

**COMPARATIVE ANALYSIS OF THE IMPACT OF FAIR VALUE AND
HISTORICAL COST MEASUREMENT IN THE DETERMINATION OF
PROFIT OF LISTED MANUFACTURING FIRMS IN NIGERIA IN PRE- AND
POST-IFRS**

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Abstract

This study investigates the effect of fair value accounting and historical cost accounting on the profitability of listed manufacturing firms in Nigeria. Specifically, it examined the effects of property, plant, and equipment valuation, fair value hierarchy measurements, and inventory valuation on profit after tax under both accounting regimes. The study adopted an ex post facto research design and utilized secondary data obtained from the audited annual reports and accounts of selected listed manufacturing firms in Nigeria. Profitability was measured using the natural logarithm of profit after tax (LOGPAT), while the explanatory variables included property, plant, and equipment (LOGPPE), fair value hierarchy proxies (LOGFHP), and inventory valuation (LOGINV). Data were analyzed using descriptive statistics and Ordinary Least Squares (OLS) regression techniques. The findings showed that the historical cost model explained 20.66% of the variations in profitability, whereas the fair value model explained 33.39%, indicating that fair value accounting has greater explanatory power. The results further revealed that property, plant, and equipment had a positive but insignificant effect on profitability under both accounting methods. In addition, fair value hierarchy measurements positively influenced profitability, while inventory valuation had a significant negative effect on profit under the fair value model. The study concluded that fair value accounting provides more relevant and useful information for evaluating corporate profitability than historical cost accounting. Consequently, the study recommends improved adoption and implementation of fair value accounting practices and more effective valuation procedures to reduce earnings volatility and enhance the quality of financial reporting. The study implies that the adoption of fair value accounting can enhance the quality, relevance, and usefulness of financial reporting, thereby improving investment decisions, corporate governance, and the efficiency of financial markets.

Keywords: Fair Value Accounting, Historical Cost Accounting, Profitability, Asset Valuation, Financial Reporting, Manufacturing Firms, Nigeria.

Introduction

Fair value measurement has become a major topic in contemporary accounting due to globalization and the widespread adoption of the International Financial Reporting Standards

(IFRS). The shift from country-specific accounting standards to globally accepted standards issued by the International Accounting Standards Board (IASB) has significantly changed financial reporting practices worldwide. IFRS aims to improve the quality, transparency, comparability, and reliability of financial information available to users of financial statements (IASB, 2023). In Nigeria, IFRS adoption was approved by the Federal Executive Council in July 2010 and implemented in phases beginning in January 2012 for publicly listed companies (Abiahu et al., 2018). This transition was intended to strengthen the credibility of financial reporting, attract foreign investment, and align local reporting practices with international standards (Adegboyegun et al., 2020). As IFRS promotes the use of fair value measurements in several accounting standards, Nigerian firms increasingly apply fair value accounting in the valuation of assets and liabilities.

The primary purpose of financial reporting is to provide useful information to investors, creditors, regulators, and other stakeholders for economic decision-making (IASB, 2023). Both internal users, such as management, and external users, including shareholders, employees, creditors, and government agencies, depend on financial statements to evaluate an organization's financial position and performance (Ahmed & Schaefer, 2018). Financial reporting also serves a stewardship role by enabling stakeholders to assess management's accountability in the use of organizational resources. Consequently, the measurement of assets and liabilities is critical because it influences profitability, solvency, and firm value. Fair value is generally regarded as an objective estimate of the market value of an asset or liability under prevailing market conditions (Ubesie, 2018). Consistent with IFRS 13, it is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (IASB, 2023). Fair value accounting seeks to reflect current market conditions by measuring assets and liabilities at their present values rather than historical acquisition costs (Akwu, 2014). This approach enhances the relevance of financial statements and supports informed decision-making by investors and other users (Nordlund & Persson, 2003). The IASB conceptual framework identifies relevance, faithful representation, comparability, and understandability as the key qualitative characteristics of useful financial information (IASB, 2023). These characteristics form the foundation of high-quality financial reporting and contribute to the provision of reliable and decision-useful information (Enahoro & Jayeoba, 2013; Penman, 2007).

Traditionally, accounting systems relied on the historical cost convention, under which assets and liabilities are recorded at their original purchase prices. This method emphasizes reliability, prudence, and objectivity, recognizing gains and losses only when realized (Ijiri, 1967; Belkaoui, 2004). However, the growing complexity of global business activities has exposed several limitations of historical cost accounting, particularly in periods of inflation, exchange rate fluctuations, and volatile asset prices (Barth, 2006; Chambers, 2013). Since historical cost does not capture changes in market values, it may fail to represent the current economic reality of an organization. As a result, financial statements may contain distorted asset values and profits, potentially leading to poor investment decisions, unrealistic dividend expectations, inappropriate tax assessments, and other economic inefficiencies (Ball, 2006; Laux & Leuz, 2009). These shortcomings have encouraged the increasing acceptance of fair value accounting by international standard setters such as the IASB and the Financial Accounting Standards Board (FASB, 2018). Unlike historical cost accounting, fair value accounting uses current market prices to measure assets and liabilities, thereby providing more timely and relevant information (Barth, 2006; Power, 2010). It is particularly useful in inflationary and volatile economic environments because it reflects prevailing market conditions and improves transparency and comparability across firms (Barth & Landsman, 2010; Christensen & Nikolaev, 2013). Nevertheless, fair value accounting has been criticized

for introducing estimation uncertainty, subjectivity, and earnings volatility, especially when active market prices are unavailable (Penman, 2007; Magnan, 2009).

The debate between historical cost and fair value measurement remains one of the most significant issues in accounting theory and practice. While advocates of fair value emphasize its relevance and decision usefulness, supporters of historical cost stress its reliability and verifiability (Ball, 2006; Scott, 2015). Given these contrasting views, further empirical evidence is needed to determine which measurement basis provides more meaningful information for evaluating firm performance, particularly in emerging economies such as Nigeria. Therefore, this study comparatively examines fair value and historical cost measurement in determining the profitability of listed manufacturing firms in Nigeria, with particular attention to their influence on reported financial performance and decision usefulness.

Statement of the Problem

Asset measurement and valuation remain critical and controversial issues in financial accounting, particularly with the increasing adoption of International Financial Reporting Standards (IFRS). The shift from historical cost accounting to fair value accounting has generated significant debate regarding the impact of these valuation approaches on firms' profitability and financial performance. While fair value accounting is considered more relevant because it reflects current market conditions, concerns persist about its reliability, subjectivity, and influence on reported earnings, especially in developing economies such as Nigeria (Adegboyegun et al., 2020). One major area of concern is the valuation of plant and machinery in manufacturing firms. Under historical cost accounting, these assets are recorded at acquisition cost less accumulated depreciation, which may not reflect their current economic value due to inflation and market changes. In contrast, fair value accounting allows periodic revaluation to current market values, potentially affecting asset values, depreciation expenses, and reported profits. Consequently, different valuation methods may produce varying profitability outcomes, making it difficult for users of financial statements to accurately assess firm performance (IASB, 2023).

Similarly, inventory valuation significantly influences profitability because it directly affects the cost of goods sold and net income. During periods of inflation, historical cost valuation may understate inventory values and distort profit figures. Although fair value measurement provides more current information, differences in inventory valuation approaches can reduce the comparability and reliability of financial statements, thereby affecting stakeholder decision-making (Ahmed & Schaefer, 2018). The valuation of freehold properties also presents accounting challenges. Land and buildings often appreciate over time, making historical acquisition costs less representative of their actual economic worth. While fair value accounting seeks to provide more relevant information by recognizing current market values, critics argue that such valuations may be subjective and vulnerable to managerial bias, potentially reducing the credibility of financial reports (Ubesie, 2018). Despite the adoption of IFRS in Nigeria and the growing use of fair value accounting, empirical evidence on the comparative effects of fair value and historical cost measurements on the profitability of listed manufacturing firms remains limited and inconclusive. Therefore, there is a need to examine how the valuation of plant and machinery, inventory, and freehold properties under both accounting approaches influences reported profitability. Findings from this study will provide valuable insights for regulators, investors, managers, and accounting practitioners on the most appropriate asset valuation method for improving the quality and usefulness of financial reporting.

Objectives of the Study

The specific objectives of the study are to:

1. Determine the effect of the valuation of plant and machinery on profitability under fair value measurement and historical cost convention.
2. Examine the effect of inventory valuation on the reported profits of manufacturing firms in Nigeria under fair value measurement and historical cost accounting.
3. Evaluate the effect of freehold property valuation on profitability under fair value measurement and historical cost convention.

Research Questions

1. What is the effect of the valuation of plant and machinery on the profitability of manufacturing firms under fair value measurement and historical cost convention?
2. How does inventory valuation influence the reported profits of manufacturing firms in Nigeria under fair value measurement compared to historical cost accounting?
3. To what extent does the valuation of freehold property affect the profitability of manufacturing firms under fair value measurement and historical cost convention?

Research Hypotheses

Hypothesis One

H₀₁: There is no significant difference between fair value measurement and historical cost convention in the effect of plant and machinery valuation on the profitability of manufacturing firms in Nigeria.

H₁₁: There is a significant difference between fair value measurement and historical cost convention in the effect of plant and machinery valuation on the profitability of manufacturing firms in Nigeria.

Hypothesis Two

H₀₂: Inventory valuation under fair value measurement does not significantly affect the reported profits of manufacturing firms in Nigeria compared to historical cost accounting.

H₁₂: Inventory valuation under fair value measurement significantly affects the reported profits of manufacturing firms in Nigeria compared to historical cost accounting.

Hypothesis Three

H₀₃: There is no significant effect of freehold property valuation on profitability under fair value measurement and historical cost convention in manufacturing firms in Nigeria.

H₁₃: There is a significant effect of freehold property valuation on profitability under fair value measurement and historical cost convention in manufacturing firms in Nigeria.

Literature Review

Conceptual Framework

The conceptual framework of this study explains the relationship between asset valuation methods and profitability, with particular emphasis on the valuation of plant and machinery in manufacturing firms. Asset valuation is a critical aspect of financial reporting because it determines how organizational resources are measured and reported in financial statements. The two principal valuation approaches historical cost accounting and fair value measurement have different effects on financial reporting outcomes, especially profitability (Barth, 2006; Scott, 2015). According to the International Accounting Standards Board (IASB, 2023), useful financial information should possess qualitative characteristics such as relevance, faithful representation, comparability, verifiability, and understandability. These characteristics provide a basis for assessing the usefulness of accounting measurements in supporting economic decisions. Enahoro and Jayeoba (2013) maintain that financial statements prepared in line with these characteristics enhance decision-making by investors, creditors, and other stakeholders. In this study, plant and machinery valuation constitutes the independent variable, while profitability serves as the dependent variable. The framework compares the

application of historical cost and fair value measurement and examines how each valuation basis influences reported profits in manufacturing firms.

Asset Valuation

Asset valuation refers to the process of assigning monetary values to assets recognized in financial statements. It is fundamental to financial accounting because it influences both the financial position and financial performance reported by an entity. The two dominant valuation bases are historical cost accounting and fair value measurement, each offering distinct advantages and limitations (Belkaoui, 2004; Alexander et al., 2017). Historical cost accounting records assets at their acquisition cost and subsequently adjusts them through depreciation, amortization, or impairment. This method is widely accepted because it is based on actual transactions, making it objective, verifiable, and less susceptible to manipulation (Scott, 2015). It also supports the principles of prudence and reliability by recognizing gains only when realized. However, critics argue that historical cost accounting often fails to reflect current economic realities, especially during periods of inflation and changing market conditions (Ting, 2005).

In contrast, fair value measurement values assets based on the price that would be received from selling an asset in an orderly market transaction at the reporting date (IASB, 2023). Fair value is considered more relevant because it reflects current market conditions and provides information that is useful for economic decision-making (Barth, 2006; Hitz, 2007). It enhances transparency and comparability by presenting asset values that are closer to their economic worth. Despite these advantages, fair value accounting depends heavily on estimates, valuation models, and professional judgment, particularly when active market prices are unavailable. This reliance introduces subjectivity and may reduce reliability and verifiability (Magnan, 2009; Power, 2010). The debate between historical cost and fair value accounting therefore revolves around the balance between reliability and relevance. Historical cost offers greater objectivity and consistency, while fair value provides timelier and economically meaningful information. Consequently, the choice of valuation method significantly affects reported financial performance and remains a major issue in accounting theory and practice.

Plant and Machinery Valuation under Historical Cost

Plant and machinery are among the most important non-current assets of manufacturing firms because they support production activities and operational efficiency. Under historical cost accounting, these assets are initially recorded at acquisition cost, including all expenditures incurred to make them operational. Thereafter, the assets are depreciated systematically over their estimated useful lives (Belkaoui, 2004; Alexander et al., 2017). Depreciation under historical cost is intended to allocate the asset's cost across the periods benefiting from its use, thereby satisfying the matching principle. Since depreciation is based on the original purchase price, it remains unaffected by changes in market value or replacement cost (Scott, 2015). This approach promotes consistency and objectivity in financial reporting. However, historical cost valuation has notable limitations. It does not account for changes in economic conditions, inflation, or fluctuations in market prices. As a result, the carrying values of plant and machinery may differ substantially from their actual economic values. In inflationary environments, replacement costs often exceed historical costs, causing assets to be understated in financial statements (Ting, 2005).

Furthermore, technological advancements may render machinery obsolete before the end of its estimated useful life. In such circumstances, historical cost accounting may overstate the economic value of assets because book values do not necessarily reflect actual usefulness. This can affect the accuracy of financial analysis and investment decisions. Historical cost valuation also influences profitability measurement. Because depreciation is calculated using historical acquisition costs, depreciation expenses may be lower than current replacement costs

during periods of rising prices. Consequently, reported profits may be overstated, creating a misleading impression of financial performance (Scott, 2015; Penman, 2007). This may result in inappropriate dividend policies and inefficient resource allocation. Another limitation is its effect on capital maintenance decisions. Firms may underestimate the amount required to replace aging machinery because asset values reported in financial statements are based on outdated costs. This challenge is particularly important in manufacturing industries where regular replacement of productive assets is essential for competitiveness. Despite these shortcomings, historical cost accounting remains widely used because of its simplicity, reliability, and resistance to managerial manipulation. Nevertheless, its inability to capture current economic realities has encouraged the adoption of alternative valuation methods such as fair value accounting.

Plant and Machinery Valuation under Fair Value

Fair value measurement requires plant and machinery to be reported at amounts that reflect current market conditions at the reporting date. The valuation may be based on observable market prices, professional appraisals, or valuation models when active markets are unavailable (IASB, 2023; IFRS Foundation, 2021). In manufacturing firms, where plant and machinery constitute a substantial proportion of total assets, fair value measurement can significantly affect financial performance. When assets are revalued upward, their carrying amounts increase and the resulting gains are recognized through revaluation reserves. The revised asset values also influence future depreciation calculations, thereby affecting reported profitability (Christensen & Nikolaev, 2013). Conversely, downward revaluations reduce asset values and may lead to impairment losses, which negatively affect profits and shareholders' equity. This demonstrates the close relationship between asset valuation and profitability under the fair value approach.

One of the key advantages of fair value accounting is that it improves the relevance of financial statements by reflecting current economic conditions. Investors and other stakeholders are provided with more timely information regarding the value of productive assets, enabling better assessment of future cash flows and firm performance (Barth et al., 2020; Dechow et al., 2021). However, fair value measurement is not without challenges. In many cases, active markets for specialized machinery do not exist, making valuation dependent on estimates and professional judgment. Such estimates may introduce bias and reduce the reliability of financial information (Magnan & Paugam, 2020). Another concern is earnings volatility. Because asset values are periodically adjusted to reflect market conditions, fluctuations in market prices may directly affect financial statements. As a result, changes in profitability may arise from valuation adjustments rather than operational performance, making performance assessment more complex (Dechow et al., 2021).

The challenges are even greater in emerging economies such as Nigeria, where market information may be limited and valuation expertise may vary across firms. These conditions increase estimation uncertainty and can affect comparability among companies (Okoye & Akenbor, 2020; Adebisi et al., 2022). Regardless of these limitations, fair value accounting continues to gain prominence because it provides more current and decision-relevant information than historical cost accounting. Overall, fair value valuation of plant and machinery affects profitability through changes in asset values, depreciation expenses, and revaluation gains or losses. While it enhances the relevance of financial reporting, it may also introduce subjectivity and earnings volatility. Therefore, its impact on profitability depends largely on market conditions, valuation accuracy, and the regulatory environment in which firms operate.

Theoretical Foundations

Two important theories that provide a strong foundation for the comparative analysis of fair value and historical cost measurement in determining the profit of listed manufacturing firms in Nigeria (pre- and post-IFRS) are the Decision Usefulness Theory of Accounting and the Efficient Market Hypothesis (EMH). These theories explain how accounting measurement affects users' decisions and capital market reactions to reported profit information.

The Decision Usefulness Theory was developed by George J. Staubus (1961). The theory argues that the primary objective of accounting information is to provide useful data that assists investors, creditors, and other users in making rational economic decisions. According to Staubus, financial reporting should focus on relevance, predictive value, and timeliness rather than merely historical accuracy. In relation to this study, the theory is highly relevant in explaining why IFRS adoption promotes fair value accounting. Fair value measurement enhances decision usefulness by reflecting current market conditions and providing more relevant profit information compared to historical cost. In the context of Nigerian listed manufacturing firms, fair value can improve investors' ability to assess real-time performance, especially in periods of inflation and currency fluctuations. However, it may also introduce volatility in profit figures, which can affect decision consistency. Conversely, historical cost provides more stable but less timely information, which may reduce its usefulness in fast-changing economic environments. Therefore, this theory supports the argument that accounting measurement affects the quality and usefulness of reported profit under IFRS adoption (Staubus, 1961; Scott, 2015).

The Efficient Market Hypothesis (EMH) was proposed by Eugene Fama (1970). The theory states that capital markets are efficient when security prices fully and quickly reflect all available information, including financial statements. Under this assumption, accounting information directly influences investor perception and stock prices. This theory is relevant to the study because it explains how changes in accounting measurement such as the shift from historical cost to fair value under IFRS affect market reactions to reported profits of listed manufacturing firms in Nigeria. If markets are efficient, fair value accounting should improve the informativeness of financial statements by incorporating current asset values, thereby leading to quicker and more accurate price adjustments. However, the increased volatility associated with fair value may also introduce noise, potentially affecting investor confidence. Under pre-IFRS historical cost reporting, profit figures were more stable but less reflective of current economic realities, which may have limited their impact on market efficiency. Therefore, EMH supports the view that accounting measurement systems play a key role in shaping how profit information is interpreted in capital markets (Fama, 1970; Barth, 2006).

Empirical Review of Related Studies

Balogun (2015) examined the effect of fair value accounting on historical cost asset valuation in selected public limited companies in Nigeria. The study focused on five petroleum firms chosen from twelve listed on the Nigerian Stock Exchange. Using a descriptive design and secondary data, information on price level changes was sourced from the Central Bank of Nigeria and Bureau of Statistics, while historical cost data were obtained from annual financial reports. Fair values were estimated using price index adjustments. A t-test was employed to compare both valuation bases. The results showed a statistically significant difference between fair value and historical cost measurements, confirming that valuation methods materially influence reported asset values. Akwu et al. (2017) investigated the relationship between fair value measurement, depreciation, and profitability of listed manufacturing firms in Nigeria during the IFRS transition period (2011–2013). Using panel data from financial statements and applying Ordinary Least Squares regression and t-statistics, the study found that both IFRS-based fair value and historical cost practices had a positive but weak impact on depreciation

and profit. The findings suggested that while IFRS improved reporting quality, its effect on profitability was not strongly significant.

Lin et al. (2017) analyzed the association between fair value hierarchy disclosures and financial reporting quality, focusing on firms with Level 3 fair value assets. Using regression analysis on secondary data, the study found that firms with higher proportions of Level 3 assets were more likely to restate financial statements. This implies that reliance on unobservable inputs reduces the reliability and credibility of financial reporting. Osho and Ajetunmobi (2018) studied the impact of IFRS adoption on asset valuation and profit reporting by comparing pre-IFRS (historical cost) and post-IFRS (fair value) periods using data from 2009 to 2014. Their comparative analysis revealed that the historical cost regime produced more stable profit figures, while fair value adoption introduced greater volatility in reported earnings. Barth and Landsman (2018) theoretically and empirically examined the usefulness of fair value accounting in financial reporting. Using archival data and valuation models, they decomposed fair value earnings to assess value relevance. The study concluded that although fair value earnings may reflect short-term volatility, they become highly useful for investment decisions when properly disaggregated.

Ibidunni and Okere (2019) assessed the relationship between fair value accounting and reliability of accounting information in Nigeria using a survey of 161 investment analysts and portfolio managers. Employing Pearson correlation and SPSS analysis, the study found a significant positive relationship, indicating that users perceive fair value reporting as more useful for decision-making. Chukwu and Akpeken (2019) investigated the effect of fair value accounting on financial performance of Nigerian manufacturing firms. Using data from 2008–2016 and comparing pre-IFRS and post-IFRS periods, the study applied multiple regression analysis. The results showed that fair value accounting had a significant positive effect on profit before tax and return on assets, suggesting improved performance reporting under fair value measurement. Abiahu et al. (2020) examined the impact of fair value reporting on profitability and firm value in Nigerian deposit money banks using data from 13 listed banks between 2008 and 2015. Grounded in Agency Theory and analyzed using regression techniques, the study found that fair value reporting had no significant effect on profitability but had a significant positive effect on firm value, implying that it improves market perception rather than accounting earnings.

Methodology

This study adopts an ex post facto research design to enable a comparative evaluation of fair value and historical cost measurement in determining the profitability of listed manufacturing firms in Nigeria. The descriptive design helps to explain financial patterns across the selected firms, while the quasi-experimental approach supports comparison between the pre-IFRS (historical cost regime) and post-IFRS (fair value regime) periods. The population of the study consists of 148 firms listed on the Nigerian Exchange Group, as documented in the Nigerian Exchange Factbook. This represents a finite population from which the sampling frame was developed. A judgmental sampling technique was employed to select five manufacturing firms based on their listing status and availability of complete annual reports. The selected firms are Nestlé Nigeria Plc, Guinness Nigeria Plc, Unilever Nigeria Plc, United African Company (UAC) Nigeria Plc, and Flour Mills of Nigeria Plc. The study uses their financial statements covering 2003–2011 (historical cost period) and 2012–2020 (IFRS/fair value period) for comparison. Data for the study were obtained from secondary sources, specifically the audited published annual reports of the selected firms. This approach was adopted because secondary data are reliable, readily available, and appropriate for analyzing historical financial performance across different accounting regimes.

The model adopted in this study expresses profitability as a function of revenue, cost of sales, and operating expenses, as follows:

PAT f(PPE, INV, FHP)

This is expressed mathematically as:

$$PAT = \beta_0 + \beta_1 HVE + \beta_3 HVFA + \mu \dots\dots\dots 1$$

$$PAT = \beta_0 + \beta_1 HVE + \beta_3 HVFA + \mu \dots\dots\dots 2$$

Where PAT = profit after tax, HVE = historical value of equity, HVFA = historical value of fixed assets, FVE = fair value of equity, FVFA = fair value of fixed assets.

The Model for the present study is stated as:

$$PAT = \beta_0 + \beta_1 HVPM + \beta_2 HVFHP + \beta_3 HVINV + \mu \dots\dots\dots 3$$

$$PAT = \beta_0 + \beta_1 FVPM + \beta_2 FVFHP + \beta_3 FVINV + \mu \dots\dots\dots 4$$

Where:

HV PM = Historical value of plant and Machinery

HVFHP = Historical value of Freehold property

HVLB = Historical value of Inventory

FVPM = Fair value of plant and machinery

FVFHP = Fair value of freehold property.

FVLB = Fair value of Inventory

β_0 = Intercept

$\beta_1 + \beta_3$ Slope of the regression

μ = Error Term

Description of Study Variables

Variable Category	Variable	Description	Measurement / Notes
Dependent Variables	Property, Plant and Equipment (PP&E)	Long-term tangible assets used in business operations such as machinery, buildings, vehicles, land, office equipment, and furnishings.	Measured as: Gross PPE + Capital Expenditures – Accumulated Depreciation
Dependent Variables	Inventories	Current assets held for sale or production; a major component of working capital and profitability determination.	Valued using FIFO (First-In-First-Out), LIFO (Last-In-First-Out), or Weighted Average Cost (WAC) methods
Dependent Variables	Freehold Property	Represents outright ownership of land and buildings, including landlord investment interest during lease periods.	Value determined based on rent multiplied by yield over remaining lease period
Independent Variables	Fair Value Hierarchy Level 1	Inputs based on observable market prices for identical assets or liabilities in active markets.	Uses quoted (unadjusted) market prices available at measurement date
Independent Variables	Fair Value Hierarchy Level 2	Inputs derived from observable market data other than quoted prices.	Includes directly or indirectly observable inputs
Independent Variables	Fair Value Hierarchy Level 3	Inputs based on unobservable estimates requiring management assumptions and valuation models.	Relies on internal estimates and model-based valuation techniques (IFRS 13, IASB, 2012)

Results and Discussion

Table 1: Descriptive Statistics of the Two Models

Statistics	Historical Cost Model	Fair Value Model
Observations	44	41
Mean of LOGPAT	9.6852	9.9332
Standard Deviation of LOGPAT	0.4199	0.3625
R-squared	0.2066	0.3339
Adjusted R-squared	0.1471	0.2799
Standard Error of Regression	0.3878	0.3076
F-statistic	3.4716	6.1834
Prob. (F-statistic)	0.0248	0.0016
Durbin-Watson Statistic	0.8333	0.9842

The comparative statistics indicate that the fair value model outperforms the historical cost model in terms of explanatory power, predictive accuracy, and overall model fit. This finding suggests that fair value accounting provides more informative and decision-useful measures of financial performance than historical cost accounting. The descriptive results indicate clear differences between the historical cost and fair value accounting models in explaining profitability. Under the historical cost model, the mean profitability (LOGPAT) is 9.6852 with a standard deviation of 0.4199, suggesting moderate variability in earnings among the sampled firms. The model explains about 20.66% of the variations in profitability ($R^2 = 0.2066$), which is relatively low, indicating that most changes in profit are driven by factors outside the model. Although the model is jointly significant based on the F-statistic ($p = 0.0248$), its explanatory strength remains limited, as reflected in the relatively higher standard error of regression and lower adjusted R^2 of 0.1471. The Durbin-Watson statistic of 0.8333 also suggests the presence of positive autocorrelation, implying potential inefficiency in the model specification.

In contrast, the fair value model shows improved statistical performance. The mean profitability is slightly higher at 9.9332, while the standard deviation is lower at 0.3625, indicating more stable earnings distribution across firms. The R^2 value increases to 0.3339, meaning that approximately 33.39% of the variation in profitability is explained by the explanatory variables, demonstrating stronger explanatory power compared to the historical cost model. The adjusted R^2 of 0.2799 further confirms better model fit after accounting for the number of predictors. In addition, the lower standard error of regression (0.3076) and improved information criteria values indicate greater accuracy and efficiency of the model. The F-statistic is highly significant ($p = 0.0016$), confirming strong joint influence of the explanatory variables on profitability. Although some serial correlation remains (DW = 0.9842), the overall results suggest improvement over the historical cost model. Overall, the fair value model provides a better statistical and economic explanation of profitability, indicating that it offers more reliable and relevant financial information for decision-making compared to the historical cost approach.

Table 2: OLS Regression Results under Historical Cost Accounting**Dependent Variable:** LOGPAT**Method:** Ordinary Least Squares (OLS)**Included Observations:** 44**Variable Coefficient Std. Error t-Statistic Probability**

C	3.718925	1.969579	1.888182	0.0663
LOGPPE	0.270549	0.211820	1.277259	0.2089
LOGFHP	-0.053233	0.222877	-0.238843	0.8124
LOGINV	0.385260	0.240967	1.598810	0.1177

Summary Statistics

Statistics	Value
R-squared	0.206581
Adjusted R-squared	0.147074
S.E. of Regression	0.387807
Sum Squared Residuals	6.015776
Log Likelihood	-18.65760
F-statistic	3.471569
Prob (F-statistic)	0.024773
Mean Dependent Variable	9.685206
S.D. of Dependent Variable	0.419914
Akaike Information Criterion	1.029891
Schwarz Criterion	1.192090
Hannan-Quinn Criterion	1.090042
Durbin-Watson Statistic	0.833342

Table 2 presents the OLS regression results under the historical cost accounting model. The coefficient of determination (R^2) is 0.2066, implying that approximately 20.66% of the variations in profitability (LOGPAT) are explained by property, plant and equipment (LOGPPE), fair value hierarchy proxies (LOGFHP), and inventory (LOGINV). The remaining 79.34% of the changes in profitability are attributable to other factors outside the model. The adjusted R^2 of 0.1471 indicates that after adjusting for the number of explanatory variables, about 14.71% of the variations in profitability are explained by the independent variables. The F-statistic of 3.4716 with a probability value of 0.0248 shows that the model is statistically significant at the 5% level, implying that the explanatory variables jointly influence profitability. The coefficient of LOGPPE is positive (0.2705), indicating that a 1% increase in property, plant and equipment increases profitability by approximately 0.27%. However, the relationship is statistically insignificant ($p = 0.2089$). Similarly, inventory (LOGINV) exhibits a positive coefficient (0.3853), suggesting a positive relationship with profitability, although the effect is not statistically significant ($p = 0.1177$). The coefficient of LOGFHP is negative (-0.0532), indicating an inverse relationship between fair value hierarchy measures and profitability under the historical cost model. Nevertheless, the effect is statistically insignificant ($p = 0.8124$). The Durbin-Watson statistic of 0.8333 suggests the presence of positive serial correlation among the residuals.

Table 3: OLS Regression Results under Fair Value Accounting**Dependent Variable:** LOGPAT**Method:** Ordinary Least Squares (OLS)**Included Observations:** 41

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	7.978948	1.179225	6.766265	0.0000
LOGPPE	0.116267	0.163111	0.712805	0.4804
LOGFHP	0.444721	0.230637	1.928232	0.0615
LOGINVE	-0.364293	0.158452	-2.299070	0.0272

Summary Statistics

Statistics	Value
R-squared	0.333936
Adjusted R-squared	0.279931
S.E. of Regression	0.307594
Sum Squared Residuals	3.500729
Log Likelihood	-7.734162
F-statistic	6.183401
Prob (F-statistic)	0.001630
Mean Dependent Variable	9.933197
S.D. of Dependent Variable	0.362486
Akaike Information Criterion	0.572398
Schwarz Criterion	0.739576
Hannan-Quinn Criterion	0.633275
Durbin-Watson Statistic	0.984215

Table 3 presents the OLS regression results under the fair value accounting model. The R^2 value of 0.3339 indicates that approximately 33.39% of the variations in profitability are explained by the independent variables. This explanatory power is higher than that of the historical cost model, suggesting that fair value accounting provides better explanatory information regarding profitability. The adjusted R^2 value of 0.2799 indicates that about 27.99% of the variations in profitability are explained by the model after adjusting for the number of explanatory variables. The F-statistic of 6.1834 and its probability value of 0.0016 reveal that the model is highly significant, implying that the explanatory variables jointly affect profitability. Property, plant and equipment (LOGPPE) has a positive coefficient of 0.1163, indicating a positive relationship with profitability, although the relationship is statistically insignificant ($p = 0.4804$).

The coefficient of LOGFHP is positive (0.4447) and significant at the 10% level ($p = 0.0615$), suggesting that increases in fair value measurements are associated with improvements in profitability. Inventory valuation (LOGINVE) has a negative coefficient of -0.3643 and is statistically significant at the 5% level ($p = 0.0272$). This implies that increases in inventory valuation under the fair value model significantly reduce profitability. The Durbin-Watson statistic of 0.9842 indicates the existence of positive autocorrelation in the residuals.

Comparative Summary of the Two Models

Statistics	Historical Cost Model	Fair Value Model
Observations	44	41
R-squared	0.2066	0.3339
Adjusted R-squared	0.1471	0.2799
F-statistic	3.4716	6.1834
Prob (F-statistic)	0.0248	0.0016
S.E. of Regression	0.3878	0.3076
Durbin-Watson Statistic	0.8333	0.9842

The fair value model outperforms the historical cost model in terms of explanatory power and overall significance. Specifically, the fair value model explains a larger proportion of variations in profitability and identifies inventory valuation as a significant determinant of profit after tax. This suggests that fair value accounting provides more relevant information for assessing corporate profitability and enhances the usefulness of financial reporting for decision-making.

Test of Hypotheses

The hypotheses of the study were tested using the probability values (p-values) of the regression coefficients at a 5% level of significance. The decision rule states that the null hypothesis should be rejected if the p-value is less than 0.05 and accepted if the p-value is greater than 0.05.

Under the historical cost accounting model, the results indicate that property, plant and equipment (LOGPPE) has a p-value of 0.2089, fair value hierarchy proxies (LOGFHP) have a p-value of 0.8124, and inventory (LOGINV) has a p-value of 0.1177. Since all the p-values exceed the 5% significance level, the study accepts the null hypotheses and concludes that these variables do not have a statistically significant individual effect on profitability (LOGPAT) under the historical cost model.

Conversely, under the fair value accounting model, property, plant and equipment (LOGPPE) remains statistically insignificant with a p-value of 0.4804, leading to the acceptance of the null hypothesis. However, the fair value hierarchy measure (LOGFHP) is significant at the 10% level with a p-value of 0.0615, suggesting a moderate positive effect on profitability. Furthermore, inventory valuation (LOGINVE) has a p-value of 0.0272, which is below the 5% significance threshold, resulting in the rejection of the null hypothesis and indicating that inventory valuation significantly affects profitability.

Generally, the findings demonstrate that the fair value model provides stronger empirical evidence than the historical cost model, as it identifies significant relationships between some asset valuation measures and profitability. This suggests that fair value accounting offers more relevant information for explaining corporate financial performance and supports its usefulness in financial reporting and decision-making.

Discussion of Findings

The findings of this study reveal that fair value accounting provides a stronger explanation of corporate profitability than the historical cost accounting model. Under the historical cost model, the explanatory variables jointly accounted for only 20.66% of the variations in profitability, whereas the fair value model explained 33.39% of the variations in profit after tax. This suggests that fair value accounting captures more relevant economic information and provides a better representation of firms' financial performance. The finding that the fair value model outperforms the historical cost model is consistent with the study of Balogun (2015), which established that there are significant differences between assets valued

under fair value and those measured using historical cost. The present study similarly demonstrates that the choice of valuation method materially affects the information content and explanatory power of financial statements. The study also found that property, plant and equipment (PPE) exerted a positive but statistically insignificant effect on profitability under both accounting regimes. This finding supports the work of Akwu et al. (2017), who reported that IFRS fair value and historical cost conventions had only a modest impact on profitability. It implies that merely increasing the value of fixed assets does not necessarily translate into improved earnings unless such assets are efficiently utilized.

Furthermore, the positive relationship between fair value hierarchy measures and profitability under the fair value model corroborates the findings of Barth and Landsman (2018) and Ibidunni and Okere (2019). These studies argued that fair value measurements provide useful and reliable information for investment and decision-making purposes. The positive coefficient of the fair value variable in this study suggests that fair value reporting enhances the relevance and usefulness of accounting information. However, the study found that inventory valuation under the fair value model significantly and negatively affects profitability. This result may be attributed to the volatility associated with fair value adjustments and the recognition of impairment losses. The finding partially supports Osho and Ajetunmobi (2018), who concluded that the adoption of fair value accounting increased fluctuations in reported earnings compared with the historical cost regime.

The findings also align partially with Chukwu and Akpeken (2019), who found that fair value accounting positively and significantly affects financial performance. Although the present study confirms the superior explanatory power of fair value accounting, it also demonstrates that some fair value measurements, particularly inventory valuation, may adversely affect profitability. Moreover, the result differs from Abiahu et al. (2020), who found that fair value reporting does not significantly influence profitability but significantly affects firm value. The difference in findings may arise from differences in sectors, sample periods, and the variables employed in the respective studies. In all, the evidence from this study suggests that fair value accounting provides more relevant information for assessing financial performance than historical cost accounting, notwithstanding the volatility and measurement challenges associated with some asset categories.

Conclusion

This study examined the effect of fair value accounting and historical cost accounting on the profitability of firms. The empirical results indicate that the fair value model has greater explanatory power and better model fit than the historical cost model. While none of the individual variables under the historical cost model significantly affected profitability, the fair value model identified fair value measurements and inventory valuation as important determinants of financial performance. The findings imply that fair value accounting provides more relevant and decision-useful information because it reflects current market conditions and economic realities more effectively than historical cost accounting. However, the results also reveal that certain fair value adjustments, particularly inventory valuation, may introduce volatility and adversely affect reported earnings. Consequently, although fair value accounting enhances the relevance of financial information, its application requires careful implementation and robust valuation techniques to ensure reliability and comparability.

Recommendations

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

1. Companies should strengthen the adoption and application of fair value accounting practices because fair value measurements provide more relevant and informative data for evaluating financial performance and making investment decisions.

2. Regulatory authorities and standard setters should issue clearer valuation guidelines and enhance monitoring mechanisms to ensure that fair value measurements, particularly for inventory and Level 3 assets, are reliable, transparent, and free from managerial bias.
3. Corporate managers should improve asset management and valuation procedures, especially in relation to inventory valuation, to minimize earnings volatility and ensure that fair value adjustments contribute positively to profitability and the quality of financial reporting.

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