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INFLUENCES OF SELECTED FACTORS ON PERFORMANCE OF NON-FINANCIAL FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE

AGGREY DANIEL MAINA THUO

Department of commerce and economic studies, nairobi cbd campus,

Jomo kenyatta university of agriculture and technology

P.o. Box 62000, 00100- nairobi, kenya

EMAIL: aggreythuo@gmail.com

ABSTRACT

This study on which this paper is based sought to establish the influences of selected factors on performance of non-financial firms listed in Nairobi Securities Exchange (NSE). Specifically, the study sought to understand how the leverage, size and age affect the performance of the listed non-financial firms. To achieve this objective a descriptive research design was used. Firms that have been listed on the NSE for the past five years were considered. The study utilized secondary data obtained from the period 2011-2016. Data was collected from 20 listed firms which represented a response rate of 31 percent which was deemed sufficient for making generalization on the whole population. Data collected was analyzed using SPSS (Statistical Package for Social Scientists). Data obtained was analyzed using descriptive statistics, correlation analysis and regression analysis. The study established that there is a positive relation between leverage and performance when ROA is considered whereas leverage has a negative relation when ROE is taken as the performance measure. The study also found that there is a positive relationship between size and performance, there is need to focus on increasing the company's assets. The study further established that age had a positive relation with the performance. From the study, the paper therefore concludes that attention is needed towards these firm level variables in order to improve the performance of the firms.

KEYWORDS: *Performance, Non-Financial Firms, Leverage, Age, Size*

INTRODUCTION

The importance of capital markets all over the world cannot be overemphasized. They foster mobilization of savings and allocate the accumulated capital to productive investment in areas that bring the most value to an economy. They also provide avenues for investment opportunities and diversification that eventually support economic growth of a country. Further, capital markets provide commercial ventures/entities with long-term funding to engage in productive economic activities, which cannot be reasonably carried out through short-term lending. The growth of various capital markets throughout the world demonstrates their importance in development and commerce and also investors realization of their benefits (Burton, Nesiba and Brown, 2015; Ngula, 2012).

The Nairobi Stock Exchange (NSE), precursor to Nairobi Securities Exchange, was formally constituted and registered under the Societies Act in 1954 as a voluntary association of stockbrokers after the London Stock Exchange (LSE) had granted it recognition as an overseas stock exchange. Even after its establishment, the market made very little progress in the period 1954-1990. This was partly attributed to the Kenyanization and taxation policies of the new government ushered in immediately after independence in 1963 that greatly interfered with stock market activities (Njiru, 2012).

During the period after independence the stock market activities declined due to what was perceived as political uncertainty about the future of Kenya. Also, during this period, the financial system was highly dominated by commercial banks and other depository institutions, which in effect reduced the significance of the securities market (Nyasha & Odhiambo, 2014). In 1984, international finance cooperation in conjunction with central bank undertook a study entitled "Development of money and capital markets in Kenya" which became a blue print for structural reforms in the financial markets and culminated in the formation of a regulatory body, The Capital Markets Authority (CMA) in 1989 to assist in the creation of a conducive environment for the growth and development of the country's capital markets. The authority was formed to regulate and oversee the orderly development of Kenya's capital markets.

In 1998, the government expanded the scope for foreign investment by introducing incentives for capital market growth including the setting up of tax- free venture capital funds, removal of capital gains Tax on insurance companies Investments, allowance of beneficial ownership by foreigners in local stockbrokers and fund managers and the envisaged licensing of dealing firms to improve market liquidity. As at the March 2007, the companies listed in the Nairobi Securities Exchange are 58. Due to variations in market performance, shareholder expectations and company policy among other factors, only 52 of these listed companies trade in common stock. Others trade in corporate bonds. The instruments traded on exchange are equities, preference shares, corporate bonds and Treasury bonds (Nyasha & Odhiambo, 2014).

1.1 Firm's performance

Performance refers to output results and their outcome obtained from processes, products and services that allows evaluation and comparison relative to goals, standards, past results and other

organizations (Chatterjee, 2009). Performance management includes activities that ensure goals are consistently met in an effective and efficient manner. Performance management may focus on the performance of an organization, a department, employee, processes to build a product or service (Richard, Devinney, Yip, & Johnson, 2009).

The performance of the listed firms in any country is a strong indicator of general economic performance and is an integral part of the economy of any country. In the view of the importance of capital markets, it is imperative that the performance of listed firms is studied (Barasa, 2014). Ahlers, Cumming, Günther and Schweizer (2015) further observes that the importance of knowing the determinants of performance of listed firms is that, it offers strong advice on how investors should act in deciding where and when to invest in.

Non-financial firms are experiencing declining performance and data shows that non-financial firms have been de-listed from the Stock exchange in the last decade (Ayako, Kung'u and Githui, 2015). World Bank (2014) shows that non-financial firms in Kenya are characterized by a decline in financial performance. Further the Capital market Authority, CMA (2013) reveals that market price of the shares declined in the year 2007 – 2013. Firms have been suspended and de-listed from the Nairobi Stock Exchange (NSE) (Banafa, Muturi and Ngugi, 2015). Low financial performance is a major hindrance in the realization of Vision 2030 leading to a lower economic development and loss of jobs in Kenya which is associated with social injustices (Republic of Kenya- RoK, 2014). Attempts to support the companies have focused external factors and have not focused more on firm level factors of the firms listed in NSE.

This paper focuses the attention on the firm level variables which can be handled by the management. Therefore, it seeks highlight how the leverage of the firm, size of the firm and, age of the firm affects the performance of firms listed in NSE. Financial firms at the NSE comprise of commercial banks which provide financial intermediation functions while the Non-financial firms are those companies that are not involved in the provision of financial intermediary services. Financial services companies are excluded since they are the companies that provide leverage and other debt services to the non-financial firms. Also, financial services firms are regulated and are to meet certain liquidity and leverage ratios Therefore, all non-financial firms listed in NSE, formed the population of the study. Financial services companies were also excluded from the sample since they are the companies that provide leverage and other debt services to the non-financial firms.

The general objective of study on which this paper is based was to assess influences of selected factors on performance of non-financial firms listed in Nairobi Securities Exchange (NSE).. The specific objectives included:

i) To examine the impact of size on performance of firms listed of the NSE
ii) To assess the effect of leverage on performance of firms listed of the NSE.
iii) To examine the relationship between age of the firm and performance of firms listed of the NSE.

1.0 REVIEW OF THE LITERATURE

The performance of firms can be affected by an influence. Influence can be defined as a power to affect persons or firms based on prestige thus causing something without any direct or apparent effort. Influence is basically causative factor that exert pressure on a person or firm to drive them to perform in a certain way (Baker & Nofsinger, 2010).

2.1 Theoretical Review

In its structuring this research borrowed perspectives from transaction cost theory is based on Coase (1937), Trade off Theory based on Baxter (1967), the free cash flow hypothesis based on Jensen (1986) and Seniority rule and organizational memory concept (Katz, 1982).

2.1.1 The Transaction Cost Theory

This based on the work of Coase (1937) explains the existence of firms as an organization that is able to undertake the certain transactions at a lower cost comparing to the market until it expands to the point where the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organizing in another firm (Buckley, 2016).

According to Grossman and Hart (1986), asset specificity and ex-post bargaining problems will drive the preference for integration of parties, to reduce opportunity costs. While in the process of integration, the allocation of ownership is accompanied by costs and benefits. The optimal ownership structure is thus to minimize the overall loss in surplus due to investment distortions (instead of maximizing) the total ex ante net benefits. In another word, the optimal ownership structure is in place when transaction costs are minimized in the long run.

2.1.2 The Trade-off Theory

This postulates that the optimal capital structure is determined by balancing benefits and cost associated with debt financing. Debt financing benefits includes tax savings, reducing agency cost and the financial distress cost, and the cost associated to debt financing is direct and indirect bankruptcy costs. The theory states that there is a benefit to financing with debt, specifically the tax benefit. However, there is also a cost of financing with debt, namely the indirect bankruptcy costs and the more direct financial distress costs of debt. This is thus the trade-off that all firms, whom are maximizing value, should focus on when choosing the amount of debt and equity needed to finance their operations. Hence, this static trade-off theory of capital structure states that optimal capital structure is obtained where the net tax advantage of debt financing balances leverages related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant (Kyereboah-Coleman 2007; Berger and Di Patti, 2006; Baxter, 1967).

Schauten, Van Dijk and Van der Waal (2013) observes that leverage enhances firm's performance by limiting conflicts between shareholders and managers as a result of having excess cash. Leverage mitigates lower agency costs, since the firm's reputation and the managers' wages are at stake. In contrast however, higher leverage also means that the firm has higher commitment to

fulfill its future obligations, in terms of principal and interest payments. Furthermore, higher leverage ratios also lead to higher costs relating to financial distress. The cost related to financial distress is not material compared to the benefits of higher leverage ratios. Consequently, the trade-off theory expects a positive association between firms' leverage ratios and their performance (Chakraborty, 2010).

2.1.3 The Free Cash Flow Hypothesis

Jensen (1986) developed the free cash flow hypothesis which explain the effects of capital structure and free cash flow. Free cash flow is defined by the cash flow in excess of the cash that is needed to invest in all positive Net present value (NPV) projects. The free cash flow hypothesis assumes that managers with access to free cash will invest it in negative NPV projects instead of paying it out to shareholders in dividends. In his article, Jensen (1986) also discusses the benefits of debt in motivating managers to be efficient, called the control hypothesis. He argues that, by taken on debt, managers commit themselves to future payments and provide the issuer(s) of debt the right to declare the firm bankrupt in court. This puts pressure on the manager to engage in profitable investments and maintain the ability to pay the interest and principal payment. Jensen (1986), thus, proposes a positive influence of leverage on firm performance.

2.1.4 Seniority Rule and Organizational Memory Concept

This concept explains the relationship between age and performance. Relationship between age and performance also gets affected by the diversification. The age of the firm increases it results into high probability of takeover. Newly listed firms start with few provisions and this protects them from market takeover. Age shows the experience of the firms and it has a positive impact on sustainability, revenue level and efficiency (Kipesha, 2013; Katz, 1982).

Firm age is a good indicator of firm performance as it shows the experience of the firm. This so because over the course of their life span firms discover what they are good at and learn to become efficient with time. Firms standardize and speed up their production process by getting specialization over time. With the passage of time weakest firms are eliminated from the market due to selection effect which occurs because of competition and other operational pressure. As the number of firms decrease with time rest of the firms face high market demand which results in the increased productivity level (Ericson and Pakes, 1995).

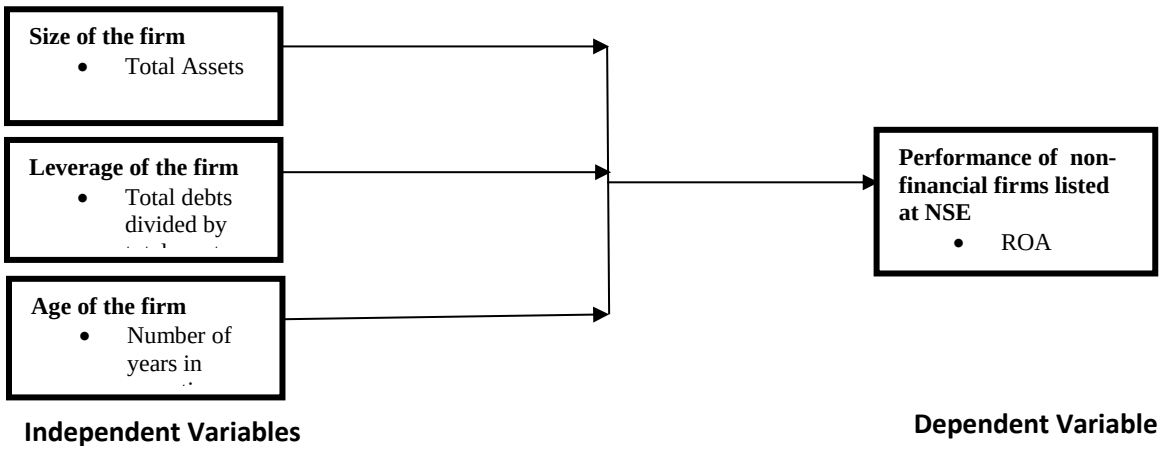

Figure 1: Conceptual framework on determinants of performance of non-financial firms listed at NSE

2.2 Conceptual Framework

The schematic diagram below shows the relationship between independent and dependent variables.

A number of factors affect the financial performance of firms listed at NSE as explained below:

2.2.1 Leverage of the Firm

Financial Leverage is a component of Return on Equity (ROE). Financial Leverage is a measure of how much equity and debt is used to finance firms' assets. As debt increases, we financial leverage increases. The Financial Leverage Ratio is calculated by dividing Assets by Shareholder Equity. The ratio of debt equity has implications for the shareholders' dividends and risk, this affect the cost of capital and the market value of the firm (Gupta and Banga, 2010). Berger and Di Patti (2006) reported a positive relationship between leverage and financial performance, while Gleason, Mathur, and Mathur (2000) showed negative relationship between financial performance and leverage level. Similarly, Zeitun and Tian (2007) found that debt level is negatively related with financial performance.

2.2.2 Size of the Firm

There exist different points of view about the relationship between the level of debt and the firm size. Previous studies have shown that company size can predict the future stock price (Almajali, Alamro & Al-Soub, 2012; Flamini, Schumacher & McDonald, 2009; Hvide and Møen, 2007).

Larger companies have easier access to the equity market, in comparison with the smaller companies, because of low fixed costs. Therefore, there should be a negative relationship between the firm size and the debt level (Lööf and Heshmati, 2008). Financiers are not willing to offer small firms capital, or the price of the offered capital is too high for small firms (Banafa, 2016). This idea is supported by empirical evidence that concludes SMEs are often forced to use internal source, and then short-term debt contracts due to the limited access to the long-term financing (Ramalho and da Silva, 2009).

2.2.3 Age of the Firm

Examining the relation between firm age and financial performance would seem to be relevant for both theory and practice. Age could actually help firms become more efficient. However, old age may also make knowledge, abilities, and skills obsolete and induce organizational decay (Agarwal & Gort, 2002). Companies age may affect the firm's performance in that organizational inertia operating in old firms tend to make them inflexible and unable to appreciate changes in the environment (Sorensen and Stuart, 2000). However, Liargovas and Skandalis (2010) reported that older firms are more skilled since they have enjoyed the benefits of learning and not prone to the liabilities of newness, hence they have a superior performance.

2.2.4 Performance of Firms

Performance of the firms can be calculated by using accounting measure using firm's financial statements. Performance can be computed by relating profits of a firm to its investment. Literature uses a number of different accounting measures for calculating firm performance, which include ROE and ROA. Market based measures such as stock return and volatility has also been used for performance measures (Palepu, Healy & Peek, 2010).

As an indication on how well managers are investing the funds provided by investors Return of Equity (ROE) is used. ROE is calculated by dividing the net profits by the book value of equity. On the other hand, Return on Assets (ROA) measures how well a company is at generating profit from their assets. Total assets of ROA are measured by using the book value of its assets. Both these ratios, however, use book values of equity and assets which is a limitation in that only current or historical firm profitability can be measured (Palepu et al., 2010).

2.3 Empirical Review

There have been many studies on the variables that affect performance of firms listed in capital markets. Alam and Rashid (2014) explore the interaction between independent variables namely inflation, industrial production, money supply, exchange rate and interest rate dependent Variable Karachi Stock Exchange 100 index. A period of secondary data collected from 2001 to 2011 on monthly base. The study found out that there is an impact of macroeconomic indicators on the Karachi Stock Market on consumer price index, money supply, exchange rates and interest rates negatively connected with the stock returns, while the industrial production index positively connected with the stock returns.

A study by Abdussalam (2006), in Jordan, considered major characteristics such as firm size, firm age, and debt ratio and ownership structure firms listed in Amman Stock Exchange. The findings of the study indicated that there was a positive relationship between firm size and profitability. Ahmad, Abdullah and Roslan (2012) focusing their study on Malaysia established that ROA is affected by short-term debt and long-term debt. On the other hand, ROE is also affected by short-term debt, long-term debt and total debt.

Yuan and Kazuyuki (2011) basing their study on Chinese listed companies showed that total debt ratio had a negative impact on fixed investment. They argued that highly indebted firm will find it hard to get credit thus resulting in underinvestment. Underinvestment will be affected firms' performance. Pouraghajan and Bagheri (2012) basing their study on firms listed in the Tehran Stock Exchange (Pakistan) noted a significant negative relationship between debt ratio and financial performance of firms. They also observed a significant positive relationship between asset turnover, firm size, asset tangibility ratio, and growth opportunities with firms' performance.

Ahmad, Abdullah, Sulong and Abdullahi (2015) identified relation between two independent variables namely per capita income & inflation with dependent variable. Study conducted annual data from 1970 to 2013. The study found that the variables were non-stationary at levels but were stationary after first differencing. Co-integration established the existent of co-integration amongst

all the variables. There was significant positive impact of Structural break, in 1996, on the Nigeria stock market returns in both short-run and the long-run. The Gross domestic per capita income a Key provider to increasing stock market returns and also positive impact of gross domestic per capita income and inflation on stock market returns in Nigeria.

Nduati (2010) study on the performance of companies quoted at the Nairobi Securities Exchange observed that leverage did not contribute to financial performance of firms quoted at the Nairobi stock Exchange. A study by Tale (2014) on firms listed at NSE too, showed that there was a negative relationship between financial performance and the size and growth of the firm. Suhaila (2014) also observed a positive relationship leverage and performance. Wainaina (2014) studying the relationship between leverage and financial performance of firms in Kenya concluded that leverage had a significant influence on the performance, and that there was a positive relationship between leverage (debt-equity ratio) and financial performance of small and medium enterprises in Kenya. However, Adongo (2012) focusing on firms listed in NSE had revealed that there is an insignificant relationship between returns adjusted by risk and financial leverage.

2.4 Critique of Existing Relevant Literature

A number of studies have been carried out on factors affecting performance of firms listed in capital markets. This section review some of the studies carried out on firms listed in emerging capital markets. These studies are deemed to hold key insights on determinants of non-financial performance of firms listed in capital markets, as in NSE.

Liargovas and Skandalis (2010) conducted a study, in Greece, that examined the impact of key determinants of firms' performance. In their study, they drew a distinction between financial and non-financial drivers of firms' performance. The study findings showed that leverage, location and size significantly affect firm's performance. The findings further indicated that profitable firms are large firms, which have an optimal debt-equity ratio and use their liquidity to finance their investments. Their study did not look at the age of the firms and its effects on performance. Also, they study did not take note of the advantages that firms offering financial services have compared with non-financial firms.

In a study conducted on firms operating in capital market-oriented economies, such as the United Kingdom and the United States, Antoniou, Sinilkova, Simard, and Dumont (2007) found out that the leverage is positively affected by the tangibility of assets and the size of the firm. The study, however, observed that leverage declines with an increase in firm growth and market conditions. Their further made an observation that countries legal and financial traditions affect the effects of the considered determinants. Their study did not consider the effect of age on the firms' performance.

While basing his study in South Korea, Lee (2008) focused on the effect of equity ownership structure on firm financial performance. His study found while considering firm performance using the accounting Rate of Return on Assets (ROA) there was an indication of an improvement on ownership concentration but there was insignificant effects of foreign ownership and institutional ownership. This study did not look at the age of the firms and its effects on performance. Also,

they study did not take note of the advantages that firms offering financial services have compared with non-financial firms.

2.0 METHODOLOGY

3.1 Research Design

Research design refers to a detailed outline on how the research was conducted. It specifies the methods and procedures that were used to collect and analyze data. This study, in will this paper is based on, was both cross sectional and descriptive research designs. Cross sectional research design is a study that aims to describe the relationship between one factor and other factors of interest as they exist in a specified population at a particular time, without regard for what may have preceded or precipitated at the time of the study (Sekaran & Bougie, 2016). Descriptive research design is a method that synthesizes the empirical evidence of a specific field of research data (Eriksson & Kovalainen, 2015).

3.2 Population of the Study

The target population refers to the entire group of people, events or things that the researcher intends to investigate (Eriksson & Kovalainen, 2015). All firms listed in NSE formed the population of the study. The target population for the study included the non-financial firms listed in the NSE. The listed firms are classified into different sectors such as; Agricultural, Banking, insurance, investment and investment services, Allied and Construction, Commercial and service, Energy and Petroleum, Automobiles and Accessories, Manufacturing, Telecommunication and Technology and Real Estate Sector (NSE, 2016). As at December 2016, NSE had a total 64 listed companies in the different sectors. Financial firms at the NSE comprise of commercial banks which provide financial intermediation functions while the Non-financial firms are those companies that are not involved in the provision of financial intermediary services. Financial services companies are excluded since they are the companies that provide leverage and other debt services to the non-financial firms.

The study aimed at sampling from a total of 48 non-financial firm listed at NSE. However, preliminary survey of the reports from the non-financial firms indicated that only 40 had complete data and which had been listed for the more than five years i.e. between 2011 and 2016. Using simple random sampling the study sampled 20 non-financial firms which was about 31 percent of the all listed firms at NSE. A sample size of at least 10 percent is usually recommended for social sciences and is considered appropriate (Cooper & Schindler, 2006; Mugenda & Mugenda, 2003). For the purpose of this study, the data was obtained for a period of five years, spanning between years 2011 – 2016.

3.3 Data Collection Methods

Data collection is the process of gathering and measuring information in order to be able to answer questions that prompted the undertaking of the research (Flick, 2009). Secondary data was used in this study. Secondary data refers to the information that has been collected by other individuals (Cooper & Schindler, 2006). The secondary data was used come up with the determinants to be tested. Secondary data was obtained from Nairobi Securities Exchange and Capital Market

Authority of Kenya. The data for the study was extracted from the annual reports and financial statements of all the firms, review of documents, the Nairobi Securities Exchange Handbooks and published books of accounts. Fleisher and Bensoussan (2015) supports the idea of review of secondary sources as they contain wealth of information which, if properly analyzed and interpreted, can provide valuable insights into a firm's performance and position on the market.

According to Mugenda and Mugenda (2003) data must be cleaned, coded and properly analyzed in order to obtain meaningful information. Data gathered was used in panel analysis. The data was analyzed using Statistical Package for Social Sciences (SPSS) (Version 2.1) to generate regression results. The results of the analysis were organized in tables and themes, and then used to answer the study questions.

3.4 Data Analysis and Presentation

The study used panel data (random effects). The use of panel data helped in controlling individual heterogeneity, can give more volatility, more information, more degree of freedom, less collinearity and more informative data. Panel data assisted in the identification and measure effect that are not detectable in pure time series or in pure cross section data. It helped in the construction and testing of more complicated behavioral modes than pure time series or cross section.

A number of tests to the empirical model were carried out in order give the model the proper functional and mathematical form. Descriptive data analysis and other statistical tests were done, including the normality test which analyzed both skewness and Kurtosis to provide an overview whether the data is normally distributed or not. Also the study determined the spread of the data, mean values, standard deviations and also the correlation matrix**.** Mean is used to measure the central tendency of data. It is calculated by summation of all values then divide the sum total by the number of observations. On the other hand, standard deviation measures dispersion from mean (Mertler & Reinhart, 2016). .

Multiple Regression Analysis is used when there are more than one variables. This study used Ordinary Least Square (OLS) multiple regression in checking the impact of firm level characteristics on the financial performance of firms listed at NSE. OLS is used for estimating the unknown parameters. This method minimizes the sum of squared vertical distances between the observed responses in the dataset and the responses predicted by the linear approximation. Correlation shows how two variables move in relation to each other. Correlation coefficient ranges from -1 to +1. Perfect positive correlation shows that both the variables are moving in the same direction and perfect negative correlation shows us that if one variable moves in one direction the other variable will move in the opposite direction. If correlation is "0" means there is no relation between the variables (Chatterjee & Hadi, 2015).

The level of significance was determined using probability values (Mertler and Reinhart, 2016). If the p-value(s) is more than 5% then the null hypothesis is true since this means that there is no statistically significant relationship between financial leverage and profitability of listed firms at the Nairobi securities exchange. Similarly, if the p-value is less than 5% then the alternative

hypothesis was considered true since this means that there is a positive relationship between variables. All the tests were performed at 95% degree of confidence.

The study used the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_4 + \varepsilon$$

Where:

Y= Performance of firm i at time t

β_1 to β_n are the regression coefficients

β_o= Constant term

X_1 = Leverage determined by the total debt divided by the total assets

X_2 = Size of firm determined using natural log of the total assets

X_3 = Age (till 31st December 2016)

β_0 =gradient or slope of the regression measuring the unit of change in y associated with a unit change in X

ε is error term within a confidence interval of 5%

The study dealt with a small panel data, therefore serial correlation test was not conducted. The panel for the study was 5 years. Serial correlation is vital and necessary for large macro panel with long time series. This study conducted Durbin-Watson Test to indicate the existence of first order auto correlation. To determine whether errors are not correlated the ideal Durbin Watson test statistics is 2, however, it can be allowed to fluctuate from 1.75 to 2.5. Durbin Watson statistic of lower than 2 indicates positive serial autocorrelation. Statistic higher than 2 and almost 4 indicates negative autocorrelation. The study also did not conduct Heteroscedasticity tests. This is because while using panel data Heteroscedasticity is not considered a serious problem. But in cases where there is Heteroscedasticity the researcher should employ Generalized Least Square (GLS) method to avoid it (Born and Breitung, 2016).

3.0 RESULTS AND FINDINGS

4.1 Descriptive Statistics

Table 1 shows that the total number of observations are 100. The study found that the standard deviation of ROA is "0.71009" which indicates "0.71009" dispersion from mean value while that of ROE is 1.83497 which indicates 1.83497 dispersion from mean value.

Table 1: Summary of mean and standard deviation

Variables	Values
ROA	
Std Deviation	0.71009
Mean	0.0932
N	100
ROE	
Std Deviation	1.83497
Mean	-0.1012
N	100
AGE	
Std Deviation	5.7530
Mean	20.1324
N	100
SIZE	
Std Deviation	3.2390
Mean	8.5446
N	100
LEVERAGE	
Std Deviation	1.5139
Mean	1.4790
N	100

4.2 Robustness Test

Table 2 shows the results of R-square, Adjusted R-square and Durbin-Watson values as 0.685, 0.678 and 1.782 respectively of ROA. The results of ROA shows that Durbin-Watson is 1.792 that means that there is no auto correlation and the results of R-square and adjusted R-square showed very less difference between them i.e. 0.007 so, it means that data is normal. R Square is the coefficient of determination which shows the percentage of variation in dependent variable which is explained by variation in independent variable.

Further the result on ROE shows that R-square, Adjusted R-square and Durbin-Watson values as 0.720, 0.712 and 1.682 respectively. Table 2 shows that Durbin-Watson is 1.684 and the

results of R-square and adjusted R-square showed very less difference between them i.e. 0.008 so, it means that data is normal.

Table 2: Robustness Test

Parameters	Values
ROA	
R-Square	0.685
Adjusted R-Square	0.678
Durbin- Watson	1.782
ROE	
R-Square	0.720
Adjusted R-Square	0.712
Durbin- Watson	1.682

4.3 Regression Analysis

Table 3 shows that p value is less than 0.05 so, overall model is significant value of R-square is 0.685 which explained the financial performance of firm with the given independent variables. All the three variables have significant impact on the financial performance of firm because their values are less than 0.005.

Table 3: Regression analysis

Estimates	C	Age	Size	Leverage	R-Square	F-Stat
Coefficient	0.44	0.230	-0.018	0.130	0.685	4.352
Std Error	(0.0221)	(-0.002)	(0.001)	(0.001)		
t- Statistics	[0.304]	[2.66]	[2.29	[3.33]		
Prob.	0.761	0.048	0.023	0.000		0.002

Age has p-value 0.048 which is less than 0.05 which means that it has significant impact on firms' financial performance its beta is 0.230 which shows positive impact with firm's financial performance. From the regression results the study found out that age has p-value less than 0.05 which means that age has significant impact on firms' financial performance on the basis of this result the study accepted first hypothesis of the study.

Size has P-value less than 0.05 which means it has significant impact on financial performance. Its coefficient is -0.018 which shows negative relation between size and financial performance of firm. Results of size indicated that size has significant impact on firms' financial performance

on the basis of this result the second hypothesis is accepted.

Leverage has p- value less than 0.05 and its coefficient is 0.130 which indicate positive significant impact on dependent variable. Leverage has p-value less than 0.05 which means that leverage has significant impact on firms' financial performance so third hypothesis is also accepted.

4.4 Correlation Coefficient

The Pearson's correlation is a measure of the strength and direction of association that exits between two variables on at least an interval scale. The strength of the association between the variables was specified by Pearson correlation scale where: values between 0.0 to 0.3 indicate that there is no correlation, between 0.31 to 0.5 shows a weak correlation, between 0.51 to 0.7 a moderate correlation and between 0.71 to 1.0 indicates that there is a strong correlation between the variables.

Results in the Table 4 show that financial performance of firm is positively correlated with all the explanatory variables. Positive correlation means any increase in explanatory variable causes increase in firms' financial performance and decrease in explanatory variables causes decrease in financial performance. Similarly, in case of negative correlation it is vice versa i.e. increase in explanatory variable causes decrease in firms' financial performance.

Results indicate that correlation between ROA and Age is 0.033. Correlation between ROA and size is 0.033, correlation between leverage and ROA is 0.261. The relationship between ROA and the entire explanatory variable are significant at 5% level of significance. Age has positive significant correlation with size. Correlation between age and size is 0.010. There exist negative but significant relation between age and leverage is negative and insignificant. Size has positive correlation with leverage and growth.

Table 4: Correlation Matrix -ROA

Variables		ROA	Age	Size	Leverage
ROA	Pearson Correlation	1	0.033**	0.030**	0.261**
	Sig. (2-tailed)		0.001	0.002	0.000
	N		100	100	100
Age	Pearson Correlation		1	0.008	-0.127
	Sig. (2-tailed)			0.010**	0.060
	N			100	100
Size	Pearson Correlation			1	0.182**
	Sig. (2-tailed)				0.008

	N	100
Leverage	Pearson Correlation	1
	Sig. (2-tailed)	
	N	

Note: ** denotes correlation is significant at the 0.01 level (2-tailed).

Table 5 show that financial performance of firm is positively correlated with all the explanatory variables except leverage. Positive correlation means any increase in explanatory variable causes increase in firms' financial performance and decrease in explanatory variables causes decrease in financial performance. Similarly, in case of negative correlation an increase in explanatory variable causes decrease in firms' financial performance.

Results indicate that correlation between ROE and age is 0.030; correlation between ROE and size is 0.045; correlation between leverage and ROE is 0.060. The relationship between ROE and the entire explanatory variable are significant at 5% level of significance.

Age has positive significant correlation with size. Correlation between age and size is 0.008. There exists negative but significant relation and between age and leverage is negative and insignificant. Correlation between size and leverage is 0.181.

Table 5: Correlation Matrix -ROE

Variables		ROE	Age	Size	Leverage
ROE	Pearson Correlation	1	0.030**	0.045**	-0.060**
	Sig. (2-tailed)		0.009	0.003	0.003
	N		100	100	100
Age	Pearson Correlation		1	0.008**	-0.127
	Sig. (2-tailed)			0.009	0.060
	N			100	100
Size	Pearson Correlation			1	0.181**
	Sig. (2-tailed)				0.008
	N				100
Leverage	Pearson Correlation				1

Sig. (2-tailed)	
N	

Note: ** denotes correlation is significant at the 0.01 level (2-tailed).

5.0 DISCUSSION OF FINDINGS

The analysis of the data has indicated that the three variables have significant impact on the performance of the firm. Analysis of ROA indicated that leverage has a positive impact on the performance of firms. This compares with previous studies by Akhtar (2012); Ward and Price (2006); Sharma (2006) which showed a positive impact on the performance of the firm with an increase in leverage. Positive impact of leverage can be explained by the fact that there is a tax reduction for the firms raising fund through debts rather equity. After tax cost of debt is lower than that of equity. It follows therefore that firms may opt to increase debt in order to get tax advantage thus resulting in the improved profitability and increased asset portfolio. Leverage encourages managerial incentives and makes managers to make optimal investment decisions.

Analysis of ROE indicated negative relation to leverage. This compares with previous studies by Cheng and Tzeng (2014) and Pandey (2004). When the level of debt is high there is usually an increase in the cost of bankruptcy. The value of the firm is negatively impacted by bankruptcy cost. The required rate of return of the investor is increased by an increase in debts. In creating variability of the return offered to the shareholders, leverage increases the risk (Pandey, 2008). The introduction of debt lead to increase in beta of the levered firms.

When ROE and ROA are analyzed, size indicated a positive impact on the performance. This compares with previous studies by Isik, Unal, & Unal (2017) and Kuei, Madu, Chow & Chen (2015). These previous studies showed that larger firms enjoy greater negotiation power, able to access capital easily and bigger pool of qualified staff. Larger firms can easily make strategic diversification with minimal financial risks as compared to the small firms due to their size of operations and capital. This study indicates that the size of the company can have a positive effect on financial performance. This is because larger firms can get some financial benefits in business relations. These benefits may include better interest rate, better discount rate due to a large quantity that it buys and often get cheaper funding. Therefore, absolute firm size plays an important role in explaining profitability. Large firms have easier access to the most important factors of production, including human resources. The findings mirror the findings of Garicano, Lelarge and Van Reenen (2016) that larger firms are less productive but more profitable.

When ROA and ROE are considered age is positively related to performance. With the passage of time are able to learn and get experienced. This allows them to handle complex problems easily than new firms. Increase in firm's age leads to higher level of productivity and higher profit. Increases in the age of a firm results in the increased experience of the firm which in turn improves its performance.

6.0 CONCLUSION

The result of the study indicated a significant effect of the firm level variables on the firm performance. When ROA is considered as the performance measure, size, age, and leverage have a positive impact on the performance of the firm. Size and age have a positive impact on ROE while leverage has a negative impact.

The size of the company can have a positive effect on financial performance. This is because larger firms can get some financial benefits in business relations. Impact of leverage can be explained by the fact that there is a tax reduction for the firms raising fund through debts rather equity. In addition, with the passage of time firms are able to learn and get experienced. This allows them to handle complex problems easily than new firms. The paper therefore concludes that attention is needed towards these firm level variables in order to improve the performance of the firms and for the firms reach an appropriate outcome.

7.0 IMPLICATIONS AND RECOMMENDATIONS OF THE STUDY

The paper makes to the following recommendations:

7.1 Increasing Levels of Leverage

Indication of importance of leverage is indicated in that when ROA is considered as the performance measure, leverage have a positive impact on the performance of the firm whereas when using ROE as a performance measure, leverage has a negative impact.

Controlled increase in the level of leverage provides the firm with tax advantage but uncontrolled leverage increases the risk of bankruptcy. When the increase in interest rates outweigh the advantages related to the leverage, negative impacts are experienced. Debt default may arise if company is unable to pay its interest along with principal amount. It is recommended therefore that the managers of the firms listed at the NSE should employ minimal debt level or use an optimal debt level.

7.2 Increasing Firm's Assets

The study having found that there is a positive relationship between size and performance, there is need to focus on increasing the company's assets. Increasing the assets, a firm may improve its sustainability and competitive advantage. This is largely because large companies have more negotiating power and enjoy economies of scale than small companies. The study therefore recommends that managers of firms listed at NSE should focus on growing their firms to ensure that they enjoy the economies of scale associated with large firms, also to attract good management thus to improve their financial performance.

7.3 Firms Utilizing Age as an Advantage

The study established that age has a positive relation with the performance. With the passage of time, firms are able to learn new things and lesson that improve their performance compared to

new firms. The management should adopt adaptive strategies that will take note of foregoing circumstances and then incorporating lessons learnt in future.

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Appendix I:

NON-FINANCIAL FIRMS LISTED AT THE NSE

Commercial & services sector

1. Express Kenya Limited
2. Kenya Airways Limited
3. Nation Media Group Ltd
4. TPS Eastern Africa Ltd
5. Standard Group Ltd
6. Uchumi Supermarkets
7. Longhorn Kenya Ltd
8. Scangroup Ltd
9. Hutchings Biemer Ltd

Automobile & accessories

1. Car & general Kenya Limited
2. Marshalls (E.A.) Ltd
3. Sameer Africa Ltd

Agricultural sector

1. Eaagads Ltd
2. Kakuzi Ltd
3. Kapchorua Tea Co. Ltd
4. The Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini & Coffee Ltd
7. Williamson Tea Kenya Ltd

Construction & allied sector

1. Athi River Mining
2. Crown Paints Kenya Ltd
3. Bamburi Cement Limited
4. E. A. Cables Ltd
5. E. A. Portland Cement Co. Ltd

Investment

1. Centum Investment Company
2. Olympia Capital Holding
3. Trans – Century Ltd
4. Nairobi Securities Exchange Ltd Ord 4.00

Energy & petroleum

1 KenGen Co. Ltd
2 Kenol Kobil Ltd

3 Kenya Power & Lighting Co Ltd
4 Kenya Power & Lighting Ltd 4% Pref 20.00
5 Kenya Power & Lighting Ltd 7% Pref 20.00
6 Total Kenya Ltd
7 Umeme Ltd

Telecommunication

1. Safaricom Ltd

Manufacturing

1. A. Baumann & Co Ltd
2. Unga group Ltd
3. British American Tobacco Kenya Ltd
4. Mumias Sugar Co. Ltd
5. B.O.C Kenya Ltd
6. Carbacid Investments Ltd
7. East African Breweries Ltd
8. Eveready East Africa Ltd
9. Kenya Orchards Ltd

Growth enterprise market segment (GEMS)

1. Flame Tree Group Holdings Ltd Ord 0.825
2. Home Afrika Ltd

Appendix II:

LIST OF NON-FINANCIAL FIRMS SAMPLED FOR ANALYSIS

1. Longhorn Kenya Ltd
2. Scangroup Ltd
3. Unga group Ltd
4. British American Tobacco Kenya Ltd
5. East African Breweries Ltd
6. Kenol Kobil Ltd
7. Sasini & Coffee Ltd
8. Williamson Tea Kenya Ltd
9. Centum Investment Company
10. Trans – Century Ltd
11. Kakuzi Ltd
12. Car & general Kenya Limited
13. Kapchorua Tea Co. Ltd
14. The Limuru Tea Co. Ltd
15. Crown Paints Kenya Ltd
16. Nation Media Group Ltd
17. TPS Eastern Africa Ltd
18. Eaagads Ltd
19. Marshalls (E.A.) Ltd
20. Standard Group Ltd