



THE COMPARATIVE STUDY OF VALUE RELEVANCE OF FINANCIAL INFORMATION IN THE NIGERIA BANKING AND PETROLEUM SECTORS

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Abstract

This paper sets out to conduct a comparative study on the value relevance of accounting information in the Nigeria banking and Petroleum sectors. 10 companies were randomly selected from each of these sectors. Data were collected on the Market Price per Share (dependent variable), Earning per Share, Book Value of Equity, and Leverage (independent variables) for the period 2007-2011, from the annual financial reports of the selected companies. We hypothesized that there is no difference in the value relevance of accounting information in both the banking and oil and gas sectors and hence, the study compare the value relevance of accounting numbers in these sectors. Multiple regressions analysis was adopted for the analysis of the data and the Ordinary Least Square was the method of estimation. The regression results revealed among the following that: the EPS information is the most considered by investors when deciding the share price and that the financial information in the oil and gas is more value relevant compare to the financial information disclosed by companies in the banking sector.

Keywords: Value relevance, Market price per share, Earnings per Share, Book value of Equity, Leverage

1. Introduction

Financial statements have been the best media for communicating the extent of performance of organizations to the various stakeholders of organizations. To facilitate the communicative role of the financial statement, it is required to possess some qualitative characteristics which makes it relevant for decision making by investors. The investors' decisions are said to be qualitative and informed, when the financial statements which the decisions of investors are hinged on are of high quality. The stakeholders of corporate bodies utilize the financial statement to evaluate the economic value of companies with the assumption that there is relationship between accounting numbers and the market values of companies. Drawing from the recent crash of the capital markets around the globe, it would appear that value

relevance of accounting information is in doubt. This seems to have given credence to the findings of some researchers, that the value relevance of accounting information has dwindled over time (Holthausen and Watt, 2001; Goodwin and Ahmad, 2006). Researchers like, Collins, Maydew & Weiss (1997) taking a counter view concluded that the value relevance of accounting information has slightly increase overtime and that the findings of researchers that concluded that the value relevance of accounting information has dwindled are premature. The differences in methodologies adopted by researchers and accounting practices by firms have been adduced as the possible reasons for contradicting finding in value relevance research (Granham & King, 2000; Beisland, 2010; Abiodun, 2012)

Value relevance entails the ability of accounting number to explain the market price of shares. The value relevance of accounting information research as the offshoot of the seminar works of Ball & Brown (1968) and Beaver (1968) is hinged on the assumption that the market is efficient. Market efficiency is not an absolute term; it is issue of degree, that is, how quickly is accounting numbers reflected in market price of shares. The market is said to be efficient when all available information in the market is reflected in the security price (Fama, 1991). To a large extent, the security price should be explained by the accounting numbers, in that the financial reports give clue as to what the future profitability of companies would be, this in turn directs the future dividend expectation by the investors. The future dividend expectation by the investors is the driver of the market price of share, in that; the market price of share is the present value of the future dividend expected by the investors (Beaver, 1998) . Although a lot of research abounds in this area of study in Nigeria, Oyerinde,2011; Abubakar, 2011; Abiodun, 2012, to the best of our knowledge no comparative study has been conducted on value relevance of accounting information of companies in the different sectors in Nigeria. It is in the light of this that the study aims to compare the value relevance of accounting information in the banking and petroleum sectors.

The remaining part of this paper is sectionalized as follows: Section 2 (reviews extant literature on the value relevance of accounting information); section 3(unveils the methodology adopted in the study); section 4 (concentrates on the empirical result of the study) and the final section hinges on the concluding and recommendation part of the study.

2. LITERATURE REVIEW

In this section, value relevance is conceptualized, the extant literature on market price per share, earning per share, book value of equity and leverage is reviewed.

2.1 Value Relevance Definition

The concept of value relevance is conceptualized in literature as the ability of the accounting variables disclose in the financial statement to explain the market price of shares. Francis and Schipper (1999) give four interpretations in term of fundamental analysis view, prediction view, information view and measurement view to further demystify this connotation of the concept of value relevance. In their fundamental analysis interpretation, accounting information is said to be value relevant if it trigger changes in the share price trends through its inherent value in a similar way and in the same direction as market prices. The prediction view considers accounting information to be relevant if it has those values that are considered relevant for the upcoming value evaluation of firms and foreseeing the returns of the coming years (Abiodun, 2012). In the information and measurement views, accounting information is relevant if there exist a statistical association between financial information and prices or returns. The third and fourth interpretations inform the view of researchers like: Barth, Beaver & Landsman (2001); Chang, Chen & Chang (2008) and Abiodun (2012) that see value relevance as the statistical relationship between the accounting information as disclose in the financial statements and the market prices or returns of shares. This statistical relationship between share price and accounting information as suggested by definition above can be further explain in terms of the extent of volume of share or share price change following the release of financial information. This places the investors as the theme of this definition. It is in recognition of this and in tandem with the third and fourth interpretations by Francis & Schipper (1999), we would define the concept of value relevance of accounting information as the usefulness of financial accounting information, given the investors' decision to invest or to maintain their investment in shares of companies arising from the relationship between the financial statements and share prices.

2.2 The Market Value of Shares

The share price of public traded company which is determined by the forces of market supply and demand is highly volatile due to its dependent on the expectations of the buyers and sellers (Menaje, 2012). O' Hara, Lazdowski, Moldovean & Samuelson (2000) find that earnings as well as dividend declared by firm is related to market prices of share, Chin & Hong (2008) posit that dividend yield is a good predictor of stock return. Irrespective of these accounting number that can be adopted to predict the market price, if this numbers contain some new information, reaction will always be expected in the market over the market price of share; this

reaction evidence in share price is found to continually drift in the same direction as that of the initial information (Bernard & Thomas, 1990).

A large number of studies have investigated the changes in share prices and some factors which are believed to trigger such movement in share prices. The movement in share price of quoted companies is accentuated by changes in the fundamental factors which Kehinde (2012) identifies as financial performance and macro economic variables, as well as the market noise which according to Kehinde (2012) cannot be captured as the fundamental factors. Agrawal (2011) states that the earning of a firm is the most influential of the variables that can influence the movement of share price in the capital market; he further stresses that, it is in tandem with this, quoted companies disclose their earnings every quarter. Schmist (2011) opines that due to the fact that the world is become a global village and if a sneeze in one part of the globe can cause flu in other part, the slightest rumour of war, rises in the price of oil, or interest rate hike can detonate a reaction in the world market. This to an extent explains the reason of the recent past global recession which is believed to have been triggered off in the United State of America (Sen, 2010)

2.3 Earnings per Share

Earning is a fundamental and prominent accounting variable when it comes to the investigation of the value relevance of accounting information. This is due to its superiority over cash flow in this regard. However, the market will look out for both cash flow and net book value if the earnings numbers are perceived to be inadequate (Abiodun, 2012). The earnings per share which is a parameter that can be used to measure the earnings ability of firms is required to be disclosed by companies quoted or about to be quoted in the public security market (Valix & Peralta, 2009). The non public enterprises to the extent that it would enhance their financial report comparability, are encouraged to present their EPS on the face of their income statements (Menaje, 2012). Contrary to the past practices of presenting information on the earnings per share in the form of primary and fully diluted EPS, the Financial Accounting Standard Board (FASB) now requires the discloses of both the basic and fully diluted EPS (FASB, 1997). This new practice of EPS disclosure is being motivated by the need to conform the calculation of EPS to the international standard and to assist the investors to better access the effect of potential dilution than that achieved under the primary EPS (Livant and Segal, 2000).

The extent of the different EPS, to explain the variability in the security pricing, which encapsulates the information content of EPS is not devoid of debates. These debates are the

offshoot of the inclusive findings in this area. Rice (1978) computes the cumulative abnormal returns for two portfolios. One of the portfolios consist companies which disclose fully diluted EPS and the other is made up of companies which did not report fully diluted EPS. Based on his finding, he concluded that the content of the fully diluted EPS is more value relevant to investors. Millar, Nunthirapakorn & Courtenay (1987) find that the basic EPS exhibit stronger correlation with stock return than either fully diluted EPS and primary EPS. The study of Jenings, Mac & Thompson (1997) corroborates the finding of Rice (1978). Jenings *et al.* (1997) posit that among the fully diluted EPS, primary EPS, and basic EPS; the basic EPS is the least to explain variability in the stock price. Viewing the EPS in the general perspective, O'hara *et al.* (2000) opine that the consistent increase in the EPS has positive strong correlation with the share price.

2.4 Book Value per Share

Ohlson (1995) and Feltham and Ohlson (1995) show that under certain condition, market value of a firm can be expressed as the weighted average of book value and earnings. This form the bases of the studies conducted on the value relevance of accounting numbers. Studies in this area of research have shown that the book value of equity in addition to earnings is associated with the market value of firms. While the fundamental role of earnings in value relevance is a long settled issue in accounting literature, this cannot be said of the book value of equity (Subramanyam & Venkatachalam, 2000). The framework of the clean surplus valuation which is based on the residual income valuation model by Ohlson (1995) suggests that the book value of equity plays anchoring roles in valuation by representing the net stock of resources which the future earnings of firms depend (Easton, Harris & Ohlson, 1992; Penman, 1992; Collins, Pincus & Xie, 1998) and provides information on the liquidation or adaptation values of firms' net asset with poor financial performance (Barth, Beaver & Landsman, 1997; Burgashler and Dichev, 1997). Springing from the notion that the book value represents stocks of resources that can be used to generate future earnings, Subramanyam and Venkatachalam (2000) posit that book value of equity is associated with market value due to the fact that it surrogates the current past earnings which are independently value relevant. Collins *et al.* (1998) find that omitting the book value of equity in a simple earnings capitalization model is tantamount to misspecification of model. This could induce a downward bias in the earnings coefficient for a loss making firms and upward bias for profit making firms.

2.5 Leverage per Share

In recent value relevance studies surveyed by Dimitrov and Jain (2003), change in leverage as an accounting variable is not considered as value relevance. Although accounting earnings is an important variable for determining the market value of a firm, it is natural that accounting earnings will not be able to accentuate vividly the assessment of such firm economic performance. It is in tandem with this, Lee and Huh (2010) posit that the level of debt in the firm's capital structure facilitate the distinctive roles of earnings and book value in pricing the equity of a firm. They attributed this to the finding of Barth, Beaver & Landsman (1998) that the balance sheet which disclose information on loan decision and liquidation value could facilitate the book value of equity to play a pivotal role on firm valuation for high-leverage firms compare to lower-leverage firms, as enunciated in the extant literature of contracting costs and earnings management; highly leverage firms would choose more liberal accountings methods and therefore manipulate earnings. This would cause the quality of earnings to be lower for the high-leverage firm compare to low-leverage firm. Equity book value would therefore be important to the valuation of high-leverage firms, while earning would be an indispensable factor when the valuation of low-leverage firms is considered.

Abayadera (2010) finds that the book value is the most significant factor while earning is the least significant factor considered in Australia by investors when deciding share price. This stance is however not without contrary views. Examining the effect of codification of the first national accounting standard by the Iranian Association of Certified Public Accountant, the finding of Khanagha, Mohamad, Hassan & Sori (2011) suggest that the earning per share is more value relevance than the book value of equity. Also comparing the value relevance of items in income statement vis a vis the balance sheet, Ghayoumi, Nayemi, Ansari & Raeesi (2011) find that the income statement information is more value relevant. The study of Alfariah (2009) tends to reconcile these contraries views by suggesting that the earning is more value relevance when firm is profitable; but if the reverse is the case, the book value would emerge to be more value relevant. This is in tandem with the studies of Hayn (1995), Collins et al. (1997), Chen, Chen & SU (2001), Xiong (2005) and Gjerde et al. (2005).

3.0 METHODOLOGY

Arising from the existing works done to date in Nigeria that the accounting information is relevant giving the decision of the investors to invest or maintain their fund in shares of firms in Nigeria, this study sets out to compare the value relevant of accounting information of firms in both the banking and oil and gas sectors. In view of this, 10 companies are randomly selected in

each of the sectors. The choice to restrict the study sample size to 10 companies in each of the sectors was informed by the restricted number of oil and gas companies quoted on the Nigeria Stock Exchange and also to base the comparative study on the same footing for each of the sectors. And their financial reports from 2007 to 2011 were considered for the purpose of this study. To study the relationship between our dependent variable (market price) and independent variables (earnings per share, book value of equity and leverage), multiple regressions analysis is adopted. The Ordinary Least Square was adopted as the method of estimation in this study. The statistical model is as specified below

$$P_{it} = \beta_0 + \beta_1 \text{EPS}_{it} + \beta_2 \text{BVE}_{it} + \beta_3 \text{LEV}_{it} + \mu \dots\dots\dots 1$$

Where β_0 , β_1 , β_2 , and β_3 are the coefficient of variables; EPS, BVE, LEV are earning per share, book value of equity and leverage respectively and μ is the stochastic error correctional term.

4.0 DATA PRESENTATION AND ANALYSES

The preliminary analysis of the data is first conducted (descriptive and correlation analysis) and thereafter the multiple regression analysis is conducted. The results are presented and interpreted below;

Table 4.1: Descriptive statistics

| Variables | Mean | Max | Min | Std.Dev | JarqueBera | Prob |
|---------------------------|-------------|------------|------------|----------------|-------------------|-------------|
| <i>Oil and Gas Sector</i> | | | | | | |
| MPS | 91.356 | 302.800 | 1.260 | 83.845 | 3.561 | 0.169 |
| EPS | 426.188 | 1169.00 | -870.00 | 424.088 | 3.487 | 0.175 |
| BVPS | 470.156 | 1293.00 | 23.000 | 402.665 | 2.977 | 0.226 |
| LEV | 0.707 | 7.443 | 0.086 | 1.273 | 841.252 | 0.000 |
| <i>Banking sector</i> | | | | | | |
| MPS | 14.380 | 45.600 | 0.6300 | 11.579 | 11.002 | 0.004 |
| EPS | 160.276 | 156.00 | -110.00 | 2384.54 | 2085.93 | 0.000 |
| BVPS | 122.752 | 2569.2 | 0.319 | 375.420 | 2605.994 | 0.000 |
| LEV | 1.027 | 9.861 | 0.000 | 1.369 | 3423.263 | 0.000 |

Source: Researchers Compilation (2014)

Where: EPS= Earnings per share, BVPS=Book value per share, MPS= Market Share price, LEV= Leverage.

From the descriptive statistics of the variables as shown in table 1 above, it is observed that for the companies in the oil and gas sector, the mean MPS is 91.356 maximum and minimum values of 302.80 and 1.260 respectively. The standard deviation stood at 83.845 indicating the dispersion in values for market share price from the mean across the sample companies. The mean value for EPS is 426.188 with maximum and minimum values of 1169.00 and -870.00 respectively while the standard deviation is 424.088. The mean for BVPS is 470.156

with maximum and minimum values of 1293 and 23 respectively with the standard deviation of 375.420. LEV has a mean value of 0.707 with maximum of 7.443 and minimum value of 0.086. The corresponding estimates for banking sector reveals that the mean MPS, EPS and BVPS values of 14.380, 160.276 and 122.752 are lower than that observed for oil and gas companies. The analyses suggest that the banks tend to have a higher mean leverage ratio (1.027) than companies in the oil and gas sector. The Jarque-bera statistics suggest that the data is not significantly different from normality except for LEV in the oil and gas sector and all variables in banking sector.

Table 4.2: Correlation Result

| | EPS | BVPS | MPS | LEV |
|---------------------------|---------|--------|--------|-----|
| <i>Oil and Gas Sector</i> | | | | |
| EPS | 1 | | | |
| BVPS | 0.242 | 1 | | |
| MPS | 0.568 | 0.326 | 1 | |
| Lev | -0.0586 | 0.082 | -0.147 | 1 |
| <i>Banking sector</i> | | | | |
| EPS | 1 | | | |
| BVPS | 0.102 | 1 | | |
| MPS | 0.121 | -0.161 | 1 | |
| LEV | -0.023 | -0.023 | -0.018 | 1 |

Source: Researchers Compilation (2014)

Table 2 above presents the Pearson correlation coefficient result for the variables. As observed, for the oil and gas sector EPS and BVPS appear to be positively associated with MPS as depicted by the correlation coefficient of 0.568, 0.326 while LEV correlated negatively (-0.147). For the banking sector, only EPS appear to be positively associated with MPS as depicted by the correlation coefficient of 0.121 while BVPS and LEV correlated negatively (-0.161 and -0.018). It is noticed that the correlation coefficients of the variables with MPS tend to be stronger for companies in the oil and gas sectors than those in the banking sector. However, this does not necessarily suggest causality. The correlation coefficients also do not induce serious suspicion of multicollinearity between the variables and hence we proceed to conduct the regression analysis.

Table 4.3 Regression Result

| Variable | Oil and Gas | Banking sector |
|------------|-------------------------------|------------------------------|
| C | 45.397 {27.117} (0.106) | 15.357 {2.144} (0.000) |
| EPS | 0.076 {0.049} | 0.0065 {0.000} |

| | (0.131) | (0.231) |
|-------------------------------|-------------------------------|------------------------------|
| BVPS | 0.035 {0.057} (0.542) | -0.007 {0.005} (0.119) |
| LEV | -1.132 {5.466} (-0.838) | 0.0321 {0.922} (0.972) |
| AR(1) | 0.533 {0.159} (0.321) | 0.285 {0.124} (0.876) |
| R² | 0.512 | 0.115 |
| Adjusted R² | 0.437 | 0.064 |
| D.W | 1.71 | 1.745 |
| Mean of Dep. Var | 94.070 | 14.4551 |
| S.E of Regression | 62.868 | 21.960 |
| LM TEST | 0.423 | 0.108 |
| Ramsey reset | 0.789 | 0.409 |
| White test | 0.699 | 0.208 |
| F-stat | 6.816 (0.000) | 11.093 (0.00) |
| TIC | 0.295 | 0.338 |
| RMSE | 67.136 | 11.298 |
| MAE | 52.837 | 8.947 |

Source: Researchers Compilation (2014).

Note { } and () disclose the standard error and probability value respectively.

The Table above shows the regression result conducted using Eviews7.0. The practice in several studies in evaluating the value relevance of accounting information has been to examine the performance of the coefficient of determination otherwise referred as the R². The estimation shows that for the banking sector, the R² is 0.115 and indicates that accounting numbers i.e. EPS, BVPS and LEV are able to explain about 11.5 % of the systematic variations in share prices and this is lower than the R² of 0.512 found for companies in the oil and gas sectors. However, the F-statistics indicates that the null hypothesis of no significant linear relationship between the endogenous and exogenous variables is rejected for both sectors as indicated by the probability values of the F-stat which is less than 0.05. Specifically, we find that none of the variables appear to significantly influence MPS for companies in both the Oil and gas sector and banking sector. The following diagnostics tests for the regression results indicates the absence of heteroscedasticity in the estimation as the White test was performed on the residuals as a precaution. The results showed probabilities in excess of 0.05, which leads us to reject the presence of heteroscedasticity in the residuals and hence we conclude that the assumption of

uniform variance of the residuals is satisfied and the estimates are not biased. The LM test for high order autocorrelation shows that the likelihood of autocorrelation in the residuals is rejected and hence the regression estimates are not biased as the probabilities are greater than 0.05. The Ramsey RESET test was performed to determine whether there were specification errors. The results showed high probability values that were greater than 0.05, meaning that there was no significant evidence of miss-specification. In evaluating the performance of model in explaining systematic variation in MPS for both sectors, the study examines the predictive properties of estimations using a number of criteria for measuring forecasting accuracy such as the Root Mean Square Error (RMSE), Mean Absolute Error (MAE) and Theil's Inequality Coefficient (TIC). The results shows that the TIC is slightly lower for Oil and gas sector (0.295) but the RMSE and MEA are both considerably lower for the banking sector (11.298 and 8.947). Hence it is likely that accounting information may be able to predict share prices better in the banking sector.

5.0 DISCUSSION OF FINDINGS.

The data analyses conducted in the study suggest that financial reports are relevant given the decisions of investors to invest or maintain their investment in both the banking and petroleum sector. This finding is in tandem with the study of Collins et al (1997), Oyerinde (2009), Khanagha (2011) and Abiodun (2012).

Also, the regression analyses among others suggest that of the independent variables considered in this study, the earning per share is more relevant, due to the fact that it remained the only variable in the both sectors whose coefficients were positively related with the market price of shares. This is also in tandem with the findings of Ghayoumi et al (2011) and Khanagha et al. (2011), that the earnings per share information is the most relevant.

Furthermore, this study found that the accounting information of companies within the oil and gas sector of the Nigeria economy is more value relevant compare to the financial report of companies in the banking sector.

6.0 CONCLUSION AND RECOMMENDATION

The value relevance of accounting is one of the possible means of assessing how qualitative the accounting information disclose in the financial report of organization is. Prior studies assessed the value relevance of financial statement using R^2 statistics of the regression result; the higher the statistics the more relevant the financial statement is said to be. This study being a comparative study of value relevance of accounting information disclosed in the banking and petroleum sectors of the Nigeria economy, found that the accounting information of

companies in these sectors are value relevant; though accounting information of the companies in the oil and gas sector is more relevant and therefore can influence the price of share more in that sector. This explained the need of the recent incessant reform in the banking sector. More efforts should be channelled on the financial reporting aspects of companies in this sector as part of the ongoing reform, although companies within the banking sector are international financial reporting standard compliance with effect from 2012, cases of sharp practices by managements should be discouraged. In this way the value relevance of accounting information of companies in this sector would improve over time. With the recent moved by Nigeria to join the league of adopters of the International Financial Reporting Standards (IFRS), it is expected that this standard will further enhance the quality of financial report, though there is the debate on the efficacy of IFRS vis a vis the general accepted accounting principles (GAAP) in the developed economy.

Further research in this area can be carried out to ascertain if the relevancy of accounting information has dwindle over time in these sectors, due to the ongoing debates as to whether the financial information has dwindle over time. Cross sectional studies can also be conducted on the comparison of value relevance of accounting information in these sectors on a yearly basis to ascertain if there is a major deviation from the findings of this study.

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