

## Firms' Specific Characteristics and Stock Market Returns (Evidence from Listed Food and beverages Firms in Nigeria)

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### Abstract

Because of the mix of opinion in the literature, the mix of empirical findings, and the limited empirical works on the relationship between firms' specific characteristics and Stock Market Returns particularly with reference to listed food and beverages firms in Nigeria, it is not out of place to conduct further research on this area to ascertain position. Hence, the study investigated the impact of certain firms' attributes namely: Market Capitalization, Debt-to-Equity Financing and Earnings per Share on Stock Market Returns of listed food and beverages firms in Nigeria for the period 2007-2013. The population comprises all the twenty-one (21) food and beverages firms listed on the Nigerian Stock Exchange (NSE) December, 2013. Out of which nine (9) firms constitute the sample of the study. The study adopted both correlation and ex-post facto research design. The data for the study was purely from secondary sources obtained from the annual reports of the sampled firms as well as NSE fact book. Data was analyzed using several options of multiple panel data regression. But the most robust of all is OLS regression as suggested by 'Breusch and Pagan Lagrangian Multiplier Test for Random Effect'. The findings revealed that Market Capitalization has a significant negative impact on Stock Market Returns of listed food and beverages firms in Nigeria; while the impact of Debt-to-Equity Financing and Earnings per Share on Stock Market Returns are found to be positive and statistically significant. Based on these findings the study recommend as follows: that government and policy maker (Security and Exchange Commission) should design and implement more stringent rule where firms will be compelled and monitored on providing high quality financial reporting, so as to be reporting earnings that reflect their actual performance. This would prevent investors from falling on to the trap of earnings manipulation (as it happened to shareholders of Cadbury Nigeria plc.). In addition, prospective investors should not only focus on huge returns for investing in smaller capitalized or high levered firms; rather, further analysis need to be carried out to tradeoff between risk and returns.

**Keywords:** market capitalization, debt-to-equity financing, earnings per share, stock market returns and stock market

### 1. Introduction

Stock return is very important as it is the main objective of investment in ordinary shares. Investors, both existing and potential ones regard return as the fundamental reason for investing in a particular firm. Stock return can be in form of capital appreciation/depreciation (as obtained in the Nigerian stock exchange) plus dividend received if any. Stock prices are important metrics of measuring stock market returns. Therefore, the value attached to them matters a lot to both existing and prospective investors in the stock market. There are several factors in stock prices determination in the stock market. This factors ranges from accounting and non-accounting information.

Stock Market Returns are the returns or gain that the investors generate out of the stock market. The most common way of generating stock market return is through trading in the secondary market. In the secondary market an investor could earn stock market return by buying a stock at lower price and selling it at a higher price. Book value of equity constitutes the accounting based value for owners and be useful in judging on the true value of equity (Hallefors, 2013). Capital market serves as a place or arrangement where investors and investees interact. The share at which is being sold is determine by the corporate firm characteristics which usually affect the amount of capital a company can raise from the stock market. Stock market provides a link between firms need to raise fund for business continuity or expansion and those investors wish to invest their excess resources. Therefore, it is a point for buying and selling of shares, and share prices are determine by

demand and supply, which usually influence by firm specific factors and/or macroeconomic variables (Adedoyin, 2011).

Accounting fundamentals (firm specific ratios) serve as a predictor of stock market returns since it gives highlight to the likely future returns. Examples of accounting fundamentals are leverage ratio, profitability, market capitalization. According to Aldin, Dehnari, and Hajjighasemi (2012), investors aim at maximizing their yield and they are very eager to predict the firm stock returns in which they invest. They expect to receive dividend and/or capital gain from investing in the equity market. Stock Market Returns are subject to market risks. They are not homogeneous and may change from investor-to-investor depending on the amount of risk one is prepared to take and the quality of his Stock market analysis. This implies that the more investment one has, the higher the amount of risk one assumed and hence the higher the expected stock market returns.

Because of the importance attached to the 'tradeoff between risk and returns', investors are interested in making judgment about expected returns from investing in stock, and several researches were conducted that identified models and firm specific ratio that can influence market stock returns. The traditional model for predicting market return- CAPM (Capital Asset Pricing Model) developed by Sharpe (1964) and Linter (1965) and Black (1972) assumes that in an efficient market, securities are correctly priced and returns are ascertained mainly by the amount of risk one assumes. This model cannot be sufficient in predicting stock market returns alone and has its own defect (Uwubanmwun & Obayagbona, 2012). Recent studies show that there are other variables that outperform CAPM (represented by company's systematic risk or beta) in determining or predicting stock market returns with great precision. Basu (1997) demonstrated that the differences in Beta cannot justify and explain the difference in stock returns. Another criticisms of CAPM was found in the work of Fama and French (1992) who sees that the positive relationship between beta established by CAPM and average stock returns was a product of the negative association between firm size and beta. This shows that firm size has inverse relationship with the beta. More clearly the larger the firm the lower the risk. They further argued that when this association was taken into cognizance, the relationship between beta and stock returns will definitely disappeared. Drew (2003) also stated that beta alone is not sufficient in explaining stock return and that firm size and market to book value ratio are significant and effective in explaining average stock returns.

Al-Tamimi (2007) argued that the cause of increase or decrease in demand for a particular stock is determined by the firms' fundamentals, external factors and market behavior. Therefore, these variables that are capable of sending signal to investors on the future expected return varies from one firms to another and empirical evidence shows that apart from company's systematic risk as measured in CAPM, there are numerous firm's unique set of variables that better explain variation in stock returns. This firm specific factors ranges from size effect (Market capitalization-MC), growth effect (Market-to-book-value of equity, value effect (Earnings per share- EPS) and risk effect (Debt-to-equity ratio-D/E). Therefore, in academic researches, stock returns have been found to be associated with MC, D/E and EPS.

In contemporary literature, firm size has been typically measured in terms of MC. Banz (1981) and Basu (1983) argued that small size firms are generally riskier than large size firms and hence deserves higher returns. This shows that negative relationship is observed between size and returns, other things being equal, market value of equity will be pushed down in order to provide higher expected returns. Small firms are mostly ignored by potential investors, they exhibit less liquidity and hence their beta are mostly underestimated and do not have diversified operation. Thus, small firm stock should significantly outperform stock prices of big firms. Berk (1996) demonstrates that while expected negative relationship between MC and does persist for US data, similar hypothetical is missing when such non-market based measures of company size as total assets, fixed assets and number of employees are used. On the contrary, it is argued that larger firms provide higher stock market returns with less risky for investment than small size firm in term of market stock capitalization.

D/E affects the overall returns of firms. Financial economists are of the view that high levered firm has a higher earning than a low levered firm because of the low cost of capital (Sundaresan & Fan, 2000). But on the other hand, (Wajid, Arab, Madiha, Waseem & Ahmad, 2013) opined that high levered firms are regarded as more risky for investment because, they have a high chance of falling onto the trap of bankruptcy, as such, potential investors do avoid investing in such kind of firms. Consequently the demand for its share will fall and hence affect the stock price as well as stock returns. Hence negative effect will be expected. Prior researches suggest that firm that change their leverage level experience changes in stock prices more often. Increase in debt decreases stock prices and hence stock returns. Although, many researches have argued that capital structure were positively related to debt to equity ratio (Bhandari & Chand, 1988). That is theoretically, when a firm total debt supersede its total equity the shareholders will demand a high returns on its stock due to high risk of bankruptcy. Then one will expect leverage to have a positive effect on stock market returns,

EPS is useful for judgment on stocks. It is the profit generated from every naira price earned by a firm. Based on the priori expectation, EPS is expected to have positive relationship with stock return. That is the higher the EPS the higher is going to be the expected market returns. Both existing and potential investors concern about the firm performance, so they pay more attention to firm's profitability that usually moves a firm's share price upward and consequently affect stock return. Prior researches as described by (Hallefors, 2013) cast some doubt as to whether accounting convention like verifiability and prudent measurement of asset and liabilities produced earnings measurement that is all related to stock market return. Although many empirical researches of the relationship between current earnings and stock returns have been conducted there has not been consensus on a theoretical benchmark level of returns relative to current earnings. EPS is expected to have positive relationship with stock market returns. Previous researches show that EPS usually have positive impact on stock market returns.

Up to date there is no consensus as to which single or combination of variables best explain stock market returns. This allow for the interested researchers to find out which research setting in term of country, firms and environment are best proxies for their situation that determine stock returns. Some characteristics have been shown to have a strong ability in forecasting stock returns. This is an indication that degree of explanatory power of variable(s) on stock market returns depend on the country of stock, period of study and sector of the economy. For example, Bhandari (1998) pointed out that the leverage ratio compared to beta is much stronger variable in explaining variation of stock market return. While Azam (2011) stated that previous studies confirmed that only EPS and dividends as firm specific variables affect stock returns. Fama and French (1992) showed that two variables of firm characteristics- firm size and B/M ratios pooled together can take the place of the market beta in explaining the cross sectional variation in stock returns.

Some of the available literature found in Nigeria have some shortcoming here and there and left some gaps to be filled. For example, Osisanwo and Atanda (2012) focused on macroeconomics variables (not firm specific ratio) that affect stock prices as well as stock market returns. The variables he used include: interest rate, previous stock returns levels, money supply and exchange rate. Uwubanmwem & Obayagbona (2012) and Adedoyin (2011) used total assets as proxy for firm size, while in the contemporary literature firm size has been typically measured in terms of market capitalization of stock (i.e. in a study that involve the determination of stock market returns and or share price). In Okoro and Stephen (2014), the proxies used are only performance indicators. Market capitalization and capital structure were not captured in the model of the study. Furthermore, these studies drawn their sample from all the listed firms on the NSE, the study did not concentrate on a particular sector and the findings appear too general and not specific. There is a need to consider industry differences and common characteristics attributed to each sector.

Because of the mix of opinion in the literature, the mix of empirical findings, and the limited empirical work on the relationship between firm characteristics and stock market returns particularly with reference to listed food and beverages firms in Nigeria, it is not out of place to conduct further research on this to ascertain position.

Listed food and beverages firms remain the largest subsector in the Nigerian manufacturing sector in term of capital based and share price quotation. Although it is being operated below its potentials, but it has performed better than a number of other subsectors as it's witnessed expansion in investment due to increase in population. It is among the most vibrant sector in the Nigerian stock exchange market as the market capitalization of beverages (distillers), beverages (non-alcoholic), food product and food product diversified hit N1.101 trillion, N29.768 billion, N244.493 billion and N388.928 billion respectively in 2012. Despite the just recent global economic meltdown that brought about crash in the Nigerian stock market especially in 2009 yet some firms' share prices were not affected adversely compared to other sectors. For example, the share prices of Nestle plc as quoted in the NSE was at N239.5, N368.55, N445.66, N700 and N840 in 2009, 2010 2011, 2012 and 2013 financial year end respectively. While that of Guinness plc was at N129, N158.51, N245, N226 and N251.07 in that order. This is an indication that investors, both individuals and institutions are diverting their investment to that sector, because they want to maximize market returns. The question still remain whether there is any relationship between Market Capitalization, Debt-to-Equity financing, Earnings per Share and the Stock Market Returns of listed food and beverages firms in Nigeria?

The aim of the paper is to examine the cumulative effect of Market Capitalization of shares, Debt-to-Equity financing and Earnings per Share on the Stock Market Returns of listed food and beverages firms in Nigeria. While the specific objective is to:

- i. Investigate whether market capitalization of shares has significant effect on stock market returns of listed food and beverages firms in Nigeria.

- ii. Determine the impact of debt-to-equity financing on stock market returns of listed food and beverages firms in Nigeria.
- iii. Ascertain the influence of earnings per share on stock market returns of listed food and beverages firms in Nigeria.

As such, the study hypothesized in null form as follows:

$H_{01}$ : Market capitalization has no significant effect on stock market returns of listed food and beverages firms in Nigeria.

$H_{02}$ : Debt-to-equity financing has no significant impact on stock market returns of listed food and beverages firms in Nigeria.

$H_{03}$ : Earnings per share has no significant impact on stock market returns of listed food and beverages firms in Nigeria.

The finding of the study will be helpful to investors in knowing the variable or combination of variables that will be better in predicting stock price and consequently, valuation of stock market returns of listed food and beverages firms in Nigeria. The study will add to the body of existing literature and basis of validating theory. The policy implication of the findings will be of great contribution to regulatory agencies like Security and Exchange Commission as well as Corporate Affairs Commission.

The remaining part of the paper are organized as follows: Section 2: literature review and theoretical framework; section 3: describes the methodology used and model specification; section 4: examines the results of the statistical analysis, and section 5: is conclusion and recommendation.

## 2. Literature Review and Theoretical Framework

### 2.1 Market Capitalization (size) and stock market returns

Smaller size firms may suffer from information asymmetry. It is more risky for investment than larger firms as such investors demand more returns on their stock (Gallizo & Salvador, 2006). This is clearer in the work of Banz (1981) who stated that smaller firms appear to have higher returns than larger firms. Hence, firm size is expected to have negative impact on stock returns. On the contrary, it is argued that larger firms provide higher stock market returns with less risky for investment than small size firm in term of market stock capitalization.

Ziemba (1991) and Levis (1988) found that small capitalization outperform large stock capitalization. Shapiro and Lakonishok (1984) found insignificant relationship between beta and stock returns, but found the existence of significant relationship between firm size and stock returns. In his study, Pandey (2001) found a significant positive relationship between market capitalization and stock returns of listed firms in the Malaysian stock market.

According to Tahir, Sabir, Alam & Ismail (2013) there are numerous variables that explain stock returns, but the most basic and easiest measure is the value of both firms and its stock, that is by looking at its market value-market capitalization. Studied conducted by (Wakil, 2013) compares the value relevance of market capitalization (MC), total asset and market value of total asset as proxy for firm size in CAPM. Surprisingly firm size is almost always included in CAPM and MC of a firms' common stock is the best proxy for explaining stock variation. In contemporary literature, company size has been typically measured in terms of market capitalization

Tahir, Sabir, Alam & Ismail (2013) empirically investigate the impact of some firm characteristics (which they described as being unique on stock returns) of listed non-financial firms of Pakistani for the period 2002 to 2012. Four proxies of firm characteristics were used: market capitalization (size effect), sales growth, EPS and book-to-market value of equity. The secondary data of 307 firms was analyzed using multiple regression. The results of the study that MC has a significant positive impact while sales growth has no significant effect on stock returns. The study found a support for the impact of firm size on Pakistani stock returns.

The period of the study is very small. Leverage was also omitted in the model despite its strong contribution in predicting stock returns as described in the literature.

Lukacs (2002) examines the relationship between market capitalization of stock and the distribution of stock returns. Using a sample of 21 stock listed on the Budapest stock exchange, the results are evaluated by using both charts and rank correlation. A significant relationship was found between MC and the distribution of stock. The study only use rank correlation as a technique of analysis.

Tudor (2010) studied the explanatory power on future stock returns of market beta, financial leverage, book-to-market equity, size, earnings to price ratio, return on assets and return on investment covering the period 2002-

2008. Two way fixed effect multiple regression was used. The negative relationship was observed between size (market capitalization) and stock returns. They stressed that the negative effect is persistent and remain the highest when variables are dropped from the regression even in the univariate setting. He also noticed that size has the most significant effect in capturing variation in stock returns over the whole period.

Uwubanmwun & Obayagbona (2012) studied the effect of company fundamentals and returns on equity in the Nigeria stock market. Using a sample of eight firms with 11 years observation. Proxies for company's fundamentals used includes: book-market value of equity, firm size, leverage and price earnings ratio. The study found that firm size has no significant effect on stock market returns.

The study uses traditional measure of firm size i.e. natural log of total asset while current studies show that market capitalization is the best proxy for studying the impact of firm size on stock returns.

Adedoyin (2011) analysis the effect of firm characteristics has in determining share listed on the NSE for the period 2004-2009 by using a sample of 72 firms. OLS method, fixed effect and random effect estimation technique were used for the analysis. The results indicate that the size of firms has the most significant effect on price determination in the two models. The criticisms of the study is that they adopt total asset as proxy for firm size in determining share prices.

Rahmani, Sheri and Tajvidi (2006) examine the relationship between accounting and market variables and the stock returns on the basis of pooled cross-sectional data of the period 1997-2003 by applying both multivariable and univariable models. The result proved that size (MC) has significant positive impact on stock market return. In a single variable model, hypotheses 2-7 shows that the relationship between size and stock returns proved to be more stable compared to other variables.

Kumar and Sehgal (2004) suggest that using both market and non-market based measure of company size portray a strong effect in the Indian stock market

## 2.2 Debt-to-Equity ratio and Stock Returns

Leverage as a proxy of financial risk is expected to be related with expected stock returns. The financial risk is mostly reflected in firm financial leverage. Tradeoff theory posit that large firms can easily penetrate capital market to long term debt since they have lower bankruptcy cost. Large firms use debt financing option to take advantage of tax shield. Thus, positive relationship is expected. On the contrary view, Wajid et al. (2013) opined that high levered firms are regarded as more risky for investment because, they have a high chance of falling onto the trap of bankruptcy, as such, potential investors do avoid investing in such kind of firms. Consequently the demand for its share will fall and hence affect the stock price as well as stock returns. Hence negative effect will be expected. Bhandari (1988) in his study found a positive relationship between financial leverage and stock returns. While Welch and Ivo (2004) conducted a research on relationship between capital structure and stock returns by examining the US listed firms for the period 1960-2000, and found that stock returns was negatively correlated to debt-equity ratio when firms were inactive and did not reschedule their debt ratios in period of stock prices increase or decrease.

Khan, Naz, Khan, Khan and Ahmad (2013) studied the impact of capital structure and financial performance on stock returns of Pakistan textile industry. Using OLS method, the result revealed that D/E ratio and EPS affect stock returns positively. They believed that the positive trend predicted is because majority of the firms are family-owned and the directors run the in the interest of majority shareholders instead of stakeholders.

Chambers, Sezgin and karaaslan (2013) investigate the effect of capital structure and the beta coefficient on stock returns of listed manufacturing industry. Where the data of 65 industrial firms in the Istanbul stock exchange are analyzed. The study used three periods: the whole period from 1994 to 2010, the sub-period from 1994 to 2002 and the sub-period from 2003 to 2010. Panel regression analysis is used in which total debt to market value (TD/MV) and beta ratio are found to have statistical significant effect on both nominal and real stock returns in all the three periods. The TD/MV ratio is also found to be statistically significant but with a negative effect on both nominal and real stock returns in the 1994 to 2002 sub-period but in the 1994 to 2010 period only real stock return that is statistically significant. But, Tudor (2006), in his study, financial leverage measured as total debt to total equity was found to be positively impacting stock returns. Though, the statistical significance is the second highest after MC.

Bhandari (1998) in his study of the relationship between stock returns and the expected leverage ratio during the period 1949 to 1979. Significant positive association between leverage and stock returns of the firms was observed and the relationship is higher in manufacturing firms and in January. He stressed that the leverage ratio

is a much stronger variable in explaining stock returns compared to beta.

Yang, Lee, Gu & Lee (2010) examine the relationship between capital structure and stock returns for the period 2002-2005 in the Taiwan stock exchange. The essence is to determine the way the two affect each other. The result of the analysis shows that leverage ratio significantly and positively affect stock returns. On the other way round, stock returns affect the leverage ratio negatively. He concluded by saying that the variables affect each other only that the direction of the relationship varied.

Ahmad, Fida and Zakaria (2013) examine the co-determinants of capital structure and stock returns for the period 2006-2010 by employing a panel dataset for 100 non-financial firms listed on the Kingdom of Saudi Arabia stock exchange. Generalized Method of Moments was employed to analyze the data. The statistical result of the study shows that stock returns and leverage affect each other, but, the effect of leverage (positive effect) on stock returns is greater than the effect of stock returns (negative effect) on leverage.

Uwubanmwun & Obayagbona (2012) studied the effect of company fundamentals and returns on equity in the Nigeria stock market by using a sample of eight firms with 11 years observation. That apart from Book-to-market value of equity that passes significant test at 1% level, only financial leverage is able to pass the significant test at 10% level with positive impact on stock market returns. PER was found to have insignificant relationship with stock returns

Rahmani, Sheri and Tajvidi (2006) examine the relationship between accounting and market variables and the stock returns on the basis of pooled cross-sectional data of the period 1997-2003 by applying both multivariable and univariable models. The coefficient of debt to equity under multi variables model was significant in one year only. But the model was not significant for the year 2000 and 2001. In the single variable model D/E ratio was found to be statistically insignificant.

### 2.3 Earnings per Share and Stock Market Returns

The empirical research on the association between accounting information and stock market returns was started by Ball and Brown (1968) and Beaver (1968) and they concluded that accounting earnings contain information for stock market participants. Since firm with higher profitability provides more returns on their stock, then, higher EPS should have a positive effect on stock returns.

Tahir, Sabir, Alam & Ismail (2013) empirically investigate the impact of some firm characteristics (which they described as being unique on stock returns) of listed non-financial firms of Pakistani for the period 2002 to 2012. The study also acknowledge a value effect on the Pakistani stock market as EPS was found to have positive impact on stock market returns.

Okoro and Stephen (2014) conducted a study to investigate the factors that determine stock price movement in Nigeria for the period 2001-2011. Data were collected from the financial statement of 99 listed firms in the NSE. Ordinary Least Square was used to analyze the data. Three proxies were used: EPS BVPS and dividend cover. The result revealed that EPS has a positive impact on stock prices. The explained that the magnitude of changes is that increase in the EPS by 1 unit will lead to an increase in the price per share by 0.25 units. They stressed that EPS has the strongest explanatory power in explaining stock prices movement.

The study uses OLS method as a means of analyzing panel data. Sometimes OLS tend to be biased as it does not recognize time factor, and individual firm invariant characteristics. It does not recognize panel effect. The proxies used are only performance indicators while there other indicators that need to be tested e.g. firm size, market capitalization, capital structure.

Chambers, Sezgin and karaaslan (2013) investigate the effect of capital structure and the beta coefficient on stock returns of listed manufacturing industry. Among the control variables used in the study only the EPS was found to have significant positive effect on stock return in the 1994-2002 sub-period. Similarly Ahmad et al. (2013) found that profitability affect stock returns of listed firms in the KSE positively. Altamimi (2007) discovered that EPS had the most influencing factor over market model.

### 3. Methodology and Model Specification

The study adopts both correlational and ex-post facto research design. This is because the study seeks to explore the relationship between firms' specific attributes and stock market returns by following quantitative approach. Historical data is used for the analysis. The population comprises all the twenty-one (21) food and beverages firms listed on the NSE as at 31<sup>st</sup> December, 2013. Out of which nine (9) firms constitute the sample of the study. We made all effort to see that we drew adequate sample size, considering the size of the population (21) as well

as the degree of precision required. We arrived at the sample owing to the fact they have complete information required for the analysis. The sample size covered 43% of the population. The data for the study was purely from secondary sources obtained from the annual report of the sampled firms as well as NSE fact book. The period of the study covers seven years (2007-2013).

The study employed the use of Ordinary Least Square (OLS) regression, Fixed Effect (FE) regression and Random Effect (RE) regression, and analyzed the result using Stata 10.1 computer statistical software.

Multiple regression technique was adopted using panel data methodology. As such, the empirical results of the study are based on the following regression model:

$$SMR_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 DE_{it} + \beta_3 EPS_{it} + \mu_{it}$$

Where:

SMR<sub>it</sub>: represent stock market returns of the firm i in time t.

MC<sub>it</sub>: represent market capitalization of the firm i in time t.

DE<sub>it</sub>: represent debt-to-equity ratio of the firm i in time t.

EPS<sub>it</sub>: represent earnings per share of the firm i in time t.

β<sub>0</sub>: represent individual effect taken to be constant over time and specific to the individual cross-sectional unit

β<sub>1</sub>-β<sub>3</sub>: represent the coefficient of the explanatory variables.

μ<sub>it</sub>: represent error term of random disturbance.

Table 3.1: Variable Measurements

Variables	Measurements
SMR	$\frac{P1 - P0}{P0} \times 100$ . Where: P1 represent price of the stock in current year as quoted at the end of the financial year. P0 represent price of the stock in last financial year end.
MC	Number of the ordinary shares of the firm at the end of the financial year multiplies by the last price of each stock at the end of the same financial year
DE	Ratio of the total long term debt to total shareholders fund (equity)
EPS	Net income after tax available to shareholders divide by number of outstanding ordinary shares.

Source: The Authors, 2015

Note that according to Warfield and Wild (1992), previous researches suggest that quarterly and semi-annual accounting earnings have little explanatory power for returns. As such, annual data will be more appropriate.

#### 4. Results and Discussion of Findings

Table 4.1 presents descriptive statistics of the variables of the study. The mean, standard deviation, minimum, and maximum have been used to describe the data.

Table 4.1: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min.	Max.
SMR	63	38.3265	64.4432	-84.8936	185.9155
MC	63	24.3649	2.1105	20.0420	27.9322
DE	63	0.6274	0.4095	0.0044	1.7306
EPS	63	3.0537	6.7691	-13.40	28.57

Source: The Authors, 2015

From the table above, SMR (stock market returns) has a mean of 38.3265. The range of the SMR is from the minimum of -84.8936 to a maximum of 185.9155. This shows that on average, the stock of the sample firms was able to yield market returns of 38% on the ordinary shares invested by shareholders. The minimum value is an indication that some shareholders lost stock market return to the extent of 85% during the period. On the other

hand, some investors gain up to 186% as market returns. The standard deviation of 64.4432 signifies greater volatility in stock market returns and the data deviate from the mean value from both side by 64% implying that the data is widely dispersed from the mean. This also proved that stock market returns varied from one company to another. This may be as a result of some factors attributed to firms. Furthermore, the result shows MC (measured by the natural logarithms of market capitalization) has mean of 24.3649 with standard deviation of 2.1105, and the minimum and maximum of 20.0420 and 27.9322 respectively. This shows that the values are centered around the mean value i.e. there is not much dispersion away from the mean because the standard deviation is less than the mean. Debt-to-equity ratio has a mean ratio of 0.6274:1, while the range is from the minimum ratio of 0.0044:1 up to a maximum of 1.7306:1. This shows that on average the firms have debt ratio of 63%, implying that firms prepared much of equity financing to debt financing. As the minimum values signifies that some firms did not have up to 1% debt, some firms' debt financing surpass equity financing by 73%. The deviation of 0.4815 is an indication that there is not much dispersion around the average financing (0.6274). Moreover, Earnings per Share (EPS) has a mean of 3.0537, the range is from the minimum of -13.40 to a maximum of 28.57. This shows that on average, N3.05K per share was earned by the firms during the period 2007-2013. However, the minimum of (N13.40K) is an indication that some firms incurred loss per share to the tune of that amount, while the maximum is a clear indication that some firms were able to generate profit attributable to shareholders to the amount of N28.57K per share. There is a dispersion or variability of earnings among firms because the standard deviation of N6.35K is not closer to the mean of N3.05K.

Table 4.1.1: Correlation Matrix

Variables	SMR	MC	DE	EPS
SMR	1.0000			
MC	-0.3867*	1.0000		
DE	0.3626*	0.0586	1.0000	
EPS	0.4387*	-0.2481*	0.0238	1.0000

Source: The Author, 2015

\* 5% level of significance

The correlation matrix is used to determine the degree of association between independent variables and dependent variable. It is also used to identify whether there is a relationship among the independent variables themselves, to be able to detect if multicollinearity problem exists.

From the table above, we can see that the correlation coefficient between SMR and MC is -0.3867 significant at 5% level. This suggest that there exist a significant negative association between market capitalization and stock market returns. This implies that the higher the market capitalization the lower the stock market returns and vice versa. Moreover, the correlation coefficient between debt-to-equity financing and SMR is 0.3626; suggesting a significant positive association between the two. The relationship between EPS and SMR is found to be significantly positive. This can be confirmed from the coefficient value 0.4387 at 5% significant level. This association is in tandem with the priori expectation found in the literature, EPS is expected to have positive association with stock market returns.

The relationships between independent variables themselves suggest to be minimal; as only EPS and MC have significant relationship. In order to access the presence of multicollinearity, the study further conducted multicollinearity test, using Variance Inflation Factor (VIF) and its reciprocal (1/VIF). The test reveals absence of multicollinearity, because VIF are consistently smaller than 10 while its reciprocal are consistently less than 1. The mean VIF for all the independent variables is 1.07.

#### 4.2 Robustness Tests

To avoid making wrong inferences, some robustness tests were conducted and the summary of the statistical result can be depicted from table 4.3 below



Table 4.1.3: Summary of robustness test

	Statistics	P-Values
Hetest-Chi2	0.03	0.8539
Mean VIF	1.07	-
Hausman-Chi2	7.63	0.0543
LMTRE-Chi2	0.01	0.9356

Source: The Authors, 2015

Note: LMTRE is 'Breusch and Pagan Lagrangian Multiplier Test for Random Effect'

To test whether there exist heteroskedasticity in the data, the study used 'Breusch-Pagan and Cook-Weisberg test for heteroskedasticity.' The null hypothesis assumes that the variance of the residuals is constant. The test suggests absence of heteroskedasticity, as the chi2 value is 0.03 and the p-value is 0.8539. This attest that the model is good. In addition to that, multicollinearity test was also conducted using VIF and its reciprocal (1/VIF). No multicollinearity threat was found; as the VIF are consistently smaller than 10 while the reciprocal are constantly smaller than 1. The mean VIF is 1.07. All these proved absence of multicollinearity and suggest the appropriateness of the model in fitting the independent variables of the study.

Data for the study is panel in nature and panel data may lead to error that are clustered and possibly correlated overtime. This is because each company may have its own entity specific characteristic that can influence its stock market price (i.e. unobserved heterogeneity). And this may bias the outcome variables or even the explanatory variables. As such there is need to control for that. For that purpose, FE regression and RE regression were ran. The Hausman Test (HST) suggest that RE regression is more appropriate for the data. This can be seen from the Chi2 value of 7.63 with a probability value of 0.0543. This suggest no entity specific attributes affect the outcome variable.

Furthermore, by extension, the study test to see whether there is a statistical variance among the unit in the panel. To test for that, 'Breusch and Pagan Lagrangian Multiplier Test for Random Effect' was adopted. Finally, the test result reveals that there is no statistical significant variance among the unit in the panel data. This can be observed from the chi2 value of 0.01 and a P-value of 0.9356. Thus, this suggests that OLS technique is more appropriate for this study. Hence, the inference will be made based on the results produced by the OLS regression. Although, all the results for OLS, FE and RE regression will be provided for in the next sub-section for comparison purpose only.

Table 4.1.4: Summary of Regression Result

Variables	OLS Regression			FE regression			RE Regression		
	Coefficients	T-values	P-values	Coefficients	T-Values	P-values	Coefficients	T-Values	P-values
Const.	197.849	2.33	0.023	168.4	1.90	0.063	197.85	2.33	0.020
MC	-7.990	-2.37	0.021	-7.216	-2.06	0.045	-7.990	-2.37	0.018
DE	40.866	2.39	0.020	52.81	2.48	0.016	40.866	2.39	0.017
EPS	3.115	2.96	0.004	4.114	3.64	0.001	3.115	2.96	0.003
R <sup>2</sup>	0.3389			0.372			0		
AdjR <sup>2</sup>	0.3053								
F-Stat	10.08		0.0000	10.08		0.0000			
W. Chi2							30.24		0.000

Source: The Authors, 2015

#### Market Capitalization and Stock Market Returns

From the table, the t-value for MC is -2.37 and a beta coefficient of -7.990 with a p-value of 0.021. This implies that MC has a significant negative effect on SMR of listed food and beverages firm in Nigeria at 5% significant

level. The beta coefficient indicates that an increase of MC by 1naira will lead SMR to reduce by 9.15%. This may be possible based on the argument that smaller firms tend to be riskier than the larger firms. As such market value of equity will push down to provide higher expected return, as opined by Berk (1995). This provides evidence for us to reject the null hypothesis earlier formulated, which states that MC does not have significant impact on SMR of listed foods and beverages. The finding is in line with those of Tudor (2011), Fama and French (1992) and Amir (2011)-as cited in Tahir, et al. (2013).

#### Debt-to-equity and Stock Market Returns

The impact of debt-to-equity ratio on stock market returns is found to be positive and statistically significant at 5% level. This can be confirmed from the t-value of 2.39 and a p-value of 0.020. This implies that capital structure measured in term of D/E have significant positive impact on the stock market returns of listed food and beverages firms in Nigeria. The implication of this finding is that increase in the proportion of debt financing without corresponding increase in equity will lead to increase in stock market returns. This of course may be possible because shareholders will receive more returns in the period of boom and consequently affect stock market returns; and high levered firms are more risky for investment as such, more returns are associated with high risk. Therefore, the finding provides evidence to reject the null hypothesis which states that D/E has no significant effect on the SMR of listed food and beverages firms in Nigeria. The finding is in tandem with those of Khan, Naz, Khan, Khan & Ahmad (2013), Tudor (2006), Bhandari (1998), Yang et al. (2010), Ahmad et al. (2013), and Uwubanmwun & Obayagbona (2012).

#### Earnings per Share and Stock Market Returns

The beta coefficient and t-value of EPS are 3.115 and 2.96 respectively, with a p-value of 0.002. This shows that EPS has a strong and significant positive impact on SMR of listed food and beverages firms in Nigeria at 1% significant level. The coefficient of 3.115 is explaining that increase in EPS by 1 naira can lead to increase in SMR by 3.115%. The implication of this finding is that the higher the EPS the higher is going to be the SMR. This finding is in tandem with the priori expectation that earning should have incremental and significant effect on SMR. This provides evidence to reject the null hypothesis stating that EPS does not have significant impact on SMR of listed food and beverages firms in Nigeria. The finding has gotten support empirically from the works of Okoro and Stephen (2014), Tahir et al. (2013), Chambers et al. (2013) and Ahmed et al. (2013).

Cumulative result shows that the coefficient of determination ( $R^2$ ) has a value of 0.3389. This indicates that the explanatory variables (MC, DE, and EPS) were able to explain the variation in the dependent variable (SMR) to the extent of 34%. The other 66% is explained by other factors not captured in the model. This could be macro and micro variables that also explained change in SMR. The adjusted  $R^2$  (which adjusted for the number of variables in the model that have strong correlation) has a value 0.3053 (31%). This implies that MC, DE, and EPS play a significant role in explaining the expected stock market returns of listed food and beverages firms in Nigeria. The regression result reveals fitness of the model for having F-statistics of 10.08 and a p-value of 0.0000. The implication of this result is that the overall impact of the explanatory variables on the dependent variable is significant at 1% level, with 99% level of confidence. Finally we come to conclude by saying that some firm specific characteristics are playing a significant role in explaining stock market returns of listed food and beverages firms in Nigeria. Also, it provides additional evidence to support the view that apart from market beta (CAPM) and macroeconomic variables, there are also firm specific characteristics that influence market returns.

### 5. Conclusion and Recommendations

The study investigates the impact of certain firm specific characteristics on stock market returns of listed food and beverages firms in Nigeria for the period 2007-2013. The population comprises all the twenty-one (21) food and beverages firms listed on the NSE as at 31<sup>st</sup> December, 2013. Out of which nine (9) firms constitute the sample of the study. The study adopted both correlational and ex-post facto research design. The data for the study was purely from secondary sources obtained from the annual report of the sampled firms as well as NSE fact book. Data was analyzed using several option of multiple panel data regression. But the most robust of all is OLS regression as suggested by Breusch and Pagan Lagrangian Multiplier Test for Random Effect. All the three variables of the study opposed to the stated hypotheses raised in section one. Based on this, the study has concluded that it has achieved its objective by answering the research questions as the finding revealed that

market capitalization has a significant negative impact on stock market returns of listed food and beverages firms in Nigeria, while DE was found to have significant positive impact on stock market returns of listed food and beverages firms Nigeria. Furthermore, earnings per share was also found to have strong and significant positive impact on stock market returns of listed food and beverages firms in Nigeria. Based on the findings of the study it is recommends that government and policy makers (SEC) should design and implement more stringent rule where firms will be compelled and monitored on providing high quality financial reporting, so as to be reporting earnings that reflect their actual performance. This would prevent investors from falling on to the trap of earnings manipulation (as it happened to shareholders of Cadbury Nigeria plc.). In addition, prospective investors should not only focus on huge returns for investing in smaller capitalized or high levered firms; rather, further analysis need to be carried out to tradeoff between risk and returns.

## References

- Adedoyin, A. O. (2011). Share price determinants and corporate characteristics. *Dissertation*, Department of Accounting, College of Development Studies, Covenant University, Ogun, Nigeria.
- Ahmad, H., Fida, B. A. & Zakaria, M. (2013). The co-determinants of capital structure and stock returns: evidence from the Karachi stock exchange. *Lahore Journal of Economics*, 18 (1), 81-92
- Al – Tamimi, H. (2007). Factors affecting stock prices in the UAE financial markets. *Singapore Economic Review Conference*. <https://editorialexpress.com/conference/SERC2007>
- Aldin, M. M., Dehnavi, H. D., Hajighasemi, M. & Hajighasemi, A. (2012). Investigating the effect of fundamental accounting variables on the stock prices variation. *International Journal of Economic and Finance*, 4 (10)
- Amir, A. Z. (2011). The return of the size anomaly: evidence from the German stock market. *European Financial Management*, 17 (1), 145-182.
- Azam, M. (2011). Stock price variation regarding macroeconomic and firm-specific accounting variables: evidence from Karachi stock exchange. *International Research Journal of Finance and Economics*, 81, 77–88.
- Ball R. & Brown P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research* 6, 159-78.
- Banz, R. W. (1981). The relationship between return and market value of common stocks. *Journal of Financial Economics*, 3, 3-18.
- Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting & Economics*, 24 (1), 3-37
- Beaver, W. H. (1968). The information content of annual earnings announcements. *Journal of Accounting Research Supplement*, 6, 67–92
- Berk, J. B. (1995). A critique of size related anomalies. *Review of Financial Studies* 8, 275-286.
- Berk, J. B. (1996). An empirical re-examination of the relation between firm size and return. *Revised Working Paper*, School of Business Administration, University of Washington.
- Bhandari, L. C. (1988). Debt-Equity ratio and expected common stock returns: empirical evidence. *Journal of Finance*, 43, 507-528
- Black, F. Jensen, M. & Scholes, M. (1972). The capital asset pricing model: some empirical tests, in *Studies in the Theory of Capital Markets*, Praeger, New York, 79- 121
- Chambers, N., Sezgin, F. H. & Karaaslan, B. (2013). An analysis of the effect of capital structure and the beta coefficient on stock returns: a case study of the Istanbul stock exchange's manufacturing industry. *International Journal of Business and Social Science*, 4 (7)
- Chand, L. & Bhandari, L. C. (1988). Debt/equity ratio and expected common stock returns: empirical review.

*Journal of Finance*, 12, 129-156

Drew, M. E. (2003). Beta, firm size, book-to-market equity and stock returns. *Journal of the Asia Pacific Economy*, 8 (3), 354-379

Fama, E. F. & French, K. (1992). The cross-section of expected stock returns. *Journal of Finance*, 47, 427-465.

Gallizo, J. & Salvador, M. (2006). Share prices and accounting variables: a hierarchical Bayesian analysis. *Review of Accounting and Finance*, 5 (3), 268 – 278

Hallefors, H. (2013). On the relationship between accounting earnings and stock returns-model development and empirical tests based on Swedish data. Dissertation for the degree of Licentiate of philosophy in Business Administration, Stockholm School of Economics.

Kumar, M. & Sehgal, S. (2004). Company characteristics and common stock returns: the Indian experience. *Investment and Management and Financial Innovation*, 4

Lakonishok, J. & Shapiro, A. (1984). Stock returns, beta, variance and size: an empirical analysis. *Financial Analysts Journal*, 40 (36).

Lev, B. (1989). On the usefulness of earnings and earnings research: lessons and directions from two decades of empirical research. *Journal of Accounting Research*, 27, 153–192.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investment in stock portfolios and capital budgets. *Review of Economic Statistics*, 47, 13-37.

Lukacs, P. (2002). Stock returns distribution and market capitalization. *Hungarian Statistical Review*, special number 7

Okoro, E. G. & Stephen, E. A. (2014). Determinants of stock price movement in Nigeria (evidence from the Nigerian stock exchange). *Journal of Economics and Sustainable Development*, 5 (3).

Osisanwo, B. G. & Atanda, A. A. (2012). Determinants of stock market returns in Nigeria: a time series analysis. *African Journal of Scientific Research*, 9 (1)

Pandey, I. M. (2001). The expected stock returns of Malaysian firms: a panel data analysis. *IIMA Working Paper*, 09 (01).

Rahmani, A., Sheri, S. & Tajvidi, E. (2006). Accounting variables, market variables and stock returns in emerging markets: case of Iran. Allameh Tabatabai University, Tehran, Iran.

Sharpe, W. F. (1964). Capital asset prices: a theory of market equilibrium under conditions of risk. *Journal of Finance*, 18, 424-447.

Sundaresan, H. & Fan, H. (2000). Debt valuation, renegotiation and optimal dividend policy. *Review Finance Studies*, 13 (4), 1057-1099

Tahir, S. H., Sabir, H. M., Alam, T. & Ismail, A. (2013). Impact of firms' characteristics on stock returns: a case of non-financial listed firms in Pakistan. *Asian Economics and Financial Review*, 3 (1), 51-61

Tudor, C. (2010). Firms specific factors as predictors of future returns for Romanian common stock: empirical evidence. *International business and Economics Department*, Academy of Economics Studies from Bucharest, Romania.

Uwubanmwun, A. E. & Obayagbona, J. (2012). Company fundamentals and returns in the Nigerian stock exchange. *JORIND*, 10 (2).

Wajid, K., Arab, N., Madiha, K., Waseem, K. Q. K. & Shabeer, A. (2013). The impact of capital structure and

---

financial performance on stock returns: a case of Pakistani textile industry. *Middle-East Journal of Scientific Research*, 16 (2), 289-295

Wakil, G. (2013). Value relevance of firm size proxies in predicting stock returns: market capitalization or total book assets. Carleton University, Sprott School of Business, Canada

Warfield, T. D. & Wild, J. J. (1992). Accounting recognition and the relevance of earnings as an explanatory variable for returns. *The Accounting Review*, 67 (4), 821-842.

Welch & Ivo, (2004). Capital Structure and Stock Returns. *Journal of Political Economy*, 112, 106-131.

Yang, C. C., Lee, C. F., Gu, Y. X. & Lee, Y. W. (2010). Co-determination of capital structure and stock returns – a LISREL approach: an empirical test of Taiwan stock markets. *Quarterly Review of Economics and Finance*, 50 (2), 222–233.

Ziemba, W. & Schwartz, S. (1991). The growth in the Japanese stock market, 1949-90 and Prospects for the future. *Managerial and Decision Economics*, 12, 183-195.

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