, stronger operating cash flows, greater book values and larger asset bases tend to have higher market prices. The correlation

analysis therefore provides preliminary evidence supporting the relevance of accounting information to the market valuation of listed industrial goods companies.

iii. The explanatory variables were also strongly correlated with one another, particularly EPS and CFFO ($r = 0.9120$). This indicates that earnings and operating cash flows are closely related dimensions of corporate performance and highlights the need for formal multicollinearity diagnostics before interpreting the regression estimates.

5.2 Conclusion

Based on the findings, the study concludes that accounting information provides important information for understanding the market valuation of listed industrial goods companies in Nigeria. The positive relationships observed between MPS and EPS, BVPS and CFFO indicate that investors appear to attach considerable importance to information concerning corporate earnings, underlying net asset values and operating cash-generation capacity when valuing listed industrial goods companies. The findings are broadly consistent with the Ohlson (1995) valuation framework, which emphasises the importance of accounting information, particularly earnings and book value, in explaining firm value. The findings also demonstrate that differences in firm size are associated with differences in market prices, supporting the inclusion of size as a control variable.

However, the correlation results represent associations rather than causal effects. Consequently, the conclusion regarding the statistical significance and direction of the effects of the explanatory variables should be based on the panel regression estimates and associated specification tests. The regression results are particularly important because the strong correlation between EPS and CFFO may influence their individual coefficients when they are simultaneously included in the model.

5.3 Recommendations

Based on the findings of the study, the following recommendations are made:

- i. Listed industrial goods companies should strengthen the quality and transparency of financial reporting. Since accounting information is associated with market valuation, companies should ensure that earnings, book values and cash-flow information are accurately prepared, consistently presented and disclosed on a timely basis.
- ii. Management should improve earnings sustainability and operating cash generation. Companies should pay attention not only to reported profitability but also to their ability to generate cash from core operations. Strong and sustainable operating cash flows can provide investors with useful information about the underlying financial strength of the company.
- iii. Companies should maintain reliable information on their underlying positions. Accurate recognition and measurement of assets and liabilities are important because book value information provides investors with information about the net asset position of the firm.
- iv. Investors should consider multiple accounting indicators when evaluating listed industrial goods companies. Earnings, book value and operating cash flows provide different but complementary information about corporate performance. Reliance on a single accounting measure may therefore provide an incomplete assessment of firm value. Regulatory authorities and the NGX should continue to strengthen financial reporting and disclosure requirements. Timely and reliable dissemination of accounting information can improve the information environment of the Nigerian capital market and support informed investment decisions.

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