

HOLISTIC ANALYSIS OF THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND STOCK PRICE OF CONSUMER STAPLES

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ABSTRACT

Financing decisions play a vital role in the management of firms. Two main funding options accessible by firms are equity and debt. Firms have the choice to go in for one or both funding options. Investors who patronize these stocks or shares gain interest in the performance of the firms' stocks. It is worth noting that equity and debt make up a firm's financing structure. An optimal capital structure is obtained when a firm has the right combination of equity and debt. High debt brings about high-interest costs and tax savings due to the interest tax deductibility nature of the debt. High equity leads to loss of ownership control of the firm to shareholders who in turn have a significant influence on how businesses are run. These are some of the challenges faced with variations in capital structure. The Ghana Stock Exchange (GSE) has six consumer staple companies listed on it. This study seeks to assess how capital structure and stock price are related to Ghana's consumer staple sector. The stock prices, equity values, debt values, market capitalization, and earnings per share of the listed consumer staple sector companies obtained from GSE were analyzed using Excel and SPSS. The result indicated that between 2011 and 2019, the companies recorded high mean equity value than mean debt value. The correlation analysis also suggested a weak relationship between capital structure and stock price. The fitted regression models suggested that capital structure is not a predictive variable for the stock price. The study also observed that capital structure and stock price variations pose certain challenges to the companies. The study discovered that consumer staple sector companies must pay much attention to the capital structure since it has a weak relationship with the stock price.

Keywords: Stock Exchange, Capital Structure, Consumer Staple, Equity, Debt, Stock Price, Financing Decision, Companies, Shares.

INTRODUCTION

Several factors account for changes in the stock price of companies. Investors' perception and market forces of demand and supply drive these changes. Where demand is high, stock price increases likewise when investors want to sell than buy prices fall, all other things being equal (Menon, 2016). It is important to note that majority of investors look out for companies' financial performance before making an investment decision. Financing decisions regarding how and when companies obtain funding is very crucial to every business. Two major financing options available to companies are equity and debt. Investors put their funds in equity and debt capital with the expectation of earning dividends or capital gain and interest respectively (Purnamawati, 2016). A company's capital structure comprising high debt than equity can cause financial distress, which poses threats to the

corporate entity's value thereby affecting the stock price (Ikpesu et al., 2018). High debt raises the concern of high financial risk, which connotes the possibility of a company's inability to perform its contractual obligations (Acheampong et al., 2014).

The ideal capital structure that could optimize the wealth of shareholders is of great concern. Expected future cash flows to be earned by equity capital providers are reallocated when companies go in for debt financing (Arowoshegbe et al., 2016). Interest paid on debt reduces profit, which in turn reduces dividends earned by shareholders. Interest paid on debt also has a tax-deductibility provision, which makes it cheaper than equity. Dividend payment to shareholders is an appropriation of profit, which also attracts taxes bearing no tax benefits. Debt financing brings to bear tax savings decreasing the payment of income taxes (Al Salamat et al., 2016). This study believes that several factors influence stock price changes, so also does capital structure contribute its quota to the change. If these changes happen, the crucial question that this study seeks to answer is what difficulties or challenges are faced with the variations in capital structure and stock price? In addition, what is the connection between capital structure and stock price? Since this is so relevant to all stakeholders at large. It is the objective of this study to assess how capital structure affects stock price and the challenges capital structure and stock price variations pose to the consumer staple sector of Ghana.

In achieving an optimum capital structure, the right composition of equity with debt is essential. Also, the inappropriate mix can lead to the payment of high-interest costs which can lead to insolvency (Addae et al., 2013). Additionally, high equity makes companies lose control of shareholders and miss growing opportunities since a high percentage of retained profits become dividend payments. Further, factors such as business size, liquidity, and earnings influence capital structure (Mutairi et al., 2015). It is in recognition of these facts that this study is conducted to fill in the knowledge gap on the relationship between capital structure and the stock price of consumer staples.

The Problem Statement

Shareholders are keen on stock prices because their objective is to maximize wealth, that is, stock market price growth. The stock market provides an avenue for purchasing and selling stocks where listed companies gain access to equity capital (Ahmad Khan et al., 2018). Research suggests that the Africa consumer market is developing at a faster pace (Signé et al., 2018). It is crucial to note that the consumer market provides essentials for human living. It is considered the *"lifeblood of the economy"* in times of crisis such as the COVID 19 pandemic Pricewaterhouse Coopers. Signé (2019) predicts that enormous opportunities will thrive by the year 2030 in the consumer market of African emerging economies including Ghana. This is evident in the set-up of factories by multinational companies such as Fan Milk and Unilever in Ghana. This implies the consumer market will pave way for more employment and investment opportunities in Ghana, which is beneficial to the government, investors, and the country at large. The Consumer staple sector consists of companies that are into food and beverages, tobacco, personal, and household products. Such businesses thrive irrespective of economic conditions. Most studies conducted on companies listed on Ghana's Stock Exchange focus on areas of finance, industrial, service, manufacturing, and consumer goods sectors (Menon, 2016). In addition, further studies have shown that most research conducted in Ghana is mostly in the banking and finance, oil, and manufacturing sectors. These studies also tend to focus on the association between the financial performance with stock price or capital structure but not the relationship between capital structure and stock price in the consumer staples sector in Ghana (Musah & Kong, 2019; Obuobi et al., 2020). This pattern of research has created a knowledge gap, making it difficult for investors to

access all the information needed to make investment decisions on the consumer staple sector in Ghana.

The significance of this study is that it will fill a knowledge gap by adding to the existing literature relationship between capital structure and stock price in the consumer staples sector in Ghana. Also, investors in the consumer staple sector will be abreast with the performance of companies listed on the Ghana Stock Exchange (GSE) and their true capital structure. Further, Management of companies on GSE will become more vigilant in working towards achieving an ideal capital structure that will optimize the corporate entities' worth (stock price). However, typical of every research, the limitations of this study is that companies classified under Ghana's consumer staple sector are six. However, this study focused on five due to the unavailability of data for the additional one in the period considered. Also, the study hoped to use ten years but only the audited financial statements for seven years (2011 to 2017) were available for five companies, as a result, the study could not cover the full ten-year period. Also for the seven years, three companies had zero debt values which made debt and equity ratios constant for those companies.

LITERATURE REVIEW

Theories Underlying the Determination and Movement of Stock Prices

The key indicator investors use in determining the successful management of listed companies in the stock price. A stock price increase signals to investors that the management of the listed company is in the right hands (Astuty, 2017). The theories underlying the determination and movement of stock prices include *Fundamental Theory* - this is a pioneer theory introduced in a book authored by Graham and Dodd in 1934. The fundamental analysts make use of past and current company financial statements together with economic and industry-related information to determine a stock's true value. This analysis also helps identify stocks that have been over or undervalued (Lev & Thiagarajan, 1993; Wu & Xu, 2006). According to Suresh (2013), where the stock's true value does not reflect the current stock market price, it is believed that stock is over or undervalued and investors would either sell or buy the stock respectively. Where a stock's true value equals that of the market, investors need to hold on to the stock (Chen, 2020).

The *Technical Theory* - The technical theory principles had their roots in the Dow Theory in the 1800s. The originator of Dow Theory is Charles Dow who was the first to understudy the price movement in U.S stocks using an index (Kirkpatrick et al., 2016). According to Wafi et al. (2015), technical analysis involves identifying patterns based on past and present stock prices which are depicted by the changes in demand and supply of the stocks. It makes use of historical data specifically volume and price which aids in making informed investment decisions. Past data is analyzed with the use of graphs, charts, and movements in prices which are tracked using trend analysis or moving averages to deduce a pattern to forecast future stock prices (Lorenzo, 2013). Edwards et al. (2007) indicated the technical theory does not factor in fundamental factors compared to that of fundamental theory. Any information regarding the investment or the company is believed to have already been captured by the stock market (Drakoln, 2017) One of the weaknesses is historical patterns identified in stock price movement repeating itself. Also, the analysis conducted tends to be art than science as every investor will have his or her interpretation of the outcome obtained (Adam, 2020). The Random Walk Hypothesis refutes the assumption in the technical analysis that historical patterns identified can repeat themselves.

The *Random Walk Hypothesis* - The Random Walk Hypothesis was developed by Fama (1965) based on Louis Bachelier's work, the twentieth-century writer. It gained fame

when Burton, (1973) authored a book titled 'A Random Walk Down Wall Street. A key assumption is stock price movements follow no systematic pattern. Thus, investors cannot rely on trends identified in historic stock prices to predict future stock prices (Jakata et al., 2013). According to Dunne (2015), this theory assumes that the stock market behaves in a stochastic manner. Therefore any attempt to forecast future stock prices will fail. Chitenderu et al. (2014) are also of the view stock prices move in a random manner leading to the impossibility of forecasting stock prices in the market. Where there is an increase in stock price, an investor cannot foretell if there will be another increase as no correlation exists between past and future stock prices. Thus, the perspective changes in stock prices are independent of the historic stock prices (Fama, 1965). Likewise, an investor cannot also beat the market without taking up risk (Naseer et al., 2015). One of the limitations of the Random Walk Theory is many investors participate in the stock market at different periods. It is, therefore, possible for an investor to beat the market by buying a stock at a low price and selling at a high price within a short period.

The Efficient Market Hypothesis - The Random Walk Hypothesis serves as the basis for the development of the Efficient Market Hypothesis (Dupernex, 2007). Paul Samuelson and Eugene Fama developed the efficient market hypothesis in the 1960s. This theory stipulates all types of information are fully reflected in stock prices (Marwala et al., 2017). Stocks are accurately priced and will not be over or overvalued implying no investor can outwit the market (Wilkinson, 2013). When information hits the capital market, stock prices are quickly adjusted. As such any future price changes are not influenced by current price changes (Gupta et al., 2014). Such a market is an efficient market where *"there are large numbers of rational profit maximizers actively competing with each other trying to predict future market values of individual securities and where important current information is almost freely available to all participants"* (Fama, 1970).

The information available in the market can be of a past or current nature. As investors take notice of the information, the security prices adjust. Thus the degree of market efficiency is influenced by the rate at which security prices adjust based on the available information (Uttam et al., 2011). The market efficiency is in three major forms according to Fama (1970) namely weak, semi-strong and strong forms. With the weak form, security prices fully reflect the historical trend in the market. All publicly available information such as audited accounts, announcements fully reflect stock prices in the semi-strong form. Information both private and the public is also fully reflected in stock prices in a strong form. One of the limitations of the efficient market hypothesis is in a strong form of an efficient market, where basically all forms of information fully reflect stock prices is unrealistic (Naseer et al., 2015). Comparing these findings to the previous theories, technical analysts cannot outperform the market if it is weak. The technical theory makes use of graphs and charts of past prices in depicting future stock prices. The weak form of the Efficient Market Hypothesis has already taken into account all past trends in the market.

The Modern Portfolio Theory - Following up from the Efficient Market Hypothesis, investors began to hold various classes of assets or stocks (portfolio) for optimum performance on their investment (Hodnett et al., 2012). Modern Portfolio Theory as introduced by Harry Markowitz in 1952, brought about the concept of portfolio management. By 1970 Markowitz' concept of diversification, risk and return had become the basis for portfolio management and selection (Rubinstein, 2002). This theory can also be termed mean-variance analysis where mean denotes average or expected returns and variance denotes risk (Nakasato & Koichi, 1993). The risk is the deviation of the stock's actual return from the expected or average return. The contribution of each security's risk in the aggregate to the portfolio is the focus (Jeyachitra et al., 2010). The portfolio risk is in two forms namely; the systematic or common or market risk and unsystematic or diversifiable (Omisore

et al., 2012). Systematic risk relates to economic factors such as interest rate, exchange rate, unemployment, a gross domestic product that affect all classes of security and thus unavoidable (Ross et al., 2010). An instance is, with the outbreak of the COVID 19 pandemic, global foreign direct investment is estimated to decrease by 5% in 2020 United Nations. Unsystematic risk is a security-specific risk that affects one class of security or a group of securities and has no bearing on other securities. This risk is maximized and can be reduced by diversification as investors select portfolios where the return is maximised for every given level of risk. Among the theories is also the Capital Asset Pricing Model, developed by Lintner (1969), an extension of Markowitz's Modern Portfolio Theory.

Relationship between Capital Structure and Stock Price Based on Sectors

The literature reviewed by this study showed that firms listed on the stock market could be grouped as manufacturing, energy, finance and banking, non-financial and food, beverage, and tobacco sectors. Manufacturing Sector – Acheampong et al. (2014) conducted a study on the effects of financial leverage on stock returns using five manufacturing firms quoted on the Ghana Stock Exchange. The Ordinary Least Square regression method was employed in conducting the study within a period of five years from 2006 to 2010. The results showed that a negative and a significant relationship exist when the overall manufacturing data is used. However, on the individual firm level, the relationship was unstable as four out of the five firms have a negative relationship between the financial leverage and the stock returns. Adu (2016) also undertook a study on whether a relationship exists between capital structure (equity and long-term debt variables) and the firm value of listed manufacturing firms in Ghana. The findings revealed that both equity and long-term debt had a positive relationship with the firm value. Also, Purnamawati, (2016) conducted a study on 68 manufacturing firms listed on the Indonesia Stock Exchange. The results showed that capital structure (debt to equity ratio) had a direct relationship with the stock price. That is an increase in capital structure plays a significant role in improving the firm's stock price. That is 12.4% of the firms' stock price is influenced by capital structure. The above studies focused on the manufacturing sector. However, the result findings were different. This could emanate from the differences in the sample size, the quantitative models used, the composition of the independent variables (capital structure), and the level of market efficiency in the Stock Exchanges involved.

The Energy Sector - In a Kenyan study on listed firms in the energy sector findings showed that debt has a positive relationship and equity has a negative relationship with the share price. The multiple regression method was adopted to analyze within 2006 and 2011 (Buigut et al., 2013). Finance and Banking Sector - eleven banks listed on Nairobi Stock Exchange were studied and the findings revealed a positive relationship. The data was analyzed using inferential statistics and Pearson correlation coefficient between the years 2009 and 2015. This study indicated that borrowing more sends a signal there is expected future cash inflows and this positively influences share price performance (Chemutai et al., 2016). Non-Financial Sector - Tangut (2017) found out that debt ratio has a negative relationship with stock returns concerning 28 non-financial companies listed on the Nairobi Stock Exchange. Panel regression analysis was used to analyze the data between the years 2002 and 2016. This finding was also affirmed by Adami. The Food, Beverage, and Tobacco Sector - This sector can be likened to the consumer staple sector of Ghana. Eighteen food, beverage, and tobacco companies listed on the stock exchange of Sri Lanka were understudied. The findings indicated that the use of more debt has a positive relationship with the share price. It covered the period between 2011 and 2017 with the use of the panel least square method to analyze the data. The study further elaborated that firms in this sector

follow the pecking order theory (Subramaniam et al., 2018). The study on Ghana's consumer staple sector will thus contribute to the existing literature and concerning the sector area as well.

Challenges Due To Capital Structure and Stock Price Variations

The challenges due to capital structure and stock price variations include Agency Cost of Equity - High agency cost of equity is incurred when shareholders' interests are not aligned with that of management. This is the conflict between shareholders and managers (Arafat, Warokka et al., 2014). Equity Issuance Costs - The costs associated with the issuing of stocks comes in two forms. These are direct costs such as floatation costs during the issuance of shares. Indirect cost emanates from information asymmetry. Dilution of Equity Ownership Control - When new shares are being issued, the existing shareholders lose a certain portion of their ownership percentage in terms of control and dividend to the incoming shareholders. Inadequate Cash flow - Firms face challenges of paying high-interest costs to debt holders and Agency Cost of Debt arises as a result of a conflict between shareholders and debt holders. Shareholders always want firms to undertake more investment opportunities to earn high returns. However, due to debt obligation, managers would have to channel funds towards the payment of a debt (Arafat et al., 2014). Financial Distress - High debt can bring about financial distress which is the inability of a firm to pay all its outstanding debt. Firms become bankrupt if there are no alternative means of paying such debts (Wahyuni, 2019). Possibility of a Take Over - Stock prices help determine how much a firm is worth on the market (Al Qaisi et al., 2016). A sustained decrease in stock price triggers the possibility of a takeover. Investors apply technical, fundamental analysis, and other valuation methods in valuing shares to obtain their intrinsic values (Edmans, 2012). Lose of incentives tied to stock options - As a way of reducing agency cost, managers are given percentage ownership of the firm they are running in the form of stocks. As the change in stock price decreases, the incentives for managers also decrease. Managers, therefore, lose incentives tied to the stocks (Vincent et al., 2013).

Conceptual Framework

Figure 1 below shows the conceptual model of the relationship between capital structure and stock price Table 1.

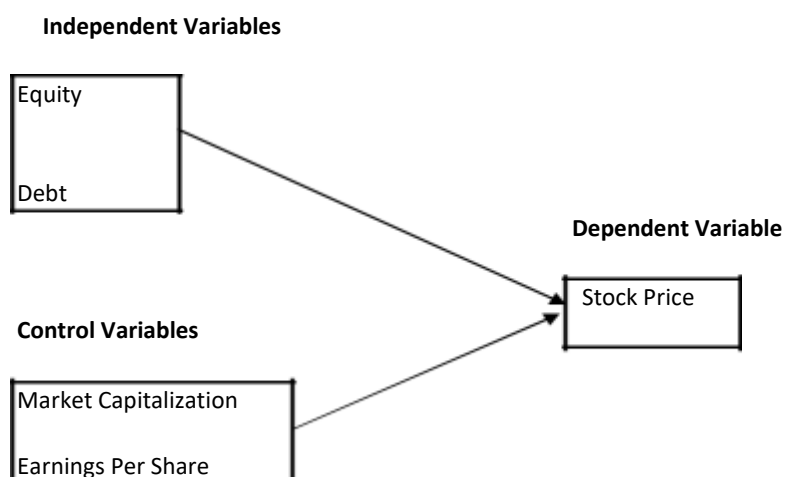


Figure 1
RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND STOCK PRICE

Source: This research

Table 1	
SHOWS CHALLENGES DUE TO CAPITAL STRUCTURE AND STOCK PRICE VARIATIONS	
Variations	
Capital Structure Challenges	Stock price Challenges
Agency cost of equity Equity issuance cost Dilution of equity ownership control Inadequate cash flow Agency cost of debt Financial distress	Possibility of a takeover Managers lose incentives tied to stock options

Source: this study

Methodology and Approach

The approach to this research study is the mixed method as it involves the collection, analysis, and interpretation of both quantitative and qualitative data (Creswell et al., 2011). Creswell et al. (2011) identified certain core features of mixed-method research. The selected research approach is appropriate because this study looks at assessing the relationship between capital structure and stock price which is a quantitative study. The second objective deals with assessing the challenges faced as a result of changes in capital structure and stock price which is a qualitative study. The design of this study seeks to make inquiry thin the three research approaches namely qualitative, quantitative, and mixed-method, and guides the procedures used in carrying out the research (Denzin et al., 2011). The research design adopted for this study is experimental and desk-based. The first research objective seeks to identify whether a variation in capital structure causes a variation in stock price. Secondary data on related studies are used for the qualitative analysis concerning the second objective. Desktop analysis which is a secondary data analysis using existing literature is used for the qualitative study and the findings are applied to the selected companies in the study. This study covers companies listed on the Ghana Stock Exchange classified as the consumer staple sector (African Markets, 2019 and Ghana Stock Exchange, 2020). The data for the quantitative analysis is for seven years. The study population for this study is the consumer staple sector of Ghana. This study focuses on companies in this sector that are listed on the Ghana Stock Exchange. This sector is chosen because such businesses survive in economic crisis as they deal with necessities of life and have high future economic prospects for African countries such as Ghana. The Sampling Technique used in this study is purposive sampling also called judgemental sampling. The selection was made based on the purpose of the study (Etikan et al., 2017). Also, a convenience sampling technique was used to make it easily obtained the required data from the GSE. The focus of this study is also on companies in the consumer staple sector namely; Guinness Ghana Breweries, PBC Limited, Benso Oil Palm Plantation, Fan Milk, Unilever Ghana, and PZ Cussons (African Markets, 2019). This makes purposive sampling ideal for this study as well. Out of the six listed companies, five were sampled. The sixth company (PZ Cussons) was not included due to the unavailability of data for the research work. The key limitation to the chosen sampling techniques is that not all companies in the consumer staple sector are listed on the Ghana Stock Exchange and could be included in the study. Two main sources of data namely primary and secondary data were used for this study. This study makes full use of secondary data for both quantitative and qualitative analysis. The audited financial statements from 2011 to 2017 for the sampled companies were obtained from the GSE annual report. a regression analysis was carried out using the statistical software called SPSS. Regression analysis based on certain assumptions

that need to be fulfilled: No multi-collinearity should exist between independent variables; The error term should be normally distributed; The error term should have a mean of zero; The error term should be a random variable (Jain et al. 2016). Also, a regression model was used to show the relationship that exists between or among variables. This is presented below:

$$SP = \alpha + \beta_1 EV + \beta_2 DV + \beta_N X_N + \varepsilon \quad (\text{Equation 1})$$

In adapting equation 3.1 we have

$$SP = \alpha + \beta_1 EV + \beta_2 DV + \beta_3 MC + \beta_4 EPS + \varepsilon \quad (\text{Equation 2})$$

SP represents year-end Stock Price. It is the dependent variable as this study seeks to find out whether its changes can be influenced by capital structure. It is the observed variable. α represents the intercept which is the average value of the dependent variable when all variables in the equation are zero.

EV and DV represent equity value and debt value respectively. They are the independent variables (capital structure) as this study seeks to find out whether a change in capital structure can cause a change in stock price.

β_1 and β_2 represent the coefficients of the independent variables.

β_3 , β_4 , and EPS, MC represent the coefficients of the control variables and control variables respectively. Earnings per share (EPS) and market capitalization (MC) are other factors established by literature that affects stock prices (Owusu et al. 2017). The coefficients depict whether the relationship between the variables is positive or negative.

RESULTS AND DISCUSSIONS

Results

A presentation of analysis and interpretation of the data collected for the study is showed that as follows:

Stock Price - It was observed that the stock price for Benso Oil Palm Plantation increased steadily from GH¢1.10 to GH¢4.1 between the periods of 2011 to 2017. It reduced to GH¢ 2.08 in 2016 and showed a sharp increase to GH¢ 6.12 in 2017. For Fanmilk Ghana, the year-end stock price increased steadily from GH¢ 2.73 to GH¢ 17.70 within the seven years except where there was a decline from 2013 to 2014 by GH¢ 1.09. The stock price for Guinness Ghana experienced a consistent increase from GH¢ 1.44 to GH¢ 5.07 between 2011 and 2014 and consistently declined to GH¢ 1.49 in 2017. PBC Limited's stock price constantly declined from GH¢ 0.28 to GH¢ 0.04 within the seven years. With Unilever Ghana, there was an increase in stock price from GH¢ 6.64 to GH¢ 18.31 for the first three years. It then recorded a consistent reduction for the next three years of GH¢ 8.51 in 2016. There was, however, an upsurge to GH¢ 12.84 in 2017.

Equity Value - The data obtained from GSE for the seven years (2011 – 2017) showed that Benso Oil Palm Plantation recorded GH¢ 29,530,000.00 in 2011 and GH¢ 64,649,000.00 in 2017, which are its lowest and highest equity values respectively. Fan milk Ghana recorded its lowest equity value in 2012 with an amount of GH¢61,681,000.00 and its highest value of GH¢221,676,000.00 in 2017. Guinness Ghana Ltd just like Benso Oil Palm Plantation experienced its lowest and highest equity values of GH¢45,696,000 in 2011 and GH¢270,949,000 2017 respectively. Guinness Ghana's highest equity value recorded in 2017 is also the highest equity value recorded by any of the five companies from 2011-2017. PBC

on the other hand recorded GH¢3,517,000 in 2016 as its lowest as well as the lowest equity value recorded by any of the five companies from 2011 to 2017. PBC's equity experienced a tremendous rise with a value of GH¢103,536,000.00 in 2017. For Unilever Ghana Ltd, 2014 recorded the lowest equity value of GH¢31,593,000.00 whereas 2017 recorded the highest value of GH¢120,597,000.00.

Debt Value - According to data gathered from GSE on debt value from 2011 to 2017, Benso Oil Palm Plantation, Fanmilk Ghana Ltd, and Unilever Ghana Ltd recorded no debt values. Guinness Ghana Ltd recorded GH¢2,941,000 in 2013 and GH¢211,404,000 in 2017 which represent the lowest and highest debt values respectively. PBC also recorded its lowest and highest debt values of GH¢10,526,323.00 in 2011 and GH¢75,730,000.00 in 2016 respectively.

Analysis for Benso Oil Palm Plantation

From table 2 in appendix 1, the descriptive statistics indicate that for a period of 7 years (2011 – 2017) stock price, equity value, debt value, market capitalization, and earnings per share had a mean of GH¢2.93, GH¢48.20 million, GH¢0.00 million, GH¢101.96 million, and GH¢0.26 respectively. Standard deviations of GH¢1.74, GH¢11.50 million, GH¢0.00 million, GH¢60.65 million, and GH¢0.11 respectively. In addition, the correlation table in appendix 1 explains the relationship between the dependent variable (year-end stock price) and the independent variables (equity value, debt value, market capitalization, and earnings per share), where a coefficient above 0.3 is preferred. From the correlation table above, the correlation between the year-end stock price (dependent variable) and equity value and market capitalization is well above 0.30 except for earnings per share, which has a correlation coefficient of 0.120. This implies that earnings per share do not have a strong relationship with the year-end stock price. The debt value was deleted from the data set because it was constantly zero.

This table also explains the relationship between the independent variables, coefficients above 0.7 indicates the possibility of multicollinearity. It is observed that the correlations between market capitalization and equity value are 0.819, which is above 0.7 and therefore suggests the possibility of multicollinearity. Table 4 in appendix 1 shows multiple regression coefficients, R-value of 1 for both models 1 and 2. This explains that both regression models have 100% predictive powers. It also shows the R square value of 1 for both models which also indicates that 100% of the variation in year-end stock price is accounted for by the independent variables in both models. Table 3 however, has a smaller standard error of 0.00003, therefore model 2 is preferred. The Anova table 5 in appendix 1 shows a significant F- statistic of 8.32×10^9 for model 2 and this supports that table 3 is preferred. The coefficients table 6 in appendix 1 provides the coefficients for the fitted model according to table 3

Regression Analysis for Fanmilk Ghana Limited

The descriptive statistics in table 7 in appendix 1 indicates that for a period of 7 years (2011 – 2017) Fanmilk Ghana Limited, year-end stock price, equity value, debt value, market capitalization, and earnings per share have means of GH¢7.75, GH¢113.98 million, GH¢0.00 million, GH¢898.07 million, and GH¢0.30 respectively. Standard deviations of GH¢5.22, GH¢62.16 million, GH¢0.00 million, GH¢606.81 million, and GH¢0.17 respectively.

Additionally, the correlation table 8 in appendix 1 explains the relationship between the dependent variable (year-end stock price) and the independent variables (equity value, debt value, market capitalization, and earnings per share), where a coefficient above 0.3 is

preferred. From the correlation table above, the correlation between the year-end stock price (dependent variable) and all the independent variables is well above 0.30. This implies that there is a strong relationship between year-end stock price and each of the independent variables. This table also explains the relationship between the independent variables, coefficients above 0.7 indicates the possibility of multicollinearity. It is observed that the correlations between market capitalization and equity value, equity value, and earnings per share are all more than 0.70 except for the correlation between earnings per share and market capitalization. This suggests multicollinearity between equity value and earnings per share as well as market capitalization and equity value. To remove this property of multicollinearity, either equity value, earnings per share, or market capitalization will have to be removed. Also, table 9 in appendix 1 shows multiple regression coefficients, R-value of 1.000 for table 9 which explains that regression table 3 has a 100% predictive power. It also shows an R square value of 1.000 for table 9 which also indicates that 100% of the variation in year-end stock price is accounted for by market capitalization. Table 9 is preferred amongst the three models because it has the least standard error.

Table 10 shows that the F- statistic for each of the three models fitted are significant with a significance value of 0.000 each. However, table 10 is preferred because it removes the equity value and earnings per share to correct the possibility of multicollinearity. The coefficients table 11 in the appendix provides the coefficients for the fitted model provides that fitted model according to table 11.

Guinness Ghana Breweries Limited

From the analysis made from Guinness Ghana Breweries Limited, it is seen that equity value and debt value have a weak negative and weak positive relationship respectively with the stock price. From Model 2, which is the preferred model, it is observed that when all other variables remain the same, a unit increase in equity value brings about a 0.312 expected decrease in stock price. The model does not give any indication about the unit changes caused by debt values. Market capitalization and earnings per share however have a strong positive and a weak negative relationship with stock price respectively.

PBC Ghana Limited

Concerning the regression analysis made for PBC, equity value and debt value have a good positive relationship of 0.533 and 0.473 respectively with the stock price. Market capitalization has a negative relationship with stock price while earnings per share have a weak positive relationship with the stock price. Since there is no fitted model, the changes caused in the stock price according to the independent variables could not be determined.

Unilever Ghana Limited

Equity value has a weak negative relationship of 0.022 with the stock price. There was no debt value from the data obtained. Market capitalization has a strong positive relationship of 0.913 with the stock price. Earnings per share have a weak negative relationship of 0.221 with the stock price. From the fitted model which is model 3, it is observed that a unit change in market capitalization results in an increase in stock price by 0.913 units.

The study further identified the following as the challenges posed by capital structure variations: Agency cost of equity; Equity issuance cost; Dilution of equity ownership control; Inadequate cash flow; Agency cost of debt and financial distress. Also, the challenges that

come along with stock price variations are the Possibility of a takeover; and the Loss of managers' incentives associated with stock options.

CONCLUSIONS OF STUDY

The study focused on analyzing the stock prices of companies in the consumer staple sector of Ghana. It considered the relationship between capital structure and stock price and the challenges posed to the sector as a result of capital structure and stock price variations. The study showed that four of the five consumer staple sector companies that were studied did not have a definite trend about their stock prices as well as their equity and debt values. PBC Ltd is the only company that showed a consistent trend of decreasing stock prices throughout the years. The indefinite trend of stock prices is in line with the *'Random Walk Hypothesis'* which suggests that future stock prices cannot be predicted based on previous trends. According to the study, it can be concluded that the studied companies are performing quite well according to the means of their equity and debt values. It was observed that the mean equity value for each of the companies is significantly higher than the mean debt value. This also suggests that the companies generate more funds through equity than through debt.

The regression analysis indicated that there is a weak relationship between stock price and capital structure (equity and debt values) in the consumer staple sector of Ghana. However, the stock price is highly correlated to market capitalization for all the study institutions. The regression models fitted from the analysis proved that stock price is not predicted by capital structure (equity and debt values). The stock price is however largely predicted by market capitalization for each of the companies. According to the analysis of this study capital structure has an indirect influence on stock price even though it has no predictive power in stock price concerning the consumer staple sector of Ghana. The study further proved that capital structure subjects the consumer staple sector of Ghana to challenges such as incurring costs due to issuance of equity, dilution of the company's equity ownership control, inadequate cash inflow, agency cost of debt and equity, and financial distress. Stock price variation also poses challenges to the consumer staple sector such as the possibility of a takeover and loss of incentives associated with stock options.

Appendix 1

	Mean	Std. Deviation	N
Year-end Stock price	2.9300	1.74263	7
Equity Value	48199428.5714	11499670.50046	7
Debt Value	.0000	.00000	7
Market capitalization	101964285.7143	60645196.52788	7
Earnings per share	.259514	.1048299	7

		Year-end Stock price	Equity Value	Debt Value	Market capitalization	Earnings per share
Pearson Correlation	Year-end Stock price	1.000	.819	.	1.000	.120
	Equity Value	.819	1.000	.	.819	.050
	Debt Value	.	.	1.000	.	.
	Market capitalization	1.000	.819	.	1.000	.120
	Earnings per	.120	.050	.	.120	1.000

	share					
Sig. (1-tailed)	Year-end Stock price	.	.012	.000	.000	.399
	Equity Value	.012	.	.000	.012	.458
	Debt Value	.000	.000	.	.000	.000
	Market capitalization	.000	.012	.000	.	.399
	Earnings per share	.399	.458	.000	.399	.
N	Year-end Stock price	7	7	7	7	7
	Equity Value	7	7	7	7	7
	Debt Value	7	7	7	7	7
	Market capitalization	7	7	7	7	7
	Earnings per share	7	7	7	7	7

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000 ^a	1.000	1.000	.00004	
2	1.000 ^b	1.000	1.000	.00003	2.959
a. Predictors: (Constant), Earnings per share, Equity Value, Market capitalization					
b. Predictors: (Constant), Equity Value, Market capitalization					
c. Dependent Variable: Year-end Stock price					

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	18.221	3	6.074	4211093886.616	.000 ^b
	Residual	.000	3	.000		
	Total	18.221	6			
2	Regression	18.221	2	9.110	8322351153.408	.000 ^c
	Residual	.000	4	.000		
	Total	18.221	6			
a. Dependent Variable: Year end Stock price						
b. Predictors: (Constant), Earnings per share, Equity Value, Market capitalization						
c. Predictors: (Constant), Equity Value, Market capitalization						

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.000	.000		-1.743	.180		
	Equity Value	6.867E-12	.000	.000	2.915	.062	.327	3.054
	Market capitalization	2.873E-8	.000	1.000	63932.342	.000	.324	3.091
	Earnings per share	2.836E-5	.000	.000	.190	.862	.979	1.022
2	(Constant)	.000	.000		-2.138	.099		
	Equity Value	6.829E-12	.000	.000	3.339	.029	.330	3.032
	Market capitalization	2.873E-8	.000	1.000	74090.016	.000	.330	3.032
a. Dependent Variable: Year-end Stock price								

	Mean	Std. Deviation	N
Year-end Stock price	7.7486	5.22034	7
Equity Value	113976857.1429	62156960.59018	7
Debt Value	.0000	.00000	7
Market capitalization	898072857.1429	606811745.29158	7
Earnings per share	.302857	.1670044	7

		Year-end Stock price	Equity Value	Debt Value	Market capitalization in million Ghc	Earnings per share
Pearson Correlation	Year-end Stock price	1.000	.969	.	1.000	.671
	Equity Value	.969	1.000	.	.970	.796
	Debt Value	.	.	1.000	.	.
	Market capitalization	1.000	.970	.	1.000	.677
	Earnings per share	.671	.796	.	.677	1.000
Sig. (1-tailed)	Year-end Stock price	.	.000	.000	.000	.049
	Equity Value	.000	.	.000	.000	.016
	Debt Value	.000	.000	.	.000	.000
	Market capitalization	.000	.000	.000	.	.047
	Earnings per share	.049	.016	.000	.047	.
N	Year-end Stock price	7	7	7	7	7
	Equity Value	7	7	7	7	7
	Debt Value	7	7	7	7	7
	Market capitalization	7	7	7	7	7
	Earnings per share	7	7	7	7	7

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000 ^a	1.000	.999	.14275	
2	1.000 ^b	1.000	.999	.12951	
3	1.000 ^c	1.000	.999	.12520	1.933
a. Predictors: (Constant), Earnings per share, Market capitalization, Equity Value					
b. Predictors: (Constant), Earnings per share, Market capitalization					
c. Predictors: (Constant), Market capitalization					
d. Dependent Variable: Year-end Stock price					

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	163.450	3	54.483	2673.579	.000 ^b
	Residual	.061	3	.020		
	Total	163.511	6			
2	Regression	163.444	2	81.722	4872.053	.000 ^c

	Residual	.067	4	.017		
	Total	163.511	6			
3	Regression	163.433	1	163.433	10426.183	.000 ^d
	Residual	.078	5	.016		
	Total	163.511	6			
a. Dependent Variable: Year-end Stock price						
b. Predictors: (Constant), Earnings per share, Market capitalization, Equity Value						
c. Predictors: (Constant), Earnings per share, Market capitalization						
d. Predictors: (Constant), Market capitalization						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.033	.141		.232	.832		
	Equity Value	3.368E-9	.000	.040	.541	.626	.023	44.124
	Market capitalization	8.392E-9	.000	.975	15.999	.001	.034	29.828
	Earnings per share	-.675	.761	-.022	-.886	.441	.210	4.761
2	(Constant)	.072	.109		.661	.545		
	Market capitalization	8.667E-9	.000	1.007	73.186	.000	.541	1.847
	Earnings per share	-.353	.430	-.011	-.820	.458	.541	1.847
3	(Constant)	.024	.089		.273	.795		
	Market capitalization	8.601E-9	.000	1.000	102.109	.000	1.000	1.000
Dependent Variable: Year-end Stock price								

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