A Comparative Analysis of Inflation-Adjusted and Historical Cost Accounting Information: Implications for the Value Relevance of Corporate Reports

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Abstract

Purpose of the article: This study investigates the effect of historical cost accounting on the reported profit of a company, with an evaluation of current cost accounting as an alternative reporting method in a high-inflationary and volatile economy as experienced in Nigeria. Using secondary data gleaned from the annual reports and accounts of ten (10) manufacturing companies quoted in the industrial sector of consumer goods of the Nigerian Stock Exchange from 1996–2016.

Methodology/methods: To test the formulated hypotheses, a multiple regression model was formulated comprising the depreciation charge, taxes and dividend as the independent variables while reported profits both at historical and current cost of the firm served as the dependent variables. The Ordinary Least Square (OLS) estimation technique was employed to ascertain the inter-relationships between the variables.

Scientific aim: This research is aimed at empirically investigating, by means of available statistics, the effect of historical cost accounting on the reported profit of a company during period of inflation.

Findings: The study revealed that both historical cost and current cost accounting have significant effect on reported profit, as an increase in the depreciation charge, tax bills and dividends declared by firms will occasion a decrease in the reported profit.

Conclusions: It is recommended that companies should prepare their financial reports using both historical cost and fair value (current cost) methods simultaneously, as this will allow the companies to ascertain the true financial position of their companies before declaring dividends and other benefits.

Keywords: inflation accounting, current cost (fair-value accounting), profit, dividend, depreciation, historical cost

JEL Classification: M40, M41, M49

Introduction

Accountancy has been severally defined as the process of recording, summarizing, analysing, interpreting and communication of financial information to equity owners of the corporate entities, with a view to aiding effective decision-making. Yet it is sufficient to note that the principal medium for communicating such financial information is through the published corporate reports comprising the statement of financial position, the statement of comprehensive income and all other various accounts as stipulated by IAS 1 and IFRS 1. However, for these published financial reports to serve any meaningful purpose, they must satisfy the threshold qualities of relevance and reliability. According to Gore, Hertz (2016), financial statements have the quality of relevance when they have the ability to influence the decision of users by helping them evaluate past, present or future events or confirming or correcting their past evaluations. The measurement of income is fundamental to financial reporting. It is the basis for stewardship accounting and the wealth maximization objective. It is within this context that current value accounting can provide an insight into possible distributable real income attributable to a business. Currently, the information contained in the published financial statements is traditionally prepared under the historical cost convention (a situation in which accountants record revenue, expenditure and assets acquisition and disposal at the actual amount of money or money worth received or paid to complete the transaction) which under certain circumstances, given fluctuations in the general price levels, can present financial information in a false and misleading manner, thus bringing to question the value relevance and decision usefulness of such statements in terms of reliability and relevance.

1. Rationale/objectives of the study

The relevance of the financial reports based on historical accounting practice has continued to generate intense debates at different forums around the world; see *e.g.* Kekung, Effiong (2012); Bello (2009); Chea (2011). This is especially germane in a high inflationary and distorted economy like Nigeria; except for a few items (assets revaluation, as a major example), financial information in many Nigerian companies are stated under the historical cost convention; this policy is clearly spelt out in the annual reports and accounts of these companies as part of the significant accounting policies adopted in the preparation and presentation of financial statements. According to Maxwell, Argundu (2012), the major shortcomings of historical cost convention include the failure to show whether a company is earning sufficient funds to enable it to maintain its capital in real terms and the extent to which funds can prudently be distributed in the form of dividends. Specifically, the weaknesses of the historical cost convention are reflected in the reliability and usefulness of the reported operating performance balance and the interpretation of financial statements. In terms of operating performance, historical cost accounting matches the current revenue (in current prices) with historical costs such as depreciation of fixed assets. During an inflationary period, the matching process results in inflated profits being reported. Therefore, for the purpose of maintaining business capital in real terms, there is the need to make the necessary adjustments in the historical cost. The impact of changing prices on financial reports in Nigeria is significant and demands careful attention by relevant professional and regulatory bodies, yet so far little has been done to ensure that reporting companies adequately reflect the impact of inflation on their financial statements.

In general, the objective of this paper is aimed at critically examining the effects of current cost and historical cost accounting on the reported profit of quoted firms as it relates to the value relevance and decision usefulness of corporate reports, taking into

account the effect of inflation. Specifically, the research will focus on the following objectives:

● To ascertain the extent to which depreciation charge distorts the value of reported profit using both historical cost accounting and current cost accounting;

● To examine the extent to which tax distorts the value of reported profit using both historical cost accounting and current cost accounting;

● To examine the extent to which dividend distorts the value of reported profit using both historical cost accounting and current cost accounting.

2. Literature review

Financial reporting as defined by Ijeoma (2014) is the means of conveying to management and interested outsiders a concise picture of the profitability and financial position of the business. She concluded that it is made up two statements, i.e a balance sheet and an income statement. Koonce, Nelson, Shakespeare (2011), on the other hand, state that the financial report is synonymous with the financial statement and is a statement which summarizes the information of the firms, financial situation to owners, creditors and the general public. The International Accounting Standard (IAS, 2005) recorded that financial statements consist of the statement of comprehensive income and the statement of financial position, value added statement, notes to the account and five-year historical financial summary. From the researcher's perspective, financial statements are the means by which investors, governments, creditors, competitors, suppliers, customers, and the general public who have no access to management accounts evaluate the performance of an enterprise. They are the communication link between the management and the members of the public. According to the Trueblood report (1973) (in

Glautier, Underdown, 1986), the objectives of financial reporting by business enterprises are to:

● Provide information useful for making economic decisions;

● Serve primarily those users who have limited authority, ability or resources to obtain information and who rely on financial statement as either a principal source of information about the enterprise's economic activity;

● Provide information useful to investors and creditors for predicting, comparing and evaluating potential cash flow in terms of the amount, timing and related uncertainty;

● Provide users with information for predicting comparing and evaluating the enterprise earning ability;

● Provide information useful for the forecasting process. Financial forecasts should be provided when they will enhance the reliability of user's predictions;

● Report on those activities of the enterprise affecting society, which can be determined and described or measured and which are important to the role of the enterprise in its social environment.

The need for inflation adjusted financial statements to reflect current prices has generated heated debates within the accounting discipline, which has polarized accounting professionals into two different schools of thought; the current value or fair value accounting proponents and the historical cost accounting proponents, with the former advocating the need for current value adjustments, while the latter discourages its adoption on the grounds that the techniques were too complex and cumbersome. Proponents of the inflation-adjusted accounts include Sweeney (1927); Kirkman (1974); Anao (2003) and Ebiaghan (2009). Chief opponents include Ijiri (1971); Gore, Hertz (2016); Kirkulak, Balsari (2009) and Effiong (2008). Inflation accounting also known variously as current cost accounting

or fair value accounting or purchasing power accounting is concerned with the appropriate valuation of the inventory, assets and other cost items whose values are influenced by regular price changes. It is envisaged that this adjustment will be carried out through the preparation of set of current cost accounts and balance sheets and current cost reserve into which the historical cost and current cost differentials are consolidated. Inflation accounting is thus a revolutionary offspring of conventional accounting that seeks to expand the scope and accountability power or degree of traditional accounting. It is worth noting the achievement of the present system of historical cost accounting; it will be more beneficial if the HCA system is modified to enhance the accountability and the provision of accounting information that is used to make investment and development planning decision. However, several attempts have been made in the United Kingdom (UK) to prescribe and enforce inflation accounting as described in Table 1.

Eventually, ED 35 never became a standard, which more or less saw the demise of the UK attempts to further develop inflation accounting (Anao, 2003). However in Nigeria, attempts have been made by the Nigerian Accounting Standards Board (NASB, 2001) to introduce current value adjusted accounts by releasing the Exposure Draft ED-22 financial reporting in an inflationary environment. Arguably, inflation accounting or current cost accounting has been one of the most controversial issues in the field of accountancy for the past three decades; this

controversy, according to Anao (1995) is not new. Despite the furore it has generated in every circle where it has been discussed and the copious nature of current cost accounting, this nutty issue has blatantly refused to be solved. Anao (2003) further stated:

"There remain, however wide, (almost) bridgeable differences in the method that (have been) proposed for dealing with the problems. There have arisen, during the last two decades, several published standards and even a greater number of exposure drafts issued by various national standards certain bodies and also the International Accounting Standards Committee (IASC) proposing varying methods to deal with this, example SSAP 7, SSAP 16, IAS 15, IAS 29, etc. The current position however is that apart from one or two countries in Latin America, no other country have uniformly adopted any form of price level."

Anao (1995) further observed that of the developed countries, especially those of the Western Hemisphere do not see the need to adopt current cost accounting or inflation accounting. This is because with their anual inflation rate of between four or six per cent, they do not experience the problem in the same degree as in the developing economies with the inflation rate as high as 200 or 500 per cent annually. Therefore, on the final note, he concluded that there could be no absolute reason for countries of the developing world like Nigeria to feel complacent.

Inflation accounting is concerned with how the issue of price level changes affects business transaction and financial records. It

Table 1. *Timeline of United Kingdom's (UK) attempts to enforce Inflation Accounting.*

January 1973	Exposure Draft No. 8 was published seeking to introduce a General Purchasing Power Accounting System (GPPA)
May 1974	Provisional SSAP 7 was published on Current Purchasing Power Accounting (CPP)
November 1976	ED 18 was published on Current Cost Accounting (CCA)
April 1979	ED 24 was issued amending ED 18
March 198	SSAP 16 was published and PSSAP 7 repealed
1984	ED 35 published seeking to review SSAP 16

Source: Anao (2003).

is therefore concerned with the task of dealing with the issue of value relevance and decision usefulness of financial reports to changes in the general purchasing power. According to Chea (2011):

"Inflation accounting is simply an improved system of measurement which brings financial statements into harmony with current costs and values and provides a foundation for analysis of a company's economic earnings and financial position in an inflationary environment, including any special effect of inflation".

Although the same definition explains and adequately defines the concepts, the researcher attempts to put it in a more refined manner below:

"Inflation accounting is an accounting system or method which seeks to accommodate the monetary and absolute effect that changing price levels have on traditional accounting system or the historical cost system. In a particular period, the aim is to adjust the financial records and reported statements so as to eliminate the effect that such price movement may have on the historical cost book values with the aim of maintaining capital and giving effect to the reported statements and any such decision that may be based on the reported information".

Accounting implications of inflation

As discussed by Song, Thomas, Yi (2010) and Williamson (2003), some of the accounting implications of inflation are discussed under the following headings viz:

Selling prices: During high inflationary periods, a company's ability to fix selling prices and maintain them for a reasonably long period is usually difficult. Companies face several difficulties in sustaining consumer demand as a result of the random behaviour of prices, the effect of which is that demand may fall if prices are considered too high by consumers. On the other hand, the fixing of selling prices becomes guesswork as a result of the unpredictable changes in

economic conditions and prices over a short period of time. The ultimate result of this is that profit making becomes a hardball game, making performance to depend to a great extent on the company's ability to manipulate prices. This is simply a game of luck for financial managers.

Financial planning: As a result of the difficulties of appropriate pricing, the planning of a firm's finances becomes particularly challenging; obviously, it would be better for plans to be reviewed as frequently as economic conditions change. In recent times, especially in the developed countries, the profession of financial management has become crucial, as the survival of companies engaging in competitive production depend on excellent financial planning and management.

Taxation and replacement of assets: During periods of inflation, Maino, Palea (2012), observed that 'traditional historical accounting' tends to overstate profits and these artificial' profits are then taxed by the relevant authorities. Unless various supplementary tax allowances and incentives are granted by the tax authorities, the tax burden will be excessive and higher than the taxes which would have been paid if the reported profits had been adjusted for inflation. As a result of the foregoing, companies are bound to face serious cash shortages. Consequently, the replacement of assets whose prices have risen as a result of inflation becomes difficult; as such companies have to look elsewhere for funds to facilitate such replacement.

Monetary asset or liquidity: During inflationary times, the holding of stocks of goods is advantageous as their value tend to rise in money terms. On the other hand, the holding of liquid or monetary assets *e.g.* cash, bank balances and debts, becomes counterproductive. For example, a bank balance of ten thousand naira (₦ 10,000) held for eight (8) months, during which the purchase power of the currency has fallen by 15% will in real terms be worth only 85% of its value eight

(8) months before. Similarly in real term, a debt of ₦ 10,000 held continually over this same period will have seen its real value fall by 15%; this is what is known as debtor loss and creditor gain during inflation.

Dividend distribution: Just as it is tedious to calculate profit, so it is equally tedious to decide how much to be paid to equity and shareholder without impairing the efficiency and operating capability of the company (Anao, 2003). At the same time, the shareholder, on the other hand, will be expecting higher dividend payments as a reprieve or succour from the general price increase in commodity and consumer goods. If a company pays out a high proportion of its profit as dividends and the profit is overstated as it has been historically computed at current prices, it is certain that there will be the danger that the dividend could be paid out of capital if the dividend exceeds the amount of the real profit. Okafor, Ogiedu (2012) supported basing depreciation upon the replacement rather than historical (original) cost. This might be a way out of any such issue, and they went further to state that the question generally asked in accounting for fixed assets and depreciation charge is "can something be done to incorporate the changes in the purchase power of money" in the income statement. Musa, Yinka (2012), in corroborating this position, stated that failure to acknowledge the effect of changing price levels in the accounts will generally lead to a distortion of specific factors which many types of decision are usually based. The resultant decisions may therefore be misleading to the extent of any distortion contained in the accounts.

3. Research methodology

The method of data analysis employed is statistical, through descriptive analysis of sourced data. The data collected for the study were analysed by running a multiple re-gression technique using the Ordinary Least Square (OLS) technique to test the formulated hypothesis, in addition other tools like t-test, f-test, Durbin Watson, or R-squared, among others, were employed to provide a good estimate of the observed decision variables. The population of this study consisted of all 25 companies listed in the Consumer Goods Industrial Sector on the Main Board of the Nigerian Stock Exchange (NSE). This sector comprises companies that are engaged in the production and manufacturing of final goods. In general, these are products and services classified for personal use, specifically intended for the mass market.

This major sector encompasses goods that are consumed rather than used in the production of other goods, and include both durable and non-durable consumables. This sector comprises manufacturers of automobiles/auto parts, household durable goods, textiles and apparel, as well as manufacturers of food, beverages and tobacco products. The Main Board primarily features shares of large (*e.g.* blue chip) companies. Issuers admitted to this Board can access an unlimited amount in funds from the public.

A sample of ten (10) of these companies in the aforementioned sector were randomly selected from the study population as represented in Table 2. According to Maxwell, Argundu (2012), it is common in research studies to use 10 per cent sample size, because sample size of 10 per cent of the population has been proven to be more than adequate in research projects. Okafor, Ogiedu (2012) corroborated this view when they stated that where a population is known, at least 10 per cent of it constitutes a researchable sample. For this study, ten companies where selected amounting to 20.83% of the population. The analysis worked with secondary data, including the five-year financial summary in the Annual Reports of the quoted companies in the sample size, which spanned the period, 1996–2016 (21 years).

Table 2. List of companies examined for the study.

S/NO	FIRMS	TICKER
1	7-Up Bottling Company	7UP
2	Cadbury Nigeria Plc	CADBURY
3	Flour Mills Nigeria Plc	FLOURMILLS
4	Northern Nigeria Flour Mills Plc	NORTHFLOURS
5	Nestle Nigeria Plc	NESTLE
6	National Salt Company Plc	NASALT
7	Nigeria Bottling Company	NBC
8	P.S Mordrides	PSM
9	Union Dicon Salt	UDICON
10	UTC Nigeria Plc	UTC

Source: Author's compilation.

The hypotheses of the study are stated below:

H_{01}: *Depreciation charge does not have any significant effect on reported profit using both historical and current costs accounting.*

H_{02}: *Tax value does not distort the value of reported profit using both historical and current costs accounting.*

H_{03}: *There is no significant effect between the dividend and reported profit using both historical and current costs accounting.*

Model specification

In analysing the study, the multiple regression technique was adopted because it measured the relationship between the dependent and the independent variables. In order to test the hypotheses, the research adopts the model of Paton (2000), Tearney (2004) and Kekung, Effiong (2012) with slight modifications stated in their explicit form:

Model 1:
$$RPHC = \alpha_0 + \alpha_1 DEP + \alpha_2 TAX + \alpha_3 DIV + \mu_t \dots \ (1)$$

Model 2:
$$RPCC = \beta_0 + \beta_1 DEP + \beta_2 TAX + \beta_3 DIV + \mu_t \dots, \ (2)$$

where:
RPHC   reported profit at historical cost,
RPCC   reported profit at current cost,
DEP   depreciation,
TAX   taxes,
DIV   dividend,

$$\alpha_0, \ \alpha_1, \ \alpha_2 \geq 0; \ \beta_0, \ \beta_1, \ \beta_2 \geq 0.$$

Data for current cost were adjusted for inflation using the consumer price index for various years under the scope of the study. It is sufficient to note that the Ordinary Least Squares (OLS) technique with its desirable property of being a consistent and unbiased estimator was applied. Specifically, both the F statistic and t-statistic will be 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 discussion

Analysis of Descriptive Statistics

The descriptive statistics for the variables, *i.e.* the Reported Profit at Historical Cost (RPHC), Reported Profit at Current Cost (RPCC), Depreciation (DEP), Dividend (DIV) and Taxes (TAX) are provided below:

Table 3 presents the summary of the three independent variables (depreciation, taxes and dividend) and reported profit at historical

Table 3. Summarised variables of the Reported Profit at Historical Cost and independent variables.

Variable	Mean	Std. dev.	Min. value	Max. value
		RPHC		
Overall	19.68628	37.47032	0	331.19
Between		33.611	.9571429	178.8257
Within		16.9881	94.41514	172.7249
		DEP		
Overall	47.1345	876.358	195	607
Between		34.335	57.11	78.412
Within		34.4021	75.14673	205.0333
		TAX		
Overall	80.66243	152.6249	931	1008
Between		117.5091	161	628.4286
Within		98.10852	689.3376	702.6624
		DIV		
Overall	44.82846	102.402	0	910
Between		85.77734	0	585.1429
Within		56.62224	294.3144	615.9713

Source: Researcher's computation via STATA 13.0.

cost for the entire panel of 10 consumer goods firms over 21 years (1996–2016). The overall reported profit at historical cost is ₦ 19.69 with the standard deviation of approximately 38%. This means that the reported profit at historical cost can deviate from mean to both sides by 37%. The highest reported profit at historical cost recorded on accounting year of 2016 is ₦ 331.19 by Nestle Nigeria Plc. The minimum is 0 due to the fact that some firm's data were not consistent during the period under review. The minimum and the maximum between the firms are ₦ 0.957 and ₦ 178.83 respectively with the standard deviation of approximately 34%, while the minimum and maximum within the firms are –94.41514 and 172.7249 respectively with the standard deviation of approximately 17%. From the table, the overall average of depreciation is ₦ 47.14 with standard deviation of ₦ 8.76. This suggests low dispersion of the depreciation values among the studied consumer goods firms. The highest depreciation value for the period is ₦ 607 by Nestle Nigeria Plc in 2016. However, the minimum and the maximum depreciation among the

firms amount to ₦ 57 and ₦ 78 respectively with the standard deviation of approximately ₦ 34.4 while the minimum and the maximum within the companies are ₦ 75.15 and ₦ 205.03 respectively with the standard deviation of approximately ₦ 34.4. The overall mean of tax is ₦ 81 with the standard deviation of 152%. This means that taxes deviated from mean to both sides by 152%. The highest tax recorded during the period is ₦ 1008 by Flour Mills Nigeria Plc., while the minimum is ₦ 931. The minimum and the maximum between the firms are ₦ 161 and ₦ 628 respectively with the standard deviation of approximately 118%, while the minimum and the maximum within the firms are ₦ 689 and ₦ 703 respectively with the standard deviation of approximately 98%.

The average of ₦ 45 dividends was declared by the firms with overall standard deviation of 102%. This means that the dividends varied from mean to both sides by 102%. The highest dividend recorded during the period is ₦ 910 by Flour Mills Nigeria Plc. due to the fact that it recorded the highest historical cost profit while the minimum is 0. This

result shows that some firms did not declare dividends. The minimum and the maximum between the 10 firms are 0 and ₦ 585 respectively with the standard deviation of approximately 86% while the minimum and the maximum within the firms are ₦ 294 and ₦ 616 respectively with the standard deviation of approximately 57%. Using the historical cost, the descriptive statistics suggests that the amount calculated for tax bills and dividend declared were far higher while depreciation charge was far lower.

Table 4 presents the summary of the three independent variables (depreciation, taxes and dividend) and reported profit at current cost for the entire panel of 10 consumer goods firms over 21 years. The overall reported profit at current cost is ₦ 3.94 with the standard deviation of approximately ₦ 7.49. This means that the reported profit at current cost can deviate from mean to both sides by 7.5%. The highest reported profit at current cost recorded on accounting year of 2013 is ₦ 266.28 by Nestle Nigeria Plc. The minimum is 0 due to the fact that some firm's data were not absolutely published during the

period under review. The minimum and the maximum between the firms are ₦ 0.1914 and ₦ 35.765 respectively with the standard deviation of approximately 6.7%, while the minimum and maximum within the firms are ₦ 18.883 and ₦ 34.545 respectively with the standard deviation of approximately 3.40%.

From the table, the overall average of depreciation is ₦ 119.6 with the standard deviation of ₦ 375. This suggests high dispersion of the depreciation values are among the studied consumer goods firms. The highest depreciation value for the period is ₦ 5,721 by Nestle Nigeria Plc. in 2016. However, the minimum and the maximum of depreciation between the firms are ₦ 219 and ₦ 175 respectively with the standard deviation of approximately 26.9% while the minimum and the maximum within the firms are ₦ 115.03 and ₦ 141.01 respectively with standard the deviation of approximately 26.9%. The overall mean of tax is ₦ 16 with the standard deviation of 31%. This means that taxes deviated from mean to both sides by 31%. The highest tax recorded during the period is ₦ 202 by Flour Mills Nigeria Plc.,

Table 4. Summarised variables of the Reported Profit at Current Cost and independent variables.

Variable	Mean	Std. dev.	Min. value	Max. value
RPHC				
Overall	3.937256	7.494064	0	66.238
Between		6.7222	0.19142858	35.76514
Within		3.39762	18.883028	34.54498
DEP				
Overall	119.5653	375.2716	219	5721.4
Between		268.867	571.422	175.0824
Within		26.88042	15.029346	41.00666
TAX				
Overall	16.132486	30.52498	186.2	201.6
Between		23.50182	32.2	125.68572
Within		19.621704	137.86752	140.53248
DIV				
Overall	8.965692	20.4804	0	182
Between		17.155468	0	117.02858
Within		11.324448	58.86288	123.19426

Source: Researcher's computation via STATA 13.0.

while the minimum is ₦ 186. The minimum and the maximum between the firms are ₦ 32 and ₦ 126 respectively with the standard deviation of approximately 24%, while the minimum and the maximum within the firms are ₦ 138 and ₦ 141 respectively with the standard deviation of approximately 20%.

The average of ₦ 9 dividends was reported by the firms with the overall standard deviation of 21%. This means that the dividends declared varied from mean to both sides by 21%. The highest dividend recorded during the period is ₦ 182 by Flour Mills Nigeria Plc. due to the fact that it recorded the highest current cost profit while the minimum is 0. This result shows that some firms did not declare dividends. The minimum and the

maximum between the 10 firms are 0 and ₦ 117 respectively with the standard deviation of approximately 17% while, the minimum and the maximum within the firms are ₦ 59 and ₦ 123 respectively with the standard deviation of approximately 11%. Using the current cost, the descriptive statistics suggests that the amount calculated for tax bills and dividend declared were far lower while depreciation charge was far higher when compared to the historical costs. All naira values were expressed in million.

Correlation analysis

The Pearson Correlation Coefficient is used to establish the inter-correlation between the dependent and independent variables. Saun-

Table 5. Correlation result for reported profit at historical cost & depreciation.

Zero	Partial	Part
0.897	0.867	0.871

Source: Researcher's computation via STATA 13.0.

Table 6. Correlation result for reported profit at historical cost & taxes.

Zero	Partial	Part
0.755	0.790	0.740

Source: Researcher's computation via STATA 13.0.

Table 7. Correlation result for reported profit at historical cost & dividend.

Zero	Partial	Part
0.733	0.780	0.740

Source: Researcher's computation via STATA 13.0.

Table 8. Correlation result for reported profit at current cost & depreciation.

Zero	Partial	Part
1.00	1.00	1.00

Source: Researcher's computation via STATA 13.0.

Table 9. Correlation result for reported profit at current cost & dividend.

Zero	Partial	Part
0.990	0.989	0.981

Source: Researcher's computation via STATA 13.0.

Table 10. Correlation result for reported profit at current cost & taxes.

Zero	Partial	Part
1.00	1.00	1.00

Source: Researcher's computation via STATA 13.0.

ders, 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.

Table 5 shows the correlation result for reported profit at historical cost and depreciation. The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 0.897, 0.867 and 0.871.

Table 6 shows the correlation result for reported profit at historical cost and taxes. The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 0.755, 0.790 and 0.740.

Table 7 shows the correlation result for reported profit at historical cost and dividend. The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 0.733, 0.780 and 0.740.

Table 8 shows the correlation result for reported profit at current cost and depreciation. The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 1.00, 1.00 and 1.00.

Table 9 shows the correlation result for reported profit at current cost and dividend.

The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 0.990, 0.989 and 0.981.

Table 10 shows the correlation result for reported profit at current cost and taxes. The result shows that the degree of association is positive and strong. This was evident in the zero, partial and part correlation value of 1.00, 1.00 and 1.00.

Multi-colinearity tests

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 coefficient in excess of 0.80 may be suspected of exhibiting multicollinearity (Table 11).

The highest correlation as disclosed in the table is between Taxes (TAX) and Reported Profit at Historical Cost (RPHC) showing a value of 0.670. This confirms that there is no multicollinearity among the variables using the reported profit at historical cost.

The highest correlation as disclosed in the table is between Taxes (TAX) and Reported Profit at Current Cost (RPCC) showing a

Table 11. Correlation coefficients matrix of RPHC & independent variables.

	RPHC	DEP	TAX	DIV
RPHC	1			
DEP	0.319	1		
TAX	0.670	0.395	1	
	0.573	0.010	0.492	1

Source: Researcher's computation via STATA 13.0.

Table 12. Summary of collinearity diagnostics: RPHC.

Hypothesize No. of CE(s)	Eigenvalue	Condition index	Critical value
At most 1	2.907	1.000	5%
At most 2	0.084	5.870	5%
At most 3	0.008	18.758	5%

Source: Researcher's computation via STATA 13.0.

value of 0.470. This confirms that there is no multicollinearity among the variables using the reported profit at current cost.

Collinearity diagnostic

The Eigenvalue was used to perform collinearity diagnostic tests in order to test for the long run relationship among the variables.

The results of the collinearity diagnostic test in Table 12 showed that there is a long run relationship among the independent variables and the reported profit at historical cost. The Eigenvalue indicated no co-integrating equation.

The results of the collinearity diagnostic test in Table 13 above showed that there is a long run relationship among independent variables and reported profit at current cost. The Eigenvalue indicated no co-integrating equation.

Analysis of model

This section provides the presentation and analysis of the regression models.

a. Predictors: (constant), DEP, TAX, DIV

Table 14 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^2 is 0.87, indicating that the independent variables in the model are explaining 87% variation on the dependent variables while the unexplained variation is just 13%. The unexplained variation of 13% 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.

a. Predictors: (constant), DEP, TAX, DIV
b. Dependent variable: RPHC

It can be observed that the independent variables give a significant effect on the dependent variable, where f-value (34.279) (p-value=.000) 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 1.93 falls within the inconclusive region of DW partition curve. Hence, it can clearly be concluded that there exists no degree of autocorrelation in the model.

a. Predictors: (constant), DEP, TAX, DIV

Table 16 shows the regression results of the effect between the dependent variable

Table 13. Summary of collinearity diagnostics: RPCC.

Hypothesize No. of CE(s)	Eigenvalue	Condition index	Critical value
At most 1	3.713	1.000	5%
At most 2	0.094	7.140	5%
At most 3	0.007	14.334	5%

Source: Researcher's computation via STATA 13.0.

Table 14. Goodness of fit through R Square: model I.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.880[a]	0.860	0.870	50.88256

Source: Researcher's computation via STATA 13.0.

Table 15. Goodness of fit statistic: model I.

Model	Sum of Squares	Df	Mean Square	F.	Sig.
1 Regression	1446.925	2	723.463	34.279	0.000[b]
Residual	54369.723	7	2589.034		
Total	55816.648	9			

Source: Researcher's computation via STATA 13.0.

Table 16. Goodness of fit through R Square: model II.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.981[a]	0.891	0.971	93.19393

Source: Researcher's computation via STATA 13.0.

(reported profit at current cost) and the independent variables (depreciation, taxes and dividend). As shown above, the value of adjusted R^2 is 0.97, indicating that the independent variables in the model are explaining 97% variation on the dependent variables while the unexplained variation is just 3%. The unexplained variation of 3% 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 have a significant effect on the dependent variable, where f-value is 77.121 (p-value=.000) is greater than the f-tabulated of 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 1.871 falls within the inconclusive region of DW partition curve. Hence, it can be unambiguously concluded that there is no degree of autocorrelation in the model.

Test of hypotheses

H_{o1}: There is no significant effect between depreciation charge and reported profit using both historical and current costs accounting

As indicated in Table 18 above, the t-ratio suggests that the estimated coefficients of the regression parameters carry the right sign (negative signs), which conforms to the a priori expectation. The reason for the sign is that the reported profit is negatively influenced by the depreciation charge (DEP). This implies that an increase in depreciation will bring about a decrease in the reported profit. However, the result revealed that there is a significant effect between the depreciation and reported profit using both historical and current costs accounting.

H_{o2}: There is no significant effect between tax and reported profit using both historical and current costs accounting.

As shown in Table 19, the t-ratio suggests that the estimated coefficients of the regression parameters carry the right sign (negative signs), which conforms to the a priori expectation. The reason for the sign is that reported profit is negatively influenced by taxes (TAX). This implies that an increase in tax will bring about a decrease in the reported profit. However, the result revealed that there is significant effect between tax and reported profit using both historical and current costs accounting.

Table 17. Goodness of Fit statistic: model II.

Model	Sum of Squares	Df	Mean Square	F.	Sig.	DW
1 Regression	8856.345	2	4428.173	77.121	0.000[b]	1.871
Residual	31534.304	7	2866.755			
Total	40390.649	9				

Source: Researcher's computation via STATA 13.0.

Table 18. t-ratio of the Depreciation Charge.

Variables	Coefficients	t-statistic	Prob.
Constant	91.923	5.079	0.000
RPHC	−0.897	−3.133	0.000
RPCC	−0.973	−8.699	0.000

Source: Researcher's computation via STATA 13.0.

Table 19. t-ratio of Tax.

Variables	Coefficients	t-statistic	Prob.
Constant	86.480	2.293	0.000
RPHC	−3.139	−4.082	0.000
RPCC	−5.101	−6.742	0.000

Source: Researcher's computation via STATA 13.0.

Table 20. t-ratio of Dividend.

Variables	Coefficients	t-statistic	Prob.
Constant	86.480	2.293	0.000
RPHC	−3.139	−3.187	0.000
RPCC	−5.101	−7.32	0.000

Source: Researcher's Computation via STATA 13.0.

H_{o3}: *There is no significant effect between the dividend and reported profit using both historical and current costs accounting.*

As shown in Table 20, the t-ratio suggests that the estimated coefficients of the regression parameters carry the right signs (negative signs), which conforms to the a priori expectation. The reason for these signs is that reported profit is negatively influenced by dividend (DIV). This implies that an increase in dividend will bring about a decrease in the reported profit. However, the result revealed that there is a significant effect between dividend and reported profit using both historical and current costs accounting.

5. Conclusion and recommendations

Based on the empirical analysis of the comparative financial statements of the sampled companies after converting the historical cost profit account to current cost (fair value) accounts, it was clearly seen that the reported profit using current cost accounting prices was much lower than that of the historical and most of the companies operated at a loss unknowingly. The study revealed that both historical cost and fair value (current cost) accounting have a significant effect on the reported profit. Additionally, using depreciation charges as one of the major variables

of the study for reporting profit, it was discovered that historical cost accounting made a lower depreciation to be charged against the revenue. This result is in line with the work of Okafor, Ogiedu (2012); Ament (2010); Fiechter, Novotny-Farkas (2011), whose analyses showed that the depreciation charged to the revenue using historical cost were low as compared to current cost method, thereby making the reported profit to be overstated. Finally, tax bill and dividends declared during the period in question. Using the historical cost reported profit to meet these obligations may lead to the companies paying out of their capital which is a serious threat to the liquidity position of the company. This finding concurred with the results of Abdel-Khalik (2011) and Tearney (2004) and was also corroborated by Kekung, Effiong (2012), who coincidentally stated that any attempt to use historical cost method in the current period would lead to the reduction in capital.

However, it is important to note that due to the cumbersome nature of the current cost accounting measurement coupled with the inconsistencies in the consumer price index which serves as the basis of conversion as well as the cost in terms of personnel and finance for implementation, no listed company is currently presenting its financial statements using current cost accounting, and

there is no legislation or accounting standard compelling them to do so; hence the concept is still open to debate and further research as to whether to adopt it or not.

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

Since inflation has made historical cost method of accounting inadequate, transactions and accounts should be made inflation compliant to ensure that profits reported from such transactions are not misleading. The historical financial statements should be published together with current cost financial statements to lay bare before the investors and shareholders.

The Securities and Exchange Commission of Nigeria should make current cost statements a precondition for filing annual returns in the commission. The submission of accounts and financial statements adjusted for effects of price changes should be made one of the conditions for firms to be listed in the stock market. This measure will fairly protect the interest of investors especially in periods of rapid price changes.

Accounting bodies in Nigeria should organize enlightenment workshops for practising accountants and managers of companies to create awareness of current cost accounting and the need to deviate from the historical cost accounting method during inflationary period.

Companies should prepare their financial reports using both historical cost and fair value (current cost) methods simultaneously. This will allow the companies to know the true financial position of their companies before reporting dividend and other benefits.

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