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THE JOINT EFFECT OF FIRM GROWTH, MACROECONOMIC FACTORS AND CAPITAL STRUCTURE ON THE VALUE OF NONFINANCIAL FIRMS LISTED ON THE NAIROBI SECURITIES EXCHANGE

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Abstract

This study examines the joint relationship among capital structure, firm growth, macroeconomic factors, and firm value using hypotheses formulated from existing literature and based on the gaps identified and tested using a population sample of 36 non-financial firms listed on the Nairobi Securities Exchange (NSE) in Kenya. The author adopts a positivistic research philosophy and correlation, detailed research designs in the study, including descriptive statistics such as mean, standard deviation, coefficient of variation, kurtosis and skewness, and correlation analysis. The study employed stepwise multiple regression analysis to test the hypotheses about the specific study objectives based on variables. Capital structure study is one of the most sensitive areas of corporate financing decision-making owing to its interrelationship with other components of financial decision elements. Capital structure choice is an important decision for a firm not only from the value maximization viewpoint but also because of its impact on a firm's capability to undertake its activities effectively and efficiently in a dynamic marketplace. This study used an econometric model to analyze secondary data obtained from nonfinancial firms listed on the NSE and considered 36 companies and 180 observations for the period 2010–2014. The analyses were performed using a weighted least squares regression model in STATA 13.

Keywords: Capital structure, Firm growth, Firm value, macroeconomic factors, Financing, Exchange rate

INTRODUCTION

The macroeconomic factors are variables that influence the outcome of an economy in a wider level (Rajan & Zingales, 1995). They include the exact interest rates, rate of exchange and the rate of GDP growth. The difference in the situation of economy in which a firm operates affects the company's financial performance in the coming periods (Korajczyk, & levy, 2003). Studies done by Oztekin & Flannery, (2012); Fan et al., (2012) and, Jõeveer, (2013), all focused on the capital structure of firms. However, no study has endeavored to look into the variable of the macroeconomic factors. Other studies have tried incorporating the effect of the macroeconomic factors on the decision that managers make concerning debts.

A good number of researches concerning the capital structure and the performance of a firm have indicated a notable connection between them (Myers, 2002). Nevertheless, practically, it is not possible for the structure of capital to cause an increase of the firm value independently. There has to be an enabling economic environment and a proper governance in a firm. An economic environment in which firms operate is an important factor that determines how better a firm can perform (Sambasivam & Ayele, 2013). A significantly positive relation has been found between the capital market advancement and the capital structure. Moreover, this has explained how a good environment allows firms to utilize the external sources to fund their projects. This is in line with the findings of (Booth, Aivazian, Kunt, & Maksimovic, 2001). According to Abor's (2005) study that investigated the debt policy's influence on the firm performance of medium sized businesses, the outcomes pointed that the influence of short-term debt is significant with a negative relationship to returns of the firms in South Africa and Ghana.

The combined effect of the structure of capital, growth of the firm and the macroeconomic factors on the value of the firm is one of the greatest challenges among the academicians, professionals and the makers of policies. In spite of the of the adequate tools and necessary advancement of academics that can help to find the connection between decisions of financing and the firm value, the process that leads to an a joint investment decisions that give rise to the desired results is still oblique.

Listed firms at NSE

NSE is a homegrown capital market that imposes a significant role to enable the local companies listed in to get funding for their projects that are aimed at creating more income. Further, it provides an avenue for selling and buying of the shares in the listed firms (Omondi & Muturi, 2013). Therefore, the NSE plays an important role in directing the transactions of shares for the listed companies and makes an input to the growth of the country's economy. NSE has 64 listed firms and it has singly operated in Kenya since 1954. The listed companies have been

classified into three market parts; Main Investment Market Segment (MIMS); Alternative Investment Market t (AIMS) and the Fixed Income Market Segment (FIMS).

Nairobi Securities Exchange (NSE) forms a part of the rising capital markets that are challenged with a number of problems concerning the availability of resources. The inadequacy of the needed resources for the market causes a limitation of the advancement of the NSE market. This further, causes a delisting of a high number of firms. NSE has further segmented the listed companies to ten smaller sections, which are the commercial, and services, agricultural, telecommunication and technology, banking, automobiles and accessories, insurance, manufacturing and related construction, investment, and the energy and petroleum sector (NSE, 2015). An expansion of the stock market has been experienced through the listing. On the other hand, a notable number of companies have been delisted because of poor performance (Mwangi, 2014).

For a firm to be listed in the NSE, it has to attain the set standards by this capital market. However, the operation environment of a company may change in light of the influence caused on the firms by the macroeconomic factors in a given country. The differing performances registered by firms is a result of these factors, which include the sources of funding, market risk or alternatively, an over financing strategy and many other external factors. Thus, firm managers need to employ frugal strategies for them to keep high the investor confidence at the market regulators (CMA), in the firms they are managing.

Problem Statement

Ngugi (2008) examined the patterns of financing the firms that are listed on the NSE and the outcome showed that Kenyan firms prefer fund their investment projects with short-term debt and the bank overdrafts without looking at the attached risk on these financing sources. In spite of the of the adequate tools and necessary advancement of academics that can help to find the connection between decisions of financing and the firm value, the process that leads to an a joint investment decisions that give rise to the desired results is still oblique.

Since listed firms need to moderate or even eliminate any risk, where possible, using a broad investment portfolio that will enable a firm to generate higher returns that will lead to an increase in the wealth of the shareholders. Available studies from (Odongo, Thabang, & Leonard, 2014, Murekefu & Ouma, 2012 and Nyamao, Opera, Lumumba, Odondo, & and Otieno, 2012) focus on the factors that determine the capital structure. These studies have overlooked at the combined effect that is caused by the capital structure, growth of the firm and the macroeconomic factors on the firm value for those firms listed in the NSE capital market.

Objective of the study

To investigate the joint effect of firm growth, macroeconomic factors and capital structure on the value of nonfinancial firms listed on the Nairobi Securities Exchange.

Hypothesis

H01: The joint effects of capital structure, firm growth and macroeconomic factors have no significant effect on value of firms listed at the Nairobi Securities Exchange.

LITERATURE REVIEW

Underlying Theory-Agency Cost Theory of Capital Structure and the Market Timing Theory of Capital Structure

Agency Cost Theory of Capital Structure by Jensen and Meckling (1976) argues that an agency comes with a problem with two issues that companies need to address to avoid losses as managers have the conflict of interest from that of the owners and the debt holders which the cost of debt and agency cost of equity. The conflict of interest between principal and agent result into agency cost of equity and the conflict between owners and lenders of funds create agency cost of debt. Jensen & Meckling, (1976) proposed that managers always attempted advanced for their self-interest than that of the shareholder, but instead, they tend to be accomplishing their personal interest at the expense of the shareholder's wealth due to their distant relationship. Agency cost theory suggested that solid choice of optimal capital structure enable firms to mitigate the agency conflicts of interest and reduced the agency cost that may be incurred on the expense of the business by the firms' managers due to remotes relationship between the principal and agent.

The Market Timing Theory of Capital Structure is traced back to the seminal work of Baker and Wurgler (2002). They defined market timing as the ways firms' issue shares are overvalued and buy back when prices are undervalued. The strategy is to take advantage of arbitrage changes in the cost of equity capital to borrowers available about the cost of alternative sources of capital the firms. In the frictionless capital market examining in the seminal work of Modigliani and Miller (1958), the cost of alternatives forms of corporate finance capital available to the firm is not independently varying due to their assumptions of a perfect capital market. Therefore, there is no tradeoff benefit of switching between debt and equity. Thus, due to the inefficiencies of the current market, the market-timing hypothesis is beneficial to continue investors at the expense of the new entrance and existing investors from the market.

Therefore, firm managers may gain an opportunity to generate a higher return from timing the market if they believe and work for the best interest of the continuing investors or

shareholders of the firm. Khanna et al., (2015) the study analyses the effect of macroeconomic variables on the capital structure decisions of Indian companies in relations to Equity Market Timing Theory context. The market timing theory of capital structure (Baker & Wurlgler, 2002) as a new theory of corporate finance explain that firm tend to issue equity when the prices are deemed to be overvalued and purchased when the price of the equity are considered to be undervalued by the market (Boudry, Kallberg, & Liu, 2010).

Capital Structure, Firm Growth and Value

Several studies revealed that capital structure, firm growth, and firm value are positively related. Mansoon and Rauf, (2013) study indicated that there is a positive and significant relationship between a size of the board, debt ratio, and directors' remuneration and assets tangibility. Therefore, debt financing carries a distinct advantage of being tax deductible. If additional debt does not bring any more risk of financial distress, firms would prefer to increase its leverage and consequently, the effective tax rate would be positively related to debt ratio (Fama & French, 2002). Korajczyk and Levy, (2003) investigated the effect of macroeconomic environment and capital structure choices on the value of the company, in which they used the capital structure as a proxy for firm growth and macroeconomic factors.

The sample of the study was categorized into nonfinancial constrained and financial unconstrained firms. Their findings indicated that firm capital structure decision is positively related with their financial constrained, whereas it is pro-cyclical for the relatively financial constrained firms. Manawaduge et al. (2010) examine the implications of capital on the value the firms from the emerging markets in the South Asia, Sri Lanka. They used panel data regression for the sample of 171 firms from Sri Lanka, and results revealed that most companies in Sri Lanka as an emerging market finance their investment activities using short-term debt instead of long-term debt capital. The significant negative implications of capital structure on the value of firms associated with the frequent use of the short-term debts and the under-utilization non-current assets provide corporate managers with useful policy direction on an appropriate capital structure and operational decisions.

Furthermore, Sambasivam and Ayele, (2013) stated that firm growth, leverage, a volume of capital and liquidity are identified as most important determinant factors of profitability and firm growth and size of firm leverage are statistically significant. In relation, liquidity ratio and leverage ratio are negatively but significantly related to profitability. Salim and Yadav (2012) examined the relationship between capital structure and firm performance using a sample of 237 Malaysian listed companies on the Bursa Malaysia Stock Exchange from 1995-2011. Ogbulu and Emeni (2012) conducted a study using a sample of 124 companies listed on the

Nigerian Stock Exchange to investigate the effect of capital structure on the value of the firm. They used ordinary least square to analyze the data, and the results revealed that equity as a composite of capital structure to be irrelevant to the value of the firm, while the long-term debt seems to be the most determinant of firm value. As a result, they recommended firms to use more long-term debt than equity to finance their investment since it is positively related to the value of the firm.

Abzari et al. (2012) investigate the impact of macroeconomic factors as assumed by the corporate managers on the capital structure of the firm listed on the Tehran Stock Exchange and they found no assumed a significant relationship between macroeconomic factors on the capital structure of the Iranian firms. The study conducted by Muthama et al. (2013) in the context of Kenya as an emerging market revealed a positive effect of the gross domestic product (GDP), a negative effect of the debt-financing ratio and inflation with the positive impact on the corporate capital structure of firms listed on the Nairobi Securities Exchange.

According to the study conducted by Smith and Watts (1992), they found debt and the growth opportunity to be negatively related to the value of the firm. The firm with potential growth opportunity would always need external finance to sustain the growth opportunity (Michaels et al.; 1999). Growth opportunities for any firm can put pressure on internal resources and push the firm to use external resources to sustain the growth opportunity. This makes firms to utilize short-term sources of financing and less long-term sources of funding for investment projects available to the firm.

METHODOLOGY

The research design is the systematic sequence which unifies data to enable investigation of questions of research so as to enable drawing of a conclusion based on data available (Yin, 1994). The study used a secondary data compared over years and thus time series and cross-sectional analysis was possible. Cross-sectional data analysis usually includes data analysis over time like from 2010 to 2014.The study took into consideration all the firms hence it was a census survey which usually takes into consideration all firms especially when they are not many (Saunders, Lewis, & Thornhill, (2007). The firms that were considered in this study were 36 non-financial companies that are listed at the Nairobi Securities Exchange.

The study utilized multivariate regression technique, correlation, and point by point insights examinations. The review explored the relationship between the variables and their association with each other. A correlation grid that incorporated the values of correlations coefficients for the variables utilized as a part of the examination. The regression examinations and expressive insights were connected to complete the investigation of the mediating effect of

firm growth on the relationship between capital structure, and value of non-financial firms listed at the Nairobi Securities Exchange in Kenya from 2010 to 2014. Multivariate factual examinations were utilized to learn the impact of capital structure and other controllable variables on the value of the firm. The model is as per the following:

$Yit = \alpha + \beta 1CSit + \beta 2FGit + \varepsilon i$

Where; Y, CS and α are defined in step one and two. β1 and β2 are the regression coefficients. This model confirms that the mediator is a significant predictor of the dependent variable, while controlling for the independent variable. β2 must be significant and β1 should be smaller in absolute value as compared to step value there to be an intervening effect.

To determine the joint effect of capital structure, firm growth, macroeconomic factors on the firm's value. The model used test hypothesis four as follows.

$Y\ it = \alpha + \beta 1CSit + \beta 2FGit + \beta 3MFsit + \varepsilon i$

B1------β3 are the regression coefficients, Capital structure (CS) (short term debt, long term debt, debt equity, and retained earnings). Firm growth (FG) measured by Growth rate, macroeconomic factors (MFs) measured by GDP rate, Exchange rate and Real rate of interest), Firm value (Y) measured by Tobin Q, Constant (α), and error term (εi) are defined above

.

ANALYSIS AND FINDINGS

Regression Results of Joint Effect of Capital Structure, Firm Growth, Macroeconomic Factors on Firm Value are presented in tables below.

Table 1. Goodness of Fit Results

ANOVA Results			
Source	SS	Df	MS
Model	15.6	6	2.6
Residual	8.844	168	0.053
Total	24.45	174	0.14

Note: ANOVA: Analysis of variances; SS: of Sum of Squares; DF: Degree of Freedom; MS: Means Square. * Significant Level P≤0.05

There was a significant effect of the joint relationship between capital structure, firm growth, and macroeconomic factors on firm value as indicated by the value of [F (6, 168, P=< 0.05]. The P-value = 0.000 is significant showing that the joint effect has influence on the firm value of nonfinancial firms listed on the Nairobi Securities Exchange.

Table 2. Model Summary

R-squared	0.6382
Adj R-squared	0.6253

Note: * Significant Level P≤0.05

Multiple regression analysis was performed to assess the association between capital structure, firm growth, macroeconomic factors and firm value. The multiple regression model produced R^2= 0.6253, F= 49.4, p <0.05. Capital structure, firm growth, and macroeconomic factors explained 62.53 percent of the variance in firm value.

Table 3. Estimated Model Results

	Coef.	Std. Err.	t-statistic	P>t
DE Ratio	0.1991	0.094	2.11	0.036
RTE	0.1371	0.026	5.21	0.000
FG Rate	0.8008	0.079	10.14	0.000
RGDP	-0.1179	0.02	-5.96	0.000
R Rate Int	-0.0881	0.017	-5.21	0.000
EXCR	5.8516	0.932	6.28	0.000
_cons	1.4272	0.209	6.84	0.000

Note: DE Ratio: Debt Equity Ratio; RTE: Retained Earnings; FG Rate: Firm Growth Rate; RGDP: Real of GDP; RRate INT: Real Rate of Interest; EXCR: Exchange Rate and * Significant Level P≤0.05

The estimated model results reveal that the joint effect of capital structure, firm growth and macroeconomic factors on firm value is significant. Capital structure parameters debt equity ratio (β= 0.1991, p-value= 0.036) and retained earnings (β= 0.1371, p-value =0.000) had positively significant relationships with firm value at five percent level of significance. The intervening variable, firm growth also had a positive and statistically significant relationship (β= 0.8008, p-value= 0.000) with the response variable.

The outcomes of this study established a joint statistically significant association between growth of the firm, macroeconomic factors and capital structure metrics on the company value. From the findings, all regression predictor variables have a positive relationship with the response variable, value of the firm, and explain almost two thirds of firm value as signified by the overall explanatory power of 64 percent.

The results indicate that firm growth rate and macroeconomic factors are all zero, firm value would be 1.4272. Further, debt equity and retained earnings have positive relationship with firm value. Firm growth rate had a positive correlation with the response variable. On the other hand, GDP growth rate and the real rate of interest had a negative relationship with firm value. The exchange rate had a significant positive relationship with firm value.

Moreover, the study established that a unit increment in debt equity raises the value of the firm by 0.2 units. A unit increase in retained earnings increased firm value by 0.137 units. Further, a unit increase in firm growth rate raises the value of the company by 0.808 units; a unit upsurge in the rate of GDP growth reduces the value of the company by 0.118 units. A unit increase in the real rate of interest reduces the firm value by 0.088 units, and a unit increases in exchange rate growth increases firm value by 5.85 units.

The study results show that increased interest rates reduced firm value, as they are an impediment to the growth and expansion. When the rate of GDP growth increases, companies tend to go for long-term debts to finance their assets relative to short term. Thus the findings also show that growth rate of a firm, debt equity ratio, retained earnings, and exchange rate grew, and it implied higher value of the firm. The findings examine that capital structure on its own cannot determine the firm's value alone.

CONCLUSION AND RECOMMENDATIONS

The current study aimed to examine the joint effects of capital structure, firm growth and macroeconomic factors on the value of listed nonfinancial companies. The study based on the assumptions of Modigliani and Miller's Theorem of capital structure, and positivistic philosophy in testing four quantitative hypotheses. The author from the nonfinancial firms listed on Nairobi Securities Exchange extracted the secondary data used.

The conclusion of the study has spelled out clearly that the theoretical and the findings of this study support researchers in the area of corporate finance and financial economic to avoid the failure and delisting of the firms from the Nairobi Securities Exchange as it has happened over the past few years in the context of Kenya. The researchers should examine the capital structure from the perspective of defining a strategic direction that would help firms and investors to appropriate financing decision. The study also examines the relevant of the influence of firm growth thoroughly as internal factors and aligns with the external factors (macroeconomic factors) that moderate the relationship between independent variables and the predictor.

LIMITATIONS OF THE STUDY

While acknowledging that this study made an important contribution it was not short of some limitations. Firstly, the scope of the study was fairly narrow as it only focused on non-financial firms listed at the NSE hence could not be fully generalized regionally or in the African continent because of the number of firms selected. Further, this study evaluated the joint effects of capital structure, firm growth and macroeconomic factors have no significant effect on value of firms listed at the Nairobi Securities Exchange but the approach used is similar to other studies done before on similar studies before.

REFERENCES

Abor J., (2005). The Effect of Capital Structure on Profitability: An Empirical analysis of Listed Firms in Ghana. Journal of Risk Finance, 6 (4), 38-47.

Abzari M., Fathi S., & Nematizadeh F., (2012). Analyzing the Impact of Financial Managers' Perception of Macroeconomic Variables on Capital Structure of Firms Listed in Tehran Stock Exchange. International Journal of Academic Research in Economics, 1(3), 131-141.

Booth L, Aivazian V., Kunt A. & Maksimovic V., (2001). Capital structures in developing countries. 56 (1). Journal of Finance, 56 (1), 87-130.

Baker, P. S. (2004), Determinants of Capital Structure: Empirical Evidence from the Czech Republic, Czech Journal of Economic and Finance, 54, 1 -21

Fama, E. & French, K. (2002). Testing trade-off and pecking order predictions about dividends and debt. Review of Financial Studies, 15, 1-33.

Fan, J., Titman, S., & Twite, G. (2008). An international comparison of capital structure and debt maturity choices. Journal of Financial and Quantitative Analysis, 47 (1), 23–56.

Jõeveer, K. (2013). Firm, country and macroeconomic determinants of capital structure: Evidence from transition economies. Journal of Comparative Economics, 41 (1), 294–308.

Khanna, S., Srivastava, A. &Medury, Y. (2015). The Effect of Macroeconomic Variables on the Capital Structure Decisions of Indian Firms: A Vector Error Correction Model/ Vector Autoregressive Approach, International Journal of Economics and Financial, 5(4), 968-978

Korajczyk R., & A. Levy, A. (2003).Capital Structure Choice: Macroeconomic Conditions and Financial Constraints. Journal of Financial economics, 68, 5-109,

Manawaduge A.S., De Zoysa A., & Chandrakumara P. (2010), Capital structure and its implications: empirical evidence from an emerging market in South Asia. GSMI Third Annual International Business Conference Michigan, USA: Global Strategic Management Inc, 104-116

Michaelas N. B., Chittenden F. W. & Poutziousris P. S. (1999). Financial policy and capital structure choice in UK SMEs: empirical evidence from company panel data, Small Business Economics, 12, 113-130.

Modigliani F., & Miller M.H., (1977). The cost of capital, corporation finance and the theory of investment. American Economic Review, 48 (3), 261-97

Muthama C., Mbalukaand P., & Kalunda E., (2013). An Empirical Analysis of Macro-Economic Influences on Corporate Capital Structure of Listed Companies in Kenya. Journal of Finance and Investment Analysis, 2, (2), 41-62

Murekefu M., & Ouma O.P., (2012).The Relationship between Dividend Payout and Firm Performance: A Study of Listed Companies in Kenya. European Scientific Journal, 8 (9), 435-456,

Mwangi, M. (2014). The Influence of Members' Income and Conduct of SACCOS in the Relationship between Characteristics and Efficiency of SACCOS in Kenya. Unpublished PhD Thesis University of Nairobi

Myers, S. C. (2002). Capital structure. Journal of Economic Perspectives, 15 (2), 81-102.

Ngugi, R., Amanja, D. &Maana, I. (2009). Capital market, financial deepening and economic growth in Kenya Unpublished Capital Markets Paper.

Nyamao, N., Ojera, P., Lumumba, M., Odondo, A. & and Otieno, S. (2012). (2012). Effect of working capital management practices on financial Performance: A study of small scale enterprises in Kisii South District, Kenya. African Journal of Business Management, 6 (18), 5807-5817.

Odongo K., Thabang, M. M. & Leonard, M. (2014). Capital structure, profitability and firm value: panel evidence of listed firms in Kenya. Munich Personal RePEc Archive.

Omondi, M. M. & Muturi, W. (2013). Factors Affecting the Financial Performance of Listed Companies at the Nairobi Securities Exchange in Kenya. Research Journal of Finance and Accounting, 4 (15), 100-105.

Öztekin O., & Flannery M.J. (2012).Institutional determinants of capital structure adjustment speeds. Journal of Financial Economics, 103, 88-112.

Sambasivam Y. & Ayele A., (2013). A study of the performance of insurance companies in Ethiopia. International Journal of Marketing, Financial Service & Management Research, 2 (7), 138.

Salim M. & Yadav R., (2012). Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies, International Congress on Interdisciplinary Business, 65, 156 – 166,

Saunders M., Lewis P. & Thornhill Saunders A. (2007).Research Methods for Business Students (5th Edition ed), Pearson Education Ltd.

Rajan G. &. Zingales L. (1995). What do we know about capital structure? Some evidence from international data. Journal of Finance, 50, 1421-1460.

Smith, C. W. & Watts, R. L. (1992). The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies, Journal of Financial Economics, 32, 263 -292.

Yin R., (1994).Case study research: Design and methods (2nd ed.) Thousand Oaks, CA:Sage publishing

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