

Applicability of the Synchronized Models of Modified Current and Historical Cost Accounting Methods on the Reported Profits

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Abstract

This study examines the applicability of the synchronized models of the historical cost method and the modified current cost method for financial reporting. Based on the inherent deceitful and irrelevant nature of the historical cost method during periods of rapid price changes and the glaring complex and subjective nature of the current cost method, this study develops models which combine objectivity, noticeable in the historical cost method, with relevance obtained from the current cost method while minimizing the deficiencies inherent in the two methods. Four models were synchronized based on historical cost and current cost data which resulted in the development of the modified accumulated depreciation adjustment (MADPA); modified cost of sales adjustment (MCOSA); modified monetary working capital adjustment (MMWCA) and modified gearing adjustment (MGA). The study revealed that the models when applied to the financial statements will bring about ΔFAV (change in fix asset valuation), ΔSV (change in stock valuation), ΔSFV (change in shareholders' fund valuation) and MCCR (modified current cost reserve). Based on these results, the study recommended that financial statements should be prepared on the bases of relevance, reliability, objectivity, understandability and comparability, especially during periods of changing prices, by applying the synchronized models developed in this study. These models remove the technicalities of ordinary current cost accounting method and retain the objectivity of the historical cost method. With the modified models, financial statements are objective, relevant, reliable and understandable during periods of changing prices.

KEYWORDS: Synchronized Models, Accounting Methods, Modified Current Cost Method, Historical Cost Method, Price Level Changes, Reported Profits

1.Introduction

The existence of inflation and its persistent nature calls for an alternative to the historical cost accounting method of profit reporting. One feasible alternative to the historical cost accounting method is the current cost accounting method. Traditionally, accounting measures profits by comparing sales with cost of sales and overheads measured at their historical costs (Goudek, 1990). This method is often referred to as the historical cost accounting method. However, in recent years when a rise in the general level of prices of over 25% (CBN, 2005) is experienced, the profession has recognized the need for some amendments to the historical cost accounts. This measurement approach reduces the operating ability of the company and does not maintain the capital of the firm. Current cost accounting method has, as a basic principle, that operating profits should only be measured and reported after the capital of the firm had been maintained,(Dean, 1994). The emphasis on capital maintenance is highly imperative in today's business environment if the business must survive and succeed.

The need to maintain the operating capital of the firm intact has made companies and Stock Exchanges to be more concerned about the depleting nature of the shareholders capital resulting from the eroding effect of the historical cost accounting principle. The historical cost concept of accounting has ignored or has not provided for any feasible measure of reflecting the dynamic nature of business transactions, vis-à-vis changing prices. In periods of inflation, the historical cost principle measures profits to the extent that only operating assets in monetary terms are maintained. This measurement approach ignores the preservation and maintenance of operating assets the way they should be in real terms.

This subjective approach has led different users of accounts to have different views from a given set of accounts. Cases where companies subjectively revalue their assets and equally create an equalizing reserve (e.g. Revaluation reserve) is a clear indication of the deficient nature of the historical cost accounting method of reporting profits. Capital cannot be maintained in isolation of the principles, concept and postulates employed in the measurement of the business income. Since the income of the business directly affects the shareholders capital, it therefore follows that the methods employed in measuring the income equally directly influence the value of the shareholders' capital. Historical cost principle of accounting is objective and easy to apply and understand. This is true in periods of relatively stable prices. In periods of changing prices, this method of profit reporting becomes grossly deficient as it overstates profits and thus does not maintain the operating capabilities and operating capital of the firm. Current cost profit is quite suitable and maintains operating capabilities of the firm in periods of changing prices. This method of profit measurement has however been reluctantly adopted because of the seeming subjective nature of indexation and conversion methodology of historical cost assets to their current cost status. This, in many occasions, has caused many users of account not to rely completely on current cost values of transaction in the books of account. Current cost method is also accused of being highly complicated and technical in terms of computation. The paper aims at developing a modification to current cost accounting method with the intent of eliminating the complexities and subjectivity inherent in it while retaining the objectivity inherent in the historical cost method. This paper demonstrates the applicability of the modified current cost accounting and the synchronized models of historical and current cost principles on the reported profit. The paper equally evaluates the impacts of the modified current cost accounting on reported profits.

2. Theoretical Background

Using historical cost method, assets and expenses are entered into the books of account at their actual cost to the business. This method is objective and verifiable. It equally provides a universal, consistent and simple method of recording assets and reporting profits. The historical cost concept focuses on safeguarding assets rather than presenting measurements useful for decision making clearly. Financial reports are intended to provide some safeguards against the misuse of assets by managements and also provide measurement to shareholders indicative of the efficiency with which assets have been employed, (Effiong, S. A., Udoayang, J. O. and Akabom, I. A., 2011).

Conventionally, financial reports prepared on historical cost basis are expected to be relevant, objective, understandable and feasible. It is however glaring that in applying the criterion of relevance to financial reports prepared on historical cost basis, users' information need is not met. The criteria of feasibility, objectivity, ease of understanding and cost of implementation are considered satisfactory in historical cost method.

The historical cost method measurement of profit by comparing sales with costs of sales and overheads (measured at historical costs), is objective and works well in periods of relatively stable prices. It however does not work well during periods of changing prices.

In the balance sheet, business assets have values placed on them and there are several possible ways of finding a basis for valuing these assets. Here are three possibilities.

- What the asset could be sold for if sold as an asset.

- What the asset could be sold for if sold for some other uses
- What was originally paid for the asset during its acquisition

The first and second possibilities may seem useful at first sight but figures can only be obtained by forming opinions, making estimates or simple guessing. This can make the figures subjective whereas accountants prefer to be objective. Thus, the last possibility is preferred because of its objective status. Meigs (1998) sees current cost accounting as a valuation concept which combines the concepts of replacement cost and net realizable value in determining whether selling (exit) or buying (entry) prices should be used for the purpose of establishing the value of an asset to the business. Of all the alternatives to historical cost accounting, current cost accounting is seen by IFRS (2004) as the most reliable and viable basis of profit measurement in periods of price changes. The relevance of current cost accounting informed its adoption by the accounting profession in United Kingdom, for dealing with the problems implied in changing value of money in financial reports, (Gold, 1980). Gold further declares that the Institute of Chartered Accountants of England and Wales adopted SSAP 16, which deals with current cost accounting for use by companies where historical cost accounts are materially affected by price level changes. There is need therefore, for shareholders to have information about the effects of changing price levels in order to fully appreciate the current financial position of the company.

Ross (1990) looks at Current Cost Accounting (CCA) as a methodology originally designed for financial reporting in times of rapidly changing prices where historical cost accounting is considered inadequate. The Financial Accounting Standards Board (FASB) and the International Financial Reporting Standards (IFRS) proposed two approaches to current cost Accounting (CCA), which differ in their consideration of “capital maintenance”. Capital maintenance means the manner in which the capital of the company is viewed for determining profit (Miller, 1991 and Ross, 1990). Capital can either be viewed in operational term (company’s capability to produce goods and services) or in financial term (the value of shareholder’ equity interests). Operating capital maintenance (OCM) concept requires the company to have as much operating capacity at the end of the period as at the beginning. Financial capital maintenance (FCM) considers that financial capital for the company is maintained in real term at the same level as at the beginning of the period.

Among the benefits of current cost accounting is the fact that it represents the amount the firm would have to pay currently to obtain the asset or its services: therefore, it represents the best measures of the value of the inputs being matched against current revenues for predictive purposes. Current cost accounting equally permits the identification of holding gains or losses, thus reflecting the results of asset management decisions and the impact of the environment on the firm not reflected in transaction. It permits the reporting of current operating profit, which may be used to predict future cash flows. Current cost represents the value of the asset to the firm if the firm is continuing to acquire such asset.

Disadvantageously, some objectivity has been lost in current cost accounting. Unless the assets currently sold in the market are identical in all respect to the assets held, some subjectivity must be applied in transferring current exchange price to the old assets. Another disadvantage is that the present value of the benefits to be provided by the asset may not be equal to the current or replacement cost of the asset, (Effiong, S. A., Udoayang, J. O. and Akabom, I. A. ,2011).

3. Methodology

Historical cost method of accounting is objective and simple to calculate and understand. It is however not relevant in periods of changing prices. During these periods, historical cost accounts become defective, deficient and deceitful. Current cost on the other hand is relevant in periods of changing prices but it is highly complicated, technical to compute and subjective in application. To overcome the problems of these two accounting bases, a modified current cost accounting is proposed in this study. This will eliminate the complexities inherent in current cost accounting and retain the objectivity of the historical cost method.

Many developing and developed countries have met resistance and problems of implementation in the process of applying current cost accounting for financial reports. This paper develops simplified models for ease of application of current cost accounting. The following procedures are required for the application of the modified current cost accounting.

- It is published together with the historical cost financial statements to show, on a comparative basis, the effects of inflation on historical cost accounts.
- Monthly price movements are obtained from the Federal Office of Statistics for changes in prices of goods and services.
- Creditors are restated using the lending rate while debtors are restated using the savings rate at the balance sheet date
- Current cost reserve is obtained from the reserves in the modified current cost balance sheet.
- Depreciation is calculated on the adjusted value of fixed assets.
- Dividends are paid from the profits of the modified current cost accounts
- Taxes are calculated on the modified current cost profits of the year

3.1 Synchronized Models for the Modified Current Cost Account

The seven major areas requiring adjustments for the modified current cost accounting are as follows:

- Indexation conversion (IC)
- Depreciation adjustment (DPA)
- Accumulated Depreciation adjustment (ADPA)
- Cost of sales adjustment (COSA)
- Monetary Working Capital Adjustment (MWCA)
- Gearing adjustment (GA)
- Modified current cost reserve (MCCR)

3.1.1 Indexation Conversion

Consumers' Price Index (CPI) is used in the revaluation of all items of the financial statements affected by price changes. The CPI is converted to current cost index using the model below:

$$\left\{ \frac{\text{IABD}}{\text{IABY}} \right\} \times \text{HCA} = \text{MCCA}$$

- Where: IABD = Index at balance sheet date
 IABY = Index at beginning of the year
 HCA = Historical cost accounts
 MCCA = Modified current cost adjustment, (Effiong, 2008).

3.1.2 Depreciation Adjustment

Depreciation adjustment required for the modified current cost accounts is derived from the adjusted historical cost depreciation to current cost depreciation. The model for the depreciation adjustment is as follows:

$$\text{DPA} = \text{DR} \times \text{HCFA} \times \frac{\text{IABD}}{\text{IABY}} - \text{HCD}$$

Where:

- DPA = Depreciation adjustment
 DR = Depreciation rate
 HCFA = Historical cost of fixed asset
 IABD = Index at Balance sheet date
 IABY = Index at beginning of the year
 HCD = Historical cost depreciation. (Effiong, 2004)

The model for the modified current cost depreciation adjustment is given as

$$\text{MCCDP} = \text{DR} (\text{CCFA})$$

Where:

- MCCDP = Modified current cost depreciation
 CCFA = Current Cost of Fixed Asset.

3.1.3 Accumulated Depreciation Adjustment

The total depreciation charged from the time the asset was bought is adjusted as follows:

$$\text{ADPA} = \left\{ \frac{\text{IABD}}{\text{IABY}} \right\} \times \text{HCAD}$$

- Where: ADPA = Accumulated depreciation Adjustment
 HCAD = Historical cost accumulated depreciation. (Effiong, 2008)

The model for the modified accumulated depreciation adjustment is given as:

$$\text{MADPA} = \text{ADPA} + \text{MCCDP}$$

Where:

- MCCDP = Modified Current Cost Depreciation
 MADPA = Modified Accumulated Depreciation Adjustment

3.1.4 Cost of Sales Adjustment

Cost of sales is adjusted using the model below:

$$CCOS = HOPS \left\{ \frac{IABD}{IABY} \right\} + Ps - HCS \left\{ \frac{IABD}{IABY} \right\}$$

Where:

- CCOs = Current cost of sales
- HOPS = Historical cost of opening Stock
- HCS = Historical cost of closing stock
- PS = Purchases for the period. (Effiong, 2004)

This model is modified as follows:

$$CCOPs + Ps - CCCs = MCOSA$$

Where:

- MCOSA = Modified Current cost of sales
- CCOPs = Current Cost of opening Stock
- CCCs = Current Cost of Closing Stock

3.1.5 Monetary Working Capital Adjustment

Monetary working capital is adjusted as follows:

$$CCMWC = \left\{ CMWC \left[\frac{AI}{IABD} \right] \right\} - \left\{ OMWC \left[\frac{AI}{IABY} \right] \right\}$$

Where:

- CCMWC = Current cost monetary working capital
- CMWC = Closing Monetary working Capital
- AI = Average Index
- OMWC = Opening monetary working capital. (Effiong, 2008).

The modified model which synchronizes current and historical costs monetary working capital is given as:

$$MMWCA = CCCMWC - CCOMWC$$

Where:

- MMWCA = modified monetary working capital adjustment
- CCCMWC = Current Cost Closing Monetary Working Capital
- CCOMWC = Current Cost Opening Monetary Working Capital

3.1.6 Gearing Adjustment

The model for the mix between historical and current cost gearing is given as:

$$MGA = \frac{L}{L+S} \left\{ MCCDP + MCOSA + MMWCA \right\}$$

Where:

- MGA = modified gearing adjustment

L	=	creditors falling due after one year
S	=	Shareholders' Fund
MCCDP=		modified current cost depreciation
MCOSA=		modified cost of sales adjustment
MMWCA	=	modified monetary working capital adjustment.

4. Results

The summarized models which harmonize objectivity with relevance of financial reports are presented below. These are the basic objectives of financial reporting.

The models minimize the technicalities of the current cost accounting method. The formats for the simplified models are as follows.

$$\begin{aligned}
 \text{MCCDP} &= \text{DR (CCFA)} \\
 \text{MCOSA} &= \text{CCOPs} + \text{Ps} - \text{CCCs} \\
 \text{MMWCA} &= \text{CCCMWC} - \text{CCOMWC} \\
 \text{MGA} &= \frac{\text{L}}{\text{L} + \text{S}} \left\{ \text{MDPA} + \text{MCOSA} + \text{MMWCA} \right\}
 \end{aligned}$$

4.1 Modified Current Cost Reserve (MCCR)

This reserve is created to take care of all the adjusted items in the financial statements. The reserve created in this paper is made up of:

- Modified current cost adjustments (MCCAs) as shown in the summarized presentation of modified current cost.
- Fixed asset Valuation (FAV)
- Stock Valuation (SV)
- Shareholders' Fund Valuation (SFV)

The creation of MCCR is based on changes in items above. The changes are presented as follows:

$$\begin{aligned}
 \Delta \text{FAV} &= \text{MCC}_{\text{FAV}} - \text{HC}_{\text{FAV}} \\
 \Delta \text{SV} &= \text{MCC}_{\text{SV}} - \text{HC}_{\text{SV}} \\
 \Delta \text{SFV} &= \text{MCC}_{\text{SFV}} - \text{HC}_{\text{SFV}} \\
 \text{MCCR} &= \text{MCCA} + \Delta \text{FAV} + \Delta \text{SV} + \Delta \text{SFV}
 \end{aligned}$$

Where:

FAV	=	Fixed Assets Valuation
SV	=	Stock Valuation
SFV	=	Shareholders' Fund Valuation

5. Discussions

The study looked at empirical models which combines relevance with objectivity in financial reports. Historical cost method is seen to be deficient and thus not relevant in periods of changing prices while current cost method is seen to be subjective and complicated in application. These two accounting methods are however accepted for objectivity and relevance respectively to historical and current cost methods.

The study presents models which harmonize the acceptable qualities of the current cost method with those of the historical cost method in drawing up financial reports. These significant and empirical models are capable of neutralizing the deficiencies inherent in the historical cost and current cost accounting. The measurement base of any financial transaction greatly determines what figure is reported as net profit. During periods of increasing prices, historical cost method will normally undermine the operating capabilities of the company by overstating the value of the net profit. This is due to the consideration of depreciation charges on very old values of asset and the payments of dividends and high taxes on overstated profits. Current cost method charges depreciation based on a very recent cost of the assets and as such profits are not overstated and dividends and taxes on based on results obtained from current values of transactions. The synchronized models ensure the maintenance of the operating capabilities and operating capital of the firm.

The deficiencies in the measurement of profits become very prominent during periods of changing prices where the value of today's naira cannot be reasonably compared with the value of the naira tomorrow. This rapid erosion in the purchasing power of money exerts equal eroding effect on the firm's operating capabilities. If profits are not measured in a way that figures are not overstated, the real value of the operating capability of the firm's capital cannot be maintained. McIntyre (2007) concluded in his study that profit obtained from historical cost method is overstated while current cost method of reporting profits based on current circumstances of the firm's operations is complex and difficult to apply. Hendrickson (2006) came out with the conclusion that during periods of increasing prices, current cost financial statements should be published alongside historical cost financial statement since the reported profits and balance sheet figures of these two methods bear different weights on the operating capabilities of the firm's capital.

6. Conclusion

The synchronized models overcome the inherent complexity of current cost accounting computation and retain the objectivity of historical cost accounting. The application of these models injects reliability, relevance, objectivity, comparability and understandability into financial reports prepared during periods of price changes for the purpose of showing the effects of inflation on transactions of the firm. Investors and shareholders' confidence are secured during periods of changing prices with the application of the synchronized models to every transaction in the firm.

7. Recommendations

Since the reported profits significantly affect the operating ability of the firm's capital, management should therefore gear its efforts toward ensuring that profits reported are suitably adjusted for the effects of changing prices. The required adjustments must necessarily inject reliability, objectivity, relevance, understandability and comparability into financial reports. An acceptable fact is that inflation has become persistent in our economy, transactions and accounts should be made inflation complaint to ensure that profits from such transactions do not undermine the value of capital.

This is possible by publishing accounts which have been adjusted with the synchronized models of current and historical cost methods of financial reporting to lay bare before investors and shareholders the effect of inflation on their investments. The Securities and Exchange Commission should make inflation adjusted financial statements a precondition for filing annual returns in the commission. Equally, 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. It is not necessary to regularly inject capital or recapitalize the firm but it is sufficient to maintain the original operating ability of the firm's capital by applying the synchronized adjustment models on financial transactions. Historical cost profits should have less emphasis but not abandoned while the adjusted profits should form underlying bases for corporate and investment decisions.

References

Beaker, W. and Manigold, J (1995). *Inflation and Current Value Accounting*. Illinois: University of Illinois Press.

Berliner, R. W. (1993). "Do analysts use inflation-adjusted information? Results of a Survey". *Economic Consequences of Financial Standards, Selected Papers* 13, 7-10.

Central Bank of Nigeria (2005) Monthly Labour Review. *Bullion*, 8, 56.

Cockran, N. G. (1994). "On the Performance of the Linear discriminant Function". *Technometrics* 11 (5), 70-73.

Dean, G. A. (1994). "The Stock of Fixed Capital in the United Kingdom in 1991". *Journal of the Royal Statistical Society*. 127 (3) 142 -146.

Effiong, S. A. (2004). Current Cost Profit Measurement as it Affects Corporate Capital. *Nigerian Journal of Social and Development Issues*. 4(1), 121 – 133.

Effiong, S. A.(2008). Historical cost Profits and the Capital of the Firm: An Evaluation of Current Cost Accounting as an Alternative Reporting Approach. *Journal of Management and Enterprise Development*. 5 (4), 112 - 127

Effiong, S. A., Udoayang, J. O. and Akabom, I. A. (2011). 'Correlational and Differential Influence of Historical cost and Current Cost Profits on the Operating Capabilities of the Firm.' *International Journal of Financial Research*. 2 (1), 64 – 70.

Gold H. P. (1980) "Current Cost Accounting-the End of the Beginning" *The Accounting Magazine* 74 (4), 12-21.

Goudekot, A. (1990) "An Application of the Replacement Value Theory". *Journal of the Institute of Chartered Accountants of Scotland* 84 (7) 128-135

Hendrickson, J. (2006). 'The case against the separation of current operating profit and holding gains' *Accounting Review*, 2 (1), 28- 35

International Financial Reporting Standards (2004). *Financial Reporting in Hyper Inflationary Economy*. Washington DC. World Bank

Mclyntre, E. W.(2007). "Interaction effects of inflation accounting models and accounting techniques." *The Accounting Review*, 53, (1), 45-49.

Meigs, W. B. (1998) *Intermediate Accounting* Englewood, McGrawHill

Miller, G. (1991). "A Simple Guide to CCA" *Accounting*, 92 (1) 1077 – 1082

Ross, D. (1990)."Current Cost Accounts What do they Mean?" *Accountancy*, 93 (1), 1065-1068

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