INTERNATIONAL JOURNAL OF SOCIAL Sciences and Information Technology
ISSN 2412-0294 www.ijssit.com
http://www.ijssit.com

EFFECT OF FINANCIAL LEVERAGE ON PERFORMANCE OF LISTED COMMERCIAL BANKS IN KENYA

[1*] **Julius Oketch**
Jomo Kenyatta University of Agriculture and Technology
juliusoketch@gmail.com

[2**] **Professor Gregory Namusonge**
Jomo Kenyatta University of Agriculture and Technology
gnamusonge@@jkuat.ac.ke

[3***] **Professor Maurice Sakwa**
Jomo Kenyatta University of Agriculture and Technology
mmsakwa@gmail.com

Abstract

Objective: *The main objective of this study was to examine the effect of financial leverage on Commercial bank Performance in Kenya using listed commercial banks in the Nairobi Securities exchange between the periods of 2010-2016.*

Significance: *This study will benefit; financial policy makers, creditors, risk managers in the Kenyan banking industry.*

Analytical Model used*: to remain consistent with previous studies, measures pertaining to i) Debt Ratio, Debt Equity Ratio, Interest Coverage Ratio, and Tobin's Q were taken from Kyereboah-Coleman model using the following equation;* $Q = \beta oi + \beta 1DRit + \beta 2DEit + \beta 3ICit + \beta 4LQit + \beta 5FSit + \beta 6CRit + \mu it$ *where Q = Performance ROE; DRit = is Debt Ratio (Independent Variable); Debt/Total Capital.; DEi,t = is Debt- Equity Ratio (Independent Variable) ;Debt/Equity; ICi,t = is Interest Coverage (Independent Variable) Earnings before interest and tax/interest; β4LQit= Liquidity current asset/current liabilities; β5FSit= firm size customer no/asset value; β6CRit= credit risk non-performing loans ratio; μi,t = the error term; Qi,t = performance i in time t.*

Findings: *Our results suggest that while size and liquidity are systematic in nature, market risk premium is emphasized by credit risk analysis which is a relevant factor in financial performance. The results confirm the notion of leverage premium have important implications for financials of commercial banks in Kenya.*

Keywords: *financial leverage, Nairobi Securities Exchange, financial performance*

I. INTRODUCTION

The Nairobi Securities Exchange formerly Nairobi Stock was constituted as a voluntary association of stock brokers under the society act. In 1990, a trading floor and secretariat was set up at the IPS building, before moving to the Nation Centre Nairobi in 1994. Over the past decade, the securities exchange has witnessed numerous changes, automating its trading in September 2006 and in 2007 making it possible for stockbrokers to trade remotely from their offices, doing away with the need for dealers to be physically present on the trading floor. Trading hours were also increased from two to six. Moving to Westland in the environs of Nairobi symbolically marked the end of an era where the market was owned and run by stockbrokers. Nairobi Securities Exchange together with Uganda securities exchange and Dar-es-laam stock exchange memorandum of understanding lead to formation of east Africa securities exchange in 2006. Automated trading system ATS was introduced in 2006 making significant steps in capital markets in providing liquidity and Investors at the Nairobi Securities Exchange (NSE) are set to trade in stock and index derivatives heralding a new dawn in Kenya's 60-year old bourse

Nairobi Securities Exchange aims at supporting trading clearing settlement of equities debt derivatives and other associated instruments. It is mandated to list companies on the securities exchange and enables investors to trade in securities of companies thus its charged with the health of Securities Exchange. It's regulated by Capital Markets Authority.

Financial institutions in Kenya have been on record posting billion of shillings in profit and this financial position has been on the rise yet non-financial companies which are listed in Nairobi Stock Exchange have not been performing well and some actually record huge losses this trend unfortunately persists. Business success depends heavily on the ability of financial managers to effectively manage the components of financial structure. Based on the above discussion one can assert that the momentous efforts to revive the ailing and liquidating companies have focused on financial restructuring. However managers and practitioners still lack adequate guidance for attaining optimal financing decisions (Kibet, Tenei & Mutwol,2011) yet many of the problems experienced by the companies put under statutory management were largely attributed to financing (Chebii, Kipchumba & Wasike, 2011). This situation has led to loss of investors' wealth and confidence in the stock market.

Studies on the relationship between various financing decisions and financial performance have produced mixed results hence determination of optimal capital structure is a difficult task that go beyond many theories though many researchers agree that the economic and institutional environment in which the firms operate significantly affect the capital structure of a firm (Owolabi & Inyang, 2013). From companies' annual reports from Nairobi Securities Exchange Handbook, (2014), it is evident that many companies quoted at NSE do not pay dividends consistently, and when they pay, the level of payout is very low contrary to shareholders' expectations. Further with corporate failures witnessed in Kenya like Uchumi Supermarkets and Kenya Cooperative Creameries, with some undergoing through receivership Maina Sakwa (2010), there was need and motivation to undertake this study.

Overview of Banking Industry in Kenya

The banking system is an important component to any financial market for their role in marshaling and allocating resources to investment projects with the greatest long term economic benefits (Muiruri, 2015). Moreover, it is widely accepted that the promotion of greater financial performance and economic stability requires a well organized banking system, defined by its supervisory practices, risk taking, and governance (Muiruri, 2015). Kenya's Vision 2030 is supported by three

pillars one being the economic pillar. The banking sector which falls under the economic pillar is identified as one of the six key sectors that are intended to move the economy up the value chain. The strategies taken by the banking industry should, therefore, be examined with the view of understanding the overal health of the financial system in Kenya (Muiruri, 2015). Kenya's financial system is currently constituted as follows; there is the Central Bank, commercial Banks, the non-bank financial Institutions, development finance companies funded mainly by the government and external development agencies, a National Social Security Fund, Insurance companies, Pension Funds and the Nairobi Securities Exchange (NSE).

According to Kenya Bankers Association, the formation of government owned banks had the effect of hastening the establishment of affordable banking services to the populace. Seven new African-owned banks and 33 non-bank financial institutions came up as rivals to Cooperative Bank, the only private indigenous bank (KBA, 2010). After 1978, a number of the institutions were closed after encountering liquidity troubles. The Central Bank at that time lacked adequate capacity to regulate the highly politicized sector. Twelve banks collapsed between 1984 and 1989. This made the government pass the Banking Act 1989, which tightened the requirement for the licensing of new financial institutions. This development led to an increase in the minimum capital requirement, with the deposit insurance made compulsory for all banks (CBK, 2013). Despite the new stringent regulations more banks would go under between 1993 and 1995. In 1998 Bullion Banks, Fortune Finance, Trust Banks, City finance, Reliance Bank and Prudential Banks were also affected. Some indigenous banks (Equity and Family) especially those that target low income earners and workers in the informal sector have become a success. The Equity has realized tremendous growth over the last five years and has expanded to East African region (CBK, 2013).

Financial Leverage and the Shareholders' Return

The primary objective of a company in using leverage is to magnify the shareholders' return under favourable economic conditions. The role of leverage in magnifying the return of the shareholders' is based on the assumptions that the fixed- charge sources of funds can be obtained at a cost lower than ROA or ROI. Thus, the variance between the earnings generated by the fixed-charge funds and costs of these funds is distributed to shareholders, the EPS or ROE increases or decreases depending on whether there is a surplus or deficit respectively.

Strategies differ from company to company but are always closely aligned to management's overall goals and objectives (Garrison et al., 2004). The marketing and research community has been measuring the wrong things (i.e., attitudes versus financial returns) and thinking about investments in the wrong context (communication channels versus customers). Strategies and investments are not about attitude, goals and communication channels; they are about meeting customer needs better while improving ROI (Hayman et al., 1999).

Financial leverage results from the difference between the rate of return the company earns on investment in its own asset and the rate of return the company must pay its creditors (Garrison et al., 2004). Considerable effort has been expended to explain the relationship between a firm's real asset risk and the riskiness of its equity. Theoretical and empirical justification exists for relating stock risk to leverage. Percival (1974) explores the fixed-variable cost relationship and the theory related to Degree of operating leverage, suggesting weaknesses in this measure. This paper is criticized by Gahlon (1981), who shows that, in general, a firm's systematic risk should increase with increases in its Degree of operating leverage. Using Rubinstein's analytical model as a basis, Lev (1974) provides empirical evidence that operating leverage is positively associated with market risk. Hamada

(1972) and Rubinstein (1973) demonstrate that a firm's beta should increase if the firm finances more heavily with debt.

However, the base of any business is a healthy appetite for risk, since returns higher than the risk-free interest rate can only be achieved through risk taking. This is why one of the greatest and most important challenges for corporate executives is to define the optimal risk level for their businesses. Currently, corporations are reasonably aware of the risks related to their specific business areas. However, the measurement, consolidation and aggregation of the risk exposure are seldom carried out in any systematic manner. Typically, each business unit deals only with its own risks based on a separate set of information; and retention varies quite a lot from one risk to another and one business to another. What is missing is a comprehensive understanding of how the various risks involved in separate business units affect the risk position at group level.

STATEMENT OF THE PROBLEM

The study aims to find out the effect of changes in Financial leverage on performance of listed commercial banks in Kenya It is apparent that most of the research studies in this area have been done in the developed markets with very little evidence for emerging markets particularly in Kenya. This paper therefore is the first step in trying to bridge the gap by investigating the effect of leverage on stock returns of companies listed at the Nairobi Securities Exchange.

SPECIFIC OBJECTIVE

1. To assess the effect of liquidity on listed commercial bank performance in Kenya.
2. To explore the effect of firm size on listed Commercial bank performance in Kenya.
3. To find out the effect of credit risk on listed commercial bank performance in Kenya.

II. LITERATURE REVIEW

Conceptual Framework

A conceptual framework is a research tool envisioned at assisting a researcher to develop awareness and understanding of the situation under enquiry and to communicate it. When clearly articulated, a conceptual framework has prospective usefulness as a tool to assist a researcher to make meaning of consequent findings. It forms part of the package for negotiation to be inspected, tested, reviewed, and reformed as a result of investigation and it explains the possible connections between the variables (Smith, 2004).

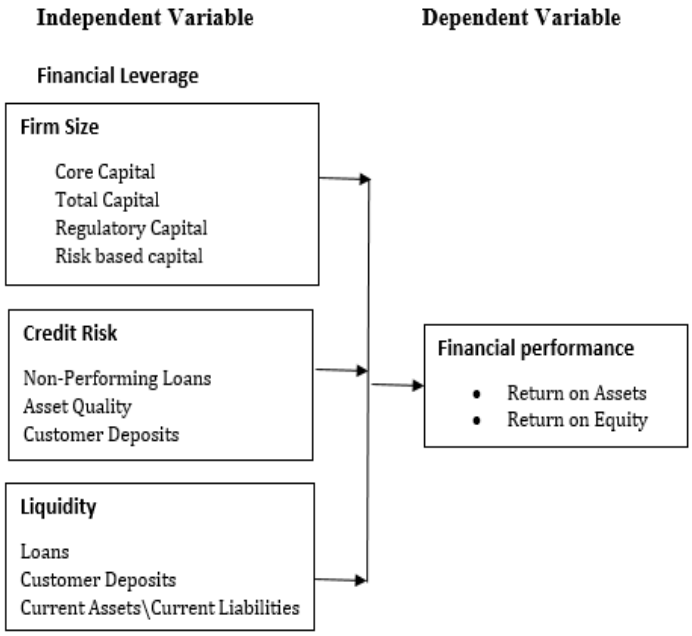

Figure 1: Conceptual Framework

EMPIRICAL REVIEW

The empirical literature on the relation between leverage and stock returns is extensive, but inconclusive. A large number of studies try different definitions of expected returns to see if there is any empirical relation between leverage and equity risk. For example, Arditti (1967) finds a negative but statistically insignificant association between leverage and equity returns, which are taken as the geometric mean of returns. Hall et al (1967) uses another definition. Returns are taken to

be profits after tax and the ratio of book value of equity to assets are used to measure leverage.

He finds that leverage has a negative relation with returns. Hamada (1972) defines returns as profits after taxes and interest which is the earnings the shareholders receive on their investments. He uses industry as a proxy for business risk. Bhandari (1988) gets inflation adjusted stock returns for all firms including financials. He uses the cross section of all firms without assuming different risk classes. He shows returns increase with leverage.

III. RESEARCH METHODOLOGY

The study adopted a descriptive survey research design. The population of the study will cover the all the commercial banks listed in Nairobi Securities Exchange between 2010 and 2016 This study will make use of secondary data which is obtainable from the NSE. The data used will be financial statements for the listed companies. These will include the Income statements and the Balance Sheets. The data will be used to compute the accounting ratios, which forms the basis of the study. The data will be analyzed using descriptive analysis, correlation analysis and regression analysis. To remain consistent with previous studies, measures pertaining to i) Debt Ratio, Debt Equity Ratio, Interest Coverage Ratio, and Tobin's Q were taken from Kyereboah-Coleman (2007) model.

Regression Equation:

$$\mathbf{Q} = \beta oi + \beta 1 DRit + \beta 2 DEit + \beta 3 ICit + \beta 4 LQit + \beta 5 FSit + \beta 6 CRit + \mu it$$

Where,

Q = Perfomance ROE

DRit = is Debt Ratio (Independent Variable); Debt/Total Capital.

DEi,t = is Debt- Equity Ratio (Independent Variable) ;Debt/Equity

ICi,t = is Interest Coverage (Independent Variable) Earnings before interest and tax/interest

β4LQit= Liquidity current asset/current liabilities

β5FSit= firm size customer no/asset value

β6CRit= credit risk non performing loans ratio

μi,t = the error term

Qi,t = performance i in time t

IV. RESEARCH FINDINGS AND DISCUSSION

Overall Performance

The table below shows the overall performance of banks listed in Nairobi Securities Exchange.

Table 1 Overall Performance, (Q)

Years	Mean Debt Ratio	Mean Debt Equity	Mean Interest coverage	Mean ROE Returns	Overall Performance (Q)
1	0.262091311	0.929558	0.860668	1.497	**0.887329328**
2	0.291657754	0.903583	0.848678	1.76018	**0.951025189**
3	0.285891203	0.850274	0.838838	1.72735	**0.925588801**
4	0.280096918	0.799496	0.797586	1.79033	**0.91687823**
5	0.25415055	0.8407	0.815116	2.16564	**1.018901388**
6	0.205638924	0.841671	0.78935	1.90738	**0.936010981**
7	0.199521077	0.841005	0.767426	1.93974	**0.936922019**
8	0.221812684	0.834693	0.724576	2.05384	**0.958731171**
9	0.233317505	0.839784	0.79895	2.32331	**1.048839376**
10	0.258080634	0.886812	0.833268	2.19315	**1.042827409**

Tests of Significance

Hypothesis testing on whether there is a significant relationship between the Financial Leverage and Bank Performance was done using MS Excel t test two sample means with unequal variances for each category and yielded the following results.

The tests were done at a 95% level of significance using the two tail test.

H_o: There is no significance between financial leverage and commercial bank performance.

H_A: There is a significant difference between the firm size and commercial bank performance.

ROE Test Statistic

t-Test: Two-Sample Assuming Unequal Variances

	Year 1-3	Year 3-7
Mean	0.274777547	0.223674165
Variance	0.000255791	0.000547226
Observations	5	5
Hypothesized Mean Difference	0	
Degree of freedom	7	
t Statistic	4.032479368	
P(T<=t) one-tail	0.002490057	
t Critical one-tail	1.894578604	
P(T<=t) two-tail	0.004980114	
t Critical two-tail	2.364624251	

The ROE test statistic computed was 4.0325 and fell in the critical region, implying that we reject the null hypothesis that there is no significant difference in debt level and bank return on equity and accept the alternative hypothesis.

Debt Ratio Test Statistic

t-Test: Two-Sample Assuming Unequal Variances

	Year 1-3	Year 3-7
Mean	0.8647222	0.848793
Variance	0.002688529	0.000459198
Observations	5	5
Hypothesized Mean Difference	0	
Degree of freedom	5	
t Statistic	0.634863596	
P(T<=t) one-tail	0.2767141	
t Critical one-tail	2.015048372	
P(T<=t) two-tail	0.5534282	
t Critical two-tail	2.570581835	

The computed Debt test statistic was 0.6349 and fell in the acceptance region defined by -2.5706 and 2.5706. Thus accept the null hypothesis that there is no significant difference in performance with changes in firm size.

Debt Equity Test Statistic

t-Test: Two-Sample Assuming Unequal Variances

	Year 1-3	Year 3-7
Mean	0.832177	0.782714
Variance	0.000654	0.001619275
Observations	5	5
Hypothesized Mean Difference	0	
Degree of freedom	7	
t Stat	2.31975	
P(T<=t) one-tail	0.026707	
t Critical one-tail	1.894579	
P(T<=t) two-tail	0.053414	
t Critical two-tail	2.364624	

The computed Leverage test statistic was 2.3198 and fell in the rejection region defined by – 2.3646 and 2.3646. Thus reject the null hypothesis that there is no significance relationship between performance and Liquidity hence we accept the alternative hypothesis.

Interest coverage Test Statistic

t-Test: Two-Sample Assuming Unequal Variances

	Year 1-3	Year 3-7
Mean	1.788101	2.0834836
Variance	0.057937	0.030523573
Observations	5	5
Hypothesized Mean Difference	0	
Degree of freedom	7	
t Statistic	-2.22072	
P(T<=t) one-tail	0.030906	
t Critical one-tail	1.894579	
P(T<=t) two-tail	0.061812	
t Critical two-tail	2.364624	

The interest coverage test statistic computed was – 2.2207 and fell in the rejection region defined by – 2.3646 and 2.3646. Thus reject the null hypothesis

that there is no significant difference in credit risk management and financial performance hence we accept the alternative hypothesis that credit risk management affects commercial bank financial performance.

Overall Performance Test Statistic (Q)

t-Test: Two-Sample Assuming Unequal Variances

		Year 1-3	Year 3-7
Mean		0.939944587	0.984666191
Variance		0.002465867	0.003205096
Observations		5	5
Hypothesized	Mean		
Difference		0	
Degree of freedom		8	
t Statistic		1.327926278	
P(T<=t) one-tail		0.110419532	
t Critical one-tail		1.859548033	
P(T<=t) two-tail		0.220839064	
t Critical two-tail		2.306004133	

The overall performance test statistic of -1.3279 lies in the acceptance region defined by -2.306 and 2.306. Thus accept the null hypothesis that there is no significant difference in the overall performance and Financial Leverage.

Overall, a negative relationship between financial leverage and commercial bank performance was found (see Table 1); that is, larger Debt Ratio negatively affects the financial performance of Listed Commercial banks.

V. SUMMARY

This study is aimed at determining the effect of financial leverage on commercial bank performance. The basic objective is to identify whether the capital structure of a firm affects the returns on equity in the securities market. The approach used to conduct the study is based on Fama and French (1993) three-factor model. The study was basically conducted on commercial banks listed in Nairobi Securities Exchange. Time horizon that this study covered ranges from January 2010 till December 2016.

The results of this study show that leverage has a negative and significant effect in explaining the financial performance of commercial banks. Thus, the capital structure of firm proves to be of value in determining ROE. In addition to that it also reveals that for the said time period there is no size effect as well as value effect present in NSE market. This study provides important implications for investors who are willing to invest in NSE because it provides an insight to investors regarding capital structure and stock return relation.

The study highlights the impact of firm specific factors like market capitalization, Book Value-to-Market value ratio (BV/MV) and Debt to Equity ratio (D/E) on stock returns apart from the impact of market specific factors like return of market portfolio. The results indicate that returns decrease in leverage. The findings are robust to other risk factors and are consistent with Penman et al (2007) who argue that leverage component of Book to Price ratio is negatively associated with future returns. Clearly the risk factors included in these models have additional explanatory power on stock returns. The negative relation of leverage with abnormal returns remains unaffected when other factors such as effective tax rates and industry concentration are included in the regression equation. The magnitude of the impact of leverage on abnormal returns diminishes as these variables are taken into consideration. However the relation between leverage and abnormal returns remains significant and negative.

Overall findings show that larger level of Financial leverage negatively affects the return on equity while Interest Coverage Levels and Debt Equity levels positively affect the return on equity.

Recommendations

This study recommends further study on policy issues raised; first, determining the proper balance (mix) between the benefits that leverage confers to markets and the potential systemic risk posed by high levels of leverage. If it is found that, existing market mechanisms do not adequately guide on the use of leverage, resulting in unacceptably high

levels of systemic risk, then the question becomes one of how best to address this concern. Leverage allows an investor to take on higher risks, including those risks that are shed by others. Thus, the leveraged exposure of investors with higher risk appetites can be a vehicle that allows a larger number of risk-averse investors to reduce their risks. While the leverage that supports the reallocation of risk provides benefits, it can be fragile. In a volatile market, high levels of leverage increase the likelihood that a leveraged entity will fail, in part because the size of potential losses can seriously deplete and even wipe out the entity's net worth.

When leveraged investors are overwhelmed by market or liquidity shocks, the risks they have assumed will be discharged back into the market. Thus, highly leveraged investors have the potential to exacerbate instability in the market as a whole. The outcome may be direct losses inflicted on creditors and trading counterparties, as well as an indirect impact on other market participants through price changes resulting from the disappearance of investors willing to bear higher risks. The indirect impact is potentially the more serious effect. Volatility and sharp declines in asset prices can heighten uncertainty about credit risk and disrupt the intermediation of credit. These secondary effects, if not contained, could cause a contraction of credit and liquidity, and ultimately, heighten the risk of a contraction in real economic activity.

More research needs to be done on whether the industry that a company belongs to be it finance and Investment, commercial and services, industrial and allied and agriculture affects the stock returns level and leverage. This will be able to show if there are major performance differences in stock returns between different sectors.

REFERENCES

Abel, A & Eberly J (2001). Investment and q with fixed costs: An empirical analysis.

Working paper, University of Pennsylvania.

Ball, R (1978). Anomalies in the relationships between securities' yields and the yield-surrogates.

Journal of Financial Economics, 6:103–126.

Banz, R. W (1981). The relationship between return and the market value of common stocks. Journal of Financial Economics, 9:3–18, 1981.

Berk, J (1995) A critique of size related anomalies. The Review of Financial Studies, 8:275–286

Bhandari, L.C (1988). Debt/equity ratio and expected common stock returns: empirical evidence. Journal of Finance, 43:507–528.

Chan, K & Chen, J (1991). Structural and return characteristics of small and large firms. Journal of Finance, 46:1467–11484.

Cooley.T & Quadrini.V (2001) Financial markets and firm dynamics. American Economic Review, 90:1286–1306.

Cooper. R & Haltiwanger. J (2000). On the nature of capital adjustment costs. NBER Working paper 7925.

Fama, E, F & and French, K, R (1992). The cross-section of expected stock returns. Journal of Finance,47 n2 June:427–65.

Graham, J (1999) Do personal taxes affect corporate financing decisions? Journal of Political Economy, 73:147–185.

Graham, J (2000) How big are the tax benefits of debt? Journal of Finance, 55:1901–1941.