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COMPARATIVE ANALYSIS OF THE VALUE RELEVANCE OF HISTORICAL COST ACCOUNTING AND INFLATION-ADJUSTED ACCOUNTING INFORMATION

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ABSTRACT

This study investigates the comparative value relevance of historical cost accounting and inflation adjusted accounting information in Nigeria. Historical cost financial statements of a sample of companies obtained from the Nigerian Stock Exchange were restated using the Parker 1977 approach and instrumental variable equations were constructed to adjust the independent variable for measurement errors. Regression analysis has been used to measure the joint effect of the earning numbers on security prices. Our results show that historical cost information has the potency of distorting, though not significantly, the accounting information provided to decision makers. Our findings also show that historical cost information is more value relevant than inflation adjusted accounting information. However, the value superiority was not found to be statistically significant. Furthermore, our findings show that the information content of inflation adjusted data beyond those of historical cost have statistically significant incremental explanatory power over and above those of historical cost. Consequently, it is recommended that policy makers in Nigeria should encourage firms to provide inflation adjusted information to compliment, rather than replace, the conventional historical cost financial information provided in annual reports.

Keywords: *Historical cost, Inflation accounting, Nigerian Stock Exchange, Value relevance.*

1. INTRODUCTION

The debate on the relevance of inflation accounting information is far from being settled in both developed and developing countries of the world. This is because the results of research in this area are not one directional. While some studies such as Mensah (1983), Nunthirapakorn and Millar (1987), Brayshaw and Miro (1985), Thomson and Watson (1989), Salvary (2004) established the relevance and validity of historical cost information even in an inflationary environment thus proving the irrelevance of inflation accounting information. Other studies like Lobo and Song (1989), Bartley and Boardsman (1990), Sami (1993), Barniv (1999), Davis-Friday and Rivera (2000) however find evidences to support the greater relevance of inflation accounting information in an inflationary period.

These conflicting results call for further investigation in the area of the relevance of inflation accounting information. Furthermore, unlike the industrialized markets that hardly experience persistence of inflation, developing economies often experience hyperinflationary situations. This makes it important for these countries to examine the value relevance of inflation accounting information in relation to stock prices. The Nigerian economy has over the years, especially from 1992 to 1996, experienced hyperinflationary trend. The double digit inflation rate has continued to persist unabated. This situation has created the need for a comparison between historical cost accounting (hereafter, HCA) and inflation-adjusted accounting (hereafter, IFA) information.

There is a dearth of research studies on the value relevance of IFA information in Nigeria. With the exception of recent studies by Effiong (2008) which examines the value relevance of current cost accounting as an alternative reporting approach to historical cost, and Bello (2009) which investigates the relation between financial information quality and inflation accounting disclosure of some cement companies, there is no study to the best of our knowledge that focuses on the value relevance of IFA information in relation to stock prices in Nigeria.
This study contributes to the general body of knowledge on inflation accounting in two ways. First the study examines the mean differences between historical cost financial ratios and inflation-adjusted financial ratios. The objective is to reveal the distortion caused by historical cost information during inflationary period. Four financial ratios-returns on assets, return on equity, return on market value of equity, and return (plus depreciation) on market value of equity, are computed for both historical cost and inflation adjusted data. Our results show that historical cost financial ratios are generally higher than inflation adjusted ratios, except for return (plus depreciation) on market value of equity. Second, we compared the information content of HCA and IFA in order to determine the incremental content of each. Our findings support the need for inflation-adjusted information during inflationary period.

The remaining parts of this paper are organised as follows. Section two reviews relevant existing literature and provides the theoretical and conceptual framework of the study. Section 3 discuses the methodology of the study. Section 4 presents the results of the analyses and their implications while the last section concludes the study and presents some recommendations.

2. LITERATURE REVIEW

A review of IFA information literature indicates that the predictive ability of IFA is one of the ways in which its relevance to users has been tested. Studies by Ketz (1978a), Baran, Lakonishok and Ofer (1980), Hasbrouck (1985), and Bartley and Boardman (1986, 1990) find evidence to suggest that IFA information has better predictive ability of object of interest (bankruptcy, takeover etc) than HCA information. Conversely, no such evidence was found by studies like Elam (1975), Norton and Smith (1979), Short (1980), Mensah (1983), and Keasey and Watson (1986). One other way of testing the relevance is the stock market reaction in the form of changes in share price in response to the availability of IFA information on the market. This is measured by their relative information content based on the Capital Asset Pricing Model (CAPM) theory. Prominent in this area are the studies by Ro (1981), Schaefer (1984), Brayshaw and Miro (1985), Bernard and Roland (1986), and Nunthirapakern and Millar (1987). These studies did not find any evidence to support the greater information content of this type of information over and above historical costs. However, Lobo and Song (1989), Thorne (1991), Sami (1993), Barniv (1999), Davis-Friday and Rivera (2000), and Bello (2009), confirmed the greater explanatory power of IFA information in an inflationary environment.

Because decision-making usefulness is the basic and paramount objective of accounting, the relative ability of inflation accounting to meet this objective has been variously considered in research studies such as Dyckman (1969), Norby (1980), Todds (1982) and Modison and Radiq (1983). They all find IFA to be useful in decision making. However, Thomson and Watson (1989), Beaver, Griffin and Landsman (1982) and Bar-Yosef and Lev (1983), have found contrary evidence.

The essence of any variant of inflation accounting method is to prevent inadvertent depletion of capital and present up to date value for assets displayed in the balance sheet at the balance sheet date. Therefore, the theory of IFA is structured around two principal statements in the financial reports; the profit and loss account, and the balance sheet. Money is used as a measure of items in these statements. Consideration in both statements also resolves around the concept of capital maintenance. Hicks (1946) and Revsine (1981) opine that an income measure is a derivable after capital is maintained. And capital may not be maintained until proper and up-to-date values have been ascribed to assets in the balance sheet, depending on which type of capital one wishes to maintain (Revsine).

However, opinions are divided on which capital one wishes to maintain; the financial capital or the physical/operating capital. IASC (as cited in Wikipedia, 2009) suggests that the needs of users of financial statements should be the determining factor of the type of capital to maintain. This need of users is closely related to the Equity Theories which as Glautier and Underdown (1986), Troberg and Ekholm (1995), and Riabi-Belkaoui (2004) indicate include Proprietary theory, Entity theory, Enterprise theory and Residual Equity theory.

The development of theory in this study is based upon the Residual Equity Theory (RET) with the attendant financial capital maintenance concept. In other words, the position maintained here is that users of financial statements are primarily interested in the direction which financial resources of a firm is taking so that the capital contributed is maintained in real terms. Kirkman (1974) maintains that capital can only be maintained when the ability of the investors to purchase consumer goods and services has been maintained from one period to the other. The information need therefore is the provision of accounting information that shows the performance of a firm in terms of its ability to generate returns on financial statement. The RET propound that equity holders are secondary and residual in every respect in relation to their firm. Though assets are owned by a firm, it is in trust from residual equity holders.

This study seeks to answer the question of value relevance of IFA information vis-à-vis HCA information during an inflationary period. This is accomplished by empirically examining the statistical relationship between security prices and changes in earning numbers computed from both sets of accounts.

3. METHODOLOGY

This study is an ex-post-facto research that uses the Sharpe's Model to compare the reaction of stock prices to historical cost and inflation adjusted information. It concentrates on determining the association between changes in share prices and earning numbers computed from the two types of accounting information. The ability of any version of earning numbers to better explain changes in share prices indicates the relative information content of that type of accounting information.

3.1 Sample Selection

This study uses companies listed on the NSE. The option of listed companies was considered necessary in order to ensure access to relevant financial statements and allow for unbroken trend in the availability of data for the entire ten year period of the study. Sixty seven (67) manufacturing companies quoted on the Nigerian Stock Exchange as at 31 December, 2010, were involved in the research. Although sixty seven companies were involved in the research, the financial statements used in the study were obtained for periods ranging from six years to ten years because the listings of some of the companies on NSE were not up to ten years. This unequal number of financial statements for each company has support in Beaver and Manegold (1975). A further constraint is the non-contemporaneous accounting year end date which is supported by the approach in Gonedes (1974).

3.2 Data Restatement

There are no Nigerian companies that provide IFA information of any description in their financial statements because there is neither legal nor institutional (in the form of standards) requirement to do so. Hence, IFA information needs to be approximated from HCA information available in the available financial statements. The essence is to get IFA information as if companies provided them in their financial statements.

Several methods have been employed in similar studies to estimate the IFA information; however this study adapts the Parker (1977) approach which has been validated in Ketz (1978b). While the procedures adopted are similar to that of Parker differences exist in the valuation of closing stock which is based on monthly restatement of estimated monthly purchases. Furthermore, the manner of determining purchasing power gain is in line with the procedures prescribed in Kieso and Weygnadt (1983), and the IFA depreciation charge was obtained by multiplying total inflation adjusted value of asset by the proportion of historical cost depreciation charge to total historical cost value assets.

3.3 Variables and Model Specifications

The dependent variable is represented by share prices (P_{it}). Share price is measured in terms of the market value of equity three months after the end of a company's financial year.

Since market return (that is, changes in market wide index of returns) has been found to also have a caused relationship with share prices, (in fact, Ball and Brown (1968) observed that about 30% to 40% of changes in individual company share price can be attributed to changes in market return) the effect of changes in market-wide return must be extracted from stock prices. In this regard, Fama, Fisher, Jensen and Roll (as cited in Ball & Brown) suggest that this could be accomplished by regressing share prices on market returns over time. Market return in this regard is the average of ordinary share prices on the Exchange at the date the P_{it} was taken. This follows the Dow-Jones Industrial Average Method. To isolate changes in share price due to market factors, the Sharpe (1964) model, stated below, was adopted. The model states that:

$$R_{it} = a_i + b_i R_{mt} + U_{it} \quad (1)$$

Where R_{it} = the return of security i in year t
b_i = co-efficient of security i
R_{mt} = the market return in year t
U_{it} = error term

The other factor that needs to be controlled for, in the dependent variable is the amount of dividend paid in the accounting year which has effectively been taken care of by Murdock formula used for determining the stock price.

The use of P_{it} assumes that share prices react to the disclosure of HCA information in the published financial statements and that investors build an inflation factor to cause a change in the price of shares.

Since Gonodes (1974) concludes that earning of any type has causal relationship with share price this study relates changes in share price with changes in selected earning numbers. The selected earning numbers used as proxies for independent variables as a consequence of their frequent use in price-earning research are:

i) Return on Assets (ROA) defined as profit on ordinary activities before tax (PBTE) to total assets (TA)
ii) Return on Equity (ROE) defined as profit on ordinary activities after tax (PATBE) to shareholders funds (NW).
iii) Return on Market Value of Equity (ROM) defined as profit on ordinary activities after tax (PATBE) to market value of equity (MV) and
iv) Return (plus depreciation) on Market Value of Equity (RdOM) defined as profit ordinary activities after tax plus depreciation (PATBED) to market value of equity (MV).

The formulas for calculating the earning numbers used in this study are provided in Table 1.

Table 1: Earning Numbers and Formulas

ROA	$PBTE_t/TA_{t-1}$
ROE	$PATBE_t/NW_{t-1}$
ROM	$PATBE_t/MW_{t-1}$
RdOM	$PATBED_t/MW_{t-1}$

All the denominators of the independent variables have one year lag, which causes a loss of one year in accounting data hence, though the accounting data collected starts from 2000, the computation of the earning numbers starts from 2001.

Beaver and Manegold (1975), Baran, Lakonishok and Ofer (1980) note that the variables involved in this study are prone to measurement errors. These errors were therefore eliminated from the independent variables by constructing instrumental variable equations as contained in Beaver and Manegold. The use of the Sharpe Model (which is a form of instrumental variable equation) to control for market returns in the dependent variable has effectively removed any measurement error.

In line with Kirkulak and Balsari (2009), we employed multivariable regression models which relate the dependent variable (P_{it}) with changes in the earning numbers used as proxies for the independent variables from both HCA and IFA information as follows:

$$P_{it} = \beta_0 + \beta_1 hroa_{it} + \beta_2 hroe_{it} + \beta_3 hrom_{it} + \beta_4 hrdom_{it} + E_{it} \quad (2)$$

$$P_{it} = \beta_0 + \beta_1 hroa_{it} + \beta_2 hroe_{it} + \beta_3 hrom_{it} + \beta_4 hrdom_{it} + \beta_5 \Delta iroa_{it} + \beta_6 \Delta iroe_{it} + \beta_7 \Delta irom_{it} + \beta_8 \Delta irdom_{it} + E_{it} \quad (3)$$

$$Pi = \beta_1 iroa_{it} + \beta_2 iroe_{it} + \beta_3 irom_{it} + \beta_4 irdom_{it} + E_{it} \quad (4)$$

$$Pi = \beta_0 + \beta_1 iroa_{it} + \beta_2 iroe_{it} + \beta_3 irom_{it} + \beta_4 irdom_{it} + \beta_5 \Delta hroa_{it} + \beta_6 \Delta hroe_{it} + \beta_7 \Delta hrom_{it} + \beta_8 \Delta hrdom_{it} + E_{it} \quad (5)$$

Where Pi = Share prices

hroa/iroa =historical cost data/inflation adjusted data for return on assets

hroe/iroe =historical cost data/inflation adjusted data for return on equity

hrom/irom =historical cost data/inflation adjusted data for return on market value of equity

hrdom/irdom =historical cost data/inflation adjusted data for return (plus depreciation) on market value of equity

Δhroa/Δiroa =change in historical cost/inflation adjusted data for roa (calculated as iroa - hroa/hroa-iroa)

Δhroe/Δiroe =change in historical cost/inflation adjusted data for roe (calculated as iroe - hroe/hroe-iroe)

Δhrom/Δirom =change in historical cost/inflation adjusted data for rom (calculated as irom - hrom/hrom-irom)

Δhrdom/Δirdom =change in historical cost/inflation adjusted data for rdom (calculated as irdom - hrdom/hrdom-irdom)

Eit =random error component.

β_0 = intercept

β_1, β_2, β_3, β_4 are regression co-efficient.

In line with Kirkulak and Balsari (2009), Δiroa, Δiroe, Δirom and Δirdom are used in model 4 to show the difference between the inflation adjusted values and historical cost values. In model 6 Δhroa, Δhroe, Δhrom and Δhrdom are used to make reversed calculations to measure the change in the earning numbers.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 2 presents the results of the descriptive statistics of the absolute earning numbers used in the study.

Table 2: Descriptive Statistics of HCA and IFA Earning Numbers

	Before Inflation Adjustment				After Inflation Adjustment				
	Mean	Median	Min	Max	Mean	Median	Min	Max	t-statistic
ROA	0.0706	0.0405	0.0145	0.0308	0.358	0.0357	-0.325	0.2032	3.057
ROE	0.2866	0.2429	0.0407	0.791	0.0745	0.0979	-0.1205	0.3458	1.702
ROM	179.153	162.78	32.111	672	76.133	44.744	-176.32	462.95	2.478
RdOM	459.757	355.093	149.262	1337.42	586.3	348.028	91.69	2342.77	8.265*

ROA is return on asset; ROE is return on equity; ROM is return on market value of equity; RdOM is return (plus depreciation) on market value of equity.

**Significant at 10% level.*

Table 2 shows the mean values and t statistics for historical cost-based and inflation-adjusted balance sheet and income statement items. The results reveal how the application of inflation accounting affect reported financial results in Nigeria.

Although, the differences between inflation-adjusted and historical-based financial results are not generally statistically significant, on the overall, the historical-based financial ratios are higher than the inflation-adjusted ratios. The means of HCA variables are more than twice that of IFA with HCA ROE being about four times the

IFA ROE. The only exception is the return (plus depreciation) on the market value of equity (RdOM). This is expected because the two variants of RdOM have the same denominator (market value of equity). However, the figure for inflation adjusted depreciation makes the numerator of the inflation-adjusted RdOM larger than historical cost-based RdOM.
Our results support the findings of Thies and Sturrock (1987) and Kirkulak and Balsari (2009). They indicate that historical cost ratios could distort information in the financial statements which may lead to incorrect decision and stock analyses.

4.2 Regression Results
In tables 3 and 4 we present our regression results for models 2, 3, 4 and 5. The regression results for models 2 and 3 are first presented in table 3.

Table 3: Regression Results for Value Relevance of inflation adjusted Data and Historical -Cost Data[a]

Regression Results for Models (2) and (3)

$P_{it} = \beta_0 + \beta_1 hoa_{it} + \beta_2 hroe_{it} + \beta_3 hrom_{it} + \beta_4 hrdom_{it} + E_{it}$

$P_{it} = \beta_0 + \beta_1 hroa_{it} + \beta_2 hroe_{it} + \beta_3 hrom_{it} + \beta_4 hrdom_{it} + \beta_5 \Delta iroa_{it} + \beta_6 \Delta iroe_{it} + \beta_7 \Delta irom_{it} + \beta_8 \Delta irdom_{it} + E_{it}$

Model Specification				*Co-efficient estimate of variables*							
R2	*F*	*Sig*	*N*	*hroa*	*Hroe*	*hrom*	*hrdom*	*Δiroa*	*Δiroe*	*Δirom*	*Δirdom*
.34	*1.536*	*.254*	*63*	*-718.918*	*105.724*	*.256*	*-.033*				
				*(-2.27)***	*(1.527)*	*(1.178)*	*(-.991)*				
.86	*6.09*	*.01**	*63*	*-496.16*	*-179.382*	*.303*	*.165*	*537.394*	*-188.869*	*.478*	*-.437*
				*(-2.366)***	*(-1.552)*	*(1.755)*	*(2.366)***	*(1.736)*	*(-1.405)*	*(3.064)***	*(-4.402)****

[a] t – values are in parenthesis. ***, **, and * indicate that values are sig. at 1%, 5% and 10% respectively

Table 3 shows the coefficient estimates and R^2 values from the estimation of the regressions of market price on historical cost-based variables.

Model (2) measures the information content of historical cost data. The historical-cost based regression results reveal that only return on assets is statically significant at 5% level. The adjusted R^2 of the model is 34% and is not significant. This finding implies that although there is a significant negative relationship between return on assets and stock price, the model as a whole is not well fitted because only 34% of the variation in market price is explained by the four (4) independent variables put together.

Model (3) measures the information content of inflation-adjusted data beyond those of historical cost data. The result shows that inflation-adjusted data have significant incremental explanatory power over and above historical cost data. The model indicates that return on assets, return (plus depreciation) on market value of equity and change in return on market value of equity due to inflation are significant at 5% level while change in return (plus depreciation) on market value of equity due to inflation is significant at 1% level. The remaining variables are not found to be significant.

The R^2 of the model is 86% and is significant at 1% level. This implies that the model is well fitted as 86% of the variation in market price is explained by the combined effect of the independent variables.

The regression results for models 4 and 5 are next presented in table 4.

Table 4: Regression Results for Value Relevance of inflation-adjusted Data and Historical- Cost Data[a]

Regression Results for Models (4) and (5)

$P_{it} = \beta_0 + \beta_1 iroa_{it} + \beta_2 iroe_{it} + \beta_3 irom_{it} + \beta_4 irdom_{it} + E_{it}$

$P_{it} = \beta_0 + \beta_1 iroa_{it} + \beta_2 iroe_{it} + \beta_3 irom_{it} + \beta_4 irdom_{it} + \beta_5 \Delta hroa_{it} + \beta_6 \Delta hroe_{it} + \beta_7 \Delta hrom_{it} + \beta_8 \Delta hrdom_{it} + E_{it}$

Model Specification				*Co-efficient estimate of variables*							
R2	*F*	*Sig*	*N*	*iroa*	*iroe*	*irom*	*irdom*	Δh*roa*	Δh*roe*	Δh*rom*	Δh*rdom*
.04	*0.141*	*.964*	*63*	*-101.016*	*70.019*	*.008*	*-.002*				
				(-.305)	*(.454)*	*(.035)*	*(-.032)*				
.86	*6.09*	*.01***	*63*	*-496.16*	*-179.382*	*.303*	*.165*	*-1033.55*	*9.488*	*-.175*	*.602*
				*(-2.366)***	*(-1.552)*	*(1.755)*	*(2.366)***	*(-3.256)***	*(.153)*	*(-.992)*	*(3.791)****

[a] t – values are in parenthesis. ***, **, and * indicate that values are sig. at 1%, 5% and 10% respectively

In table 4, model (4) measures the information content of inflation-adjusted data. The results show that none of the inflation adjusted financial ratios is statistically significant. Furthermore, the R^2 of the model has decreased to 4.2%. As Kirkulak and Balsari (2009) indicate, the variables in a model with a greater R^2 are considered as being more value relevant. Therefore, since the explanatory power of model (2) is greater than model (4), the historical cost accounting information can be said to be more value relevant than inflation-adjusted information. The results in model (5) show that inflation-adjusted information in respect of return on assets and return (plus depreciation) on market value of equity are significant at 5% level, while inflation-adjusted difference in return on equity and return (plus depreciation) on market value of equity are significant at 1% level. The R^2 remains 86% and significant at 1% level. These findings which are parallel with Beaver and Manegold (1975), Baran Lakonishok and Ofer (1980), Thiers and Sturrock (1987), Thomson and Watson (1989), Labo and Song (1989), and Kirkulak and Busari (2009), show that inflation-adjusted data are also value relevant.

The implication of these findings is that the market is capable of adjusting itself in response to financial information for inflation using general price index by building it into pricing decision. As a whole, our results support the fact that historical cost and inflation-adjusted information are complementary rather than substitute to each other.

5. CONCLUSIONS

In this study, we investigated the value relevance of historical cost accounting and inflation-adjusted accounting information using a sample of sixty seven (67) quoted manufacturing firms in Nigeria.

One of our major goals was to assess whether historical cost accounting causes distortion in the information provided to decision makers and thus justify the need for inflation-adjusted accounting information.

Our t-test results show that historical-cost ratios distort information in financial statements. However, the distortion was generally not statistically significant.

Our main goal however was to compare the value relevance of historical-cost with inflation-adjusted information.

Our regression exercises on pooled data show that historical-cost information is more value relevant than inflation-adjusted information although this was not found to be statistically significant. Furthermore, we measured the information content of inflation-adjusted data beyond those of historical-cost data. Our findings show that the information content of inflation-adjusted data beyond those of historical cost have statistically significant incremental explanatory power over and above those of historical cost.

Overall, our study concludes that HCA and IFA information complement each other rather than replace each other.

Our findings have several important implications. Policy makers in Nigeria may consider encouraging firms to provide IFA information to complement HCA information for as long as the inflationary trends in the country persist. The evidence presented in this paper also underscores the need for further research in this area using different industry (ies) and a larger sample.

REFERENCES

Ball, R. & Brown, P. (1968). An empirical evaluation of accounting numbers. *Journal of Accounting Research,* 6(2), 159-178.

Baran, A. Lakonishok, J. & Ofer, A.R. (1980a). The information content of general price level adjusted earnings: Some empirical evidence'. *Accounting Review,* 55(1), 22-36.

Baran, A. Lakonishok, J. & Ofer, A.R. (1980b). The value of general price level adjusted data to bond rating. *Journal of Business, Finance and Accounting,* 7(1), 133-149.

Bartley, J.W & Boardsman, C.M. (1990). The relevance of inflation adjusted accounting data to prediction of corporate take-over. *Journal of Business Finance and Accounting,* 13(1), 53 – 72.

Barniv, R. (1999). The value relevance of inflation-adjusted and historical cost earnings during hyper-inflation'. *Journal of International Accounting, Auditing and Taxation.* 8(2),269-287.

Bar-Yosef, S. & Lev, B. (1983). Historical cost earnings versus inflation adjusted earnings in the dividend decision. *Financial Analyst Journal,* 39(2), 43-56.

Beaver, W.H. Griffin, P.A., & Landsman, W,R. (1982). The incremental information content of replacement cost earnings. *Journal of Accounting and Economics*, 4, 15-39.

Beaver, W.H. & Manegold, J. (1975). 'The association between market determined and accounting determined measure of systematic risk: Some further evidence. *Journal of Financial and Qualitative Analysis,* June, 231 – 284.

Bello, A. (2009). Financial information quality and inflation accounting disclosure in Nigerian cement industry. An unpublished Ph.D Thesis, ABU Zaria.

Bernard, V.L. & Ruland, R.G. (1987). The incremental Information content of historical cost and current cost income numbers: Time series analyses 1962 – 1980. *Journal of Accounting Research.* 62(4), 707 – 722.

Brayshaw, R.E. & Miro, A.R.O. (1985) The information content of inflation-adjusted financial statements. *Journal of Business, Finance and Accounting,* 12(2), 249-261.

Davis-Friday, P.Y. & Rivera, J.M. (2000). Inflation accounting and 20-F disclosure: Evidence from Mexico. *Accounting Horizons,* 14 (2), 113-135.

Dyckman, T.R. (1969). *Investment Analysis and general Price-Level Adjustments. Studies in Accounting research,* No1 Sarasota A.A.A.

Effiong, S.A. (2008). Historical cost profit and capital of the firm: An evaluation of current cost accounting as an alternative reporting approach. Journal of Management and Enterprise Development, 5(4), 23-29.

Elam, R. (1975). The Effect of lease data on the predictive ability of financial ratios. *Accounting Review,* 50(1), 25 – 43.

Glautier, M.W.E & Underdown, B. (1986). *Accounting theory and practice.* (3rd Ed) London: Pitman Publishing Ltd.

Gonedes, N. (1974). Evidence on the information content of accounting numbers accounting based and market based estimates of systematic risk. *Journal of Financial and Qualitative Analysis.* June, 407 – 444.

Hicks, J.R. (1946). *Value and Capital.* Oxford: The Clarendon Press.

Keasey, K. & Watson, R. (1986). Current cost accounting and the prediction of small company performance. *Journal of Business Finance and Accounting.* 13(1),51-70.

Ketz, J.E. (1978a). The effect of general price-level adjustments on the predictive ability of financial ratios. *Journal of Accounting Research,* 16(supplement), 273-284.

Ketz, J.E. (1978b). A validation of some general price-level estimating models. *The Accounting Review,* 53(4), 952-960.

Kieso, D.E. & Weygnandt, J.S. (1983). *Intermediate accounting 4th Ed.* New York: John Wiley and Sons.

Kirkman, P.R.A. (1974). *Accounting under inflationary conditions.* London: George Allen and Urwin.

Kirkulak, B & Balsari, C.K. (2009). Value relevance of inflation-adjusted equity and income. *International Journal of Accounting,* 44(2009), 363-377.

Lobo, G.J & Song, I. (1989). The incremental information in SFAS No 3 income disclosure over historical cost income and its cash and components. *The Accounting Review,* 64(2), 329 – 343.

Mensah, Y.M. (1983). The differential bankruptcy predictive ability of specific price level adjustments: Some empirical evidence. *The Accounting Review,* 58(2), 228 – 246.

Modison, R. & Radiq, W. (1983). SFAS No 33 in trouble: Senior management responds. *The Woman CPA,* July, 7 – 12.

Norby, W.C. (1980). Application of inflation-adjusted accounting data. *Financial Analyst Journal,* 39(2),37–39.

Norton, C.L. & Smith, R.E. (1979). A comparison of general price level and historical cost financial statements in the prediction of bankruptcy. *The Accounting Review,* 54(1), 72-87.

Numthirapakorn, T. & Millar, S.A. (1987). Changing prices, accounting earning and systematic risks. *Journal of Business Finance and Accounting* 4(1), 1 – 25.

Parker, J.A. (1977). Impact of price level adjustment. *The Accounting Review*, 52(1), 69-96

Revsine, L. (1981). A capital maintenance approach to income measurement. *The Accounting Review,* 56(2) 383 – 389.

Riahi-Belkaoui, A. (2004). *Accounting Theory.* New York: Harcourt Brace Jovanovich.

Ro, B.T. (1981). The disclosure of replacement cost accounting data and its effects on transaction volumes. *The Accounting Review, 56(1), 70-84.*

Salvary, S.C.W. (2004). Price level changes and financial accounting measurement. Research paper in Economics-RePc:wpa:wuwpot:041009-2004-10-23

Sami, H. (1993). Inflation-Adjusted Earning and Security prices: Some Evidence from the Utility Industry. *Accounting Enquires,* 3(1), 39 – 66.

Schaefer, T.F. (1984). The information content of current cost income relative to dividend and historical cost income. *Journal of Accounting Research,* 22(2), 647-656.

Sharpe, W.F. (1964). Capital Asset Prices: A theory of market equilibrum under condition of risk. *Journal of Finance.* September, 216-221

Short, D.G. (1980). The impact of price-level adjusted on the meaning of accounting ratios. *Journal of Business Finance and Accounting,* 7(3), 377-391.

Thies, C.F. & Sturrock, T. (1987). What did inflation accounting tell us? *Journal of Accounting Auditing and Finance*, 2(40), 375-391.

Thomson, L. & Watson, R. (1989). Historical cost earning, current cost earning and the dividend decision. *Journal of Business, Finance and Accounting.* 16(1), 1-24.

Thorne, D. (1991): 'The information content of the trend between historical cost earnings and current cost earnings (USA). *Journal of Business Finance and Accounting,* 18(3), 289-303.

Todds, K. (1982). Inflation adjusted accounting part 1: How are financial officer uses inflation adjusted accounting data. *Financial Executive,* October, 13 –19.

Troberg, P. & Ekholm, B (1995): *Objectives of financial reporting and equity theories: Are users' needs different?* Retrieved on 9/2/09 from http://www.shh.fi/depts/redovis/research/ptobtr/ptobfr.htm

Wikipedia (2009). Constant purchasing power accouting. Retrieved on 23/04/2009 from http://en.wikipedia.org/wiki/constant item purchasing power accounting.