

CAPITAL STRUCTURE DECISIONS AND FINANCIAL PERFORMANCE OF SUGAR MANUFACTURING FIRMS IN KISUMU COUNTY, KENYA

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ABSTRACT

The sugar factories in Kisumu County are performing badly and this is as a result of the fact that most of these sugar manufacturing factories are riddled with a heavy debt burden and continuous poor performance (KSB 2013). This poor state has resulted to loss of employment opportunities and delay in payment to cane suppliers thus has garnered a lot of concern from the Government, the sugar cane growers and the companies' employees. This predicament led to the placement of Muhoroni Sugar Company under receivership in the year 2001. Poor state of the sugar firms has persisted despite the fact that the sugar manufacturing companies in Kisumu County have well branded commodities, sufficient trained personnel and a huge domestic demand that they are unable to fully satisfy. The factors affecting the operations of sugar firms have been studied and analysed from diverse dimensions and hardly on the influence of capital structure decisions on financing decisions. Capital structure decisions are vital since the financial performance of an entity is directly affected by such decisions. Capital structure has attracted a strong debate and scholarly attention in the corporate finance literature for a long period of time. However, in the context of sugar industries, the topic has received inadequate research attention. This study therefore, investigated the influence of the choice of capital structure decision on financial performance of sugar milling firms in Kisumu County. The specific objectives of the study were to investigate the effect of financial debt-ratio, debt-equity ratio and weighted average cost of capital on the financial performance of sugar milling firms. The financial performance of the three sugar milling factories in Kisumu County were analysed from the perspective of the indicator

of return on equity. The study was conducted based on the Trade-off theory, the Pecking order theory and the Agency cost theory. The units of analysis were individual firm to determine the effect of capital structure on financial performance. The population of the study consisted of all the three sugar manufacturing firms in Kisumu County. The study involved financial analysis and thus used descriptive survey design. The study used secondary data which was obtained from published financial statements from the period 2011-2015 and collected using the secondary data collection sheets. Data was analysed quantitatively using statistical package for social science (SPSS) version 21. Additionally, correlation analysis, simple and a multiple regression analysis was done to determine the extent of influence of each of the autonomous variable. To check whether there was colinearity, multicollinearity was carried out using tolerance and variance inflation factor and the normality was indicated by a PP plot of regression standardized residual. Data was presented using table and written discussions. The findings indicated that debt-ratio had a negative insignificant statistical relationship while debt-equity ratio had a significant negative effect on monetary performance of sugar manufacturing firms in Kisumu County as measured by ROE. It also revealed that WACC had positive significant effects with financial performance of the sugar firms. The study recommended that Sugar firms that are in position to finance their operations using equity should reduce debt financing so as to lessen the risks connected to borrowing hence improve on their financial performance. It also recommended that firms' management should therefore strike a balance between their choice of capital structure and the effects on its performance as it affect the shareholders risks, returns and cost of capital.

Key Words: *capital structure decisions, firms, Kisumu County, Kenya financial performance, sugar manufacturing*

INTRODUCTION

Financial capital structure can be viewed as a state in which a company funds its assets by either the use of borrowed funds, equity or a combination of both. In general, the concept can be described as a blend of loan capital and the shareholders equity that makes the full amount capital of an entity. The capital composition decisions of an organization are vital since the financial performance of an entity is openly affected by such decisions (Saad, 2010). To realize the ways in which companies raise funds to take care of their business operations, it's essential to study the effects of their financing and capital arrangement plan. The decisions on how to fund the operations of an organization involves a number of policy issues. According to Booth 2001, the knowledge on capital structure, mostly, was got from data obtained from developed countries which have many recognized similarities. Myers, (2001) study on capital structure tried to give an explanation on the best combination of sources of financing which have been applied by companies while making investments. Brigham, (2004) describe Capital structure as a practise of which firms funds its functions either through debt, equity capital or a combination of the two.

The capital structure decisions affect many aspects of a company including the productivity, decision making and elements of efficiency. Berger & di Patti, (2006) established that companies with good performance are good enough since they are in a better position to make a substantial amount of profit in any particular decision of capital structure, and this high profit may be used to safeguard against portfolio risk. Capital structure also determines the profitability of a firm.

Financial Performance

According to Webster, (2012) financial performance is the end results of any business organization. Vekataran and Varadarajan, (2011) Came up with the meaning of financial performance as, the best test of any strategy. Financial performance is the assessment undertaken by the firm's managers on how well the firm can use its available assets to create revenues. Erasmus, (2008) found that indicators of financial performance, profitability liquidity and others measures aids in evaluating the past as well as the present financial position of a firm. Financial performance evaluations are meant to provide answers to a broad range of important questions, some of which include whether the firm has adequate amount of money to meet all its financial needs, is it generating sufficient volume of sales to justify recent investment; does the company collect outstanding accounts from customers without creating burden on its cash flow, does the company make timely payments to suppliers so as to take advantage of discounts, and does the company have sufficient working capital to finance operations (Stanford, 2009).

A firm's financial performance according to shareholders is based on how the shareholders are at the end of a given period as compared to the beginning period and can be gotten by the use of

ratios usually obtained from the financial position statement and financial performance statement or using information obtained from stock market prices (Berger & Patti, 2002). Financial ratios are constantly developed to appraise the financial accomplishment of a company. The ratios give a suggestion as to whether a company is fulfilling the goals of the owners of making them richer, and they can also be used to weigh the performance of a given firm with other firms in the same industry or to find trends of performance for a given period of time. A sizable number of empirical and theoretical studies discussed in the literature review have shown that financial structure actually affects financial performance. Severin (2002), states that a right measure of performance need to give an account of all the consequences of investments on the wealth of all the shareholders

Capital Structure Decisions

The capital structure of firms denotes how each and every company finances all its activities and growth using different sources of funds. The major sources of capital are Loan and Equity with loan holders and equity holders as names given to investors in the company. A company capital structure is therefore made up of its liabilities. (Dybvig and Wang, 2002; and Gunasekaran, 2010) emphasises the fact that capital structure analyses the ability of a business entity to deal additional loan or to invest in more funds after all other cash obligations have been met. However, a high risk should correspond with high returns.

The firms' assets also influence the outstanding debt and equity and the attendant propensity to solvency. For example, net sales to total asset measure the company's efficiency in the utilizations of its assets to create revenue. Since proceeds from sales influences the performance of finance and that the turnover on asset and sales are connected, it can be concluded therefore that revenue from asset eventually affects financial performance of an organization (Mesquita & Lara, 2003). The tangible asset ratio is given as a proportion of tangible asset to asset in totality. Asset is therefore essential in determining the leverage, turnover and the profitability of business organizations. An entity with more fixed assets can take a loan at a relatively lower rate as compared to those with less since they will be in a position to offer these assets as security. Due to this advantage of obtaining loan at a cheaper cost, the firms are expected to borrow more in comparison to firms whose fixed assets are smaller (Niu, 2008).

Studies have linked the capital structure in firms to diverse metrics of performance. Mwangi, (2014) established that a significant statistical relationship existing between financial performance and a firms capital structure. According to Mwangi, (2014) highly indebted companies at the Nairobi securities exchange registered low profits which if not checked could result to bankruptcy. There have also been findings to the effect that capital structure affects working capital management and cash flow in diverse firms. This according to Kodongo and Maina (2013) is due to the effect of debt interest of an organizations' cash flow which is manifested in the form of inadequate working capital financing that halts the management's power to invest in profitable ventures. The use of high amount of debt in the capital structure of organizations has led to numerous cases in corporate bankruptcy. It is a common practice for firms to be placed under receivership and filling for bankruptcy across the globe over complications in capital structure. Wellington, (2011), states that several firms in the United

States of America have been placed under receivership due to factors related to their capital structure mix and in particular use of loan capital. These firms include Gundhay steel firm, Imperial sugar, Rosella Inc, Washington mutual and general motors. Hamid, (2010) study on the effect of capital structure on financial performance of large manufacturing firms in Asia found that firms in Asia used more debt in their capital structure compared to other manufacturing firms in developed countries and this was among the reasons why such company had deteriorating financial performance.

Performance of Sugar Production Companies in Kisumu County

According to KSB 2015, the Sugar sub-sector in Kenya is an important determinant of the country's economy. This sector generates an approximate income of Kshs 13 billion annually, its source of employment to over 600,000 people and directly and indirectly gives support to over 6 million people. In Kenya, sugarcane Cane growing on large scale started in Miwani and Kibos in Kisumu district between 1902 and 1940. As a result of this commercialization, Miwani Sugar Company was founded in 1922. After independence, the Government commenced large scale sugar projects in Nyanza and western provinces in an effort to meet the ever growing local sugar demand. Five more factories were also established as follows, Muhoroni in 1966, Chemelil in 1968, Mumias in 1973, Nzoia in 1978, and South Nyanza in 1979. The latest entrants are West Kenya, Kibos, Soin, Transmara and Sukari Sugar Industries. Currently, there are about ten sugar factories which are in operations in Kenya and three of which are within Kisumu County. These are Muhoroni sugar factory, Chemelil sugar factory and Kibos sugar company (appendix 2). The collapse of Miwani sugar factory which was the first ever to be established in Kenya and the placement of Muhoroni factory on receivership coupled with the facts that two of the three factories under study are riddled with a heavy debt burden and continuous poor financial performance posting negative profit over the five year periods is what prompted the choice of Kisumu County. Only Kibos Sugar Company posted positive profit. This is as per the statement of financial performance of the companies for the period 2011,2012,2013,2014 and 2015.

STATEMENT OF THE PROBLEM

The sugar manufacturing firms in Kisumu County are riddled with a heavy debt burden and continuous poor performance (KSB 2013). This poor state led to loss of employment opportunities and delay in payment to sugar cane suppliers thus has garnered a lot of attention from the Government, the sugar cane growers and the companies' employees. The predicament led to Muhoroni sugar factory being placed under receivership in the year 2001. Poor performance has been persisted despite the fact that the sugar manufacturing firms in Kisumu County have well branded commodities, sufficient trained personnel and a huge domestic demand that they cannot fully satisfy. The reason for poor performance cannot be easily determined without a focussed investigation. To demonstrate an understandable association between decisions of capital structure and performance of finance in firms, various studies have been carried out by researchers all over the world. These studies have yielded different findings. For example Abdul, (2012) done a study to determine the influence of capital structure decisions on the performance of engineering firms in Pakistan. The outcome showed that leverage when

measured by short term debt to total assets (STDTA) and total debt to total assets (TDTA) had a significant negative connection with the performance of the firm as measured by return on assets (ROA), and return on equity (ROE). The findings were inconsistent with Abor (2005) which reported positive relationship between capital structure and which was given by STD and TD, and performance over the period 1998-2002 at the Ghana stock exchange. All most all of the documented work on the structure of capital that the researcher came across focussed majorly on large firms in the mainstream corporate world of banks, insurance firms and listed manufacturing firms and hardly did the researcher find any published study on the sugar milling sector in Kisumu County. The un-availability of published research work showing the association between capital composition and monetary performance of sugar factories within Kisumu County prompted this study. The poor state of the sugar manufacturing firms in Kisumu County coupled with the conflicting results and the lack of published studies on the effect of capital composition decisions and financial performances of these firms also prompted this research work. This study therefore, explored the effect of capital structure decisions on accomplishment of finance of sugar companies in Kisumu County and laid bare the role of capital structure dynamics on the sugar debate in Kenya to complement the well documented treatises on sustainability or lack of it on the sugar millers and inform policy and actions of the government and other stakeholders in the sugar sector.

GENERAL OBJECTIVE

The general objective of the study was to investigate the effects of capital structure decisions on financial performance of sugar manufacturing firms in Kisumu County.

SPECIFIC OBJECTIVES

1. To determine the influence of debt ratio on financial performance of sugar manufacturing firms in Kisumu County.
2. To establish the influence of debt-equity ratio on financial performance of sugar manufacturing firms in Kisumu County.
3. To determine the influence of Weighted average cost of capital on financial performance of sugar manufacturing firms in Kisumu County.

THEORETICAL REVIEW

The Capital Structure Theories

To demonstrate the factors that influence financing decisions of firms and how firms finances their assets, various theories and models of capital structure have been developed by theorists. The following theories are therefore relevant. The trade-off theory (Modigliani and miller 1958) which assumes that firms trade- off the paybacks and charges of both debt and equity financing and then find an optimal capital structure after taking into account market imperfections such as taxes, bankruptcy costs, agency costs etc. The theory of the pecking order as proposed by Myers 2000 argues that firms always follow a financing hierarchy in order to reduce the problem associated with information asymmetry between the firm's managers and the shareholders.

Trade-off Theory

The second proposition by Modigliani and Miller (1958) introduces the trade-off theory. This theory of capital structure gives an assumption that the management of a company will always choose how much debt and equity to use in financing the operations of the entity and that this is obtained by balancing off the cost and benefits associated with each source of finance. According to the theory, firms should select an optimum capital structure that balances the advantages and disadvantages of both debt and equity.

The Trade-off theory according to Jensen and Meckling, (2001), gives an indication that financially unstable firms will always depend on banks for debt while profitable and financially stable firms rely on internally generated funds for investment. The researchers establish that within the trade-off theory, there is a debt pecking order which prefers bank loan to market debt and this is due to the lower implied bankruptcy costs. According to Myers, (2001), the trade-off theory states that a company should borrow up to the point where the marginal value of tax shields on any additional debt can be offset by the increase in present value of possible costs of financial distress. The value of the firm will therefore decrease because of financial distress. The theory suggests that managers prefer debt to equity and that they will always balance the profits and the costs benefits associated with each source to reach an optimum leverage. The effective price of using debt relative to equity will reduce since the interest expense is tax deductible.

The theory guided the study in establishing whether sugar manufacturing firms in Kisumu County have a well-known way of choosing optimal capital structures that balances the benefits and disadvantages of both loan and equity which are used to finance the business activities. The theory further guided the study in establishing if the financial strength and performances of sugar firms is influenced by their preferred source of financing either debts or equity. Additionally, the theory guided in establishing if managers of the sugar firms consider interest tax shield and net present value in their borrowing decisions.

Pecking Order Theory

The pecking order theory which is also referred to as the information asymmetry theory was proposed by Myers in 1984. According to Myers and Majluf, (1984), firms normally fund new investments, firstly with accumulated profits, then debt, and finally with the issue of new equity. The pecking order theory suggests that firms have a particular way of choosing the kind of capital they use to finance their business (Myers and Majluf, 1984). The theory of the pecking order is about what the firm's management will prefer in terms of which source(s) of finance to use in financing the business operations and the order in which these sources will be used. Firstly, firms will chose internal finance that is using profits from previous years. Secondly if there is insufficient internally generated funds, firms will chose to lend money from credit institutions such as banks and thirdly as a last resort, firms will issue additional shares. In a nut shell the pecking order theory states that a firm's management favours internal financing to external financing.

According to (Vivian,2008), firms leverage reflects both the past profitability as well as the investment opportunities of the firms, implying that if a firm have no available opportunities, it may prefer equity than debt contrary to the pecking order theory

The pecking order theory guided the study in establishing if the sugar milling firms obey the dictates of the theory of using accumulated profits followed by external debt and finally by issuing new equity in their financing decisions when financing the business operations. The theory in turn explained the factors informing decisions on financing like risks, control and bankruptcy.

Agency Cost Theory

The agency cost theory was proposed by Ross in 1972. It was expounded by Meckling in 1976. It is based on the idea that a conflict of interests exists between the management and shareholders of a firm. This is according to Jensen & Meckling, 1976. The researchers argued that since the ownership and control of a firm is separate, agency costs of equity in corporate finance arise since managers incline to maximize their own convenience instead of the value of the firm. They argued that, to explain the relevance of capital structure, there exist three types of agency cost. Firstly, the asset substitution effects which emphasized that as debt/equity ratio increased, management developed an increased incentive to undertake risky projects because if the project is successful, shareholders get all the upside whereas if it is unsuccessful, debt holders get all the downside. Secondly, there are underinvestment problems where if debt was risky the gain from the project would accrue to debt holders rather than the shareholders hence management had incentives to reject positive NPV projects even though they have the potential to increase the firms' value (Jensen & Meckling, 1976). Thirdly, the agency costs arising from the free cash flow which argued that unless the free cash flow is given back to investors, management will always have an incentive to destroy the firm's value through empire building and perks with cash that should have been paid back to shareholders. According to this theory, conflict of interest exerts pressure on managers to seek funds even when profitable opportunities do not exist. The funds can then be used for other projects other than those that enhances the value of the firm. The theory however, gives a solution by concluding that increasing the leverage level of a firm would impose financial discipline on management in such circumstances (Calabrese, 2011).

The agency theory guided this study in a number of ways foremost, the posits of ways theory were used to determine if the managers of the sugar milling companies acts on the best interest of the shareholders in coming up with the capital structure decisions or are swayed by partisan, selfish and debt holders interest in analysing the trends of capital formation on financial performance. The theory guided the study to establish whether the public and shareholders' interests are taken into considerations when taking loans financing from internal sources in order to come up with optimal debt/equity ratio and subsequent acquisition and amortization of assets.

EMPIRICAL LITERATURE

Financial Performance

Akhtar et al., (2012) investigated the influence of capital structure decisions on return on investment. In the study “Relationship between Financial leverage and Financial Performance: Evidence from Fuel & Energy Sector of Pakistan, they demonstrated that financial leverage has got a positive relationship with financial performance”. The study establishes that companies in the fuel and energy sector can enhance their financial performance and also play a role in the growth of an economy by improving at their optimal capital structures.

The research work of Yoon and Jang in 2005 presents an empirical insight into the relationship between return on equity (ROE) and financial leverage of firms in the US restaurant industry for the period 1998 to 2003. An OLS regression was used in the analysis. 62 Restaurant firms in US were investigated and the results showed that in both market based and accounting-based measures; high leverage firms were less risky. Ujah and Brusa, (2013) in their research paper “The Effect of Financial Leverage and Cash Flow Volatility on Earnings Management”, took 559 US firms from the period 1990 through to 2009 and investigated the relationship between Leverage, Cash flow Instability and earning management variables. The findings suggest that financial leverage and cash flow affects the degree to which firms manage their earnings.

Taani, (2012) study on working capital management policy, financial leverage and size of the firm found a significant relationship with ROE, and ROA net income. The working capital management policy and firm size both have a positive effect on the firms’ net income. The financial leverage indicated a negative relationship with firms’ net income. Pratheepkanth (2011) in the study “Capital structure and financial performance: Evidence from selected business companies in Colombo stock exchange Sri-Lanka”, established the existence of a weak positive association between gross profit and capital structure. It also found a negative connection between net profit and capital structure which indicates a high financial cost among the firms. ROI and ROA are also negatively related with capital arrangement.

Concept of Capital Structure

The capital structure of a firm is defined as the arrangement of its financial liability. There exists two ways in which assets of a company can be financed. This can either be through Equity or Debt finance. According to Chava and Roberts, (2008), the concept can therefore be referred to as the way a corporation finances its assets through a combination of equity and debt. The concept of capital structure has been defined by numerous scholars in different ways, notable among them being Shefrin, (2005) who referred to capital structure as the mixture of different kinds of sources of funds either long term loan or ordinary stock that a company issues when financing the assets, while Chung, (2007) and Webster, (2012) see capital organization as a blend of both equity and loan financing in an entity. It’s evident from all the above definitions that structure of capital is simply the composition of an organization liability.

Baker and Wurgler (2002) suggested that the management of an organization should be able to distinguish certain period during which issuance of equity is less costly, due to the high

evaluation of firm's stock. During this time period, the firms will always tend to issue equity as their market values are high, compared to book value and post market values, and will buy them back when their market values are low. Hence, it's deduced that the current mix of capital is strongly related to past market values. The findings, however, did not with the Hovakimian (2005), Flannery and Rangan (2006), Altı (2006) and Kayhan and Titman (2007) who stated that historical average market-to-book ratios in leverage does not influence the past equity market timing. According to Kayhan and Titman (2007), the significance of the historical market-to-book series in leverage could be due to the noise in the present market-to-book ratio.

According to Kavindu, (2013) and later expounded by Gunzeh, (2013) the Kenyan financial markets is not fully developed hence the most commonly traded financial instruments include equity shares, debentures and treasury bills. These have a significant weight on the capital composition of firms trading within the region since their capital structures are restricted to combinations of equity, debentures and bank debts. Magara, (2012) conducted a study on the factors determining the capital structure of firms listed at the Nairobi securities exchange and covered the period of 2007 to 2011. The findings of the study showed that the firm size, tangibility of assets and growth rate have a significant positive relationship with the degree of leverage of the listed firms in the Nairobi securities exchange.

Effect of Debt Ratio on Financial Performance

According to (Rao et al., 2007), debt-ratio can be explained as the percentage of total liabilities to assets in totality of a firm. It's a measure of leverage that was used to acquire the firm's assets. Rao et al., (2007) investigated the connection between capital formation and financial performance of 93 non financial entities listed in Muscat security market in Omani. The researcher applied regression analysis on the cross sectional data from the companies. Debt ratio was the main independent variables and ROA was dependent variable. The research establishes a negative relationship between the level of debt and financial performance.

Muhammad, Shar & Islam, (2014) investigated the impact of capital structure on the performance of cement manufacturing companies in Karachi stock exchange during the period 2009-2013. Pearson correlation and multiple regressions models were used to analyze data. The result shows that the ratio of debt to asset showed a strong negative association with firm performance. The researchers used secondary data collected from the books of accounts of 30 energy firms in American for the period 2009-2013, and analyzed the influence of capital structure on financial performance. Capital structure was measured by short term debt, total debt to equity ratio and firm size while return on asset was used as a proxy of financial performance. Smart partial least square was used in the analysis of data. The result shows that total debt has a significant negative impact on ROA. This negative association between total debt and total asset ratio and financial performance also prevailed in prior studies. This study therefore hypothesises that there is no significant negative connection between debt ratio and financial performance when measured by return on equity.

The Effect of Debt-Equity ratio on Performance of Finance

Debt/ equity ratio is a fraction of the total liabilities of a company to its total shareholder equity. This is a measure of what the suppliers, lenders, and creditors have provided to the company versus what the firms' owners have invested. An entity debt-equity ratio significantly influences its financial performance. This is shown by the empirical research which was done both in Kenya and in other African states.

Maina and Kodongo, (2013) conducted a study to investigate the effects of capital structure on financial performance of firms listed at Nairobi security exchange. The study used debt to equity ratio as a proxy of capital structure. The findings indicated that there is a significantly negative association between debt to equity ratio and financial performance of firms listed at the Nairobi securities exchange. The findings of the study are in agreement with the finding of Mwangi et al., (2014) who investigated the relationship between capital formation and financial performance of non-financial companies listed at the Nairobi securities exchange.

Kaumbuthu, (2011) study on linkage between capital structure and the profit on equity for industrial and allied firms listed at Nairobi securities exchange for the period 2004 to 2008 found negative relationship between debt equity ratio and ROE. Structure of capital was measured by debt-equity ratio while performance focused on return on equity. The study relied on one sector of the companies listed at Nairobi Securities Exchange and only paid attention to one aspect of financing decisions. Hence, the findings of this study cannot be assumed to be universal with other sectors.

The Effect of Weighted Average Cost of Capital on Performance of Finance

Aghion, (2012) gives the definition of the cost of capital as the rate at which an enterprise must pay to satisfy the providers of funds. It is the sum of the weight of equity cost and the interest expense on debt. For an investment to be considered worthy, the cost involved in the acquisition of capital must be less than the estimated return on the capital. Otherwise, the risk-adjusted return should be higher than the charge on capital. Cost of equity is what ordinary stockholders expect to earn as result of investment. The cost of debt is the rate at which a company is servicing the debt and its paid to the company's lenders. The weighted average cost of capital (WACC) of a firm, is therefore the average of the cost of its equity, debt and preferred stock. The cost of debt is the amount of funds paid as interest to the suppliers of funds. It's the composition of the rate of interest and the cost of risk. From the perspective of a firm, a high interest expense on debt capital increases the chance of the entity to be attracted to various stakeholders and hence leads to greater external control. This external control may interfere with the capacity of the firm to function properly in its competitive environment as it may be forced to involve in riskier business activities so as to responds to the pressures.

Financing through debt would be a hindrance since it subjects management to the discipline and constraints of the capital markets. Chen, (2004) established that Chinese firms that had a higher cost of capital were unable to remain profitable since the high rate at which investment projects were discounted meant that huge sums of money was required to pay the supplier of funds which affected their free cash flow. The study however neglected the effect of government

intervention in China which in the past has been responsible for poor financial performance of Chinese firms. In summary firms that have lower cost of capital have ability to effectively plan and execute their financial plans due to cheaper sources of funding available to them. Riskier firms usually have higher cost of capital that makes it hard for them to meet the financier's obligation which mostly results in corporate failure.

Effect of Economic Environment on Capital Structure and Financial Performance

Inflation is an essential indicator of the health of an economy. Modigliani and Miller, (1958) classical work outlined a good narrative concerning the behaviour of a firm's managers on the capital structure decisions under inflation. Kim, (2009) considers that when the level of inflation increases, it causes a decrease in the value of real debt, and if inflation and interest rates increase equally; the cost of financing debt will reduce after tax deductions reduces. However, Boyles and Frank (2010) hold a contrary opinion. They argue that when the rate of inflation increases, companies perceive lending to be inappropriate as banks and other financial institutions lend more expensively. Thus Kim, (2009) ignored the effect of banks raising their interest rate which affects the choice of financial instruments to be used in financing.

According to Corcoran, (2009) inflation influences the choice of a firm's capital structure and firm's value. High inflation rate encourages investors to sell bonds in exchange for stocks and as a result firm's capital arrangement as given by debt-capital ratio tends to reduce. According to Anand and Manjor (2009) firms actively rebalance their capital structures in order to adjust to new economic conditions. They are of the opinion that during times of economic depression firms will heavily rely on debt due to shrinking profitability which affects their ability to accumulated earnings as a source of finance. Thus raising the firms leverage.

The Relationship Between Capital Structure and Firm's Financial Performance

Capital structure and firms' financial performance are essential factors considered by both academicians and practitioners. In practice, managers of firms who are capable of identifying an optimal capital structure are always best placed to minimize the firms cost of finance thereby maximizing the firms revenue. Mohammadzadeh, (2011) in his study of the effects of capital structure on profitability of entities listed at the Tehran Stock Exchange, found that firms' performance which was measured by (EPS & ROA) was negatively related to capital structure. This finding collaborates the finding of Chakraborty, (2010), and Abor (2008) both of whom indicated that a firm's performance is negatively related to its capital structure. Ngoc-Phi-Anh and Jeremy (2011) investigated the connection between the capital structure and operational performance of 427 companies listed in the Vietnamese stock exchange. The years of study were 2007, 2008 and 2009. The findings indicated that long term debt and short term debt are negatively related with performance. The study also found that long-term assets ratio (LTDA) has a positive relationship with performance. In both cases performance was measured by return on asset.

Iorpev and Kwanum, (2012) conducted a study to investigate the relationship between capital structure and performance of firms listed on Nigeria stock exchange. This study concluded that statistically, capital structure as represented by short-term debt to total assets (STDTA), long-

term debts to total assets (LTDTA) and total debt to equity (TDE) is not a major determinant of firm performance. Abor (2005) reported a positive relationship between capital structure components as measured by STD and TD, and performance over the period 1998-2002 in the Ghanaian firms.

Abdul, (2012) study to determine the relationship between the decisions of capital establishment and the performance of firms in the engineering sector in Pakistan, found that financial leverage when measured by short term debt to total assets (STDTA) and total debt to total assets (TDTA) had a significant negative association with the firm performance when measured by return on assets (ROA), while return on equity (ROE) had a negative and insignificant relationship with leverage. Pakistan engineering sector firms mainly depended on short term debt with strong covenants which affected their performance. Most commonly used performance proxies are Gross profit margin (G.P) Net profit margin (N.P), operating ratio and return on capital employed (ROCE).

RESEARCH METHODOLOGY

Research Design

A descriptive research design was used. According to Osoo & Onen, (2008), descriptive research design involves an analysis of the situation as it is. Thus, the study provided a descriptive profile of the effects of capital structure decisions on performance of finance of sugar manufacturing factories in Kisumu County. Descriptive design was particularly ideal because the study involved analysis of finances in all the variables and indicator of the study.

The Population of Target

The target population of the study consisted of all the sugar-manufacturing firms in Kisumu County that have traded for the period 2011 to 2015 and are licensed by the Kenya sugar board. The region has three sugar companies in operations which are licensed by the Kenya Sugar Board and have been operating in the last five years. These industries are; Chemelil Sugar Company, Muhoroni Sugar Company, and Kibos sugar industries (KSB 2015).

Sampling Techniques

Since the study population was relatively small, a census was carried out (Mugenda & Mugenda 2003). This enabled the study to give reliable and more accurate information as all firms concerned were analysed.

Data Collection Method

The research work involved collection of secondary data through documentary analysis of the financial books of accounts from the sugar manufacturing firms in the period 2011-2015. The period was chosen due to data availability and since it gave the most recent data. Secondary data collection tool (Appendix 2) was used.

Data Analysis and Presentation

According to Zikmund (2003), the process of data analysis starts immediately after data collection and ends at that point when the results are interpreted. It involves coding, classifying, analysing as well as editing gathered data to ensure completeness and accuracy. The characteristic of the population was illustrated by the use of descriptive analysis. SPSS was used to calculate the Means and variances. The study used correlation analysis, both simple and multiple regressions analysis where return on equity was regressed against financial gearing, Debt-equity proportion and weighted average cost of capital. Multiple regression analysis enabled the establishment of the exact strength of the association among the variables under study. In addition, regression methods are integral components of any data analysis procedure which is concerned with description of the effects of a response variable on one or more explanatory variables. A 5% level of significance has been used in many studies like in Maina and Kondongo,(2013) and Abor (2007) in the past hence a good benchmark. The models used for the analysis are:

$$Y_i = B_0 + B_1DR + B_2DTE + B_3WACC + \varepsilon_t \text{ (General equation)}$$

$$Y_i = B_0 + B_1DR + B_2DTE + B_3WACC + B_4I (B_5DR + B_6DTE + B_7WACC) + \varepsilon_t \text{ (Moderation equation)}$$

Where: Y_i = Return on Equity ratio over 5 year period; DR = Debt Ratio; WACC = Weighted Average Cost of Capital; DTE = Ratio of debt to equity; I = Rate of Inflation; B_0 = Constants; B = Coefficients of explanatory variables; ε = Error term

WACC is given by multiplying the cost of each element of a company capital structure with the related proportion of the element to total capital and then adding up the proportional cost of components.

$$WACC = E/V \times Re + D/V \times Rd$$

Where: Re = Cost of equity; Rd = Cost of debt; E = Market value of the firm's equity; D = Market value of the firms debt; $V = E + D$

RESEARCH RESULTS

The study analyzed the effects of capital formation decisions on financial performance of sugar manufacturing factories in Kisumu County. The books of account of each of the three sugar firms in the county were studied over the period of 2011 to 2015. Data was collected using the secondary data collection sheet.

The findings showed that debt ratio has a negative and insignificant relationship with financial performance. Hence it can be concluded that debt ratio is not very important when determining the financial performance of sugar manufacturing industries Kisumu County. This finding is inconsistent with the finding of Mesquita and Lara (2003) who found a positive relationship

The study also investigated the influence of Debt-Equity ratio on profitability of Sugar manufacturing companies in Kisumu County. This result indicated the existence of a negative and significant relationship between debt to equity ratio and financial performance implying that if sugar manufacturing firms continued injecting much debt in their capital combination then more losses will be incurred beyond what the industry is witnessing. This collaborates with the work of Maina and Kodongo, (2013). In their work “the effects of capital structure on the financial performance of firms listed at the Nairobi securities exchange”. Capital structure was given by debt to equity ratio. The findings established a significant negative correlation between debt to equity ratio and financial performance. The results are in agreement with the findings of Mwangi et al., (2014) who examined the relationship between capital formation and profitability of non financial companies listed at the Nairobi securities exchange.

This study further examined the effects of weighed average cost of capital against financial performance and the findings resulted to a positive and considerable relationship between WACC and performance of finance of sugar firms. The mean of debt ratio and debt to equity ratio was 956% and (105%) respectively. A negative debt to equity ratio shows that the companies were purchasing investments using borrowed funds and that these borrowed amount of funds has a greater cost and due to this debt, the companies could not raise adequate money to cover historical net losses. This significant negative interconnection between debt to equity and ROE supports the argument of Ebaid (2009).

The study also examined the effects of inflation rate as a moderating factor on the influence of capital structure decisions on the monetary performance. Finding revealed a positive increase in R square value. This shows that inflation influences the relationship between financial performance and financial structure decisions.

CORRELATIONS

The results of Pearson correlations showing the association between debt ratio and financial performance of sugar manufacturing firms in Kisumu County were as presented in Table 1.

Table 1: Correlations Association between Debt Ratio and Financial Performance

		Return on Equity	Debt Ratio
Return on Equity	Pearson Correlation	1	.235
	Sig. (2-tailed)		.703
	N	5	5
Debt Ratio	Pearson Correlation	.235	1
	Sig. (2-tailed)	.703	
	N	5	5

The result in Table 1 indicates that the Pearson correlation coefficient between Debt Ratio and Financial Performance was as follows. There was a positive Pearson correlation between Debt Ratio and Financial Performance ($r = 0.235$, $p = 0.703$). This shows that there was an association between Debt Ratio and Financial Performance. The relationship between Debt Ratio and Financial Performance is not statistically significant. This is so because p value of 0.703 was higher than the significance level ($p < 0.05$). Results for Pearson correlations coefficient

between debt to equity ratio and performance of sugar manufacturing firms in Kisumu County were as shown in Table 2.

Table 2: Correlations for Debt/Equity Ratio and Performance of Finance

		Equity return	Debt To Equity
Return On Equity	Pearson Correlation	1	-.634
	Sig. (2-tailed)		.250
	N	5	5
Debt To Equity	Pearson Correlation	-.634	1
	Sig. (2-tailed)	.250	
	N	5	5

The finding in Table 2 shows that the Bivariate correlation results between debt to equity and financial performance of sugar manufacturing firms is as stated below. There is a negative Pearson correlation coefficient between debt- equity ratio and Financial Performance ($r = -0.634$, $p = 0.250$). This shows that there is no association between debt to equity and Financial Performance. Since the p value of 0.250 is higher than the test significance level ($p > 0.05$), the implication is that debt to equity though having a negative prediction cannot be ignored as a factor.

The results for Pearson correlations of the Weighted of Average Cost of the Capital with financial performance of sugar manufacturing factories in Kisumu County were as presented in Table 3.

Table 3: Correlations for Weighted of Average Cost of Capital and Financial Performance

		Return on Equity	WACC
Return on Equity	Pearson Correlation r	1	.894*
	Sig. (2-tailed)		.041
	N	5	5
WACC	Pearson Correlation	.894*	1
	Sig. (2-tailed)	.041	
	N	5	5

*. For correlation, significant level is 0.05 (2-tailed).

The findings in the above table show that the results of the Pearson correlation between weighted average costs of capital with financial performance of sugar manufacturing factories in Kisumu County is as outlined below. There is a positive Pearson correlation between weighted average costs of capital and performance of finance ($r = 0.894$, $p=0.041$). This shows the existence of an association between weighted average cost of capital and financial performance. Given that, the p value of 0.041 is smaller than the test significance level ($p < 0.05$), this relationship is therefore statistically significant. Thus, WACC is an important predictor to the financial performance of sugar manufacturing firms, in Kisumu County.

MULTIPLE REGRESSION ANALYSIS

A multiple regression analysis was conducted to find out the relationship between the autonomous and reliant variables and the results were as presented in table 4 below. The variables under investigation included debt ratio, debt to equity and the weighted average cost of capital (Independent variables) and financial performance of sugar manufacturing firms (dependent variable) measured by return to equity.

Table 4: Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimates
1	.989 ^a	.978	.910	.12008

a. Predictors: WACC, Debt Ratio, Debt To Equity

The value of R Square in the model summary table above gives an indication of the variance in the dependent variable that can be explained by the independent variables. As provided in this case, the independent variable of Weighted of Average Cost Capital, Debt Ratio, Debt to Equity accounts for 97.8 per cent of the variability. Table 5: shows the findings in respect to the analysis of variances.

Table 5: Analysis of Variances (ANOVA) for all variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.627	3	.209	14.490	.190 ^b
	Residual	.014	1	.014		
	Total	.641	4			

a. Dependent variable: Return on Equity

b. Predictors: WACC, Debt ratio, Debt to Equity

From table 5, the value of P is 0.190. This is greater than the Coefficient level of 0.05. This implies that in totality, all the three autonomous variables have an insignificant influence on the dependent variable. This finding is also affirmed by the F-test where the calculated F = 14.490 is greater than the tabulated F (3, 1).

Table 6: Beta Coefficient and Model for all Variables

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.572	.346		1.655	.346
Debt Ratio	-.009	.021	-.091	-.451	.730
Debt To Equity	-.140	.059	-.494	-2.366	.255
WACC	2.002	.415	.767	4.818	.130

a. Dependent Variable: Return On Equity

The following regression model was used

$$Y_i = \beta_1 DR + \beta_2 DTE + \beta_3 WACC + \epsilon_t \text{ (general equation), hence}$$

From the findings, it emerges that the most influential determinant was weighted of average cost of capital (Beta = 0.767). This was followed by debt ratio (Beta = -0.091) and debt to equity (Beta = -0.494). The findings also showed that debt-equity ratio has a statistically significant effect ($p = 0.255$) with a coefficient of -0.140 indicating that debt-equity ratio has a negative significant affiliation with the financial performance of sugar factories in Kisumu County. This is in agreement with the results of Maina and Kodongo, (2013) who researched on the effects of capital structure on financial performance of firms listed at the Nairobi securities exchange. Further findings indicated that the weighted average cost of capital is significant ($p=0.130$) with a positive coefficient of 2.002 hence was an important predictor of financial performance. This corresponds with Chen (2004) who established that Chinese firms that had a higher cost of capital were unable to remain profitable since the high rate at which investment projects were discounted meant that huge sums of money was required to pay the supplier of funds which affected their free cash flow. Therefore, the new model becomes:

$$Y = 0.572 - 0.009 DR - 0.140DTE + 2.002WACC + \varepsilon_t$$

The new model indicated that without the capital structure, financial performance would be 0.572. The findings also showed that a unit increase in the level of debt-equity brings about a 0.140 decrease in Return on Equity. An increase in WACC brings about an increase of 2.002 in return on equity.

CONCLUSIONS

According to the findings of this study, it is of value to conclude that capital arrangement decisions of sugar manufacturing factories in Kisumu County, indeed affects the firms' financial performance though differently based on the composition of the capital structure of a firm.

Debt ratio as a proxy of capital structure has a negatively insignificant relationship with the financial performance of sugar manufacturing firms in Kisumu County. It is therefore concluded that debt ratio is not a useful factor when determining the financial performance of these firms.

The ratio of Debt-equity has significant negative effects with the financial performance of sugar manufacturing firms in Kisumu County. This means that debt-equity ratio is an essential determining factor in the financial performance of these firms.

Wacc has significant positive effects on profitability as measured by return on equity. Wacc is thus a useful factor when determining the financial performance of sugar manufacturing firms in Kisumu County.

RECOMMENDATIONS

From the findings, the following recommendations can be made in regard to the performance of sugar manufacturing firms in Kisumu County.

Sugar firms that which are in position to fund their business operations using equity should do so. This will reduce the overdependence on debt financing and as a result, the risks associated with borrowing will be minimized hence better financial performance.

The capital structure decision that gives the most optimal value is weighted average cost of capital. This is so because it best maximise firms value. An appropriate mixture of debt-equity should be undertaken by the firms so as to optimize their capital structure. Firms should put into consideration a suitable choice of capital structure and its effects on performance since it affects the shareholders risks, returns and cost of capital.

Decision makers of every sugar manufacturing factory should formulate an appropriate financing decision. This will ensure that they remain profitable and competitive in the market. The management and financial advisors of firms are therefore advised to study the market trend continuously. This will enable them to give an appropriate guidance on the best proportion of the various sources of finance based on the market circumstances at any given time.

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