

# Effect Of Fair Value And Historical Cost Measurement On The Financial Performance Of Manufacturing Firms In Nigeria

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## ABSTRACT

For decades, policymakers and professional experts have debated over the relative merits of Fair Value Accounting and the quality of the information that it provides to investors and other key users of financial statements as against the traditional historical cost method, in terms of adequacy of information disclosure. The objective of this study is to examine the differential effect of fair value accounting and historical cost measurements on firm value and financial performance of manufacturing companies in Nigeria. Data was collected from ten companies' financial statements from 2005-2014, to measure ROE, ROA and TOTAL ASSETS which are proxies for firm value and financial performance. Data were analyzed using t- test statistic. Results show that fair value measurement increases asset value and equity of a company, thereby guarding against unnecessary erosion caused by overstating profit under the HCA, while ROE and ROA do not significantly differ under the two measurement approaches. The study recommends that more policy (practical approach than paper principles) may be easier, while the need for fair value measurement to be extended to other aspect of income statement than limiting it to balance sheet items may equally be sufficient in measuring performance.

**Keywords:** fair value, exit /entry price, principal and active markets.

## 1.1 INTRODUCTION

Over the years, the role of accounting policies, valuation techniques and approaches in sustaining corporate entities, partnerships, joint ventures, small and medium scale businesses have been underscored by the attention it has enjoyed even in recent literature. The quest for qualitative, reliable accounting and financial reporting remains a fundamental issue of concern for firms and users of financial statements whose economic decision is informed by the available financial information at their disposal (Bessong, 2012).

Firms employ different accounting techniques and approaches in preparing and presenting financial statements and valuing their assets and liabilities. These approaches have considerable bearing and impact on the financial and nonfinancial data, which ordinarily such impact may not be considered or known by the users of such

information except where proper disclosure is made.

This study examined two accounting treatments, (fair value and historical cost measurements) and their effects on firm value and financial performance in the manufacturing industry.

Fair value is the estimate of prices at which the positions firms currently hold would change hands in orderly transactions based on current information and conditions. It is the amount for which an asset could be exchanged or a liability settled, between knowledgeable, willing parties in an arm's length transaction. It is a market-based measurement, not an entity-specific measurement. As such, management's intended use of an asset, or planned method of settling a liability, are not relevant when measuring fair value. Instead, the fair value of an asset or liability should be determined based on a hypothetical transaction at

the measurement date, considered from the perspective of a market participant.

Fair value accounting (FVA) focuses on the practice of updating the valuation of assets or securities of an organization on a regular basis, ideally by reference to current prices for similar assets or securities established in the context of a liquid market. The rationale for this requirement is that market prices should reflect all publicly available information about future cash flows, including investors' private information that is revealed through their trading, as well as current risk-adjusted discount rates (Enaharo, 2013).

IFRS 13 on fair value measurements does not establish the unit of account to be used, but instead requires inputs to valuation techniques to be consistent with the characteristics of the asset or liability that market participants would take into account when setting a price.

Fair value measurement is a reflection of market prices with publicly available needed information on a firm cash flows, investors' private information through trading which historical cost does not accommodate. Similarly, under fair value measurement prices reflect current market realities; often obtain through arms length bargain and not force liquidation process or distress sales.

### 1.1.1 Statement of the Problems

The historical cost principle, which is the traditional reporting method, does not accommodate changes in market realities. For instance, selling price is stated at current price while the cost of assets used in generating the sales are stated at historical cost "acquisition cost". This results in overstatement of profit leading to overpayment of tax and dividend (Rindu, 2015).

Financial statements reported under historical cost measurement results in eroding shareholders capital. The implication is that as more profit is declared due historical cost measurement, the more the owners' capital is eroded, which usually result in huge dividends and higher tax payment. This in turn gives an opaque picture of the firm's financial standing and a window dressed returns on equity shareholders (Ming-Chin-Chen, Shu-Ju Chen and Yuhchang, 2012).

The historical cost measurement does not provide for any feasible measures, changing prices during inflation. Changes in prices pose threat to assets replacements and capital maintenance. For example, depreciation charged as provision for replacement, such amount is usually inadequate to meet up because of increased price over the period.

Historical cost measurement approach reduces the operating ability of the company's assets and does not maintain the capital of the firm, because dividends, taxes and depreciation are based on profits measured by sales (which are at current values) less costs of sales and expenses measured on historical cost values (Bessong& Charles 2012). The historical cost principle tends to manifest inadequate results in periods of rising prices.

The study therefore investigated whether the accounting treatments (fair value and historical measurements) applied in this study had any impact in addressing the above problems.

### 1.1.2 Objective of the Study

The general objective of this work is to assess the differential effect of fair value and historical cost measurements on firm value and financial performance. The specific objectives include:

1. To determine whether there is a difference between fair value return on equity and ROE reported at historical cost accounting.
2. To examine if fair value return on assets significantly differ from return on assets reported at historical cost accounting.
3. To determine whether total assets reported at fair value measurement differ from those reported at historical cost accounting.

### 1.1.3 Research Questions

In order to achieve the objective of this research work, the following questions were addressed:

1. What difference exists between return on equity reported at fair value and historical cost?
2. How does fair value return on assets differ from that reported under the historical cost?
3. To what extent do total assets measured at fair value differ from those reported at historical cost accounting?

### 1.1.4 Research Hypothesis

In order to achieve the objectives of this study, the following hypotheses were tested.

**H<sub>0</sub>:** There is no significant difference between return on equity (ROE) measured at fair value from historical cost.

**H<sub>02</sub>:** Fair value return on assets does not significantly differ from return on assets (ROA) measured at historical cost.

**H<sub>03</sub>:** Total assets measured at fair value do not significantly differ from historical cost method of valuation.

### 1.1.6 Scope and Limitation of the Study

The focus of this research work is to examine the differential effect which fair value and historical cost measurements have on firm's value and financial performance in the manufacturing industry. This is because the industry plays an important role and contributes a larger portion to the Gross Domestic Product (GDP) in the Nigerian economy (Abubakar and Kemjika, 2007). Furthermore, the manufacturing sector has the largest portion of assets both current and noncurrent assets, making it convenient and suitable for this work. Lastly, key industry financial indicators which this work considered important are properly disclosed in their financial statements. The study covered a period of ten (10) years, 2005-2014.

## **1.2 LITERATURE REVIEW**

### **1.2.1. Firm Value**

Firm value is a reflection of the company's market price, and is a price to pay when the company experiences take over, and includes total net worth, or market value (Rindu, 2015). A company's firm value depends on its accounting policies which includes the basis of charging depreciation, method of valuation (which is based on the use of accounting valuation technique suitable for investment purposes), and information disclosure.

IFRS 5, noncurrent assets and liabilities, states that firms should ensure proper information disclosure on individual assets, and do yearly impairment in order to ascertain at each period end, the true value of their assets. Assets impairment is a basis for improving firm value (Ahmed 2013).

According to Ahmed (2013), three main elements of the organization, which include human capital, structural capital, costumer / relational capital related to knowledge and technology that can deliver more value to the company, and form basis for organizational competitive advantage. Tom (2009) observed that the use of historical cost for assets valuation over the years has created a deviation in the book value of a firm, after assessing the U.S companies listed in the S&P 500.

According to Zwaan (2011), observed that when a firm faces financial crisis, for instance a rise in the lending and borrowing interest rates, its expectations of future income become less attractive to investors who want to buy shares. In addition, when interest rates increase, the present discounted value of future income will be lower, and this will also make shares less attractive. The fact that shares become less attractive will result in a lower demand which will in turn lead to a lower

price and consequently a lower market value of the firm.

### **1.2.2 Capital structure, Financial Performance and Firm value**

Financial constraints have been a major factor affecting corporate firms' performance in developing countries especially Nigeria. The basis for the determination of optimal capital structure of corporate sectors in Nigeria is the widening and deepening of various financial markets. Mainly, the corporate sector is characterized by a large number of firms operating in a largely deregulated and increasingly competitive environment. Alfred (2007) suggested that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity capital. Therefore, a firm's capital structure simply refers to the combination of long-term debt and equity financing.

However, whether or not an optimal capital structure exists in relation to firm value, is one of the most important and complex issues in corporate finance.

The macroeconomic environment has not been conducive for business while both monetary and fiscal policies of government have not been stable. For example, the high interest rate implies that costs of borrowing usually is unbearable in organized financial market, thus increased the cost of operations. This causes unfavorable balance of payment especially when domestic demand for foreign goods increase, which can also, lead to high volatility of the exchange rate system thereby rendering business in Nigeria uncompetitive, especially given high cost of borrowing and massive depreciation of Naira, which culminates to increasing rate of inflation in Nigeria.

Rindu (2015), while citing Vishnany and Shah (2008) proved that the ratios derived from financial statements have a significant relationship with stock market indicators, meaning that information from financial statements still have a value relevant for investors in decision-making and can explain the size of the stock market. Several other studies found that the structure of financial risks and earnings smoothing have effect on firm value.

### **1.2.1.3 Financial Policy and Its Effect on firm Value and performance**

The company's main goal is to enhance corporate value by increasing the prosperity of the investors or shareholders. The higher the value of the company the greater the prosperity that will be received by the owner of the company or the investors (Rindu, 2015) as cited by Haruman (2007). To increase the value of the company which also means prosperity for investors, managers try to maximize the welfare of investors by making financial decisions and policies, investment decisions, and dividend policy that will be maximized by investors.

Capital structure, preferred stock and common equity are mostly used by firms to raise needed funds; capital structure policy seeks a trade-off between risk and expected return. The firm must consider its business risk, tax positions, financial flexibility and managerial conservatism or aggressiveness, while these factors are crucial in determining the target capital structure, operating conditions may cause the actual capital structure to differ from the optimal capital structure.

A critical decision for any business organization is a decision for an appropriate capital structure; the decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment. The prevailing argument, originally developed by Modigliani and Miller (1958), is that an optimal capital structure exists which balances the risk of bankruptcy with the tax savings of debt. Once established, this capital structure should provide greater returns to stock holders than they would receive from an all-equity firm.

### **1.2.1.5 Fair Value Measurement (U.S GAAP)**

Fair value continues to be an important measurement basis in financial reporting. It provides information about what an entity might realize if it sold an asset or might pay to transfer a liability. Determining fair value often requires a variety of assumptions, as well as significant judgment. Thus, investors desire timely and transparent information about how fair value is measured, its impact on current financial statements, and its potential to impact future periods (pwc, 2015).

However, Price water house Coopers LLP (PWC, 2015) on its Fair value measurements— 2015 global edition represented the efforts and ideas of many individuals within Pwc. Having reviewed several papers and publications, do not agree that the fair value measurement of quoted investments in subsidiaries, joint ventures and associates should

be the product of the quoted price multiplied by the quantity of financial instruments held without adjustments.

### **1.2.1.6 IFRS 13 on Fair Value Measurement**

Both U.S GAAP and IFRS (fair value standards), recognizes a liability's fair value to be based on the amount that would be paid to transfer that liability to another entity with the same credit standing. The transfer concept assumes the liability continues after the hypothetical transaction; it is not settled. The valuation of a liability should incorporate nonperformance risk, which represents the risk that a liability will not be paid. Nonperformance risk includes the impact of a reporting entity's own credit standing.

Credit risk, as with other valuation inputs, should be based on assumptions from the perspective of a market participant. If there is no market for the liability, but it is held by another party as an asset, the liability should be valued using the assumptions of market participants that hold the asset, assuming the holders have access to the same market. Priority is given to quoted prices (for the same or similar liability held as an asset in active or inactive markets).

### **Disclosure Requirements for Financial Assets**

IFRS 13 establishes a fair value hierarchy that categorizes financial assets disclosure into three levels in order to increase consistency and comparability in fair value reporting.

According to IASB (2012) on IFRS 13, the three-level fair value hierarchy includes:

**1<sup>st</sup> Tier Level Input:** The first level inputs are fully observable such as the unadjusted quoted prices in an active market for identical assets and liabilities that the entity can access at the measurement date. This is the simplest case in which a firm can find the price or value of an instrument in a newspaper or other quotation system. These prices typically reflect the last price reported to the secondary market (IFRS 13:76).

A quoted market price in an active market provides the most reliable evidence of fair value and is used without adjustment to measure fair value whenever available, with limited exceptions (IFRS 13:77).

If an entity holds a position in a single asset or liability and the asset or liability is traded in an active market, the fair value of the asset or liability is measured within Level 1 as the product of the quoted price for the individual asset or liability and the quantity held by the entity, even if the market's normal daily trading volume is not sufficient to

absorb the quantity held and placing orders to sell the position in a single transaction might affect the quoted price (IFRS 13:80).

**2<sup>nd</sup> Tier Level Input:** Are those other than quoted prices within first level that are directly or indirectly observable. In this case, some estimation is often required to determine fair value. Firms use valuation models that take into account a variety of relevant data, such as current economic forecasts, general market conditions and the price of similar financial instruments. For example, corporate bonds typically trade in a well-defined range over Treasury securities of a similar maturity. Contemporaneous transaction prices in such instruments will generally be very helpful in estimating the fair value of similar securities. In most cases, some verifiable market data exists to bolster the objective determination of fair value through modeling (IFRS 13:81).

For instance, interest rates and yield curves observable at commonly quoted intervals, credit spreads, and inputs that are derived principally from or corroborated by observable market data by correlation or other means ('market-corroborated inputs').

**3<sup>rd</sup> Tier Level Input:** Inputs are unobservable, and estimates are based on some form of valuation model that requires the use of unobservable inputs or management assumptions. Firms rely primarily on judgment only for the very complex instruments where market parameters and prices do not exist (IFRS 13:86)

Level 3 inputs are used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. An entity develops unobservable inputs using the best information available in the circumstances, which might include the entity's own data, taking into account all information about market participant assumptions that is reasonably available (IFRS 13:87-89).

### **Disclosure Requirements for Non-Financial Assets**

IFRS 13 requires the fair value of a non-financial asset to be measured based on its highest and best use (HBU) from a market participant's perspective. This requirement does not apply to financial instruments, liabilities or equity.

The specific inclusion of HBU has resulted in a convergence of IFRS with valuation standards and practices.

IFRS 13.28 states that HBU of a non-financial asset takes into account the use of the asset that is

physically possible, legally permissible, and financially feasible, as follows:

(a) A use that is physically possible takes into account the physical characteristics of the asset that market participants would take into account when pricing the asset (e.g. the location or size of a property)

(b) A use that is legally permissible takes into account any legal restrictions on the use of the asset that market participants would take into account when pricing the asset (e.g. the zoning regulations applicable to a property)

(c) A use that is financially feasible takes into account whether a use of the asset that is physically possible and legally permissible generates adequate income or cash flows (taking into account the costs of converting the asset to that use) to produce an investment return that market participants would require from an investment in that asset put to that use.

HBU is determined from the perspective of market participants (IFRS 13.29). Therefore, the intentions and the use of the non-financial asset by the reporting entity are irrelevant in determining fair value.

## **1.2.2 Theoretical Frame Work**

### **Firm Value Theory**

This theory was first proposed by Modigliani and Miller in 1958 regarding capital structure and corporate value, stating that if there is no tax, then the value of levered firms (firms that have debt) is equal to the value of unlevered firms (firms that have no debt). If there is a tax, then the company has a debt to pay less tax, so companies that have debt will be more valuable to investors than the same company with no debt. So, with the tax then levered firm is more valuable than the unlevered firm. Based on the literature, the measurement of company's value can be obtained through: (1) Tobin's q: Market value of equities / Book value of equities, (2) Price Book Value (PBV) which is the value assigned to the management of financial markets and corporate organizations as a company that continues to grow, (Andri and Hanung, 2007), (3) Enterprise Value = market value + debt - cash, (4) The present value of cash flow, (5) Free Cash Flow to the Firm = after-tax operating income - reinvestment needs. Q-Ratio is a more carefully measure about how effective management in utilizing economic resources in his power. Q Tobin's ratio measures the company's market value in connection with the replacement cost of the asset. Value of ratio greater than 1 indicates that the

company's assets can be bought cheaper than the company itself, meaning a higher market rate companies (overvaluation). If Q ratio is lower than 1, it indicates that the market rate is lower (undervaluation).

### 1.2.3 Empirical Review

The researcher will review a number of empirical works on firm value, financial performance and corporate policy measures which management put in place for effective performance.

Ewert and Wagenhofer (2005) investigated the empirical analysis of fair value on financial instruments of lending banks, using banks shares, treasury notes and loans as data from 1999-2004. They analyzed the data using regression, and find that managerial discretion allows corporate managers to provide informative signals by which they impart their knowledge to shareholders and outside investors.

In their findings, they equally observed that institutional factors favor the usefulness of fair value accounting for goodwill.

Pacter, (2007) in the same vain while surveying the practical impact of fair value application on financial performance of developing economies, uses field survey method of data collection. In his analysis using both regression and ranked correlation techniques, identified some of the fundamental challenges which pose difficulty in the application of fair value measurement in Nigeria, and include: inactive markets, high cost, shortage of valuation experts, weak regulatory environment, and lack of valuation standard/guidance and government interference of markets. He recommends consistent revaluation of assets by firms and periodic assets impairments measurement in order to sustain a standard approach to fair value.

Allen and Carletti (2008), examined a possible mechanism for generating distorted fair values, having developed a model of the banking and insurance sectors which measured sensitivity to market price changes and contagion between sectors within a period of five years 2002-2007. They find that, when assets are measured at fair value during periods of liquidity stress or crisis, the amount of liquidity in the market determines asset prices - rather than the expected future cash flows of assets. Thus, during an escalating crisis, equity can rapidly shrink due to market liquidity shortages and resulting declines in asset prices. Complex and long-dated assets are particularly susceptible to illiquidity, as many of these assets trade in over-the-counter or very thin markets. They conclude

that fair value reporting using obsolete/long dated assets do not reflect market realities and usually does not favor the fair market value of such assets.

Effionget, al (2011) investigated the correlation and differential influence of historical cost and current cost profits on the operating capabilities of the firm within the period 2001-2005. They used financial statements of thirty-one Nigerian Companies and adjusted for effects of price changes using the Consumers' Price Index (CPI). Correlation influence between the historical cost profits on the operating ability of the firm was measured and established on one hand and that of current cost profit on the other hand. Differential impacts of the method of profit measurement on the operating capability of the firm was equally measured and established. The weighted value of students' distribution - t, was used in analyzing the data. HC reveals a correlation which is materially significant between profits and operating ability of the firm. Equally, the F-test result reveals substantial differential impacts of profits measured on historical and current cost bases on the operating ability of the firm during periods of rising prices.

They conclude that operating ability of the firm is significantly influenced by the reported profit. In other words, the profits declared and distributed will, to a greater extent, increase or reduce the operating capabilities and operational capacity of the firm.

Okafor (2012), while exploring the contribution of fair value measurement, evidence from Nigeria and other developing economies, use questionnaire in sampling his findings. He analyze data using regression and finds that fair value accounting is more useful in reporting financial statements than other valuation approaches because it provides greater information disclosures to users concerning fair value of their investments. But pointed out that there is need for more awareness in the part of auditors so as to minimize inappropriateness in the use of the technique.

Ijeoma (2013), assess the impact of fair value measurement on financial instrument of firms in Nigeria, using a field survey of 188 persons drawn from the financial institutions. She analyzed the data using multiple regression, and in her findings, observed that the implementation of Fair Value measurements gives sufficient precision in assessing firm's financial position and earning potential. She also observed that the possibility of measurement errors in financial instrument measured on Fair Value basis was high. Fair value reflects current information about future cash flows

and current risk adjusted discount rates. Hence, it can be concluded that Fair value is the best reflection of the expected future cash flow as it predicts the ability of the entity to take advantage of opportunities or to react to adverse situations. They recommend that for fair value accounting to be beneficial in Nigeria there should be vigorous policing and enforcement of punitive actions against insider abuse and other forms of market manipulation. Also, there should be clearly enforceable standards as well as an effective enforcement framework fines and disciplinary records should be announced and made publicly available to serve as a deterrent to operators.

According to Bessonget al (2012), while examining the comparative analysis of fair value accounting and historical cost measurement on the reported profits of manufacturing firms in Nigeria, using reported profit as a dependent variable, while depreciation (DEP), tax (TAX) and dividend (DIV) as independent variables. They analyzed their work using multiple regression technique to measure the relationship between the dependent and the independent variables. They observed that the regression parameters have negative signs, indicating that reported profit is negatively influenced by depreciation (DEP), taxes (TAX) and dividend (DIV). This means that an increase in the independent variables will bring about a decrease in the dependent variable, reported profit. Their study also reveals that both historical cost and fair-value accounting have significant effect on reported profit, they concluded that the amount calculated as depreciation, charged as taxes and paid as dividends greatly influence the operating profit of the company. This simply means that the method of accounting valuation used in profit measurement will greatly influence the amount charged as taxes, depreciation and dividend on the profit of the company. The study recommends that companies should prepare their financial report using both historical cost and fair-value methods simultaneously to allow the companies to know the true financial position of their companies before declaring dividend and other benefits and conclude by stating that historical cost accounting (HCA) is inadequate for accounting during price level changes. Supporting his assertions, he states that financial statements prepared with the historical cost concept have always been apparently defective and fails to reflect the effect of changing price level. Current net book value of fixed assets is substantially undervalued and disclosure in the balance sheet remains at unrealistic values. Profit and loss account does not bear proper charges particularly for depreciation and cost of material

consumed. Pointing out that HCA may significantly understate the current economic value of the resources being consumed in the period of consistent rise in price.

Zwaan (2011) assessed the effects of a crisis on fair value and historical measurements on firm value evidence from total goodwill write-offs using data from US companies selecting two different periods, 1989-1994 and 2005-2010 respectively. They focused on value relevance of goodwill measured both at fair value and historical cost valuations, using market value (MV), as dependent variable, book value of equity (BVEGW), net income of period excluding impairment (NIPGWI) and reported net of tax goodwill impairment (GWTI) as independent variables. He used Pearson correlation matrix and regression to analyze the data. The results under the correlation model show that goodwill amortization and the crisis period were significantly and positively correlated, implying that in times of crisis, relative goodwill impairments are larger for a company reporting under fair value accounting. While managers who have associations with big bath reporting behavior, report larger goodwill impairments. Other correlations did not significantly differ from zero.

Results of the regression model indicates that the crisis is not significant, meaning that it has no effect on goodwill amortization unlike the control variables, which shows that a positive relationship exist between managers who are associated with big bath reporting behavior and report larger goodwill impairment under the fair value measurements as earlier predicted. During both the crisis and non crisis period, goodwill impairments appear to be small under historical cost as indicated in all the other variables, which falls within the apriori expectation.

The overall findings show that goodwill is positively significant in improving firm value under fair value measurement because it gives signals during crisis period on risk in investments and enable management to take precautionary measures. .

### **1.3 Methodology**

#### **1.3.1 Research Design**

This study appraised the differential effect of fair value and historical cost accounting on firm value and financial performance in the manufacturing sector spanning over a period of ten (10) years 2005-2014. The research design adopted for the study is ex-post facto research design. This choice of research design is because the data was collected

at a particular point in time from the sampled financial reports of the companies.

This according to Ogolo (1996), ex-post factor research design can be best applied where there are already existing data collected systematically, without the temptation of maneuvering or random selection.

### 1.3.3 Population of Study/sample size

This research studied 100 manufacturing firms in Nigeria as quoted in the first tier stock market on the Nigerian stock exchange, 2014 and whose financial reporting policies comply with the recent International Financial Reporting Standards (IFRSs), as adopted Jan. 1, 2012. Therefore, firms incorporated after this date is not included in the population.

Ten manufacturing companies in the first tier stock market were randomly selected on the basis of industry classification. Size, growth in investment, diversification and geographical coverage were used as parameters in selecting the sample of this study (Hanny, Alcino and Guney, 2013).

Also, the selection of this sample was further justified by the works of Balsely and Clover (1988), as cited by Bessong and Charles (2012) that 10 percent sample size of a known population is adequate in research studies. Ogolo

(1996), corroborates this when he postulates, that where a population is known, at least 10 percent of it constitutes a researchable sample size.

### 1.3.5 Sources of Data

Historical financial statements and related reports which include data from NSE filings, statistical reports, CBN bulletin and fair value researches in form of journals and other publications relevant to this work was collected and reviewed. Data of firms listed on the NSE are relied upon because these firms are mandated to make their information public and this is a solution to the problem of paucity of data in a country like Nigeria.

Data on firm value included total assets, while Proxies on financial performance were Return On Equity (ROE), and Return On Assets (ROA) respectively. Related literatures from other institutions were also reviewed for purposes of providing reliable academic work.

### 1.3.6 Fair Value Estimate

This research adopted the standard residual income valuation method of estimating fair value data by Nissim (2008). This approach estimates fair value of a company's equity, assets and residual income.

### 1.3.7 Measurement/Description of Variables

Three hypotheses were formulated and tested for the purpose of establishing the differential effect between fair value and historical cost measurements on firm value and financial performance. Firm value was represented by total assets, while performance by return on equity and return on assets both of which was based on the two measurement approaches (fair value and historical cost measurements).

Data on firm value were the companies' total assets ( $T_A$ ) from the historical annual financial reports for the period under review, while fair value assets were re-stated using the fair value estimation model adopted from the works of Pennman (2008), Bessong (2012). Financial performance proxies were return on assets and return on equity (ROA & ROE) extracted from the annual reports (some) and those computed by the researcher respectively.

Total assets included current and noncurrent balance sheet items. While return on assets was computed as profit after tax scaled by the firm's total assets, while return on equity was computed as profit after tax scaled by total equity.

**ROE** = return on investment (firm's performance variable) which can be measured as net profit after tax divided by shareholders fund (equity).

**ROA** = return on assets (firm's performance variable) which can be measured as net profit after tax divided by total asset.

### 1.3.8 Data Analysis Technique

Descriptive t-statistic was used to determine both the mean and standard deviation of the parameters (the result was test run using SPSS).

A t-test is a statistical tool used to determine if two sets of data are significantly different from each other, and is most commonly applied when the test statistic followed a normal distribution where the value or the data collected for the analysis are not randomly selected (William Sealy Gosset, 1908).

### 1.4. Presentation of Data

This chapter focuses on the presentation, analysis/interpretation and discussion of results. It is divided into two major parts. The first part comprises the descriptive analysis; the second is the inferential analysis. The data were on the key variables: return on equity (ROE), return on assets (ROA), and total assets (TA) respectively.

### 1.4.1 Analysis and Interpretation of results

#### Descriptive Statistics



This section presents the descriptive analysis of the project. The descriptive statistics of variables cover

minimum, maximum, mean and standard deviation.

**Table A : Descriptive statistics**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Stat	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
FRIO	10	836.00	123326.00	38569.1000	39305.44683	1.512	.687	1.583	1.334
FROA	10	.95	51.00	21.8750	17.33117	.466	-	-	1.334
FROE	10	.90	53.70	28.7070	19.56529	.089	.687	.687	-1.261
FVA	10	73547.00	299066.00	208746.2000	93673.28360	-.556	.687	-1.623	1.334
FVE	10	46847.00	229537.00	119086.8000	60370.56451	.768	.687	-.458	1.334
HBV	10	11032.00	112354.00	54805.1000	34477.38693	.200	.687	-1.053	1.334
HPAT	10	659.00	43087.00	15384.4000	15624.04390	1.178	.687	.247	1.334
HROA	10	3.20	18.50	8.8700	4.97796	.978	.687	-.228	1.334
HROE	10	3.20	100.90	27.7100	27.94445	2.304	.687	6.174	1.334
HTA	10	11032.00	294326.00	144464.6000	95411.78655	.115	.687	-1.225	1.334
T/O	10	69172.00	268614.00	155687.3000	72089.14040	.582	.687	-1.337	1.334

**Source:** researcher's computation 2015.

The descriptive statistics of the parameters are shown in Table A. The mean value, standard deviation, minimum values, maximum value, skewness and kurtosis were recorded. The mean value of FRIO, FROA, FROE, FVA, FVE, HBV, HPAT, HROA, HROE, HTA and Turnover were recorded as 38569.1, 21.875, 28.7070, 208746.2, 119086.8, 54805.1, 15384.4, 8.87, 27.71, 144464.6, and 155687.3 respectively. The deviation from the mean values were recorded as the Std deviations. The skewness indicates the degree of asymmetry or departure from symmetry of the distribution. The positively skewed values mean that majority of the values are less than the mean value while the negatively skewed value means that majority of the values are greater than

the mean. The Kurtosis indicates the degree of the peakedness of the distribution.

#### 1.4.2. Interpretation of Inferential Statistics Result

The tables below summarize the results of paired test analyses among the variables. This exercise serves two important purposes. First is to determine whether there is any difference between ROE, ROA and TA measured at fair value and historical cost accounting. Secondly, to determine the level of significance in the differential effect between these variables measured at both fair value and historical cost accounting.

**HYPOTHESIS 1 Test of significant difference between return on equity measured at fair value from historical cost.**

**Table B: Paired Samples Statistics**

Variables	Mean	N	Std. Deviation	Std. Error Mean
Fair Value ROE	28.7070	10	19.56529	6.18709
Historical cost ROE	27.7100	10	27.94445	8.83681

**Source:** researcher's computation 2015.

The mean value and the standard deviation of the fair value and the historical cost on return on equity are shown in Table 4.1.2 above. The mean value and standard deviation of the fair value on return

on equity were recorded as 28.7070 and 19.56529 respectively. Also the mean value and the standard deviation of the historical cost on return on equity are given as 27.71 and 27.94445 respectively.

**Table C: Paired Samples Test**

Variables	Paired Differences	T	Df
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	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)
				Lower	Upper			
FV ROE HC ROE	.99700	39.83149	12.59582	-27.49673	29.49073	.079	9	.939

Source: researcher’s computation, 2015.

Table C, above gives the result of the pair samples t-test. The table shows the mean difference between the two conditions, the standard deviation and standard error associated with that difference. The mean difference is recorded as 0.997 and standard deviation as 39.83149 with standard error as 12.59582. The table also displayed the 95% confidence interval for the difference between the mean. The confidence interval indicates that on 95% of occasions, the difference between the two conditions would be somewhere between - 27.49673 and 29.49073.

The pair samples test for equality of the mean has the t- value recorded as t = 0.079 and Sig (2 tailed)

that is the p- value as p =0.939. At 5% level of significant, the p- value is greater than 0.05; the result shows that there is no evidence of statistical significant difference in the fair value on return on equity and historical cost on return on equity. The null hypothesis (H<sub>01</sub>) is therefore accepted and concluded that there is no significant difference between return on equity measured at fair value from historical cost.

**HYPOTHESIS 2**

Test of significant difference between fv ROA from return on assets (ROA) measured at historical cost.

**Table D: Paired Samples Statistics**

Variables	Mean	N	Std. Deviation	Std. Error Mean
Fair Value ROA	21.8750	10	17.33117	5.48060
Historical cost ROA	8.8700	10	4.97796	1.57417

Source: researcher’s computation, 2015

The mean value and the standard deviation of the fair value and the historical cost on return on assets are shown in Table D above. The mean value and standard deviation of the fair value on return on

assets were recorded as 21.8750 and 17.33117 respectively. Also the mean value and the standard deviation of the historical cost on return on assets are given as 8.87 and 4.97796 respectively.

**Table E: Paired Samples Test**

Variables	Paired Differences					T	Df	Sig.(2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Fair Value ROA HC ROA	13.00500	20.08430	6.35121	-1.36244	27.37244	2.048	9	.071

Source: researcher’s computation, 2015.

Table E gives the result of the pair samples t-test. The table shows the mean difference between the two conditions, the standard deviation and standard error associated with that difference. The mean difference is recorded as 13.005 and standard deviation as 20.0843 with standard error as 6.35121. The table also displayed the 95% confidence interval for the difference between the mean. The confidence interval indicates that on 95% of occasions, the difference between the two conditions would be somewhere between -1.36244 and 27.37244

The pair samples test for equality of the mean has the t- value recorded as t = 2.048 and Sig (2 tailed)

that is the p- value as p =0.071. At 5% level of significant, the p- value is greater than 0.05; the result shows that there is no evidence of statistical significant difference in the fair value on return on assets and historical cost on return on assets. The null hypothesis (H<sub>02</sub>) is therefore accepted and concluded that fair value return on assets does not significantly differ from return on assets (ROA) measured at historical cost.

**HYPOTHESIS 3** Test of significant difference between fv total assets from historical cost method of valuation.

**Table F: Paired Samples Statistics**

Variables	Mean	N	Std. Deviation	Std. Error Mean
FV Total Assets	208746.2000	10	93673.28360	29622.09321
HC Total Assets	144464.6000	10	95411.78655	30171.85611

The mean value and the standard deviation of the fair value and the historical cost on total assets are shown in Table F above. The mean value and standard deviation of the fair value on total assets

were recorded as 208746.2 and 93673.28360 respectively. Also the mean value and the standard deviation of the historical cost on total assets are given as 144464.6 and 95411.78655 respectively.

**Source:** researcher's computation 2015

**Table G: Paired Samples Test**

Variables	Paired Differences				t	Df	Sig.(2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% C. I of the Diff.				
				Lower				Upper
FV Total Assets HC Total Assets	64281.60	65509.022	20715.77	17419.26	111143.93	3.103	9	.013

Table G gives the result of the pair samples t-test. The table shows the mean difference between the two conditions, the standard deviation and standard error associated with that difference. The mean difference is recorded as 64281.6 and standard deviation as 65509.02179 with standard error as 20715.77161. The table also displayed the 95% confidence interval for the difference between the mean. The confidence interval indicates that on 95% of occasions, the difference between the two conditions would be somewhere between 17419.26886 and 111143.93114

The pair samples test for equality of the mean has the t- value recorded as  $t = 3.103$  and Sig (2 tailed) that is the p- value as  $p = 0.013$ . At 5% level of significance, the p- value is less than 0.05; the result shows that there is evidence of statistical significant difference in the total assets measured at fair value and total assets from historical cost method of valuation. The null hypothesis ( $H_{03}$ ) is therefore rejected and concluded that the total assets measured at fair value significantly differ from historical cost method of valuation.

## 1.5 Summary, Conclusion and Recommendations

### 1.5.1 Summary

The study focused on the differential effect of fair value and historical cost accounting on a firm value and financial performance in the Nigerian manufacturing industries, within a period of 10 years, 2005-2014.

Results showed that fair value accounting enhances firm value through improved assets valuation and information disclosure than HCA. It increased capital maintenance of a company and reduces risks. The study also revealed that fair value

measurement provides for price adjustment and changes in interest rates during inflationary periods. It allows for yearly impairment and revaluation of assets.

### 1.5.1 Conclusion

Following the review and analysis carried out, we can conclude that FVA is proper for assets and equity reporting because it enhances the qualities or objectives of financial measurement and reporting which include: accountability, transparency, consistency, inter-period equity, and even risk management in the financial institutions (Metzger, 2010).

Fair value measurement can have much more positive impact in enhancing firm value and performance with rigorous adherence to valuation requirements. But such effect can be insignificant if the fair value consideration does not focus on the entirety of financial elements of the firm's performance.

Fair value measurement provides more transparent information than historical cost based measurement, (Barth, 2006 and Bies, 2008).

### 1.5.3 Recommendations

- Policymakers should consider new steps to strengthen institutional governance and control mechanisms that in turn support higher-quality FVA and HCA practices within financial firms. The fidelity of accounting information is unlikely to exceed the quality of whatever institutional process generates it. Stronger regulatory guidance and oversight protecting the integrity of the valuation process, and of the management and corporate governance framework that supports it, could help to improve the quality of both FVA and HCA

information, and thereby safeguard against risk accumulation and contagion among financial firms.

- Policymakers could strengthen FVA and HCA approaches to valuation by improving audit oversight in connection with both approaches. To the extent that auditors face significant challenges in providing rigorous oversight for mark-to-model valuations under FVA, and for the evaluation of other-than-temporary impairments under HCA, policymakers ought to consider ways to strengthen and better support auditors in performing that oversight.
- Prudential regulators should consider playing a more prominent role in vetting asset valuation practice at large institutions. The prudential regulators are a key stakeholder group in using FVA and HCA information for risk oversight, and they also occupy a unique position in having influence over, and visibility into, multiple financial reporting at the same time.

Over all, this study contributes to the existing empirical reviews on FVA issues particularly in Nigeria where fair value measurement still is evolving with little practical approach and barely inadequate expertise willing to address the issues. The study will continue to be of interest to investors and management of companies in addressing the information disclosure gap usually characterized by the traditional historical cost accounting method, by presenting key practical approach in generating fair value data that are timely relevant and principled based, while imploring full adoption and effective knowledge acquisition of the measurement concept (Penman, 2008).

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