



DOES GEARING INFLUENCE ON CORPORATE PERFORMANCE? EVIDENCE FROM KENYA

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ABSTRACT

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The objective of this paper was to determine the influence of gearing and corporate performance of non-financial firms listed on the NSE. The target population being 42 companies with 35 companies meeting the threshold for a balanced panel regression for the period 2008-2017. The study adopted longitudinal quantitative research design with random-effects GLS models. The corporate performance was assessed by ROCE and Q ratio while gearing was measured using leverage ratio. The findings reveal that the gearing is positively and statistically insignificant related with corporate performance of the listed non-financial firms at the NSE measured using ROCE and positively significantly related to Tobin's Q. This paper commends the necessity to cultivate a worthy rapport with debt capital providers such as banking companies, and other financial institutions to benefit from easy acquisition of large sums of funds and enjoy the interest tax shields related to interest charged on debt finance.

Contribution/Originality: This study contributes in the existing literature on the effect of gearing by long-term borrowing divided by firm's capitalization thus capturing the financial risk in a firm from a long-term perspective which usually influences the investors' choice of a firm to invest into.

1. INTRODUCTION

Firm performance is of critical significance for shareholders, other stakeholders and the country in general. For stakeholders, a good return means a great and valuable investment option they have made. This will increase their overall wealth. Also a profitable firm will be able to sustain its employees through better salaries, rewards, working conditions, job security. In addition, such a firm is able to pay its suppliers of goods/service and funds in time. Moreover, it will also be capable to supply quality goods/services to its clients. Furthermore, the firm will have more retained profits/earnings in a given accounting period which would be available for future investments in order to sustain growth and thrive any competition (Mirza and Javed, 2013).

Gearing/ leverage or Capital structure is defined as the manner in which a given firm has funded its overall business operations using long-term sources of capital (Abor, 2005). Titman *et al.* (2011) argues that gearing/leverage is the shareholder's fund and interest attracting borrowings including short-term bank. Both definitions therefore exclude non-interest bearing short term debt. Other researchers have tried to define gearing or leverage but in different forms however, there is shared view, that is, gearing is the mix of long-term borrowings

and equity used by a given firm in a particular accounting period. This paper has borrowed this concept in that capital structure or gearing or leverage can be used interchangeably.

Leverage is possibly the firm's most fundamental financial decision which involves in depth and careful thoughts (Wanyoike and Nasieku, 2015). To note, Siddiqui and Shoaib (2011) argue it is not possible to obtain an optimal capital mixture, that is, the point where balance can be confirmed between the cost of capital and required rate of return. To this effect, several theories have been advanced to explain the optimal gearing level including the Modiglian and Miller proposition I, II and III, Pecking Order, Trade-off, Free Cash-flow and Agency cost theories. However, none of these theory address what is the optimal level of debt to equity (Abor, 2005; Ishaya and Olayiwola, 2014).

The pioneer researches in leverage and performance were Lintner (1956) and Modigliani and Miller (1958). This have been followed by other studies which dedicated their attention on the effect of leverage on firm's performance. For instance, Titman and Wessels (1988); Champion (1999); Margaritis and Psillaki (2010); Salim and Yadav (2012); Tianyu (2013) among others. Despite this intensive past studies, most of the papers concentrated in developed economies. It is thus unclear whether the same results can be obtained in less developed or developing (e.g. Arab Countries, African Countries and Gulf area) (Meero, 2015).

2. RESEARCH PROBLEM

Banafa *et al.* (2015) found that listed companies on the NSE, Kenya are in did experiencing a sharp deterioration in their earnings forcing some firms to be delisted or even being suspended for trading on the NSE. In addition, a documentation by the Kenyan government has revealed that there will be a great trench in the economy (Kenya, 2015). This leads to research questions; what is causing this decline in firm's performance and does gearing have an influence on corporate performance?

There are massive scholarly articles that this paper has reviewed which either document a positive, negative or no association between gearing level and performance both in developing and developed economies. In support of negative relationship is Kahuria and Waweru (2015) and Muritala (2012). Similarly, Sheikh and Wang (2013) explored whether debt to equity structure affects the performance of non-financial companies in Pakistan. The empirical findings document that gearing is negatively related to corporate performance.

However, Dessi and Robertson (2013) using panel regression with one hundred and fifty-five listed firms from Sri Lanka in the years 2002 to 2008 revealed a positive influence. In addition, Fosu (2013) with two hundred and fifty-seven listed companies in South Africa found that gearing is also positively related to financial performance. Further in contrast, Gleason *et al.* (2000); El-Sayed (2009) report a weak and no influence between gearing level and performance. Based on the literature reviewed, there is mixed reaction on the relationship between performance and leverage. This would make generalization difficult since the results contradicts each other, hence a need for a new study with a main focus on non-financial firms listed in Kenya.

3. LITERATURE REVIEW

Sheikh and Wang (2013) explored whether debt to equity mix influences performance of quoted firms in Pakistan. Using Pooled ordinary least squares, fixed effects and random effects models. They found that total debt ratio and long-term debt ratios had a negative relationship with ROA. Further, these ratios were negatively related to market-book ratio using Pooled ordinary least squares, and positively related to market-book ratio using fixed effects.

Chancharat (2015) observes the influence of gearing level on performance with firms listed on Thailand Stock Exchange. The study controlled for growth, size and industrial segments. The study employed fixed and random panel regression models. The findings revealed that leverage has a statistically significant negative impact on performance and that debt to equity decision is significant for a firm to maximize its value.

Another study by [Rajendran and Nimalthasan \(2013\)](#) explored on the influence of capital structure on performance of twenty-five manufacturing listed firms in Sri Lanka for the period 2008 to 2012. The findings revealed that debt-equity ratio is not significantly linked to corporate performance measured by net profit margin, Return on Asset and is negatively associated with gross profit margin, and Return on Equity.

A study by [Olivier \(2014\)](#) examined the effect of capital structure or leverage on firm performance for firms operating in Africa, Middle East, Asia, Russia and China. The study finds that Indian firms prefer to use higher debt amounts than equity, while in Africa and China, the firms prefers to fund their operations through issue of equity and in Europe and Russia, firms have a preference to use a balance of equity and debt, that is, equal amount of debt and equity. The findings further show that leverage is negatively correlated to return on equity as a measure of firm performance. These results are similar to [Ebaid \(2009\)](#) in Egypt, Abor in Ghana in 2005 and lastly Pouraghajan in China in 2012.

[Tifow and Sayilir \(2015\)](#) investigated the effect of capital mix on performance with one hundred and thirty manufacturing firms quoted in Istanbul for the period 2008 to 2013 using panel regression. The analyses revealed that short-term and long-term debts to total asset ratios are significantly negatively related to performance proxied by return on asset, earnings per share and Tobin's Q. But there was a positive significant link between with return on assets as a proxy for performance. In conclusion, the study noted that the use of debt capital relatively to equity capital can lead to a decline in a firm's performance.

Further, [Seetanah et al. \(2014\)](#) with firms quoted on Mauritius for a period of five years, that is, 2005-2011 on the impact of leverage on performance. The study used static and dynamic panel regression models. The analysis show that the firm performance is negatively linked to leverage decisions. This implies that the lower the leverage level, that is, the lesser the debt capital the better the performance. The findings support the pecking order theory of capital structure as noted by [Frank and Goyal \(2003\)](#).

A study conducted by [Abor \(2005\)](#) in Ghana revealed that short-term debt to total debt ratio is positively associated with firm's performance measured using return on equity. In a contrary study done by [Ebrati et al. \(2013\)](#) who explored the impact of gearing level on performance of firms listed on Tehran Stock Exchange for the years 2006 to 2011 found that leverage is negatively linked to performance measured using earnings per share (EPS) and return on assets (ROA).

Further, a research by [Onaolapo and Kajola \(2010\)](#) on the effect of leverage on performance of thirty listed companies in Nigeria for the period 2001 to 2007 revealed that debt to equity mix is significantly negatively allied to performance measured by return on asset (ROA) and equity (ROE). However, this study is contrary to the findings of [Ebaid \(2009\)](#) with Egyptian quoted non-financial companies for the years 1997 to 2005 who documented that leverage has a weak to no impact on performance.

Contrary, a study conducted by [Al-Taani \(2013\)](#) on the link between capital structure decisions and performance for manufacturing companies listed in Jordan. Using regression model for analysis, the findings reveal that statistically; capital structure decisions are not a key factor of corporate performance. This implies that it does not matter what level of equity to debt mix the firm uses for the firm to improve its performance.

Locally in Kenya, [Kahuria and Waweru \(2015\)](#) explored the association of leverage with profitability of quoted firms on the NSE. The study used a sample of forty-nine firms for the period 2009 to 2013 spread across all the listed sectors of the securities exchange. Using secondary data, the findings show that leverage has a statistically negative influence on profitability hence performance. Similarly, [Mwangi et al. \(2014\)](#) seeking to examine the link between capital structure and performance of firms listed on the NSE. The study employed a sample of forty-two non-financial companies for the period 2006-2012 with fixed and random effects panel regression models. The analysis indicates that performance assessed by return on asset (ROA) and equity (ROE) is statistically significantly negatively linked to leverage.

Based on the conflicting results from these previous studies, the effect of leverage or gearing on performance will remain to spark and ignite future researchers to unearth the hidden link between the two variables. This puzzle has lead this study to examine the influence of gearing on performance of non-financial quoted companies on the NSE, Kenya.

4. RESEARCH METHODOLOGY

The study used quantitative research design whereby secondary data with a target of forty-two quoted non-financial companies on the NSE, Kenya for the period 2008 to 2017. Financial companies were left out due to their nature of capital mix regulatory requirements (Santos, 2001). Balanced Panel random effects GLS regression models were used for analysis as backed by Mugenda and Mugenda (2012). Descriptive and inferential statistics were generated using STATA. The estimation regression model for the study was as below;

$$CP_{it} = \beta_0 + \beta X_{it} + (u_i + \varepsilon_{it})$$

Where: CP = Corporate performance measured using ROCE and Q ratio

β_0 = Regression Model Constant term

β = Regression Model Variable Co-efficient

X_i = Gearing/Leverage,

i = Non-financial listed Firms from 1-35

t = Time Period (2008-2017)

u_i = Random effect specific to individual or group

ε = Regression Model Error Term

5. FINDINGS

5.1. Correlation Analysis

Correlation analysis was done to assess the strength of link between the study variables. According to Kombo and Tromp (2006) the correlation coefficient represents the linear relationship between two variables. From table 1 below, the findings revealed that corporate performance measured by ROCE was significantly negatively correlated with gearing/leverage/ capital structure and significantly positively linked to Q ratio implying; as gearing/leverage rises, performance decreases as well, or as leverage decreases performance increases. Further, Performance measured by Tobin's Q was insignificantly positively correlated with financial leverage. Finally, it is noted that all correlation co-efficient show a weak relationship between the study variables as they are below absolute value of 0.5 or 50%.

Table-1. Pearson's Correlation Matrix

Variables	ROCE	Q	GL
ROCE	1.0000		
Q	0.3429*	1.0000	
GL	-0.2411*	0.0580	1.0000

*significant correlations at 5% level

ROCE=Return on Capital Employed, Q=Tobin's Q, and GL= Gearing level

Source: Data analysis, 2018

5.2. Hausman Specification Test

According to Borenstein et al. (2009) and Wooldridge (2007) Hausman test compares random effect model with the fixed effect equivalent model. If the null hypothesis that the individual effects are uncorrelated with the other regressed variables is not rejected, then the random effect model is preferred over its equivalent fixed effect model. If random effect is chosen, then either generalized least square (GLS) or feasible generalized least square (FGLS) is used. From table 2 below, using Hausman Specification Test, the models were found to be best fitted using random-effects.

Table-2. Random verse Fixed Effects Model Selection

Model(s) Dependent Variable	Independent Variable(s)	Chi2(4)=(b-B)'[(V_bV_B)^(1)](b-B)	Prob>chi2	Modelling Technique (FEM or REM)
Model 1: ROCE	GL	0.07	0.7952	REM
Model 2: Q	GL	0.23	0.6289	REM

level of significance is 5%

Source: Data analysis, 2018

5.3. General Diagnostics Tests

Normality test was performed using Shapiro Wilk “W” to test for normal distribution of the random error terms. Since the p-value is 0.0000 from Table 3, then normality is rejected. As a result, the appropriate transformation was required as Mukras (1993) proposed for change of models from linear to non-linear. From the VIF test in Table 3, the mean values in each model was less than ten and according to Wooldridge (2007) it implies there was no any multi-collinearity. The likelihood ratio (LR) test method was applied for panel heteroscedasticity. As shown in Table 3, all models demonstrated homoscedasticity implying absence of variances. Finally, Wooldridge test was adopted to identify incidence of panel autocorrelation. As for serial correlation, the study found that model 2 had serial correlation and as a solution according to Wooldridge (2007) is application of robust as a remedy.

Table-3. General Diagnostics for Model Validation

Model: (Dependent Variable)	Independent Variable(s)	VIF (Mean)	Normality Z(p value)	Heteroscedasticity LR test	Serial Correlation (Wooldridge test)	Linearity	Final model
Model 1: ROCE	GL	1.00	9.627 (0.0000)	0.00 (1.000)	F=3.800, (0.0604)	-	Non-Linear
Model 2: Q	GL	1.00	9.893 (0.0000)	0.00 (1.000)	F=75.518, (0.0000)	-	Non-Linear Robust

Source: Data analysis, 2018

5.4. Panel Regression Analysis

In the first model (ROCE) the overall R squared was 0.0001 while R squared for within was 0.0038 and R squared for between was 0.0063. This implied that the variable (CS) considered in the model explained the dependent variable ROCE by a total of 0.01 percent. Nonetheless, p-value of 0.3449 which is more than 5% significance level indicating that variable considered in the study explains ROCE insignificantly. Further, the standard deviation of residuals within groups was 0.8224 whereas the standard deviation of residuals between groups is 0.6492. In addition, corporate performance (CP) proxied by ROCE and gearing/ leverage (GL) remained to be insignificantly positively linked with a p-value of 0.3449. The study established that for every rise in a unit of gearing then performance would rise by 0.372% maintaining other aspects constant.

Finally, in table 5 below, model 2 had an overall R squared of 0.0007 while R squared for within was 0.0002 and R squared for between was 0.0147 implying that the independent variable (FL) considered in the model explained the dependent variable Q by a total of 0.07 percent. However, P value of 0.0000 implies that independent variable (FL) considered in the model explain the dependent variable Q significantly. Further, the relationship between performances proxied by Q ratio remained to be significantly positively linked to gearing (GL) with a p-value of 0.0000. Therefore, a unit increase in financial leverage led to increased performance by 0.1933% holding other factors constant.

The final models were derived as follows;

Model 1 (ROCE): $InCP = 1.7781 + 1.50e-06 GL$

Model 2 (Q): $InCP = 0.1066 + 2.12e-07 GL$

Table-4. Regression Results for Model 1

Random-effects GLS regression		Number of obs = 293				
Group variable: code						
Number of groups = 35						
R-sq:		Obs per group:				
within = 0.0038		min = 4				
between = 0.0063		avg = 8.4				
overall = 0.0001		max = 10				
corr(u_i, X) = 0 (assumed)		Wald chi2(1) = 0.89				
		Prob > chi2 = 0.3449				
lnROCE	Coef.	Std. Err.	Z	P>z	[95% Conf.]	Interval]
GL	1.50e-06	1.58e-06	0.94	0.345	-1.61e-06	4.60e-06
_cons	1.778131	.1441716	12.33	0.0000	1.495559	2.060702
sigma_u = .82236146						
sigma_e = .64915502						
rho = .61609758 (fraction of variance due to u_i)						

Source: Data analysis, 2018

Table-5. Regression Results for Model 2

Random-effects GLS regression (Robust)		Number of obs = 348				
Group variable: code						
Number of groups = 35						
R-sq:		Obs per group:				
within = 0.0002		min = 8				
between = 0.0147		avg = 9.9				
overall = 0.0007		max = 10				
corr(u_i, X) = 0 (assumed)		Wald chi2(1) = 268.01				
		Prob > chi2 = 0.0000				
(Std. Err. adjusted for 35 clusters in code)						
LnQ	Coef.	Robust Std. Err.	Z	P>z	[95% Conf.]	Interval]
GL	2.12e-07	1.30e-08	16.37	0.000	1.87e-07	2.38e-07
_cons	.1066254	.1398536	0.76	0.446	-1.1674826	.3807335
sigma_u = .81699277						
sigma_e = .49698649						
rho = .72990385 (fraction of variance due to u_i)						

Source: Data analysis, 2018

6. DISCUSSION OF FINDINGS AND CONCLUSION

Based on the regression findings, gearing were significantly positively related to performance assessed using ROCE of non-financial quoted companies at the NSE. This is in line with the previous findings by Dessi and Robertson (2013) who using one hundred and fifty-five listed firms in Sri Lanka documented a positive link between the two study variables. In contrast, Booth *et al.* (2001) and El-Sayed (2009) documented a weak or no link between the two study variables. Implying that gearing is not a key determinant for firm's performance.

Further, it was revealed that performance measured using Q ratio was significantly positively related to gearing. This is supported by Fosu (2013) using two hundred and fifty-seven quoted firms at the South Africa Stock Exchange who revealed that capital structure is significantly positively associated to performance. This contrary to Kahuria and Waweru (2015), Muritala (2012) and Sheikh and Wang (2013) who explored whether debt to equity mix influences firm performance. They found that leverage was negatively linked to performance which indicates that as the firm rises its gearing then its performance declines.

It can be concluded that for the firms quoted at the NSE if such a firm was to increase its gearing level, that is, if it rises its borrowings or debt then it is likely to enhance its profitability thus its performance. This can be explained by the tax shield benefits from the interest charge since interest on debt is tax allowable. In addition, the study has measured corporate performance from two dimensions, that is, using ROCE which is an accounting base and Q ratio which is a market base metric. This combination of performance measures has resulted into robust

findings which can explain the reason why leverage and performance could be positively related rather than negatively related as was the case by most past studies reviewed in the Kenyan context.

7. RECOMMENDATIONS

Given the study findings, the paper recommends that quoted companies at the NSE, Kenya have a duty to observe the percentage of debt finance they employ since the more the use of debt capital the higher the tax benefits thus higher profits which attracts more investors. The higher the investors or demand for shares the higher the share prices hence improving on firm's value.

The study also recommends that there is need to nurture a good relationship with debt capital providers such as banking companies, and other financial institutions. As these firms will gain easy access to debt capital whenever extra capital is required from the financial institutions.

This study evaluated the influence of gearing on corporate performance of non-financial quoted companies at the NSE, Kenya thus a need to undertake a broader study would be essential covering firms listed at the East African Communities Securities Exchanges. In addition, another study would be necessary covering a longer period than ten (10) years to test the link between these study variables.

Finally, the current study used balanced panel regression thus another study should consider unbalanced panel data or even cross sectional data in order to accommodate more firms or capture more data.

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