THE EFFECTS OF CAPITAL STRUCTURE ON GROWTH IN INTEREST BEARING ASSETS BY THE COMMERCIAL BANKS IN KENYA

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©2017

International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

Received: 8th September 2017

Accepted: 13th September 2017

Full Length Research

Available Online at:

http://www.iajournals.org/articles/iajef_v2_i3_292_314.pdf

Citation: Muthui, J. N., Baimwera, B. & Mutegi, D. (2017). The effects of capital structure on growth in interest bearing assets by the commercial banks in Kenya. *International Academic Journal of Economics and Finance, 2*(3), 292-314

ABSTRACT

The objective of this study was to determine the effects of capital structure on the growth of interest bearing assets by commercial Banks in Kenya, between the years 2010 to 2014. The capital structure has been defined as the overall means by which entities finance their assets across the blend of debt, equity and retained earnings/reserves. On the other hand, since financial institutions majorly rely on interest incomes as their main source of incomes, examining how capital structure variables will affect the growth of the interest bearing assets to generate interest revenues which will translate to profitability was our main objective. The capital structure theories were discussed and related to the study variables in order to establish the gap and in addition the related empirical studies carried out reviewed in order to clearly bring out the problem statement of the study. The study adopted a descriptive design in its methodology and the researcher chose to study commercial banks due to availability of needed data and convenience. All the licensed 43 commercial banks in Kenya which existed between years 2010-2014 in their different tiers were the target for this study. Secondary data was obtained from the annual Central bank of Kenya Banks supervision reports. SPSS version 20.0 was used for data analysis due to its capability to analyze the voluminous data and equations adopted in the study. The t-test with a 5% level of significance was also used in the study and the correlation coefficient (r), coefficient of determination and analysis of variance (ANOVA) was calculated. This study found out that for tier I and II banks, there is a weak correlation between the capital structure and the growth of interest bearing assets. Thus the capital structure components cannot significantly predict the growth in interest bearing assets since this growth is largely determined by other variables such as customer deposits and other borrowings. For tier III banks, the study found a strong correlation between the capital structure components and thus concluded that the growth of interest bearing assets can be significantly predicted by the capital structure components. Unlike tier I and II banks, tier III banks have low levels customer thus rely largely on capital for investments.

Key Words: *capital structure, growth, interest bearing assets, commercial banks, Kenya*

INTRODUCTION

Capital structure is the mixture of debt, equity and retained in financing a firm's assets. Different firms in different industries have adopted varied capital structures, which they deem appropriate for the firms operations. These decisions are coupled by a number of constraints and thus have an impact on the firm. Bankruptcy and liquidation is the biggest challenge that could face a firm in the event of inappropriate choices between debt and equity (Titman, 1984). Modigliani and Miller (1958) are credited with the first seminal paper on the effect of capital structure on the

value of the firm. Although the paper concluded non-existence of any relationship, subsequent papers have challenged this position taking into consideration imperfect market conditions.

Capital structure is the backbone for each business entity to operate and achieve its objectives. Different firms in different sectors require different levels of capital levels and composition to determine their optimal investments and returns. Likewise financial institutions requires huge capital injections majorly equity capital especially for the new emerging banks. As the financial institutions grow, retained earnings and debts also come in to consideration so as to strengthen the capital base thereby enhancing their operations and mitigate multiple risks associated with the management of their most liquid assets (Kashyap, Rajan & Stein, 1999).

Therefore the major management challenge for any financial institution has been to set the balance for both solvency resulting from capital adequacy and liquidity resulting from adequate liquid assets meant to meet immediate obligations. This enables a financial institution to remain solvent through the use of capital structure and liquid enough to be able to service the needs of its borrowers thereby generating more interest income. Interest earning assets are usually held by financial institutions in order to earn interest incomes, help to regulate liquidity requirements or excesses and to speculate on interest rates movement which affect the prices of some assets such as bonds which are traded by these commercial banks. The highest proportion of commercial banks' income in Kenya is comprised of interest income and followed by non-interest incomes derived from off-balance sheet transactions such as guarantees and letters of credit and also fees and commissions from other operational activities. However, a lot of emphasis has been given to lending activity since it generates interest income which eventually links the traditional activity of a bank to its performance. Therefore interest incomes generated by interest bearing assets is a key determinant of the bottom line i.e. profitability of any commercial bank (Bush and Kick, 2009). Therefore it is evident that there exists a gap in determining how capital structure affects the growth of interest bearing assets with the literature of academic research on this subject using actual operating data found to be limited.

Capital Structure

This refers to the mixture of debt, equity and retained earnings in the financing of a company's assets (Abor, 2005). Broadly, there are two categories of capital; equity / retained earnings and debt. Equity and retained earnings are internal financing while debt is external financing which can be either long-term or short-term. Short-term debt is measured by the ratio of current liabilities to total assets while long term debt is the ratio of non-current liabilities to total assets. While in the past, debt financing had been misinterpreted and associated as a central characteristic of bankruptcy in firms, these days it has become a well-accepted mode of financing a company's assets (Bean, 2008).

On the other side, equity financing is that part which has been financed by the owners of the particular organisation and for public company's they can raise equity from the capital market.

The NSE can be used to raise any type of finance, whether debt or equity. When a company is seeking to expand, it can either raise additional funds through equity financing or debt finance (Bradley, Javrell, & Kim, 1984). Some of the companies that have raised finance through the NSE are; East Africa Breweries Limited in 2014 issued an 11 Billion bond, Chase bank issued a 3 billion, 13.1% coupon corporate bond, which was oversubscribed by 1.8 billion (Nairobi Securities Exchange, 2014).

Retained earnings represent internal source of funding which is generated through an entity retaining net incomes (plowback) to the business instead of distributing it to the shareholders as dividends. It is usually reported as part of the shareholders equity and it increases the owners value thus it is mostly regarded as the highest level objective for profit making institutions. It is the most preferred source of capital since it is usually the cheapest capital source compared to equity and debt (Bean, 2008).

Franco Modigliani and Merto Miller are credited with oldest modern theory of capital structure upon which other theories have been built on. These are; MM under perfect market conditions and MM under imperfect market conditions. MM under perfect market assumes the non-existence of bankruptcy costs, transaction cost and taxes while market information is considered symmetric, there is equivalence in borrowing costs and no effect of debt on a company's earnings before interest and taxes (Harris and Raviv, 1991). According to Decamps (2004), all entities including financial institutions require substantial and adequate capital injected through various capital sources so as to mitigate various risks characterized to the nature these institutions. These risks include capital-exposure risks which limits the volume of business a commercial bank can undertake based on capital level, liquidity risk which determines the level of liquid assets available to meet current commitments and avert the risk of bank runs. Further, capital adequacy risk which is determined by the minimal capital level at which a financial institution is able to withstand the risks associated with its operations, credit management and market fluctuations and instabilities. Therefore financial institutions with more equity capital are better protected against failure, as they can absorb more losses before becoming insolvent. As a result, banks with riskier income and assets would prefer to fund themselves by way of more equity and less debt, thus providing a larger equity cushion against potential losses.

Interest Bearing Assets in Commercial Banks in Kenya

Interest bearing assets represents funds outlay towards acquiring assets through which interest incomes is received. For commercial banks these interest bearing asset includes; bonds and treasury bills, loans and advances and lending to other commercial banks either locally or abroad. Interest in this case represents a fee or a premium paid for the use of another party's money. To the borrower it is the cost of renting money, to the lender the income from lending it. In commercial banks before any investment is undertaken factors for instance the level of risk and return have to be considered, thus a portfolio is constructed based on the trade-off between risk and return (Bush and Kick, 2009). Interest bearing assets in the financial institutions, includes

but not limited to Loans and Overdrafts, Government bonds, Treasury Bills, Corporate bonds, interbank loans, Certificates of deposit (CDs) and Repurchase agreements (repos). Interest bearing assets as a percentage of total assets in the financial sector in Kenya, averages to about 87 percent (Central Bank of Kenya, 2014).Capital structure is expected to positively influence the growth of interest bearing assets in commercial banks in that there has been an increased emphasis to broaden the incomes from these investments despite the risks arising from investing in these interest bearing assets such as credit risks.

As per the Central Bank of Kenya, (2014) annual report, a look at Large banks (Tier I banks comprising of: KCB, Barclays, Standard Chartered, Equity, Co-operartive bank and CFC Stanbic bank) they indicated that they had total assets size of over Kes 1.55 Trillion compared to the total assets by all commercial banks of Kes 3.19 Trillion which represents 48.6% of their market share control as at December 2014. These large banks also had a total of Kes 1.15 Trillion as interest earning assets as at December 2014 compared to Kes 2.4 Trillion of interest earning assets for all commercial banks. The interest earning assets for the large banks had increased from Kes 904 Billion out of their total asset size of Kes 1.38 Trillion as at December 2013 representing a growth of 27.2%.

The Determinants of Growth in Interest Bearing Assets

The commercial banks major incomes comprises of interest incomes which is generated by interest bearing assets or investments. The growth in interest bearing assets is therefore vital for the realization of profitability levels. The growth of in interest bearing assets is influenced by, but not limited to the: size of a financial institution, productivity, growth rate, financial strength and liquidity as discussed below.

Size of a financial institution- Refers to the classification of commercial banks as small, medium or large is based on either the total assets or the total incomes levels. According Seppa, (2008) and Abor (2007), the incomes level or sales figure is a good determinant of a firm's size as it eliminates booking problems associated with firm's assets. The size of the firm is related to the bankruptcy cost risk where the larger the firm, the more diversified the bankruptcy is; therefore reducing it (Al-Najjar and Taylor, 2008). Large firms normally borrow large amounts of debt relative to small firms which effectively reduces their transaction costs and interest rates. Hence the low interest rate and transaction cost motivates large firms to take more debt. The size of commercial banks just as any other firms therefore has a large positive effect on the growth of investments on interest bearing assets which lead to increased profitability. Productivity is measured in terms of turnover. Thus there is a large relationship between a firm's productivity and efficiency levels of a firm. The ultimate measure is the ratio of inputs to outputs. High efficient firms are likely to have more productivity and vice versa (Craig and Harris, 1973). Therefore, high productivity translates to high incomes and high profits as well.

Growth rate of a firm refers to the increase in value of firm's total assets. High growth rates in firms tend to be characterised by more agency problems owing to high flexibility in their investment choices. Investors perceive this as high risk as they represent high volatility in reported earnings hence a negative relationship between growth and gearing level (Berger, 2008).

The financial position / strength of a firm is determined by the net of free cash flows determined by adding back interest expenses amortisation and depreciation to Earnings before tax, (Owasu and Badu 2009). The higher the cash flow amount the more financially healthy an organisation is considered to be. Therefore, these firms have the ability to finance debt hence a positive relationship between profitability and financial strength. These firms are thus able to exploit more lucrative opportunities requiring huge investments thus improving profitability compared to their counterparts. Liquidity is measured by either current or quick ratios and determines the firm's ability to meet its obligations as and when they fall due. In commercial banks, the major source of liquidity is customers' deposits. The higher liquidity ratio is an indicator of a firm's ability to meet its obligations (Al-Najjar and Taylor, 2008). However, this can go either way as high liquidity could be interpreted as a sign of a firm that has heavily invested in current assets or have the capacity to meet obligations. Commercial banks high level of liquidity translates to high investments being channelled to the interest bearing assets which will result to greater interest incomes, thereby resulting to more profitability with lower probability of incurring financial distress and bankruptcy costs.

STATEMENT OF THE PROBLEM

Capital structure is one of the most pivotal decisions that companies' makes which defines the proportions of debt, equity and retained earnings, used to finance the firm's assets thus impacting on the shareholders value (Mwangi & Birundu, 2008). The shareholders expect high returns for their capital and they prefer high returns investments. On the other hand, the investment decision of the firms is solely vested with the management thereby may result to agency problem, since the management is risk averse and treasure the job security (Myers & Majiluf, 1984).The application of the capital structure theories and the operationalization to Commercial Banks in Kenya results to various investments behaviors' by these entities. Previous studies, especially on large firms, have shown that capital structure affects firm performance. Though the issue has been widely studied, largely missing from this body of literature is the focus on the effects of capital structure on the growth of interest bearing assets. Most studies on capital structure, Pandey and Chotigeat (2004); Coleman (2007); Gleason (2000) were conducted in European countries, Middle-east and in the United States brought out the fact that highly geared firms have a lower financial performance due to the fact that the interest expense paid to settle the interest on the debt reduced profitability. In Kenya studies done on capital structure and financial performance by Ondiek (2010); Gweji and Karanja (2014) ,Ronoh (2015), Thuranira (2014); Mwenje (2016) concentrated on the effect of capital structure on microfinance institutions, industrial firms, SACCOS and allied sectors. Most scholars have placed great emphasis on

determining the relationship between the capital structure and financial performance which has indirect effect since the financial performance is as a result of both interest incomes and non-interest incomes which can directly be related to the capital composition of a firm. This therefore triggers the question of how the capital structure directly affect the growth in interest bearing assets by commercial banks in Kenya, which will in turn result to financial performance position by these firms; thus forming basis for the subject of this study. The purpose of this study is to apply a model analysis and actual operating data of banks in order to examine the relevance of Kenyan commercial banks' capital structure on growth in interest bearing assets.

PURPOSE OF THE STUDY

The study will investigate the effects of capital structure on growth in interest bearing assets among commercial banks in Kenya.

OBJECTIVES OF THE STUDY

1. To examine the effect of debt on growth of interest bearing assets of Commercial Banks in Kenya.
2. To determine how retained earnings affects growth of interest bearing assets of Commercial Banks in Kenya.
3. To examine the effect of equity on growth of interest bearing assets of Commercial Banks in Kenya.

THEORETICAL REVIEW

The Traditional Theory of Capital Structure

Solomon and Weston, (1963) advocated for the Traditional Theory of Capital Structure which states that when the Weighted Average Cost of Capital (WACC) is minimized, and the market values of assets are maximized, an optimal structure of capital exists. Thus, this traditional view asserts the existence of an optimum capital structure. In essence, the theory proposes that the cost of capital can decrease with reasonable use of debt to a certain limit. This theory is based on assumptions that: there are only two sources of funds used by a firm i.e. debt and equity, total assets are given and do not change, the firm pays 100% of its earnings as dividends, the total finance remains the same, the operating profits are not expected to grow, the business risk remain constant, the firm has a perpetual life and the investor behave rationally. However some of these assumptions do not hold under the imperfect market and it has been widely criticised by a number of scholars including MM (1958). Relating this theory to our study variables, it is expected that the use of debt by a financial institution will potentially reduce the entity's cost of capital, up to a certain limit where the firm profitability is expected to be maximized. On the other hand, due to the increase in capital composition from debt and equity/retained earnings this will result to increase in investments in interest bearing assets by the financial institution thereby increasing interest incomes as well as profitability. However, most of the assumptions listed

above will not apply under this case, as the imperfect market conditions will come to force under the operation of any financial institution.

Modigliani and Miller Theorem

Modigliani and Miller, (1958) have been accredited with their key contributions in developing the MM capital structure theorem. They conjectured that in the perfect market, it does matter what capital structure a company uses to finance its operations. They theorized that the market value of a firm is determined its earnings power and by the risk of its underlying assets, and that its value is independent of the way it chooses to finance its investments or distribute dividends. The MM theorem is built on assumptions that: investors have homogeneous expectations regarding future cash flows, bonds and stocks trade in perfect markets, investors can borrow and lend at the same rate, no agency costs and investments and financing decisions are independent of one another. Modigliani and Miller, (1958) came up with two proposition i.e. MM proposition I & II. The MM proposition I is based on assumptions of perfect market conditions. They argue that the percentage of either debt or equity in capital structure does not influence the market value of a given firm. In this proposition, the value of the firm is computed by capitalising the net operating incomes. Thus, under this theory, the proponents conclude that there is no optimal capital structure. MM proposition II proposes that the cost of equity financing is equal to the constant average cost of overall capital plus a risk premium. Ideally, this proposition holds that the cost of capital will remain constant even when excessive debt is raised. This is not true as the cost of debt varies with the level of debt raised. This implies that even with increase in debt, there is no added value created since the burden of individual risk is shifted between different classes of investors. This proposition introduces the aspect of arbitrage to further support the proposition. The market equilibrium will always be restored through an arbitrage process whereby the investors will engage in personal leverage for firms with similar firms except for the degree of leverage. MM with taxes considers the tax deductibility of interest expense, which makes debt financing cheaper. An ideal capital structure would be made up of pure debt under MM II. Thus, under this proposition, for firms to increase their profitability, they should make use of more debt to equity since it results in to a lower cost of capital. The MM theorem assumptions are however unrealistic but they help us work through the effects of the capital structure decisions. Relating this theory to our variables, we note that the use of debt in addition to owners' equity to finance the operations of any entity including financial institution is considered more profitable due to tax shield mechanism as per MM proposition II. This slightly differs with MM proposition I which provides that the use of either debt or equity as a factor contributing towards the generation of operating incomes. Therefore by applying this in financial institution, the use of either debt or equity will lead to increase in interest earning assets (which is the major commercial bank investment) and therefore it does not matter the source of funds since it would result to the same outcomes.

Trade-off Theory

This theory is also known as target adjustment theory as it suggests that if the adjustment of leverage ratios is costly, firms will not fully adjust. It holds that the optimal capital structure is achieved by proper balancing of the gains and losses of debt (Myers, 1984). It borrows from MM proposition II and bankruptcy model of Litzenberger and Kraus, (1976). It takes into consideration the realities of the world; existence of bankruptcy costs mainly legal and administrative related, and agency costs. Agency costs arise because of separation of ownership and control of a firm (Jensen and Meckling, 1976). According to Arnold (2008), the agency costs are as a result of owners of equity failing to provide managers with sufficient incentives in order to act in their best interest. While the use of debt results into a tax advantage, it also has its disadvantage; the bankruptcy costs and financial distress costs. As the use of debt increases, its marginal benefit decreases and at the same time the marginal cost increases. Therefore firms have to balance between the use of debt and equity. Going with this model, a firm with an objective of maximising its value should maximise the use of debt if the probability of going bankrupt is low. As put out by Hovakiam (2001), high profitability indicates higher tax savings hence low probability of going bankrupt. This theory is built on the following assumptions: existence of both agency costs and taxes, no transaction costs, investors have homogeneous expectations regarding future cash flows, bonds and stocks trade in perfect markets, investors can borrow and lend at the same rate investments and financing decisions are independent of one another. This theory fairly relates to today's business operating environment where by the equity holders and the management have to review the balance between the equity capital (including retained earnings) and the debt, in order to maximize on the tax shield benefits and minimize cost of financial distress and agency cost. Due to tight regulations governing financial institutions operations, a balance between equity capital and debt financing has to be maintained in line with all statutory requirements. This ensures that a financial institution will be adequately liquid to fund their investments in interest bearing assets thereby resulting to positive operating incomes and profitability.

Pecking Order Theory

This is an advancement of the trade-off theory, in addition to taking into account bankruptcy costs; this theory further incorporates the costs of asymmetric information. Donaldson was the first to suggest this theory in 1961 which was later reinforced in 1984 by Nicolas and Myers. According to this theory firms raise capital in a certain order, the first source is internal financing (retained reserves), then debt-financing and finally equity financing. The next source of financing is only considered when the later is depleted. According to Myers et al, (1984) they assert that equity is least preferred source of financing because managers have an information advantage over investors and when they issue new equity, they tend to think that the firm is overvalued and are therefore taking advantage of this. This results in to investors placing a lower value of new equity. According to this theory, it is easy to predict the financial health of a firm. The managers of any firm have an information advantage about risks, value and prospects over

outsiders. A debt issue is interpreted as the confidence with the management that an investment is profitable and the current stock prices are undervalued. Similarly, the issue of equity indicates that the management lacks confidence and the current stock prices are over-valued. In essence therefore, the issuance of equity would result in to a decrease in share prices thus decreasing profitability while a debt issue would result in to increase in share price and profits as well (Graham & Harvey, 2001). This theory is built on the following assumptions: existence of agency costs, taxes, transaction costs and cost of asymmetric information, investors have homogeneous expectations regarding future cash flows, bonds and stocks trade in perfect markets, investors can borrow and lend at the same rate investments and financing decisions are independent of one another. Just as trade off theory, this theory relates even better with the variables of this study as it provides a sequence in which an entity should finance their business using the internal financing (retained reserves), then debt-financing and finally equity financing. This however may not always be the case with financial institutions since due to statutory provisions of minimum capital requirement especially from the shareholders currently set at Kes 1 billion and proposed to be increased to Kes 5 billion by 2018. Therefore equity finance in this case may rank first before debt financing thereby altering the sequence but then all the funds are channelled towards enhancing the financial institution investments in their interest earning assets so as to increase profitability levels.

EMPIRICAL REVIEW

A number of studies have been conducted both locally and internationally on the variables of capital structure. These studies are summarized under the following:

Debt Financing

Abor (2007) examined the effect of debt policy (capital structure) on the financial performance of medium firms both in Ghana and South Africa and found out that capital structure influences financial performance of firms, even though not exclusively. Further, he indicated in his study that capital structure especially long term and total debt ratios, negatively affected performance of the firms, thus implying that agency issues may lead to the firms pursuing very high debt policy, thereby resulting in lower future performance. Coleman (2007) in his study on the impact of capital structure on the performance of microfinance institutions indicated that most of the microfinance institutions are highly leveraged and employ long term debts as opposed to short term debt. Thus highly geared microfinance institutions have a better performance since they are able to expand their clientele base and due to diversification of their portfolio they are able to manage the risks associated with lending better.Gleason et al (2000) carried out study to determine the interrelationship between culture, capital structure and performance of retailers in 14 European countries and established that indeed capital structure influenced the firm's performance. Further they established that capital structures varied through cultural clusters but in all cases, a negative relationship between the capital structure and financial performance. The negative coefficient pointed out that, those retailers used more debt in their capital structure than

the required balance as per the trade off theory which resulted to overleveraging which negatively affected the firm performance.

Ondiek (2010) in his study titled the relationship between capital structure and financial performance of firms listed at the NSE and established that the use of debt financing by managers triggered increased growth of asset level and profitability but the shareholders equity played a big role in obtaining the debt finance. Therefore the use of trade off theory or pecking order theory may be applicable in achieving the required growth by the listed firms. Pandey and Chotigeat (2004) with their study on theories of capital structure: evidence from an emerging market, examined the financial characteristics of Malaysian companies and their debt policies and concluded that profitability had a persistent and consistent negative relationship with all debt ratios.

Gweji and Karanja (2014) studied the effects of financial leverage on how deposit taking savings and credit co-operative in Kenya perform financially. Their sample comprised of 40 savings and credit co-operative societies (SACCOS) and their performance was analyzed for a period of 13 years, between 2000 to 2012. The study found out that there was a strong positive relationship between the financial leverage where debt-equity ratio was compared to ROE and on the other hand a weak positive relationship examined between debt-equity ratio compared to ROA and income growth. Thaddeus and Chigbu (2012) on their study entitled the effects of financial leverage on performance sampled six banks from Nigeria and used secondary data of the published financial statements for a period of 5 years. Their results were mixed results where some banks showed a positive relationship between leverage and performance indicating that more debt could be employed to boost performance while others reported a negative relationship between leverage and performance.

Retained Earnings

Ronoh (2015) studied the effects of Capital structure on financial performance of listed commercial Banks in Kenya for a period of 5 years between 2009 and 2013. In the study, they observed that retained earnings had a positive but not strong relationship with the financial performance measured by return on asset of listed commercial banks in Kenya. This led to his conclusion that capital structure had a negative effect on the on the performance of commercial banks since debt, equity and deposits showed a strong negative relationships. Thuranira (2014) in his study on the effect of retained earnings on the returns of firms listed in the Nairobi securities exchange found out that there is very weak (almost negligible) relationship between earnings retentions and the stock returns and consequently the value and performance of the firm.

Kanwal (2012) in his study on the effects of Effect of Dividends on Stock Prices found out that there is have negative and statistically insignificant relationship to Stock Market Prices since investors of these industries in the Chemical and Pharmaceutical Industry of Pakistan still prefer dividends either cash or stock in spite of tax advantage on capital gain. Javed F, Shah F.M (2015)

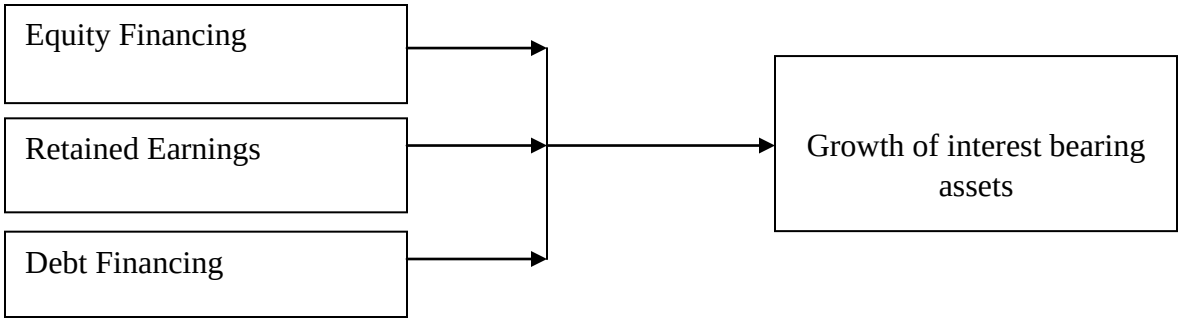
in the study of Impact of retained earnings on Stock returns of food and Personal Care Good Industry listed in Karachi Stock Exchange found a moderate positive and significant relationship between retained earnings and stock prices.

Equity Financing

Shubita and Alsawalhah (2012) concluded in their study that firms that depend heavily on equity as their main source of funding are highly profitable. They also indicate that increase in debt position is associated with a decrease in profitability. Abubakar (2015) on examining the relationship between financial leverage and financial performance of deposit money banks in Nigeria reported that Banks in Nigeria used less equity in their capital structure composition and therefore the Nigerian deposit money banks are generated very low return on equity for their shareholders. From Abubakar's study it is clear that there is a positive relationship between the equity ratio and performance of a firm. Velnampy and Niresh (2012) in their study found a negative relationship between debt to equity ratio and profitability. This indicates highly geared banks are likely to make low profits compared to highly equity funded banks since their interest expenses are minimal.

Berger and Bonaccorsi di Patti (2006) in their study found out that highly geared firms are more efficient and profitable since the agency costs associated with equity funding are reduced. Thus their findings were consistent with the agency theory on examining commercial banks in the US. Mwenje (2016) studied and reported that private equity highly contributes to enhancement of the value of a firm. This is so due to the improvement of functional and operational structures giving maximum value to the private equity owners. Private equity owners also provide valuable experience in streamlining the operations of the firm and also aiding in strategic decision making. Therefore Mwenje concluded that there is a positive relationship between amount of private equity and performance of the firm.

CONCEPTUAL FRAMEWORK



Independent Variable *Dependent variable*

Figure 1: Conceptual Framework

Equity Financing

This refers to raising capital to support a firm's operations through sale of shares/stocks or interests of the firm to interested parties. Any form of sale of ownership interests either to family or friends and even public floating of shares on the securities exchanges in form of initial public offers are forms of raising equity financing. On sale of the shares the parties that subscribe to such shares are referred to as shareholders and are entitled to dividend payouts from the firm for which they hold shares.

Retained Earnings

This is the portion of income earned by a company but not distributed to the shareholders as dividends. It is ploughed back to support the operations of the firm and forms part of the capital.

Debt Financing

This is a form of financing which involves borrowing funds without giving up ownership of the company with a promise to repay the borrowed amount plus some interest periodically. Debt financing comes with several covenants and restrictions that help safeguard the interest of debt owners.

Growth of Interest Bearing Assets

This refers to the increase of the items of the balance sheet that earn interest income for the firm. This can be determined through comparative analysis of the levels of such assets for different financial periods.

RESEARCH METHODOLOGY

Research Design

Descriptive design was used for this study since it was the most appropriate method due to the fact that it allows observing and describing the behaviour of a subject without influencing it in any way. In this research, descriptive research was used to determine the statistical association between the capital structure and the growth of investment in interest bearing assets by the commercial banks in Kenya.

Population

The population of a research applies to the collection of all possible individuals, objects or measurements of interest (Mason, et al. 1999). For the purpose of this research, the study population comprised of all the licensed six tier I commercial banks, fifteen tier II commercial banks and Twenty two tier III commercial banks in Kenya (appendix I) which existed during our period of study. Therefore, a census of all the commercial banks categories was considered. The justification for this population was based on the fact that even though the banks may be operating within the same industry conditions, their investment style and capital structure may

differ. The information was readily accessible since it's a regulatory requirement for quarterly publication of financial statements by all commercial banks in Kenya.

Data Collection

The study employed the use of secondary data. The data was collected from the Central Bank of Kenya, published financial statement (including balance sheets and income statements) of banks and Banking Survey from 2010-2014. The banking Survey is an annual publication that publishes annual financial statement of all banks in Kenya while the Central Bank of Kenya publishes and analyzes financial institutions performance data annually. The study covered five years period from the years 2010 to 2014.

Data Validity and Reliability

To ensure validity and reliability of the data collected, only published data in the form of financial statements which is a requirement by law was used. The board of directors of each bank before publishing of any information, they have to attest to the validity and reliability and ensure that the statements show a true and fair view of the bank's financial position. The CBK supervisory reports were also used and since they are published by the regulator, the correctness of the data was assured.

Data Analysis

The data was collected and analyzed using the computer software known as Statistical Package for Service Solution (SPSS) version 20.0. Descriptive, correlations and regression analysis was applied to the study and compared to the effect of independent variables on the dependent variable. The dependent variable was represented by the Growth of investments in interest bearing assets by commercial banks Kenya which was denoted by yearly percentage change to determine the growth rate of investments in interest bearing assets. On the other hand, in order to obtain the independent variable which was represented by the Capital Structure; it was evaluated using the following variables of financing: debt financing, retained earnings and equity financing which were represented by debt ratio, retained earnings to total assets ratio and equity ratio respectively. The two tailed t-test was used since the sample size was greater than 30 with a 5% statistic test of significance. The nature of the relationship between the two variables was defined by the computing correlation coefficient (r) and coefficient of determination (r2). The study hypothesis was that Capital Structure had a positive relationship to the growth of investment in interest bearing assets by the commercial banks in Kenya.

$$\text{Growth of Investment in Interest Bearing Assets (Y)} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where;

Y–denotes the dependent variable (Growth of Investment in Interest Bearing Assets) measured as the total investment in interest bearing assets in the current year minus total

investment in interest bearing assets in previous year divided by total investment in interest bearing assets in the previous year.

α - is the value of the intercept.

β - is the coefficient of the explanatory X variable.

e - is the error term assumed to have zero mean and independent across time period.

X_1 - Equity financing

X_2 - Retained earnings

X_3 – Debt financing

RESEARCH RESULTS

Descriptive Analysis

Table 1 reports the mean scores of growth in interest bearing assets and capital structure variables from 2011 to 2014. The mean score of the change in interest bearing assets for the whole sector stood at 38.48% in 2011 but declined to 20.64% in 2014 showing a decrease of 17.84%. Despite the decrease in the rate of growth of the interest bearing assets of the commercial banks of Kenya during the period 2011 to 2014, commercial banks in Kenya continued to record improved performance and profitability. This assured the country of continued growth and stability of the financial sector as it plays a very vital role of financial intermediation.

Table 1: Combined yearly mean scores of interest bearing assets and capital structure factors

Year	Change in interest bearing asset	Equity ratio	Retained earnings total assets ratio	Debt ratio
2011	38.48%	11.47%	4.21%	9.00%
2012	14.20%	11.52%	4.52%	8.19%
2013	32.93%	10.30%	4.96%	8.61%
2014	20.64%	10.02%	5.07%	9.12%

The equity ratio remained high at 11.5% for years 2011 and 2012 but declined in 2013 and 2014 closing at 10.02%. This meant that the commercial banks main assets which comprised of interest bearing assets grew at a faster rate than the fresh equity injected to the banks. During the period interest bearing assets averaged above 85% of the total assets thereby qualifying to be regarded as the main business for the commercial Banks. The retained earnings total assets ratio showed a consistent increase on yearly basis from 4.21% to 5.07% for years 2011 to 2014 respectively. This was supported by the continued performance by commercial banks in Kenya over the years which translated to increased retained profits which were reinvested back as interest earning assets to enhance incomes and profitability levels. Further, the debt ratio fluctuated between 8.19% and 9.12% over the review period indicating that commercial banks in

Kenya relied on some level of debt to finance their interest earning assets. Despite their interest expense or finance costs associated with debt, their usage was supported by higher returns generated by the interest earning assets as compared to their associated costs.

Tables 2: Tiered Mean Scores of interest bearing assets and capital structure factors between 2010 to 2014

Tier I banks			
	Mean	Std. Deviation	N
Growth in interest bearing assets	18.39	14.300	25
Equity ratio	5.90	2.901	25
Retained earnings total assets ratio	9.08	2.997	25
Debt ratio	11.24	7.794	25
Tier II banks			
	Mean	Std. Deviation	N
Growth in interest bearing assets	27.14	19.843	60
Equity ratio	7.66	4.681	60
Retained earnings total assets ratio	6.18	5.095	60
Debt ratio	10.77	8.503	60
Tier III banks			
	Mean	Std. Deviation	N
Growth in interest bearing assets	28.53	33.067	88
Equity ratio	14.30	14.683	88
Retained earnings total assets ratio	2.50	8.213	88
Debt ratio	6.62	8.829	88

The mean ratio of growth in interest bearing assets showed that tier I banks had the lowest growth rate of 18.39% compared to 27.14% for tier II and 28.53% for tier III banks. Under all the tiers of the commercial Banks, high values of standard deviation was evident indicating that their data points were spread out over a range of values from the mean. This could be explained by the fact that different banks had significant different strategies for investing in different interest earning assets so as to maximize their returns.

The tier I banks have been controlling about 50% of the aggregate interest bearing assets out of all the commercial banks over the period analyzed. This translated to higher level of profitability of about 63% of the total profit after tax reported over the period. These tier I banks heavily relies on debt financing with a mean of 11.24% followed by retained earnings with a mean of 9.08% and finally equity financing with a mean of 5.90%. This is explained by their high credit capacity supported by their high risk rating making it easier to borrow at reasonable terms and conditions.

The tier II banks also controlled about 40% of the aggregate interest bearing assets out of all the commercial banks over the period analyzed. This translated to profitability level of about 32% of

the total profit after tax reported over the period. The tier II banks also significantly employed use of debt financing with a mean of 10.77% followed by equity financing with a mean of 7.66% and finally retained earnings with a mean of 6.18%. These banks are medium rated but the terms of borrowing are restricted and the conditions more stringent compared to tier I banks. Capital injection by the shareholders is also relied upon as a source of capital as well as retained profits from the business yearly profitability.

The tier III banks only controlled about 10% of the aggregate interest bearing assets out of all the commercial banks over the period analyzed. This translated to profitability level of about 5% of the total profit after tax reported over the period. The tier III banks majorly employ the use of equity financing with a mean of 14.3% followed by debt financing with a mean of 6.62% and finally retained earnings with a mean of 2.5%. These banks having a small balance sheet value they usually have a low credit rating and therefore for them to get financing through debt its associated with very strict borrowing terms and more stringent conditions. Capital injection by the shareholders is highly relied upon as a source of capital as well as retained profits which is usually very low but it slowly supports the level of the capital by the tier III banks if no dividend is declared to the shareholders.

Correlation Analysis of interest bearing assets and capital structure of the Commercial Banks

Results indicate that the correlations between growth in interest bearing assets and capital structure factors of commercial banks, while holding the correlation coefficient (r) value at between plus and minus one (-1.00 and +1.0). The study used the significance level of alpha = .05 (95%), Degrees of freedom (df) of 3, and two-tailed test. From the correlation analysis for Tier I Banks, there is a weak positive linear relationship between the growth of interest bearing assets and debt financing. Moreover there is a moderate positive linear relationship between the growth of interest bearing assets and equity financing and a strong positive linear relationship between the growth of interest bearing assets and retained earnings.

From the correlation analysis for Tier II Banks, there is a weak positive linear relationship between the growth of interest bearing assets and debt financing. Moreover there is a moderate positive linear relationship between the growth of interest bearing assets and equity financing and a strong positive linear relationship between the growth of interest bearing assets and retained earnings.

From the correlation analysis for Tier III Banks, there is a strong positive linear relationship between the growth of interest bearing assets and debt financing. The relationship between growth in interest bearing assets and both equity financing and retained earnings is not as strong as debt financing.

Regression of Interest bearing Assets and Capital Structure

The R2 is a measure of the goodness of fit of the capital structure factors variables in explaining the variations in growth in interest bearing assets. Based on the study, tier I and tier II banks recorded correlation coefficient (r) of 0.728 and 0.759 respectively with the coefficient of determinations (r2) of 0.529 and 0.576. This indicated that 52.9% and 57.6% of the interest bearing assets for tier I and tier II commercial banks can be predicted by the capital structure factors identified in the study. Since the correlation of 0.728 and 0.759 are positive it can be concluded that even though the correlation are statistically moderate, it influences the relationship between growth in interest bearing assets and capital structure factors of commercial banks. This is due to the fact that growth in interest bearing assets cannot only be influenced by the capital factors but also by other sources of funding in commercial banks such as customer deposits which is highly available for both tier I and tier II banks and dependable for the growth of interest bearing assets.

Separately, Tier III commercial banks recorded correlation coefficient (r) of 0.831 and coefficient of determinations (r2) of 0.691 indicating that 83.1% of their growth in interest bearing assets can be predicted by the capital structure factors. The correlation is strong and it means that it influences the relationship between growth in interest bearing assets and capital structure factors for the tier III banks. This is due to the fact that growth in interest bearing assets for tier III banks is highly supported by capital structure factors especially shareholders equity since the other sources of funding such as customer deposits are limited due to low confidence by deposit holders to keep their deposits with small banks and usually assumed as unstable banks mostly classified under tier III banks.

From the model summary the Adjusted R square of 0.441 means independent variables have a positive weak relationship with the dependent variable and can therefore positively with a weak magnitude predict the dependent variable. The Tier I banks ANOVA table shows that the F value of 6.002 is not significant at 5% level since it is below 0.05. The F statistic produced is not significant and this implies that the model for predicting the dependent variable is significant. Therefore the growth in interest bearing assets can be significantly be predicted by the capital structure components. The Tier II banks ANOVA table shows that the F value of 6.002 is not significant at 5% level since the significance is below 0.05. The F statistic produced is not significant and this implies that the model for predicting the dependent variable is significant. Therefore the growth in interest bearing assets can be significantly be predicted by the capital structure components.

From the model summary the Adjusted R square of 0.675 means independent variables have a high positive relationship with the dependent variable and can therefore positively with a larger magnitude compared to Tier I and II banks predict the dependent variable. The Tier III banks ANOVA table shows that the F value of 41.757 is not significant at 5% level since the significance is below 0.05. The F statistic produced is not significant and this implies that the

model for predicting the dependent variable is significant. Therefore the growth in interest bearing assets can be significantly be predicted by the capital structure components. The Tier I Coefficient table tabulates the outcome that the three independent variables do not influence the dependent variable at the same magnitude. The variable with the highest impact is the retained earnings (beta=0.454, t=1.619). Thus with a positive beta, the equity ratio should be adjusted positively to increase the growth of interest bearing assets. The Tier II Coefficient table tabulates the outcome that the three independent variables do not influence the dependent variable at the same magnitude. The variable with the highest impact is the Retained earnings (beta=-0.394, t=3.539). The Tier III Coefficient table tabulates the outcome that the three independent variables do not influence the dependent variable at the same magnitude. The variable with the highest impact is the Debt Financing (beta=0.623, t=3.445).

CONCLUSIONS

The main objective of this study was to determinate and evaluate the effects of capital structure on the growth of interest bearing assets of commercial banks in Kenya. Data from 2010 to 2014 of 43 commercial banks was analyzed using multiple linear regressions method. From the discussion of the findings above, it was concluded that the capital structure factors were significant in influencing the growth of interest bearing assets of commercial banks in Kenya. The analysis showed that all the capital structure factors had some level of statistical significance on the growth of interest bearing assets.

The tier I banks recorded moderate correlation values indicating that capital structure factors were important factors in influencing the growth of interest bearing assets of commercial banks in Kenya. Further, the ANOVA analysis concluded that capital structure variables could significantly predict the growth of interest bearing assets. Therefore the growth of interest bearing assets of tier I commercial banks in Kenya was moderately influenced capital structure but also by other sources of funds i.e. customer deposits which is majorly relied upon by commercial banks to support their investment plans. Based on impressive performance recorded by tier I banks over the years where they attained 63% of the total profitability levels over the years, it means that these banks enjoyed economies of scale through employing use of third party funds (i.e. borrowed funds and customer deposits) to grow their interest bearing assets.

Tier II banks also did record moderate correlation values indicating that capital structure factors were relevant in influencing the growth of interest bearing assets of commercial banks in Kenya to a certain extend. The ANOVA analysis also concluded that capital structure variables could significantly predict the growth of interest bearing assets either. Just as tier I banks, tier II banks relied on third party funds (i.e. borrowed funds and customer deposits) to grow their interest bearing assets.

Finally, tier III banks had a strong correlation meaning that it influenced the relationship between growth in interest bearing assets and capital structure factors for the tier III banks. The ANOVA

analysis also concluded that capital structure variables could significantly predict the growth of interest bearing assets model. This confirms the underlying fact that growth in interest bearing assets for tier III banks is highly supported by capital structure factors especially debt since the other sources of funding such as customer deposits are hard to be obtained. However the performance of these institutions can be improved more if customer deposits and debt financing is employed more compared to equity financing which is usually considered more expensive as a source of capital.

RECOMMENDATIONS

On the basis of the findings of the study, the researcher recommends that growth of interest bearing assets can be improved by increasing the level of retained for tier I and II banks while for tier III banks the growth of interest bearing assets can be increased by use of more debt. Thus it can be concluded that the growth of interest bearing assets amongst commercial banks in Kenya is significantly determined by the level of utilization of the different components of the capital structure.

Commercial banks should endeavor to expand their investment in interest bearing assets through debt financing since it provides a hedge compared to the other sources of capital. Also the other major source of funds to banks is customer deposits which provide liquidity for investing in these interest bearing assets thus maximizing on their returns.

Finally banks should focus on improving their investment in interest bearing assets levels in order to improve their financial performance. This will enable the banks, take full advantage of business opportunities as well as diversifying of their portfolio to variety of investments, thereby leveraging on the risk minimization and returns maximization in their activities.

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