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Studying the Effect of Financial Leverage on Financial Performance: A Case Study of Listed Commercial Banks at the Nairobi Securities Exchange Market

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Abstract

Commercial banks listed at the NSE are important to the growth of Kenyan economy but currently facing loaning and unprecedented customers' withdrawal challenges, which has seen commercial banks such as Chase Bank placed under receivership. The objective of this study was to examine the effect of financial leverage on financial performance of commercial banks listed at the NSE, using a five-year data 2012-16. Data for the selected commercial banks were generated and analysed using a linear regression technique. The outcome of the study reveals that commercial banks' debt ratio has significant effect on their financial performance (i.e. return on assets, ROA). The result of the findings depicts concurs with studies by Njeri and Kagiri (2013), Gweyi, Minoo and Luyali (2013), and Abubakar (2015) but discredits the findings made by Hasanzadeh et al (2015) and Modigliani Miller (M.M) theory. The study recommends that commercial banks should utilise debt financing to improve return of assets or profitability.

Keywords: *NSE, CBK, financial leverage, financial performance, commercial banks*

Introduction

A number of predictors, and one of the most crucial one being the composition of its capital structure influence financial performance of a company. Capital structure forms one of the fundamental decisions that firms make to identify their optimum capital structure (Myers & Brealey, 2002). It comprises of long-term debt, retained earnings, common equity, and short-term debt, which are important in financing the overall operations as well as the growth of a firm. Capital structure mainly merges long-term debt and equity but hardly factors in the element of short-term debt.

A firm can choose to finance its investment by adopting debt or equity or using a combination of both equity and debt. Financial gearing or leverage involves the utilisation of fixed-charged funds, including owner's equity, preference share capital, and debts (Pandey, 2010). Levered firm is one that is composed of debt and ownership equity while an unlevered company constitutes an all-equity company. Financial leverage assumes the characteristic of a loan or some form of debt (borrowing), whose proceeds are reinvested with the objective of earning higher rate of return compared to the interest charge. If a company's marginal rate of return on asset (ROA) is greater than the rate of interest charged on a loan, then the investments' overall rate of return on equity (ROE) will be greater than if it never borrowed. On the other hand, if a company's return on assets (ROA) is smaller than the rate of interest, then its return on equity (ROE) will be smaller than if it never borrowed (Sivathaasan, Ali, Liu & Haung, 2016). Leverage creates a higher potential returns to investors, but it can create bigger loss in the case of undertaking a worthless project since the principal amount plus the cost of interest will still have to be repaid. Such a loss scenario creates financial risk to the business.

The magnitude of financial risk is associated with a company's financial structure, which is the composition of long and short-term liabilities, preferred stock, and common equity. Financial structure refers to the way in which a company finances its assets (Abubakar, 2015). A firm's capital structure is found by subtracting short-term liabilities of a firm from its financial structure. Hence, a firm's long-term or permanent financing comprising long-term debt, preferred stock, and common equity are referred to as its capital structure.

Firms that are highly levered or geared are supposed to disclose more information than the low-levered ones. The information disclosure can assist in lowering creditors' monitoring costs. The disclosure of information is important to creditors since it enables them know how to control their risks (Cekrezi, 2013). Owners of businesses would like to see their wealth maximised as they strive to enhance the performance of their companies. Although leverage increases a firm's debt level, it enhances the business turnover and profitability and returns to the owners of the business (Khan & Syed, 2013). Nonetheless, an increment in the rate of interest discourages borrowing since the cost of repaying debts become expensive to the borrowers. Consequently, higher rates of interests increase the cost of business operations and thereby eating into profitability as the amount of interest expands. The higher rates of interest eventually lower the returns for the business owners.

Statement of the Problem

A recent credit survey report conducted by the Central Bank of Kenya (CBK, 2017) revealed that commercial banks in Kenya are facing some liquidity problems and some of them, including Chase Bank and National Bank Kenya (NBK) among others are not capable of meeting their customers' demand for loans as well as withdrawals. Chase Bank has since then been placed on receivership while National Bank of Kenya (NBK) is currently undergoing restructuring programme. Barclays Bank of Kenya (BBK) is also divesting from Africa by restructuring its business operations in Kenya.

Owing to the prevailing situation at the commercial banks in Kenya, customers despite their perceived loyalty are becoming much worried about the future of some of these banks. If such a situation is not promptly corrected, Kenyans may witness a dwindling performance of commercial banks, which will be a massive loss for the country. Hence, it is imperative to understand the impact of debt (financial leverage) on the financial performance of commercial banks in Kenya.

Objective of the Study

The main aim of this study was to examine the effect of financial leverage on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE).

The specific objective of this study was to examine effect of debt ratio on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE).

Research Hypothesis

The study sought to address the following null hypothesis (Ho) that:

Debt ratio has a negative influence on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE).

Justification of the Study

The study of financial leverage and financial performance is crucial for both managers as well as researchers. The main issues finance managers face is not only on obtaining funds but also on the meaningful use of funds to generate maximum returns for their companies. Sources of financing for most businesses are nearly the same, but it is worrying that some companies succeed while others fail even before their fifth birthday. It implies that something is beyond firm's financial success on top of marvellous idea as well as good geographical coverage. Hence, puzzle renders it more attractive for this study to explore influence of financial leverage on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE).

Theoretical basis of research:

Predictors of Financial Leverage

Three key factors, including growth, firm size, and tangibility influences a firm's financial leverage. Growth is taken to be yearly percentage growth of a company's total assets in two consecutive years divided by the asset value of the preceding year (Abdul & Adelabu, 2015). An expansion in the growth is an indicator of a company's financial strength and can lead to escalating demands for raising equity

capital from various external sources. Companies with higher growth rate may need to raise more capital funding to finance their anticipated capital expenditure.

The other indicator of financial leverage is firm size. Big sized firms tend to have substantial business diversification compared to the smaller ones, in terms of their credit ratings, low bankruptcy risk, and constant cash flow (Akdal, 2011). Large firms also tend to benefit from reduced transaction costs of providing long-term debt at some favourable interest rates because it is easier for them to secure funds from creditors.

Tangibility is another crucial component in determining financial leverage. Firms with more tangible assets tend to have higher leverage ratio compared to the ones with less tangible assets. Such companies can easily collateralise their tangible assets to raise more funds as they are often identified with less risk of bankruptcy (Alkhatib, 2012). Nonetheless, it is hard for firms with fewer tangible assets to collateralise and raise additional capital to finance their businesses. They can hardly diversify their investments since they usually identified with more risks, which eventually increase the risk of bankruptcy.

Measures of Financial Leverage

Measurements of a firm's financial leverage comprise debt ratio (DR), debt-to-equity ratio, and interest coverage ratio. Debt ratio (DR) provides a measure the sum of borrowing secured from creditors in relation to a firm's total assets (Pandey, 2010). As a proxy to a firm's leverage, it is determined by total debts to total assets (i.e. DR = Total Debt/ Total Assets).

Debt to equity ratio refers to a financial ratio that indicates the relative percentage of equity and debt utilised in financing a firm's assets, which is a determinant of financial leverage. Debt to equity ratio can also be defined as the measure of the percentage of debt to shareholders funds (net worth) composition in the total amount utilised in financing operations of a business (Myers & Brealey, 2002). In the Kenyan context, this can be interpreted to mean the sum of Kenya shillings raised in the form of debt (borrowing) as per Kenya Shillings of equity. Since debt-equity ratio affects shareholder dividends as well as risk, it influences the debt ratio as well as the firm's market value.

Interest coverage ratio is also another measure of a firm's financial leverage, which is commonly referred to as coverage ratio. It shows a firm's capacity to meet is fixed financial charges. The ratio recognises that most firms lease assets and carry long-term obligations within the lease agreements for lease premium payments (Adesina, Nwidobie & Adesina, 2015). It can also be interpreted as the indicator of net operating income or earnings before interest and taxes (EBIT) to interest charges. Notably, most investors are aware of a firm's financial risk since they compare coverage ratios of similar companies with accepted industry standards.

Financial Performance

Performance can be understood as a firm's ability to acquire and manage resources in different ways to create competitive edge. Financial performance is based on variables directly linked to financial reports (Kumar & Yadav, 2013). Measures of financial performance such as returns on sales shows how much a business earns in relation to sales made, return on assets depicts ability of a company to utilise its assets, and return on equity demonstrates what return investors receive for the investments they make. A firm's financial performance can be examined in four different dimensions, including profitability, firm size, liquidity, and efficiency.

Profitability

Profit is the primary goal of a firm, including commercial banks. Strategies developed as well as activities executed are mean to fulfil the key objective of the business. They help in achieving the mission statement and goals. Leverage degrees can affect profitability because it influences the Weighted Average Debt ratio (WACC) (Pandey, 2010). Notably, profitable firms are in a position to provide credit (debt) at low interest rates because creditors see them as less risky and tend to advance them credit at correspondingly low rates of interest, which they pass onto their customers (Mireku, Mensah & Ogoe, 2014). Profitability ratios comprise return on equity (ROE), return on assets (ROA), return on capital employed (ROCE), and earnings per share (EPS).

Return on capital employed (ROCE) shows how much profit a business earned compared to the amount of capital it invested or recorded in its statement of financial position. It depicts the return per shilling of capital utilised in the business (Alisinaei & Habibi, 2012). A firm with great returns on capital employed is one that may be in a good position to generate cash internally. Hence, a higher return on capital employed in good for a firm regarding profit generation.

Firm Size

All businesses intend to grow and expand in size. The reason for this is that company's growth acts as a motivation to stakeholders such as investors, suppliers, employees, government, and the whole society. When companies expand, evidence shows that the management and board of directors utilise opportunities and organisational resources to the benefit of the firm (Githaiga & Kabiru, 2015). Size is regarded as proxy utilising the natural logarithm of a company's total assets.

Liquidity

Liquidity is regarded as a firm's ability to meet is current liabilities whenever they fall due. Extra amounts of current assets a company owns is more likely to promote chances of internal funding, and thus leading to an association between liquidity and leverage (Hasanzadeh, Torabynia, Esgandari, & Kordbacheh, 2013). Liquidity encompasses planning as well as controlling current assets plus current

liabilities in a way that mitigates the risk of incapability of meeting short-term obligations and deterring investment in such assets. Moreover, sufficient liquidity affects the financial strength of a company.

In the banking sector, liquidity is viewed as a measure of financial performance. The reasons supporting this claim is founded on the facts that liquidity is part of meeting regulatory requirement, which is a way of gauging financial performance of commercial banks. Liquidity is also critical in meeting the unprecedented demands of customers' withdrawals, which implies that firms that are performing well financially have adequate funding to meet contingency withdrawals (Chesang & Ayuma, 2016). Sufficient current assets are crucial for meeting daily operations of businesses. Nonetheless, firms with only few current assets may fall into shortages and find it hard to maintain their operations. In this assessment, liquidity has been measured by current ratio.

A firm's current ratio is calculated by dividing its current assets by its current liabilities. It depicts how many times the current assets of a company can cater for its short-term obligations (Myers & Brealey, 2002). Hence, a firm with higher current assets than current liabilities is deemed necessary.

Efficiency

A firm's efficiency constitutes one of the major factors that predict the performance, for example, the performance of commercial banks. Efficiency is taken as the capability of management to utilise its resource efficiently, while maximising its revenue and reducing operational costs at the same time (Hasanzadeh, Torabynia, Esgandari, & Kordbacheh, 2013). A company's efficiency is usually expressed quantitatively by subjective assessment of management systems, quality of staff, control systems, and organisational discipline among others. Asset turnover ratio is one of the ratios that can be used in measuring the level of efficiency. Earnings growth rate, loan growth rate, and total asset growth rate can also be used to measure the level of efficiency.

Asset turnover ratio shows the amount of revenue earned from the total assets utilised. It indicates the amount of money generated from a firm's investment of assets (Pandey, 2010). Organisations with higher asset turnover ratio are deemed efficient and more desirable than those with low asset turnover ratio.

Theoretical Foundation

The current study was founded on three theories, including trade-off theory, irrelevancy theory, and pecking order theory. The rationale for the choice of trade-off theory was that it postulates that a company's optimal debt ratio is influenced by trade-off between benefits and costs of borrowing (debt) (Sivathaasan, Ali, Liu, & Haung, 2016). The study aimed to establish the effects of financial leverage on commercial banks' financial performance whether positive (advantages/benefits), negative (costs involved) or neutral. Irrelevancy theory as well as pecking order theory was also deemed appropriate for guiding this study.

The trade-off theory of capital structure posits that a firm chooses how much debt versus equity to utilise in the business by balancing the benefits and costs. A company's optimal debt ratio is ascertained by a trade-off between tax benefit of borrowing and the cost of bankruptcy. Mathematically, it is attained at the point where marginal present value of the tax on a certain amount of additional debt is the same as the increment in the current value of the cost of financial distress (Myers & Brealey, 2002). Financial distress includes bankruptcy costs, agency or re-organisation costs that occur when a company has a low rating score on creditworthiness.

Trade-off theory emphasise that a company will borrow up to the level where the marginal value of tax shields on extra debt is offset by mere increment in the present value of potential financial distress cost (Sivathaasan, Ali, Liu, & Haung, 2016). The value of the company will tend to decrease owing to the financial distress. The theory also weighs the advantages of debt that accrue from shielding cash flows from taxes against the financial distress costs linked to leverage.

The pecking order theory asserts that financing can be derived from three main sources, comprising internal fund, debt financing, and external equity sources. Debt financing is deemed more expensive than internal funding. The theory recommends that firms would rather have their source of financing internally instead of relying on debt and external equity that are more expensive (Pandey, 2010). Nonetheless, it emphasises that the standard pecking order forms a special case of adverse choice. In the presence of adverse choice regarding firm value, companies prefer issuing debt to outside equity, which is perceived to be the most expensive. The theory supports the popularity of the use of internal financing than external financing and the reason for preferring the option of debt financing. Debt finance is perceived attractive, less expensive, profitable, and more flexible.

The pecking order theory records that financial-oriented firms would not tend to ignore debt financing for their initial investments since they have substantial amount of internal funds. Contrary to trade-off theory, which asserts that financially stable firms would prefer to utilise debt financing with the aim of attracting tax shield advantage present on borrowed funds. Statistical evidence by trade-off theory proves that a direct correlation exists between leverage and profitability while pecking order theory provides an inverse-relationship between the variables (Myers & Brealey, 2002). The statistic of trade-off theory states that large-sized firms highly prefer debt financing owing to a smaller probability of bankruptcy because of their diversification tendency.

Rodrigo (2015) asserts that the Modigliani and Miller capital structure of a firm is currently irrelevant to a company's present investment as well as its financing decisions. The theory is founded on the assumption that markets exhibit efficiency characteristic and investors do not bear transaction costs nor they do pay taxes while purchasing and selling securities. It also assumes that information asymmetries do not prevail between managers and shareholders.

A firm's capital structure comprises a mix of equity and debt that it utilises in financing its investments. The aim of a company is to determine the level of financial leverage that minimises the value of weighted average debt ratio (WACC) to maximise its value (Pandey, 2010). When a company utilises cheaper debt, it is more likely that the level of debt will rise, and security holders will require greater dividend to compensate the high level of risk envisioned in their investments.

Modigliani and Miller posit that the market value of a company is predicted by its ability to generate revenue and the level of risk within its assets. Hence, the weighted average debt ratio (WACC) ought to be constant (Myers & Brealey, 2002). The theorists also emphasised that the value of a firm is not influenced by capital structure but by the ability of its assets to generate revenue. The assumptions made by the two theorists never hold in the present because perfect markets never exist.

Research Background

According to Hasanzadeh et al (2015), financial leverage never influences future stock value of the firm. The outcome showed non-response of capital market against nature of a firm's leverage. The lack of association between a firm's leverage and its value supports Miller and Modigliani (M.M) theory as well as net operational income (NOI).

A study conducted by Abubakar (2015) established that more than 80% of total assets of money deposited in Nigerian banks were being financed by debts. The finding confirmed that banks constitute institutions that are highly levered. The correlation analysis used in the study showed a significant association between debt-equity ratio and financial performance alternatively return on equity (ROE). The study did not find significant association between debt ratio and return on equity. Hence, it recommended for the adoption of debt-equity mix by banks if they were to enhance their financial performance and remain competitive in the industry.

Gweyi, Minoo and Luyali (2013) conducted a study on financial leverage and established statistical significant correlation between financial leverage and profitability. The results confirmed that firm size had significant association with financial leverage. Nonetheless, the study focused on Savings and Credit Co-operative Societies (SACCOs) in Kenya while the current study has been based on commercial banks listed at the Nairobi Securities Exchange (NSE).

A study by Njeri and Kagiri (2013) revealed a positively high debt co-efficient of 0.75, interest rate co-efficient of 0.78, and leverage risk co-efficient of 0.75, and debt-equity co-efficient of 0.79. The variables used in the assessment exhibited positively high co-efficient values, implying that they were all positively related. The study concluded that attributes of debt, interest rate, leverage risk, and debt-equity significantly influenced financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE).

Research methodology

The population, sample and sampling

The study used descriptive survey design. A descriptive survey design was utilised to gather information needed from the population targeted after which the data collected will be analyzed through quantitative methods to show the correlation between financial leverage and financial performance of NSE listed commercial banks. The target population comprised 43 commercial banks, but a simple random technique was used to sample 11 NSE listed commercial banks with complete and audited annual report for five years from 2012 to 2016.

Research tools

Data were collected by review of documents, the Nairobi Securities Exchange handbooks, annual reports of the companies, and published books of accounts. To measure financial leverage, debt ratio (i.e. total debts divided by total assets). The study used the debt ratio only to compute the financial leverage. In analysing the relationship between financial leverage and financial performance of listed commercial banks, the study utilised a simple linear regression technique to test the hypothesis that debt ratio does not affect financial performance.

$Y_{it} = \alpha + \beta X_{it} + \varepsilon$

Where: Y_{it} = financial performance of the NSE listed commercial banks, as measured by ROA

α: = a Constant that defines the financial performance without inclusion of independent variables i.e. the value of Y when the value of X is zero

X_{it} = financial leverage (total debts divided by total assets)

β= Coefficients of variable i which measures the extent to which the variation in Y is explained by the variations in X

ε = is the error term of the test equation

The Analysis of Data

The study used both descriptive statistics and inferential statistics, including mean, simple regression analysis, and analysis of variance (ANOVA).

Research Findings

The section presents study findings outcomes. The results have been generated by both descriptive statistics and inferential statistics. Table 1 presents the results of the descriptive statistics.

Table 1: Descriptive Statistics

	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Debt ratio	1.287	.022	.021
ROA	2.319	.042	.021

Source: Researcher's Computation using SPSS 20.0

Table 1 presents the mean value of the variables as 1.287 for debt ratio and 2.319 for financial performance. The table also presents a standard deviation of 0.021 for debt ratio and 0.021 for financial performance (ROA), implying some level of variations among listed commercial banks concerning the study variables.

Table 2: Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.486[a]	.775	.736	.028

Correlation co-efficient (R) reveals the relationship among the study variables, revealing a strong positive relationship of 0.486 among the study variables. The R-squared, also referred to as the co-efficient of determination, explains the variation in the dependent variables that the independent variables cause. R-squared is used to measure the performance of model regression against known observations, and thereby providing a high correlation of 83.2% between the debt ratio and financial performance (ROA).

Table 3: ANOVA

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.012	3	.002	.037	.001[b]
	Residual	.138	38	.007		
	Total	.151	41			

a. Dependent Variable: ROA

b. Predictors: (Constant), debt ratio

Source: Researcher's Computation using SPSS 20.0

The study used the probability value (p-value) of a statistical hypothesis test to analyse the test statistic value. The low F-value of 0.037 shows a low variability between the variables used in this study. It is also low enough to reject the null hypothesis that debt ratio has a negative influence on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE) at significance level of 5% (0.05). The findings of this study presented by the ANOVA table 3 also that debt ratio has a positive influence on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE) because the significance (p- value) of 0.01 that is less than 0.05.

Table 4: Regression Coefficients

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.(p-value)	Interpretation
	B	Std. Error	Beta			

(Constant)	0.012	.023		.037	.029	
Debt ratio	1.602	.031	.018	.022	.026	Significant

a. Dependent Variable: ROA

Level of Significance (α) = 0.05

Source: Researcher's Computation using SPSS 20.0

The study finding, with a constant of 0.012, showed that if the unit measure of debt ratio, then financial performance of commercial banks listed at NSE could be presented as 0.012. X= 1.602 shows a unit change in debt ratio leading to 1.602 units increase in financial performance. T-values presented in table 4 for debt ratio (0.022). The T-values are closer to zero (0), and thus providing strong evidence against the null hypothesis that there is no significant difference among the study variables. The t-values are low enough, in fact lower than the significance value (p-value) of 0.05 to support the rejection of the null hypothesis that debt ratio has a negative influence on financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE). The study finding confirms the study by Njeri and Kagiri (2013), Gweyi, Minoo and Luyali (2013), and Abubakar (2015) that debt ratio has a positive influence on financial performance. Besides, it supports trade-off theory that a direct correlation exists between leverage and profitability. Nonetheless, it discredits the findings made by Hasanzadeh et al (2015) and Modigliani Miller (M.M) theory.

Conclusion

The study examined the effect of Nairobi Securities Exchange (NSE) listed commercial banks' financial leverage on their financial performance using cost of debt and return on assets (ROA) as the proxies for this research. The result established a significant relationship between the variables at 95% confidence level. Based on this outcome, the study rejects the null hypothesis that the NSE listed commercial banks' financial leverage (debt ratio) has a negative influence on their financial performance (ROA).

Practical suggestions

The results have revealed that financial leverage affects the financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE). The study has specifically shown that cost of debt significantly influences return on assets (ROA). Hence, the study recommends the adoption of debt financing as it improves return on assets of profitability of commercial banks.

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