ACCOUNTING RATIO DETERMINANTS OF SHAREHOLDERS' INVESTMENT DECISION; EVIDENCE FROM LISTED COMMERCIAL BANKS IN NIGERIA

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Abstract

The aim of this study is to explore accounting ratio determinants of shareholders' investment decision of twelve (12) commercial quoted banks in Nigeria for the period 2010 to 2018. Financial ratios which were included in this study are earnings per share and cash ratio which also represented the independent variables. Dividend yield (a proxy for shareholders' investment decision) as seen in prior related literature is employed as the dependent variable. Ex-post facto and descriptive research design were both considered in the study methodology. Specifically, we employed Ordinary Least Square Regression analyses technique to test the study hypotheses which clearly suggest that both ratios of earnings per share and cash ratio are strong and significant indicator necessary to drive shareholders' investment decision. This finding is consistent with the Dividend Relevance Theory of Lintner & Gordon who argued that shareholders are most interested in current dividend payment than retained earnings. Therefore, in line with the findings obtained, this study recommends that managers should pay special attention towards the payment of dividend especially if the intent is to signal its prospective and existing investors/shareholders. This will most certainly drive up per share earnings ultimately providing good signal to shareholders' that's willingness to invest may become stronger.

Introduction

The amount of information disclosed by organizations in corporate reports has considerably expanded in recent times, although reliability on same has proven little to be desired with the recent increase in collapse of world class financial institutions among others which necessitated increased pressure for optimal disclosures in corporate report. Financial statements contain information that can provide valuable insights into a company's financial performance and position when properly analyzed and interpreted. These statements not only report a firm's position at a point in time but also provide insights regarding its operations over past periods which stimulate investment decisions. However, the real value of financial statements lies in the fact that they can be used to predict the firm's future earnings, dividends and financial position and help potential investors make an informed judgment on whether to invest or otherwise. Similar information is also needed to help current investors monitor adequately what has happened or is happening to their investments especially in terms of the extent to which their aspirations on the investment has been or are being realized (Ariyo, 2007). The objective of financial statement is to provide information about the financial performance, position and stability of an establishment which is useful to a wide range of users in making economic decision. The statement of principles emphasize that

the key characteristic of the information contained in the financial statement is that it should be useful and shall be analyzed by a way of interpretation, simplification and transaction of facts and data contained in the financial statements. The essence of this is to draw relevant conclusions, make inferences as to the business operations, financial positions and future prospects of the organizations.

The preparation of a company financial statement is regulated by the Companies and Allied Matter Act 2009 as amended and the accounting standards for example, section 331 of CAMA 2009 as amended provides the procedures which management of every registered public limited liability company should follow in the preparation of their financial statement. Section 334 of CAMA 2009 on the same vein prescribes the duties of the directors in preparation of financial statement. Accounting standard on the other hand set the underlying standards for the preparation of financial statement. When shareholders receive the financial statements of the company they have invested in, they simply look to see whether the business has made profit and then put the document away. Their focus is on profit not knowing if it was a “good” profit nor do they know whether there was any deferment from the profit earned in the previous years.

Previous studies noted conflicting and mixed evidences on the effect of financial statements analysis on shareholders’ investment decisions thus brought about arguments and controversies on the financial ratios of interest to shareholders of firms listed on Nigerian Stock Exchange in making investment decisions (Mercy 2013; Michael 2013). In the views of Anaja and Onoja (2015) the effect of financial statements on investment decision making of financial institutions in Nigeria have been marred with challenges that affects both investors and managers of business organizations who are either not aware of the importance of interdependent relationship that exist between investors and financial organizations. The empirical evidence of Michael, (2013) and Victoria (2010) on the extent of shareholders reliance on published financial statements in making investment decisions argue that shareholders reliance on published financial statements is relatively low and recommended that shareholders would profit much if they rely on relevant financial ratios for investment decision making. This is contrary to the observation of Anaja and Onoja, (2015) who noted that investors depend heavily on the credibility of auditors/financial expert approval of financial statement in making investment decisions and as such published financial statement is very important in the investors’ decision making. The studies however did not point out those ratios that are relevant and should be considered by the shareholders in making investment decisions. The study is intended to assist in identifying the means through which meaningful decisions can be derived so as to enhance the chances available for investment opportunities through analyzing information concerning such investment opportunities.

LITERATURE REVIEW

Financial Statement Ratio

Duru (2012) defines financial statement as a statement which conveys to management and to interested outsiders a concise picture of the profitability and financial position of a business. Concurring with above definition, financial statement can be can be said to be published financial

audited annual report and accounts of an organization including the balance sheet, profit and loss account and cash flow statements which gives a summary of the results of operations of a firm, the financial condition of a company or organization for the period represented. It is prepared by the company or organization and duly audited by the company's external auditor(s) and made public for use by any interested party. Following from the above, the published financial statements should be devoid of any material mis-representation or errors so that all interested parties can be adequately equipped to make informed decision.

Financial statement ratio is the tool which investors always looked at before investment. Aborode (2005) stated that financial ratio shows the relationship between two or more financial or statistical data in a financial statement or management account. Gavtan (2005) opined that ratio analysis is a process of determining and interpreting the relationship between the items of financial statement to provide a useful understanding of the performance, solvency, and profitability of an enterprise. For this study, return on capital employed, net profit margin, earnings per share, cash ratio and dividend yield as they are related to shareholders' investment decision.

Earnings Per Share

Lev (1989) defines Earnings as the "bottom line" or "net income" and the single most important item in the firm's financial statements. It indicates the extent to which a company has engaged in value-added activities. Lev (1989) in fact points out that earnings are a signal that helps direct resource allocation in the capital markets. An increase in the firm's earnings represents an increase in company value while a decrease in earnings represents a decrease in company value. Earnings per Share (EPS) are the firm's earnings divided by the number of ordinary shares issued by the firm i.e., it's the firm's net income per unit of ordinary shares issued. Small firms have limited access to additional capital therefore retain a higher proportion of earnings for expansion needs (Fama & French, 2001). Firms need to carry out effective "earnings management‟ and at the same time the executive needs to understand the effect of the firm's policies so that they can make the best possible decisions for the company (Lev, 1989).

Cash Ratio

Cash ratio is one measure of liquidity ratio which is the ability of the company to meet its short-term liabilities (current liability) through a number of cash (and cash equivalents, such as current accounts or other savings in the bank that can be withdrawn at any time) owned by the company. A higher cash ratio shows the company's ability to meet cash (pay) short-term liabilities (Brigham & Gapenski, 1996). Cash and cash equivalents in the equation indicates the amount of cash and cash equivalents (current accounts and other deposits that uptake is not limited by time) which is reflected in the balance sheet (the assets / current assets). Current liabilities indicate the number of short-term liabilities which is reflected in the balance sheet (liabilities / current liability). Mollah and Keasen (2000) showed that the ratio of cash position is an important variable to be considered by management in dividend yield. Payment of the dividend is a cash outflow, high free cash flow will enable the company to focus more on dividend payments or settle debts to reduce agency costs (Mollah & Keasen, 2000). So, when the company is getting stronger cash ratio, then

the company is acquiring more ability to pay dividends.

Shareholders' Investment Decision

It is the duty of every investor to utilize profitably the resources that have been placed at its disposal, and to carry out investment function. Investment decision can be considered one of the most important decisions taken by investors, if not the most important one. The investment decision making process influences the investors affirmation in turbulent business environment and increases its market share (Martin, 2006). It concerns the issue of capital allocation for fixed assets or financial assets; central place returns to fixed assets, acquired as a result of capital investment. By this decision, financial resources at investors' disposal are allocated efficiently to acquire more market share (Zager & Zager 2006; Martin, 2006). In any case of the chosen alternatives, the investment decision ought to be subordinated to achieve the investment objectives at long-term. Bucataru (2002) explains in another her study that, investment decisions are those concerning the conversion of capital money in material form
such as machinery, equipment, buildings, through operations of acquisition of these assets.

Value Relevance of Financial Ratio Analysis and Shareholders decision making

Osuala, Ugwumba and Osuji (2012) submitted that shareholders in the Nigerian capital market cannot be said to have relied on the information available in the financial statements to make decisions as regards their investments based on the findings they made in their empirical study. The result hence appears to differ from opinions that market price of shares is one of the vital factors capable of influencing shareholders' decisions asides financial statement information. Information on stock prices is not contained in financial statements produced by companies in Nigeria. Rather these information are gotten from business news and reports circulated by the Nigerian Stock Exchange and Securities and Exchange Commission. Market prices of ordinary shares are usually higher than their book values often representing the extent to which shares have appreciated in value in the market as against as the book worth of the shares.

Agency Theory

Agency theory is primarily applied in prior literature when the problems of cooperative structures are investigated (Eisenhardt, 1989). The theory helps to understand problems of cooperation, such as asymmetric information, uncertain outcomes, the question of the usability of incentives, and the identification of risks in decision-making. The agency theory framework has its origin in financial research within economic theory (Jensen & Meckling, 1976). Also known as the principal-agent paradigm, agency theory emphasizes the contractual problem between a firm's principal, generally the owner, and a firm's agents, employed executives that control the use of resources. Due to a conflict of preferences, this separation of ownership and control can result in agency costs resulting from a need to align interests through monitoring or contractual solutions. As a logical consequence, Jensen and Meckling (1976) argue that agency costs are omitted when the firm is led by a managing owner. In this case, ownership and management are unified, leading to the avoidance of agency costs and thus to an increase in value for the firm (Jensen & Meckling, 1976). Fama and Jensen (1983a

and 1983b) extend Jensen and Meckling's work by arguing that despite agency threats occurring from the separation of ownership and management, an increase in efficiencies may exceed agency costs. These efficiencies are caused by specialization at various levels and the willingness to take risks due to efficient risk sharing.

Empirical Review

Patrick, Tavershima, and Eje (2017) empirically investigate the effect of financial information on investment decision of shareholders of banks in Nigeria. The data for the study were extracted from published annual reports of five selected banks in Nigeria from 2009 to 2015. Correlation matrix and regression analysis were deployed to establish the relationship between the variables. The results revealed a positive relationship, indicating that dividend per share have significant influence on investment decision of shareholders of banks in Nigeria. The study recommends that both existing and prospective investors can factor financial information relating to dividend paid per share while making investment decision in shares of Nigerian banks; as dividend per share is positively correlated with investment decisions of shareholders.

Blessing and Onoja (2015) ascertain the role of financial statement on investment decision taking United Bank for Africa Plc of Nigeria as a case study. The study used secondary data from ten years financial statements of the bank. Ordinary least squares (OLS) regression method of analysis was adopted to test the hypotheses. The parameter estimates of the regression equation obtained revealed that, the transparency of financial statements of the bank has significant influence on investment decision making of the users of financial statements. All the parameter estimates employed in the regression equation were statistically significant via the test of hypotheses.

Popoola, Akinsanya, Babarinde, and Farinde (2014) investigated published financial statement as correlate of investment decision among commercial bank stakeholders in Nigeria. A correlation research design was used in the study. 180 users of published financial statement were purposively sampled from Lagos and Ibadan. Data generated were analyzed using Pearson correlation and regression. The findings of the study revealed that, balance sheet is negatively related with investment decision while income statement, notes on the account, cash flow statement, value added statement, and five-year financial summary are positively related with investment decision. Findings also revealed that components of published financial statement significantly predicted good investment decision for commercial banks stakeholders. Therefore, it was suggested that Nigeria banks and professional bodies should instigate programs that will increase the knowledge of stakeholders on published financial statement.

Ekwe (2013) conducted a critical investigation on the degree of reliance of the published financial statements by corporate investors. The study employed survey research design by which data were generated by means of questionnaire administered on one hundred and fifty corporate investors and senior management officials of the selected banks. The descriptive statistics and percentage analysis were used for the data analysis and the hypotheses were tested using t-test statistic. The statistical package for social sciences (SPSS) software version 17.0 was employed in the analysis of data and test of

hypotheses. The results reveal that one of the primary responsibilities of management to the investors is to give a standardized financial statement evaluated and authenticated by a qualified auditor or financial experts .

Kabir, Aripin and Al-Dhamari (2017) conducted a literature review on Financial Ratio Analysis: Decision Usefulness for Potential Shareholders' Benefit. The study explores the concept of financial ratio analysis in terms of the decision usefulness of financial ratios. The authors suggests that the relevant financial information needed for the purposes of making investment decision can be sourced through the use of financial ratio analysis. Therefore, management must ensure that disclosure of comprehensive financial ratios form part of financial statement prepared for the overall appraisal of firms.

Kaluarachchi (2020) sought to identify the relationship between financial statement disclosure and shareholder attitude change relating to the investors who have invested in the companies which are registered under the Colombo Stock Exchange. Primary data was collected from 110 investors who invested in Colombo Stock Exchange. The questionnaire was designed to examine the shareholders' attitude change towards financial statement disclosure by considering their awareness and perception on quality of information disclose in Financial statements. Shareholder's attitude change is considered as the dependent variable with four indicators; Information Provision, Feedback and Consultation and Communication and Improvement. Financial Statement Disclosure is the independent variable and independent variable explained by four indicators namely, Income Statement Disclosure, Balance Sheet Disclosure, Cash Flow Statement Disclosure and Notes. The result exposed the fact that income statement disclosure and the cashflow statement disclosure significantly changed the shareholder's attitude.

Nwakaego (2020) studied Share Prices, Performance Information of Financial Statements and Shareholders' Investment Decisions. This study was borne out of the quest to assess the reliance of the common stockholders on the financial statement information with respect to profitability and stock prices in their investment decisions. Ten money deposit banks in Nigeria were studied using the expost facto research design and multiple regression analytical technique. The results showed that shareholders' investment decisions in banks rely considerably on stock prices information and financial statement information on profitability with respect to returns on assets at the lag length of one year. It was therefore concluded that financial statements, in practical terms, remain the guide for investors in their quest to see what transpires within organizations; and information on stock prices are also relevant to investment decisions since they complement opinions on the financial statements.

Zaigham, Wang and Ali (2019) studied the causal relation between stock market performance and firm investment decisions in China. Stock prices were adopted as the independent variable whereas the sampled firms' investment expenditures were adopted as the dependent variable. Using panel regression analysis, the researchers found that stock prices have negative influence on the investment decisions of the managers of the selected firms. They also concluded that firms who face financial challenges tend to have higher sensitive investment decisions in response to changes

in stock prices than others who do not. A condition that was attributed to information asymmetry.

Methodology

In this study, *ex-post facto* research design is employed. *Ex post facto* research uses data already collected, but not necessarily amassed for research purposes. The population is made up of all quoted commercial banks in Nigeria from 2010 to 2018. As at 31st December, 2018 the total number of quoted commercial banks was 15. In a bid to obtain a sample size from the population, this study adopted Krejcie and Morgan, (1970) sample size technique. The final sample size is 14 banks. However, banks that got listed after the study period (2010) or that got delisted before the end of the study period (2018) were deselected, thus the final sample size consist of 12 commercial banks quoted on the Nigerian Stock Exchange. Panel Least square regression was employed for the analysis. Some regression diagnostic analyses were also conducted which included multicollinearity test and test for heteroscedasticity. All these were done to improve the reliability of the resulting estimates. We modified the study of Osuala, Ugwuma, & Osuji (2012) to express the econometric equation as:

$$DIVYD_{it} = \pi_0 + \pi_1 EPS_{it} + \pi_2 CRatio_{it} + \sum_t$$

Where:

DIVYD = *Dividend Yield*
EPS = *Earnings Per Share*
CRatio = *Cash Ratio*
it = *(i = no of cross section and t = time periods)*
∑t = *Model Error Term*

Results and Discussion

To examine the effect of financial statement ratio analyses on shareholders' investment decision of listed commercial banks in Nigeria, some least square regression post estimation test which include; test for multicollinearity. The descriptive statistics gives insight into the nature of the sample banks in this study. The result is shown below:

Table 1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
divyd	108	5.023889	4.576673	0	19.05
eps	108	1.345463	2.188603	-12.66	8.3
cratio	108	13.86787	7.415887	.58	34.32

Source; Authors Computation (2021)

From the table above, it is observed that on average dividend yield is 5.024 with a minimum value of 0 and maximum value of 19.05. Similarly, we observe that on average, earnings per share for the sample banks is 1.345 with a standard deviation of 2.189 and a minimum and maximum value of -12.66 and 8.30 respectively. For the variable of cash ratio, on average we observe that it is 13.868 with a standard deviation of 7.416. Cash ratio ranges from 0.58 to 34.32 for the banks under study.

Test for Multicollinearity

Multicollinearity occurs when the explanatory variables in a regression model are correlated suggesting that there is a strong relationship between the independent's variables which violates the model's estimation. In this study like in most other related studies, we employed the

variance inflation factor (VIF) technique to diagnose the presence or absence of multicollinearity in the model. Specifically, we adopt Greene (2009) which allows a cut-off value of 10. The results of the VIF test as reveal a mean value of 1.02. Succinctly, we observed that the mean value is within the VIF threshold of 10 as recommended by Green (2009), thus, there no room to suspect for the presence of multicollinearity.

Test for Heteroskedasticity

The assumption of homoscedasticity states that if the errors are heteroscedastic (i.e., Ordinary Least Square (OLS) assumption is violated), then it will be difficult to trust the standard errors of the OLS estimates. We employ Breusch-Pagan Godfrey test to ascertain the presence or absence of heteroscedasticity in the regression result. From the results obtained from the Breusch-Pagan Godfrey test for heteroscedasticity, the probability value (0.3186) indicates that the assumption of homoscedasticity of the OLS estimates has not been violated. Thus, OLS regression is the best estimate and thus is adopted for further analysis and policy recommendation.

Table 2: Panel Least Square Regression Estimates

Variables	**EPS**	**CRatio**
Dividend Yield Model		
Coefficient **t_ Statistics** **Probability_t**	0.450 (2.32) {0.022) **	0.143 (2.50) {0.014) **
No. of Obs = 108 **Prob. F statistics = 0.0018** **R-Square = 0.1137** **Adjusted R-Square = 0.0969**		

Note: t-statistics and respective probabilities are represented in () and {}
Where: ** represents 5% & * represent 1% level of significance
Source: Authors' Computations (2021)

The table above show a summarized result obtained from panel least square regression model. Specifically, the study provides interpretation and makes policy recommendation with this model. The model goodness of fit as captured by the Fisher statistics and the corresponding probability value (0.0018) shows a 5% statistically significant level suggesting that the entire model is fit and can be employed for interpretation and policy implication. Furthermore, the model is consistent with the assumption of homoscedasticity and no multicollinearity evidenced from the probability value of Heteroscedasticity = 0.3186 and mean VIF = 1.02 respectively. An R^2 value of 0.1137 indicating that about 11% of the variation in the dependent variable is been explained by all the independent variables in the model. This also means that about 89% of the variation in the dependent variable is left unexplained but have been captured by the error term. Specifically, the OLS regression presented above reveal the result of the variable of earnings per share (EPS) as follows: (Coef. = 0.450, t = 2.32 and P -value = 0.022). Following the results above, it is revealed that the effect of earnings per share on dividend yield measure of shareholders' investment is

positive and statistically significant during the period under review.

Earnings per share indicate the extent to which a company has engaged in value-added activities. We follow the studies of Lev, (1989) as well as those of Fama and French, (2001) who concluded that an increase in the firm's earnings represents an increase in company value while a decrease in earnings represents a decrease in company value. Similarly, the result of the variable of cash ratio (CRatio) is as follows: (Coef. = 0.143, t = 2.50 and P -value = 0.014). Following the results above, it is revealed that the effect of cash ratio on dividend yield measure of shareholders' investment is positive and statistically significant during the period under review. We submit that a 1% increase in cash will results to 14% increase in the willingness that shareholders will make a decision to invest. We align this position to prior studies of Brigham and Gapenski, 1996; Mollah and Keasen (2000) who document that Cash ratio is one measure of liquidity ratio which is the ability of the company to meet its short-term liabilities (current liability) through a number of cash (and cash equivalents, such as current accounts or other savings in the bank that can be withdrawn at any time) owned by the company. A higher cash ratio shows the company's ability to meet cash (pay) short-term liabilities.

Conclusion and Recommendation

Accounting ratio can reveal the red flags of an investment opportunity. On the other hand, they can also reveal the strength of the banks as well as the potential profit of investing in a particular bank. By their nature, accounting ratios are retrospective, which means an investor should never look at a single statistic or matrix in making investment decisions. This study examined accounting ratio determinants of shareholders' investment decision of listed commercial banks from 2010 to 2018. The result obtained from the panel least square regression estimate reveal that cash ratio as well as earnings per share has a significant positive effect on investment decision of shareholders. Therefore, in line with the outcomes obtained, this study recommends that managers of quoted commercial banks whose intent is to positively signal its prospective and existing investors/shareholders should prioritize dividend payout policies which will most certainly drive up per share dividend ultimately providing good signal to shareholders' investment decision.

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