COMPARATIVE EFFECTS OF HISTORICAL COST ACCOUNTING AND FAIR VALUE ACCOUNTING ON EARNINGS PERFORMANCE OF QUOTED FIRMS IN NIGERIA

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Abstract

The work examined the comparative effects of historical cost accounting and fair value accounting measurement bases on earnings performance of 10 listed manufacturing firms in Nigeria, between the periods 2009-2020.The choice of the manufacturing sector was pertinent as the manufacturing industries are considered vital to economic growth and development. The study adopted the *ex-post facto* research design, with data collected from published financial statements of 10 manufacturing firms quoted on the Nigerian Exchange Group Ltd. A cross sectional analysis of the financial reports of the 10 manufacturing firms was carried out between eras 2009 - 2012(HCA) and 2013 – 2020(FVA).The regression results revealed that depreciation, dividend and taxation under fair value accounting (FVA) have more positive and significant effect on ROA (earnings performance) than depreciation, dividend and taxation under historical cost accounting (HCA). The work concludes that fair value measurement choice has superior effect on bottom lines of manufacturing firms than the historical cost measurement choice. The empirical findings imply or provide strong support for the proposition that fair value measurement choice has superior effect on bottom lines of manufacturing firms than the historical cost measurement choice. It was recommended amongst others that: Accounting bodies in Nigeria should organize enlightenment workshops for practicing accountants and managers of firms to create awareness of current cost accounting and the need to deviate from the historical cost accounting method during inflationary period.
Keywords: Earnings Performance, Fair Value Accounting, Historical Cost Accounting, Return on Assets, Global Financial Reporting Standards.

1. Introduction

The previous globally practiced measurement basis of firms assets and liabilities: the Historical Cost Accounting (HCA) measurement choice, which is a product of the Generally Accepted Accounting Principle (GAAP) was adjudged grossly inadequate in reporting the performance of firms with the assumption that the HCA in reality results to obsolete fixed assets values, insufficient provision for depreciation, taxation and unrealistic profit and distributions to dividend, and the failure to present a fair value of financial position among other drawbacks. Notably, these shortcomings obviously necessitated the relegation of this valuation basis (HCA) and the subsequent enthronement of FVA basis in the current global financial reporting standards. Both the historical cost and fair value accounting methods have some faults in that entities may use them to manipulate their financial positions and results. For instance, a firm using historical cost accounting method may manipulate its figures on depreciation in order to increase or overestimate the useful life of an asset or its residual value. In that case, the firm

will overestimate its income. Entities use this shrewd way of inflating income to attract investors and creditors by deceiving them about the profitability and financial position of the business (Belinna, Yen & Yang, 2008). Using historical cost accounting, the management teams have more liberty to hide bad investment decisions and avoid the consequences of declining levels of equity and assets. Thus, it is unlikely for any entity to disclose its financial failure through historical cost accounting method. Regardless of the accounting measurement base a firm chooses, ethical dilemmas are likely to occur among executive management.

Proponents of fair value claim that fair value information is the only information relevant for financial decision making as fair values provide the most current and complete estimations of the value of assets and obligations as well as information about the timing and riskiness of future cash flows.

However, the FVA has also been criticized for its volatile nature; thus, having the tendency of presenting distorted accounting information. Several issues are directly associated with fair value reporting, including recognition, relevance and measurement. Landsman (2007) addressed the issue of value manipulation, and notes that the requirement of relying on managerial estimates for valuation of assets and liabilities introduces the problem of information asymmetry. Information asymmetry will arise whenever managers have discretion regarding the timing or amount of non-market adjustments to amounts arising from past transactions. Such information asymmetry creates two distinct problems; moral hazard and adverse selection.

Critics of fair value accounting and academics have raised concerns as to whether fair value accounting impacts the ability of earnings to predict future earnings and cash flows. Rather than representing economic events such as earning revenues or incurring expenses, critics argue that the recognition of gains and losses in a fair value system is driven by short-term market movements (Chisnall, 2001).

The Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) consider fair value as a potential measurement basis in almost every decision they make as they believe that in many cases fair value meets the conceptual framework criteria better than other measurement bases (Barth, 2006, 2008).

Until 2012, Nigerian firms reported their financial statements in line with the historical cost accounting (HCA) measurement basis. However, the Financial Reporting Council of Nigeria (FRCN) mandated that every quoted firm on the floor of the Nigeria Exchange Group Ltd adopt IFRS basis in their financial reporting from January 1, 2012, where they will prepare their financial statements based on fair value accounting (FVA). Elfaki and Hammad (2015) in this regard observed that the quality of information is based on such characteristics as objectivity, relevance, reliability, neutrality, capability of information for comparison,

materiality and full disclosure. In essence, the objective of financial reporting is to provide useful information about the reporting entity to existing and potential investors, lenders and other creditors in making capital-allocation decisions, using a more accurate measurement choice that reflects the operations of the reporting entity (IASB, 2011).

There is need to therefore empirically examine the quality of earnings using both HCA and FVA measurement choices.

The broad objective of this study was to evaluate the comparative effects of Historical Cost Accounting and Fair Value Accounting measurement bases on earnings performance of selected quoted manufacturing firms in Nigeria using reported returns on assets (ROA) as a proxy for earnings performance (dependent variable) and using depreciation, taxation and dividend (explanatory variables) as proxies for both FVA and HCA.

The specific objectives are to:

    a.   evaluate the comparative effects of depreciation on earnings performance (ROA) using historical cost accounting and fair value accounting choice of measurement.

    b.   investigate the comparative effects of taxation on earnings performance(ROA) using historical cost accounting and fair value accounting choice of measurement.

    c.   determine the comparative effects of dividend on earnings performance(ROA) using historical cost accounting and fair value accounting choice of measurement.

2.

3. Review of Related Literature/Theoretical Framework

2.1 Conceptual Review

2.1.1 Historical Cost Accounting (HCA)

Amanamah and Owusu (2016) opined that historical cost measures an asset at the cost of acquisition and as such it provides a reliable basis for measurement, however, the problem is that as price changes subsequent to acquisition, the relevance of historical cost declines if the objective of measurement is to reflect the current economic benefit represented by the asset. Bessong and Charles (2012) assert that using this method, profit is ascertained by drawing comparison between sales revenue and the original cost of the asset sold. To determine income in this regard, accountants assumed that a business is better off whenever it recovers more than the original sum of money invested in any given asset.

Jaijairam (2013) observed that under historical cost accounting, the initial price paid by the company during the purchase of the asset or incurrence of the liability is the one that matters. The price reflected on the balance sheet either is the purchase price or at a value reduced by

obsolescence, depreciation or depletion. For a financial asset, the price on the balance sheet does not change until the security is liquidated. Selling price is stated at current price while the cost of assets used in generating the sales are stated at historical cost, that is, "acquisition cost". Depreciation is charged based on the acquisition cost of the assets irrespective of the current replacement cost of such assets. This results in overstated profit leading to overpayment of tax and dividend. The effect of this is overstated profit and understated value of assets which will make replacement difficult.

According to Ene, Chilarez and Dindire (2014), one shortcoming of the historical cost accounting approach is that in times of inflation, especially when price variations are very high, presenting the assets and the liabilities at historical costs, leads to distortions of the information presented in the financial statements, namely: in the balance sheet, assets are under-evaluated, resulting to understatement of the net assets; and in the profit or loss account, there is a distortion of the results due to the cost of stocks; undervaluation of the expenses regarding depreciation as a result of the undervaluation of property; financial overstatement due to the gain on debt, over-evaluation of the result determined by the understated expenses and thus increase the tax on profits.

Egbe (2014) also noted that, "it is readily apparent that financial statements prepared in accordance with the historical cost concept are always defective to the extent that: they fail to reflect the impact of changing price level; assets are disclosed in the balance sheet at unrealistic values; and the profit and loss account does not bear proper charges, particularly for depreciation and cost of materials consumed.

2.1.2   Fair Value Accounting

Fair value, according to the International Financial Reporting Standards (2011) as cited in Amanamah and Owusu (2016) is the amount for which an asset could be exchanged, a liability settled, or an equity instrument granted. It could be exchanged between knowledgeable, willing parties in an arm's length transaction. Chambers (cited in Ashford, 2011) views fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between participants at the measurement dates. Jarolim and Oppinger (2012) define fair value as the amount which could be transferred in a transaction between knowledgeable, willing parties under normal market conditions (arm's length transaction). Therefore, the fair value constitutes a hypothetical market price under ideal market environment. Thus, fair value accounting revolves around recording changes in market values. This results in the recognition of unrealized gains and losses. Unrealized gains and losses will only have an impact on cash flow if sold on the balance sheet date. Fair value is sometimes referred to as "exit values", however, when fair value is not available due to lack of an actual transaction, it is logical to use

information from an active market. On his part, Kochiyama (2011) observed that fair value accounting is becoming increasingly important in accounting standards, driven by the convergence toward or adoption of International Financial Reporting Standards (IFRS) all over the world; and that regulators suggest that fair values lead to improved financial reporting, because fair value numbers are more timely and reliable, and thus facilitate a decision mechanism.

Liu (2010) posits that there are two alternatives for fair value in an imperfect market environment, including bid price and selling price. The former refers to the amount of money paid for a particular property on a measurement date while the latter refers to the amount of money received by selling assets on a measurement date (Liu, 2010).

2.1.3 Applications of HCA and FVA

i. Application on Statement of Financial Position

Under FAS 159, the choice of accounting treatment for recording certain financial assets, which do not require adherence to specific fair value accounting rules, can result in a dramatic impact on the balance sheet, especially for companies with large investment portfolios such as insurance or bank holding companies. In amortized cost, financial securities held up to maturity and notably debt securities are always carried on the balance sheet at the acquisition price paid by the entity. Thus, from one quarter to another there will be no volatility in the prices of individual securities.

On the other hand, with fair value accounting, the price of debt security is adjusted in accordance to the market price at a given time. Such gyrations noted in fair value accounting would have significant impact on the daily operation of the business. Since a balance sheet is a measure of a company's financial position, for instance, the law requires financial institutions (banks) and insurance companies to maintain certain level of equity usually portrayed on the balance sheet (Zyla, 2010). Standard accounting defines equity as the difference between assets and liabilities.

Thus, as these two figures vary, equity also varies (increases or decreases). Because banks rely on leverage ratio, a small variation in the value of their assets will have a greater impact on their size of equity. For example, during the 2008-2010 economic meltdown, there were financial crisis that led to the decline of asset values (Zyla, 2010). In turn, as the value of assets declined, the equity of banks declined. The position of many banks as shown on the balance sheets deteriorated. This situation called for financial institutions to raise more equity in order to bring their balance sheet back to position required by government regulations.

In the non-financial sector such as manufacturing, wholesale and retail industries, the balance sheet values are less important compared to financial sector but they still have a real impact.

In summary, fair value accounting will have effects on balance sheets of entities; however, financial institutions are likely to be more affected than non-financial sector.

Fair value accounting and historical cost accounting, as applied to assets, focus on different basic snapshots of valuation. Each is subject to different problems and limitations.

ii.   Application on Income Statement

Fair Value Option (FVO) election choice may have a substantial effect on income statement and earnings. Whilst certain changes in values are only reflected on the balance sheet, OTTI (Other-Than-Temporary Impairment) changes that flow through income statement have a direct impact on net income; for instance, the value of available for sale securities. FAS 115, states categorically that trading assets are held with an aim of disposing them in the near future (Laux & Leuz, 2010). Securities like bonds and treasury bills are marketable securities thus they are reported at fair value whereby the changes noted are recognized in the income statement.

iii.   Application on Cash Flow Statement

Unlike the balance sheet and income statement, the use of fair value accounting does not have a direct impact on the statement of cash flows of an entity. The entities will eliminate any OTTI (Other-Than-Temporary Impairment) charge that applies under fair value accounting in their income statements as part of operating cash flow. The statement of cash flows is however affected by taxes. Tax rules add a layer of complexity to arriving at the level of OTTI, since the Internal Revenue Service (IRS) does not view all impairments equally. For publicly traded securities, the IRS does not allow an OTTI deduction to be taxable income.

2.1.4   Earnings Performance

According to Neely et al (cited in Al-Matari, Al-Swidi and Fadzil, 2014) organizational performance can be defined as the actual results generated by an organization as measured against the organization's stated goals and objectives. It can be seen as an indicator to measure the effectiveness of an organization in running its daily operations. This will determine whether organizations are able to survive in the market or not. Niresh and Velnampy (2014) opine that firm performance can be measured in different ways and by applying various methods; and the commonly used method for financial analysis is the use of profitability ratios as key measures of firms' overall efficiency and performance.

One of the widely used accounting based measures of corporate governance in literature is the Return on Asset (ROA) (Finkelstein and D'Aveni 1994; Weir and Laing 1999). The return on assets (ROA) is a measure which shows the amount of earnings that have been generated from invested capital. It is an indication of the number of kobo earned on each naira worth of assets. It allows users, stakeholders and monitoring agencies to assess how well a firm's corporate governance mechanism is in securing and motivating efficient management of the firm (Chagbadari, 2011). The ROA is the ratio of annual net income to average total assets of a business during a financial year.

It is measured thus: ROA = Annual Net Income / Average Total Assets.

2.2   Empirical Review

Bessong and Charles (2012) critically examined the effects of fair value accounting and historical cost accounting on the reported profits of quoted manufacturing firms on the Nigerian Stock Exchange. Secondary data collected were presented and analyzed using ordinary least square. Findings from the analysis revealed that both historical cost and fair-value accounting have significant effect on reported profit. It revealed no difference in the effect of tax (as a proxy for FVA and HCA) on firms' profit during each of the two regimes.

Okafor and Ogiedu (2012) evaluated the perception issues relating to fair value accounting in Nigeria. Questionnaire survey of a sample of financial auditors was employed and data collected was analyzed using the Z-Score. The study found that financial statements prepared under fair value accounting are more relevant than those prepared under historical cost accounting and that auditors' knowledge about fair value accounting in Nigeria is low. The study also found out that fair value accounting poses greater technical challenges for auditors than historical cost accounting and that fair value accounting is not appropriate in the Nigeria environment.

Ijeoma (2013) assessed the impact of fair value measurement on financial instrument of firms in Nigeria. Data collection was carried out through field survey method involving the use of questionnaire administered to 188 samples. The method of data analysis was the Kruskal-Wallis rank sum test statistic. From the result of the analysis, it was observed that the implementation of Fair Value measurements gives sufficient precision in assessing firm's financial position and earning potential. The study thus 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.

Egbe (2014) evaluated the effect of historical cost accounting on the reported profit of manufacturing companies in Nigeria with a key focus on evaluating the current cost accounting as an alternative reporting method. The study adopted an ex post facto research design with a sample of ten (10) out of forty-eight (48) manufacturing companies in Nigeria. The study employed a regression analysis in analyzing the data collected while the Pearson Product Moment Correlation Coefficient and Chi-Square were employed to test the hypotheses of the study at 5% level of significance. The results of the study revealed that there is a positive significant relationship between historical cost method and the reported profits of companies in Nigeria while current cost methods does not significantly affect the overstated profits made by these companies.

Ijeoma (2014) studied the contribution of fair value accounting on corporate financial reporting in Nigeria. The study utilized primary data sourced through field survey method involving the use of questionnaire administered to 562 samples. The method of data analysis was the Kruskal-Wallis rank sum test statistic. From the result of the analysis, the study found that the implementation of fair Value Accounting provides more useful information to investors than historical cost reporting. Also, it was equally found that the full fair value of financial instruments fulfils the aim of performance reporting.

Akwu (2014) carried out an examination of Fair Value Measurement in the determination of profitability of listed manufacturing firms in Nigeria. The study sought majorly to ascertain the influence of depreciation on profitability of the manufacturing firms in Nigeria using fair value measurement and historical cost convention; examine the effect of inventory on reported profit of manufacturing firms in Nigeria under fair value measurement and historical cost convention to determine the relationship between volume of tax and reported profit of manufacturing firms in Nigeria using fair value measurement and historical cost convention. Ex-post facto research design was adopted for this study. The study covered five IFRS compliant companies; simple least square regression technique, correlation coefficient, and t-statistic were used with the aid of Econometric Views (E-Views) statistical software. Findings from the analysis showed that depreciation has positive and significant impact on profitability using fair value measurement and historical cost convention. Inventory had positive and significant effect on profitability under fair value measurement and historical cost convention. A positive and significant relationship exists between taxation and profitability using fair value and historical cost convention. The study thus concluded that depreciation, cost of sales and Taxation have significant and positive effects respectively on what is reported as profit under historical cost

convention and under fair value measurement; indicating that fair value measurement can serve as a replacement to historical cost convention. As such, fair value should be encouraged.

2.3 Theoretical Framework

The study theoretical framework was based on the conceptual ideal of decision-usefulness which underpins the fair value pattern projected by IASB. Specifically, agency theory and signaling theory was the central underpinning theories of this study.

Agency theory explains the association that exists where the principal delegates work to the agent to carry out a given assignment. This association is described by Jensen and Meckling (1976) as a treaty where the owners engage managers to run the firms operations efficiently and effectively. Information asymmetry may result between the contracting parties as managers may be in possession of superior information about the present and expected future earnings of the entity than the owners.

Signals basically are pointers to unobservable signals quality at a given point in time (Davila, Foster & Gupta, 2003). Signaling theory is primarily concerned with decreasing information asymmetry between parties (Spence, 1973). Management scholars have also used signaling theory to explain the power of information asymmetry in differing research contexts. A study of corporate governance, by Zhang and Wiersema, (2009) documents how CEOs signal the unobservable value of their entities to potential investors through the observable attributes of their financial statements. The use of signaling theory in management literature has gained acceptance in recent years as scholars have increased the range of probable signals and the contexts in which signaling occurs. Financial instruments' fair value is a signal of the expected future cash flow and the difference there on signals potential earnings. Signaling theory therefore provides a good explanation of fair value intensity, fair value level available for sales and total comprehensive income ability to predict future earnings.

4.

5. Methodology

3.1 Research Design

The ex-post facto research design was adopted for the study. The research adopted a cross sectional analysis of the financial report of 10 manufacturing companies quoted on the Nigerian Stock Exchange between era 2009 – 2012 (HCA) and 2013 – 2020 (FVA) periods. The choice of the manufacturing sector became pertinent as the manufacturing industries are considered vital to economic growth and development (Sanya, 2011).

3.2 Sources of Data

Quantitative data was collected through financial reports for the period between 2009 -2020. The data collected include Depreciation, Taxation, Dividend and earnings performance (ROA).

3.3　Method of Data Analysis

　　　In analyzing the data the panel OLS and t-statistic was adopted and using reported returns on assets (ROA) as a proxy for earnings performance, depreciation, taxation and dividend as proxies for both FVA and HCA to measure the relationship between the dependent and the independent variables.

3.4　Model Specification and Description of Model Variables

In order to test the hypotheses, the research adopted the model of Tearney (2004) and Kekung, Effiong (2012) with slight modifications stated in their explicit form:

Model 1: $ROA_{HCM} = \beta_0 + \beta_1 DEP + \beta_2 TAX + \beta_3 DIV + \varepsilon$

Model 2: $ROA_{FVM} = \beta_0 + \beta_1 DEP + \beta_2 TAX + \beta_3 DIV + \varepsilon$

Where:

ROAHCM denotes reported profit at historical cost; ROAFVM denotes reported profit at fair value. DEP denotes depreciation; TAX denotes taxes; DIV denotes dividend; β_0, denotes constant; $\beta_1 - \beta_3$ denotes coefficient of effect of measurement choice proxies on reported ROA. Specifically, both the F statistic and t-statistic was used to test the various hypotheses. The decision rule for both the F and t statistics is that if the F-calculated > F-critical and if the t-calculated > t-critical, we validate the alternative hypotheses and invalidate the null hypotheses.

4.　Results and Discussions

4.1　Data Presentation and Analysis

This section analyses both descriptive statistics and correlation matrix.

Table 1: Descriptive Statistics

	DEP_H	DEP_F	DIV_H	DIV_F	TAX_H	TAX_F	ROA_H	ROA_F
Mean	122393.7	478765.0	114565.1	402673.1	1268935.	1421274.	0.116928	0.122548
Median	56000.00	38269.00	52711.00	23196.00	74643.00	22466.00	0.093086	0.054015
Maximum	735109.0	6900051.	75309.0	190051.	22554839	22554839	0.702466	0.792676
Minimum	15089.00	2405.000	0.000000	0.000000	825.0000	88.00000	-0.155700	-0.111004
Std. Dev.	160277.6	1497543.	163567.0	1491301.	4554757.	4567000.	0.157200	0.208869
Skewness	2.512589	3.664010	2.475868	3.855236	3.996610	3.869176	2.131899	1.864969

Kurtosis	8.935691	15.01502	8.731751	16.04765	17.57124	16.85620	8.902336	6.333439
Jarque-Bera	88.20707	288.8384	83.66846	334.9682	402.8102	367.3197	77.31723	36.49369
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Source: Eviews 10

The data above reveals that the mean depreciation under HCA is N122, 393; with maximum and minimum values of N735, 109 and N15, 089 respectively for the period under study. On the other hand, depreciation under the FVA reveals a mean value of N478, 765, with maximum and minimum values of N6, 900,051 and N2, 405 respectively. The results indicate that depreciation is higher in the FVA era than the HCA era, given that the mean and maximum values of depreciation in the FVA are higher than the depreciation value in the HCA choice. The dividend data also revealed that cash dividend paid is higher under FVA than HCA. The mean values of dividend paid are N114, 565 under HCA, and N402, 673 under FVA. The maximum values of dividend also revealed that dividend reported under FVA is higher than that reported under HCA, with maximum values of N75,309 and N190,051 in millions.

Furthermore, the data above reveals that the mean taxation under HCA is N1, 268,935, with a maximum and minimum value of N22, 554,839 and N825 respectively for the period under study. On the other hand, depreciation under the FVA reveals a mean value of N1, 121,274, with maximum and minimum values of N22554839 and N22, 554,839 respectively. The results indicate that taxation is higher in the HCA era than the FVA era. The ROA figure indicates that the mean value of 0.117 and 0.123 for HCA and FVA respectively, with maximum values of 0.702 and 0.793, and minimum values of -0.155 and -0.111 respectively for HCA and FVA. The results indicate that profitability is higher in the Fair Value Measurement choice. Overall, fair value measurement choice increases reported profits and minimizes reported losses. The skewness and kurtosis statistics revealed that all the variables are positively skewed, with their data being leptokurtic, i.e. above K=3. The Jarque-Bera statistics, with p=0.0000 for all variables indicate that the data is normally distributed.

Table 2: Correlation matrix

	DEP_H	DEP_F	DIV_H	DIV_F	ROA_H	ROA_F	TAX_H	TAX_F
DEP	1.000							

DEP_F	0.409	1.000						
	0.0146	-----						

DIV_H	0.985	0.382	1.000				
	0.0000	0.0232	-----				
DIV_F	0.413	0.982	0.418	1.000			
	0.0135	0.0000	0.0124	-----			
ROA_H	**-0.771**	-0.134	**-0.504**	-0.105	1.000		
	0.0396	0.4437	**0.0436**	0.5463	-----		
ROA_F	-0.175	**-0.340**	-0.151	**-0.113**	0.154	1.000	
	0.3148	**0.0028**	0.3869	**0.0196**	0.3764	-----	
TAX_H	-0.007	0.115	-0.168	-0.070	**-0.170**	-0.126	1.000	
	0.9686	0.5088	0.3359	0.6875	**0.0354**	0.4705	-----	
TAX_F	0.021	0.050	0.033	0.047	-0.116	**-0.538**	-0.074	1.000
	0.9059	0.7774	0.8491	0.7907	0.5071	**0.0024**	0.6716	-----

Source: Eviews 10

The Pearson Correlation Coefficient is used to establish the inter-correlation between the dependent and independent variables. Saunders, Lewis, Thornhill (2003) noted that there could be a strong positive relationship, a weak positive relationship and no relationship and Pearson's r ranges from –1.0 to 1.0, where a negative coefficient indicates inverse relations between the variables. The pairwise correlation matrix results are explained here.

Under the HCA, ROA is found to have negative and statistically significant relationship with DEP (r= -0.77, p = 0.0396), DIV (r = -0.54, p = 0.0436) and TAX (r = -0.17, p = 0.0354). Under the FVA, ROA is also found to be negatively and statistically significant correlated with DEP (r = -0.34, p = 0.0028), DIV (r = -0.11, p = 0.0196) and TAX (r = -0.54, p = 0.0024). The Pearson's correlation matrix shows that the degree of correlation between the independent variables is either low or moderate, which suggests the absence of multicollinearity between independent variables. As suggested by Van, Shahnaz, Nurasyikin (2008), the Pearson's R between each pair of independent variables should not exceed 0.80; otherwise, independent variables with a co- efficient in excess of 0.80 may be suspected of exhibiting multicollinearity. The highest correlation as disclosed in the table is between Taxes (TAX) and Reported Profit at Fair value (RPFVA) showing a value of 0.54, between Depreciation (DEP) and Reported Profit at Historical cost (RPHCM) showing a value of 0.54. This confirms that there is no multicollinearity among the variables using the reported profit at historical cost.

Table 3: Regression results of depreciation, taxation and dividend on ROA under HCA

PANEL A: Historical Value Measurement choice on profitability (ROA)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**

C	0.6789	8.557205	1.131089	0.0016
LDEP_H	-0.0598	6.002102	-4.126243	0.0396
LTAX_H	-0.0422	0.016353	-3.584133	0.0453
LDIV_H	-0.0617	0.525029	-5.184199	0.0163
R-squared	0.772			
Adj. R-squared	0.694			
Prob(F-statistic)	0.0026			
Durbin-Watson	2.35			

Source: Stata 10 Computation

Table 4: Regression results of depreciation, taxation and dividend on ROA under FCA

PANEL B: Fair Value Measurement choice on profitability (ROA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.156253	0.116550	1.340659	0.1921
LDEP_F	0.19263	0.016374	6.214689	0.0001
LTAX_F	0.102181	0.007519	-7.279856	0.0022
LDIV_F	-0.013177	0.016632	-9.191043	0.0609
R-squared	0.942			
Adj. R-squared	0.8589			
F-statistic	11.789			
Prob(F-statistic)	0.0001			
Durbin-Watson	2.092			

Source: Stata 10 Computation

Table 3 panel A shows the regression results of the effect between the dependent variable (reported profit at historical cost) and the independent variables (depreciation, taxes and dividend). Thus, as shown above, the value of adjusted R-squared is 0.77, indicating that the independent variables in the model are explaining 77% variation on the dependent variables while the unexplained variation is just 23%. The unexplained variation of 23% accounts for the error term in the model. The high value of the adjusted R-square is an indication of a good relationship between the dependent and independent variables.

It can be observed that the independent variables give a significant effect on the dependent variable, where f-value (8.489) (p-value=.0026) is greater than the f-tabulated (4.74) at df1=2 and df2=7. The test of autocorrelation using Durbin Watson (DW) test shows that the DW value of 2.35 falls within the no serial correlation region of DW partition curve. Hence, it can clearly be concluded that there exists no degree of autocorrelation in the model.

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The independent variables result revealed that DEP, DIV and TAX have negative and significant effects on reported profits under HCA. The t-ratio suggests that the estimated coefficients of the regression parameters are statistically significant at the 0.05 level of significance.

Table 4 panel B shows the regression results of the effect between the dependent variable (reported profit at fair value) and the independent variables (depreciation, taxes and dividend). Thus, as shown above, the value of adjusted R-squared is 0.94, indicating that the independent variables in the model are explaining 94% variation on the dependent variables while the unexplained variation is just 6%. The unexplained variation of 6% accounts for the error term in the model. The high value of the adjusted R-square is an indication of a good relationship between the dependent and independent variables.

It can be observed that the independent variables give a significant effect on the dependent variable, where f-value (11.789) (p-value =.0001) is greater than the f-tabulated (4.74) at $df_1=2$ and $df_2 =7$. The test of autocorrelation using Durbin Watson (DW) test shows that the DW value of 2.09 falls within the no serial correlation region of DW partition curve. Hence, it can clearly be concluded that there exists no degree of autocorrelation in the model.

The independent variables result revealed that DEP and TAX have positive and significant effect on earnings performance. DIV has a negative and insignificant effect on reported profits under HCA. The t-ratio suggests that the estimated coefficients of the regression parameters are statistically significant at the 0.05 level of significance for DEP and TAX and insignificant for DIV.

4.2   Test of hypotheses and discussion of findings

Hypothesis one decision:

The table shows that the effect of depreciation on ROA using FVA (coefficient = 0.19263) is positive and significantly higher than the effect of depreciation on ROA under HCA with a negative and significant effect (coefficient = -0.059824), at the 0.05 level of significance. Thus, H_{01} null is rejected. The research upholds that there is a significant difference in the earnings performance effects of depreciation using HCA and FVA measurement choices of manufacturing firms in Nigeria

Hypothesis two decision:

The table shows that the effect of taxation on ROA using FVA (with coefficient = 0.102181) is significantly higher than the effect of taxation on ROA under HCA (coefficient = -0.042258),

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at the 0.05 level of significance. Thus, H_{02} null is rejected. The research upholds that the effect of taxation on earnings performance significantly differ for HCA and FVA measurement choices of manufacturing firms in Nigeria.

Hypothesis three decision:

The table shows that the impact of dividend on ROA using FVA (coefficient = -0.013177) is significantly higher than the impact of dividend on ROA under HCA (coefficient:-0.061739), at the 0.05 level of significance. Thus, H_{03} null is rejected. The research upholds that there is a significant magnitude of difference between the implications of HCA dividend and FVA dividends on ROA manufacturing firms in Nigeria.

5.   Conclusion and Recommendations

5.1   Conclusion

Using the panel OLS and t-statistic, and using reported returns on assets (ROA) as a proxy for earnings performance, depreciation, taxation and dividend as proxies for both FVA and HCA, the empirical findings provide strong support for the proposition that fair value measurement choice has superior effect on bottom lines of manufacturing firms than the historical cost measurement choice as follows:

1.   There is a significant difference in the earnings performance effects of **depreciation** using HCA and FVA measurement choices of manufacturing firms in Nigeria. Depreciation negatively impacts earnings performance under HCA method. Whilst depreciation positively impacts earnings performance under FVA.

2.   The effect of **taxation** on earnings performance significantly differs for HCA and FVA measurement choices of manufacturing firms in Nigeria. Taxation negatively impacts earnings performance under HCA method, while it positively impacts earnings performance under FVA method.

3.   The effect of **dividend** on earnings performance significantly differ for HCA and FVA measurement choices of quoted manufacturing firms in Nigeria

5.2   Recommendations

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

i.   There is need to deviate from the historical cost accounting method during inflationary period since under HCA method, **depreciation** negatively impacts earnings performance, whilst under FVA depreciation positively impacts earnings performance of the firms.

ii.   There is need to deviate from the historical cost accounting method during inflationary period since under HCA method, **taxation** negatively impacts earnings

performance whilst under FCA taxation positively impacts earnings performance of the firms.

iii.   There is need to deviate from the historical cost accounting method during inflationary period since under HCA **Dividend** has a negative and insignificant effect on reported profits whilst under FCA Dividend positively impacts earnings performance of the firms.

References

Ahmad, F.B. & Aladwan (2015). *The effect of Fair Value Accounting on Jordanian Investment Properties: An empirical Study on Jordanian listed real estate companies.* International Journal of Financial Research, 6(4), 99 – 113.

Akwu, O.D. (2014). *Examination of Fair Value Measurement in determination of Profitability of listed Manufacturing Firms in Nigeria, Doctoral Dissertation .*University of Nigeria, Enugu Campus.

Amanamah, R. & Owusu, E.K. (2016). *Perception on Fair Value Measurement in Ghana: Evidence from Account Personnel.* African Journal of Applied Research (AJAR), 2 (2), 22-34.

Barth, M. E. (2006). *Including estimates of the future in today's financial statements.* Accounting Horizons, 20 (3): 271-285.

Barth, M. E. (2008). *Global financial reporting: Implications for U.S. academics.* The Accounting Review 83 (5): 1159-1179.

Belinna, B., Yen, J. & Yang, X. (2008). *False financial statements: characteristics of china's listed companies and cart detecting approach.* International Journal of Information and Technology & Decision Making; 7(2), 339-359.

Bessong, P. K., & Charles, E. (2012). *Comparative Analysis of Fair Value and Historical Cost Accounting on Reported Profit: A Study of Selected Manufacturing Companies in Nigeria. Research Journal of Finance and Accounting, 3*(8), 132 – 249.

Chagbadari, M. F. (2011). *Corporate governance and firm performance.* International Conference on Sociality and Economic Development, 10(1), 484-489.

Chisnall, P. (2001). *Fair value accounting: An industry view.* Balance Sheet 9(1), 2001:27-33.

Davila, A., Foster, G., & Gupta, M. (2003). *Venture capital financing and the growth of startup firms.* Journal of Business Venturing, 18: 689-708.

Egbe, N. (2014). *The effect of Historical Cost Accounting on the reported Profit of a Company: An evaluation of Current Cost Accounting as an alternative reporting method.* Ph.D. Doctoral Dissertation University of Nigeria, Nsukka; Nigeria.

Elfaki, A.A.A. & Hammad, S.M.E. (2015). *The impact of the application of Fair Value Accounting on the quality of Accounting Information: An empirical study on a Group of Companies listed on the Khartoum Stock Exchange.* International Journal of Academic Research in Accounting, Finance and Management Sciences, 5(1), 148–160.

Ene, G.S., Chilarez, D. & Dindire, L.M. (2014). *Relevance and Credibility of the Fair Value Measurement during the Crisis.* Procedia Economics and Finance, 8, 306 – 312.

Epps, R. W. & Cereola, S. J. (2008). *Do Institutional Shareholders Services (ISS) Corporate Governance Ratings Reflect a Company's Operating Performances?* Critical Prospect on Accounting, 19: 1135-1148

Financial Accounting Standards Board (FASB). (2006). Fair Value Measurements. Statement of Financial Accounting Standard No. 157. FASB, Norwalk, CT.

Finkelstein, S. & D'Aveni, R. A. (1994). *CEO Duality as a double-edge sword: How boards of directors balance entrenchment avoidance and unity of command.* Academy of Management Journal, 37(5), 1079-1108

International Accounting Standard Board (IASB) (2011). *IFRS 13-Fair Value Measurement.* London: IFRS Foundation Publications Department.

Ijeoma, N. B. (2013). *The Impact of Fair Value Measurement on Financial Instrument of Firms in Nigeria.* International Journal of Advancements in Research & Technology, 2(11), 90 – 96.

Ijeoma, N. B. (2014). *The contribution of Fair Value Accounting on Corporate Financial Reporting in Nigeria.* American Journal of Business, Economics and Management; 2(1), 1 – 8.

Jaijairam, P. (2013). *Fair Value Accounting vs. Historical Cost Accounting.* The Clute Institute: Review of Business Information Systems, 17(1), 1-6.

Jensen, M.C., & Meckling, W.H. (1976). *Theory of the firm: managerial behavior, agency costs and ownership structure.* Journal of Financial Economics, 3(4), pp. 305–360. http://dx.doi.org/10.1016/0304-405X (76)90026-X

Kekung, B. P., Effiong, C. (2012). *Comparative Analysis of Fair Value and Historical Cost Accounting.* Research Journal of Finance and Accounting, 3(8).

Kieso, D., J. Weygandt & T. Warfield, (2007). *Intermediate accounting.* 12th Ed. Hoboken, NJ, John Wiley and Sons, Inc.

Kochiyama, T. (2011). *Economic Consequences of Fair Value Accounting and a Change in the Distribution Rule.* Published Research Work, Graduate School of Hitotsubashi University

Laux, C. & Leuz, C. (2010). *Did fair-value accounting contribute to the financial crisis*? Journal of Economic Perspectives, 1-41

Liu, Y. (2010). *The study of the application status of Fair Value Accounting in China.* International Journal of Business and Management, 5(9), 155-158.

Neely, A. (2007). *Business performance measurement* (2nd ed.). Cambridge: Cambridge University Press.

Niresh, J.A. & Velnampy, T. (2014). *Firm Size and Profitability: A study of listed Manufacturing Firms in Sri Lanka.* International Journal of Business and Management, 9(4), 57-64.

Osisioma, B.C., Okoye, E.I. & Ijeoma, B.N. (2014). *A model for implementation of Fair Value Accounting in Corporate Financial Reporting.* SOP Transactions on Economic Research, 1(2), 10 – 34.

Sango Sanya, A. O. (2011). *Firms Growth Dynamics in Nigeria's Manufacturing Industry:* A Panel Analysis. Journal of Applied Econometric Review 1(1), 1 - 18.

Skoda, M. & Bilka, P. (2012). *Fair Value Financial Statements – Advantages and Disadvantages. Vasile Goldis Arad, Studia Universitatis, Economics Series*, Vol. 22

Tearney, B. W. (2004). *Continuing the Normative Dialog, Illuminating Asset/Liability Theory*. Accounting Horizons, *24 (*3), 19 - 440.

The Nigerian Stock Exchange (2016, May 10). *This Day Newspapers.* p.44

Weir, C. M. & Laing, D. (1999). *Governance structures, size and corporate performance in UK firms.* Management Decision, 37, 457-464.

Zhang, Y., & Wiersema, M. F. (2009). *Stock market reaction to CEO certification: The signaling role of CEO back- ground.* Strategic Management Journal, 30: 693-710.

Zhou, H. (2011). *Income Statement effects of derivative Fair Value Accounting: Evidence from Bank Holding Companies.* PhD Dissertation, University of Illinois at Urbana-Champaign

Zyla, M. L. (2010). *Fair value measurements: Practical guidance and implementation.* Hoboken, New Jersey: John Wiley & Sons

APPENDIX: DATA VARIABLES

COMPANY	YEAR	EBIT	TA	TAX	DEP	DIV
CHAMPIONS BREW	2020	418,163	11,368,517	-259,370	1,047,423	45,671
	2019	206,578	10,981,383	-38,070	912,823	23,098
	2018	-255,433	10,487,010	-8,374	710,705	21,332
	2017	603,173	10,088,861	-85,611	627,820	15,673
	2016	637,300	9,961,240	-106,911	631,312	12,986
	2015	210,179	10,329,160	-133,039	622,428	11,673
	2014	-1,071,765	9,592,381	317,242	848,485	15,623.00
	2013	-1,730,432	9,137,716	552,407	696,737	87,290
	2012	-1,928,865	6,799,200	592,175	782,130	64,000
	2011	-1,771,517	7,071,342	94,977	716,983	45,634
	2010	-858,166	2,801,539	81,908	499,152	34,982
	2009	-456,711	329,081	45,975	220,198	21,097
FLOUR MILLS	2020	17,537,685	314,267,060	-4,955,114	2,165,187	-4,669,639
	2019	18,536,249	314,058,187	-986,742	1,199,489	-4,257,175
	2018	14,153,983	322,604,582	-4,909,254	1,096,412	-2,838,587
	2017	10,979,579	343,933,157	-1,150,533	1,837,244	-2,971,314
	2016	6,248,497	233,296,607	4,177,289	1,758,285	-3,660,947
	2015	910,983	231,529,878	1,508,560	964,758	-4,981,928
	2014	12,457,035	220,145,554	-1,991,517	879,012	-4,868,865
	2013	11,640,693	223,889,728	-2,895,246	765,222	-4,058,648
	2012	11,459,537	172,539,746	-3,259,079	546,223	-3,833,421
	2011	14,264,723	116,730,494	4,168,971	3,040,891	3,435,970
	2010	2,109,111	111,098,163	2,309,122	1,098,126	2,312,098
	2009	3,595,444	105,691,585	1,125,931	2,050,164	1,553,067
GUINESS NIG	2020	-17,073,641	144,145,581	4,494,823	10,343,189	3,329,382
	2019	7,103,630	160,792,627	1,619,898	9,734,548	4,030,304
	2018	9,943,164	153,254,968	3,225,559	8,874,523	963,768
	2017	2,662,081	146,038,216	738,361	8,635,004	706,557

	2016	-2,347,241	136,992,444	231,355	8,651,575	2,243,948
	2015	10,795,102	122,246,632	3,000,203	11,215,213	4,754,825
	2014	11,681,560	132,328,273	2,108,080	1,231,232	10,541,217
	2013	17,008,875	121,060,621	5,145,149	3,332,123	11,799,404
	2012	20,383,158	106,009,667	6,168,538	4,009,812	14,749,255
	2011	26,176,966	92,227,824	8,249,032	4,499,168	13,199,123
	2010	19,988,735	78,396,876	6,252,376	4,053,300	11,065,600
	2009	18,991,762	74,868,737	13,541,189	3,565,316	18,883,089
DANGOTE SUGAR	2020	46,038,948	259,280,544	14,668,289	5,198,055	13,200,000
	2019	34,829,243	198,129,122	10,726,425	4,683,018	13,200,000
	2018	38,455,530	178,523,711	12,624,589	3,519,930	15,000,000
	2017	54,882,983	196,064,664	17,060,375	3,136,692	13,200,000
	2016	20,759,524	175,936,048	6,560,831	3,149,141	6,000,000
	2015	18,144,955	106,671,333	5,485,100	2,749,029	4,800,000
	2014	17,472,841	97,287,804	5,564,151	3,098,245	7,200,000
	2013	20,099,517	87,112,182	6,561,905	1,725,252	6,000,000
	2012	16,331,679	83,051,450	5,535,263	2,309,817	3,600,000
	2011	10,921,229	72,814,721	3,517,632	1,117,845	7,200,000
	2010	16,146,930	47,551,443	4,864,690	1,570,494	11,129,011
	2009	19,586,932	60,717,447	6,401,333	1,567,410	12,000,000
DANGOTE CEMENT	2020	430,747,000	2,116,060,000	78,138,000	54,571,000	272,648,000
	2019	315,420,000	1,823,984,000	54,071,000	53,454,000	272,648,000
	2018	392,223,000	1,721,974,000	89,233,000	51,809,000	178,925,000
	2017	342,153,000	1,611,087,000	87,523,000	43,959,000	136,324,000
	2016	374,396,000	1,502,564,000	6,191,000	47,113,000	136,324,000
	2015	220,567,000	1,124,475,000	7,396,000	43,713,000	102,243,000
	2014	213,039,663	963,441,064	27,225,540	34,202,056	119,283,552
	2013	200,010,823	820,477,742	10,251,931	32,028,158	51,121,522
	2012	138,088,716	639,466,109	14,836,382	27,267,634	19,364,214
	2011	113,779,556	524,045,921	7,635,957	16,089,202	34,861,544
	2010	101,334,468	402,040,493	5,270,941	12,098	1,837,244
	2009	49,510,037	307,364,397	2,258,711	10,764	1,758,285
MEYER PLC	2020	1,628,880	3,015,080	520,374	11,458	3,456,123
	2019	-7,071	3,720,214	6,422	14,184	2,345,671
	2018	182,412	1,839,132	136,885	37,420	782,130
	2017	-264,704	1,890,966	3,035	34,614	716,983
	2016	-211,038	2,178,705	3,364	44,542	499,152
	2015	80,544	2,301,121	7,314	51,498	220,198
	2014	-33,893	2,435,368	4,121	66,481	2,165,187
	2013	-22,028	2,597,517	1,887	65,855	1,199,489
	2012	-25,844	1,839,132	26,213	11,458	1,096,412
	2011	-80,304	1,890,966	4,439	14,184	2,390,812
	2010	-231935	2,178,705	45,101	35,671	178,451
	2009	112,908	2,301,121	34,209	34,614	631,312
GRIEF NIG	2020	398,528	321,852	48,041	51,001	622,428
	2019	-311,537	173,542	29695	41,209	848,485
	2018	-245,229	475,731	17,360	15,529	696,737
	2017	77,554	786,663	28,130	18,814	25,584
	2016	37,597	722,490	10,491	17,949	25,584
	2015	40,149	715,714	15,525	18,418	25,584
	2014	58,029	663,773	14,586	18,838	25,584
	2013	52,469	682,415	21,843	15,290	12,166
	2012	61,011	631,567	22,064	14,449	12,792

	2011	192,269	4,207,282	19,082	12,094	97,817
	2010	434,250	3,498,445	16,093	11,289	93,122
	2009	295,331	2,823,929	34,567	10,652	87,957
LAFARGE AFRICA	2020	33,941,453	505,332,716	5,226,569	26,132,270	7,512,967
	2019	23,640,698	500,081,653	919,082	27,160,431	4,220,596
	2018	-7,408,583	577,692,296	11,550,347	16,369,888	11,845,272
	2017	-7,385,863	616,169,940	5,837,763	16,304,267	16,280,825
	2016	19,888,762	537,598,212	889,586	5,170,285	1,444,821
	2015	30,906,793	381,272,953	1,249,020	5,298,867	12,991,527
	2014	41,198,427	305,878,828	6,537,761	4,290,109	14,955,251
	2013	27,714,998	161,081,711	552,189	3,456,122	2,109,872
	2012	21,264,420	151,948,633	6,552,744	1,998,176	3,564,129
	2011	10,235,000	152,577,460	1,710,000	2,066,957	750,400
	2010	8,464,000	118,480,913	3,583,000	1,814,822	300,160
	2009	9,237,328	87,163,066	4,181,930	12,395,763	1,801,789
PORTLAND PAINTS	2020	-335,992	1,879,208	22,700	38,516	22,770
	2019	127,195	2,254,911	42,301	65,856	39,671
	2018	307,533	2,251,468	100,840	59,366	23,098
	2017	123,868	2,035,902	65,698	64,171	20,009
	2016	7,502	1,754,321	1,094	57,176	15,673
	2015	-258,369	1,899,281	25,384	84,746	12,986
	2014	194,296	2,277,558	45,654	84,111	11,673
	2013	123,591.27	2,181,300.00	16,118.00	61,908	15,623.00
	2012	-199,166	2,386,022	29,199	34,567	80,000
	2011	253,188	2,286,067	79,336	71,098	64,000
	2010	345,192	1,908,145	34,529	56,345	45,634
	2009	233,490	1,765,125	56,198	98,245	109,863
CADBURY	2020	408,065	33,210,684	523762	1,503,338	178,459
	2019	1538877	28801938	468032	1486438	437149
	2018	1222831	27528040	399746	1438091	300512
	2017	350,317	28,423,122	50,319	1,517,193	891,095
	2016	-562,870	28392951	266,468	1,415,488	460,525
	2015	1,577,412	28,417,005	424,117	1,721,452	1,270,811
	2014	1,467,314,000	28,820,107	45,373,000	1,998,176	109,863
	2013	7,421,477,000	43,172,624	1,398,258	2,066,957	178,459
	2012	5,361,692,000	40,156,508	2,011,579	1,814,822	437149
	2011	5,309,043	32,642,612	1,525,832	1,288,628	13,962
	2010	4,528,971	12,908,345	1,090,197	1,209,117	34,562
	2009	-2,192,161	34,567,198	1,168,462	1,045,287	37,892