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Effect of firm characteristics on stock returns of non-financial listed companies in Kenya.

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ABSTRACT
Companies can be evaluated on the bases of various financial and non-financial characteristics. The uniqueness of those characteristics make specific companies raise perceptions in the minds of the users of the financial information regarding the performance and future of the company. The purpose of this study was to assess the effect of firm characteristics on stock returns of non-financial listed companies in Kenya. Whereas there are various firm characteristics attributed to each firm, it is not clear how cash flows, leverage and firm size affect stock return for non-financial listed firms on stock markets particularly those with characteristics like Nairobi Securities Exchange. Therefore, the specific objectives of the study was to assess the effect of Cash flows, Leverage and Firm size on stock return for non-financial listed companies in Kenya. The study was a census and it covered all non-financial listed companies at the NSE between the years 2008 to 2016. The choice of this period was informed by various reforms that were undertaken at the NSE. These includes a rise in initial public offers (IPOs), additional offers (AOs), right issues, bonus issues and stock splits all of which had great influence on stock returns. There were 44 non-financial listed companies in the Nairobi Securities Exchange. Panel regression model was applied to test the significance of the independent variables on dependent variable Unit root test, Co integration and granger causality test were applied for empirical testing of the data. The study assessed the sensitivity of empirical results of cash flows, leverage and firm size on stock return for non-financial listed firms in Kenya. The study contributed to the body of knowledge in that non-financial listed companies gained practical insights into the effect of firm characteristics under consideration on stock return thereby enriching their knowledge on how to increase performance. The study showed that both cashflow and leverage have significant effect on stock returns of non-financial listed companies in Kenya. The results further indicates by including the firm size, the significance of the two independent variables (cashflow and leverage) to dependent variable improves. Therefore the study recommends that, for firms to increase the performance of their stock returns, they need more cashflow and in return more stock returns. The firms also need to increase leverage to increase their stock returns performance. Also increase in firm size through increasing its market share may lead to an increase in stock returns performance.

INTRODUCTION

Firms thrive to survive in a wide range of environments characterized with unfavorable economic conditions in addition to the various firm characteristics. The effect of firm characteristics in developed economies is different from those in undeveloped or developing economies. There is a growing body of literature on the important roles of various firm characteristics on the average-return variability of common stocks (Simlai, 2009). Companies can be distinguished from one another on the basis of different financial and non-financial characteristics including, firm value, cash flow, earnings per share, leverage, firm size and firm structure among others. These characteristics are unique to specific companies and raise a perception in the mind of the users of that information regarding the performance and future of the company. In the current scenario where all critical decisions of firm management quickly reach the markets as well as information users, an important issue regarding financial research is the effect of these characteristics on returns of stocks.

Tahir, Sabir, Alam and Ismail (2013) assert that if identified individually, the crucial sources of average-return anomalies are firm size, firm value (book-to-market), past return (short-run return continuation and long-run return reversal), earnings momentum (post-earnings announcement drift), dispersion, accruals, credit risk, profitability and leverage etc. In this study, I reinvestigate the performance of the portfolio of common stock returns with respect to three popularly known firm characteristics: cash flow, leverage and firm size (market equity, ME) as an intervening variable. More specifically, we revisit the role of common risk factors that are related to some of those firm characteristics and extrapolate the function of volatility persistence in the average stock returns.

The stock market along with debt markets are some of the means by which companies raise money for investment though most firms do not trade publicly. However, this allows businesses to be publicly traded, and raise additional financial capital for expansion by selling shares of ownership of the company in a public market (Cesari, Espenlaub, Khurshed & Simkovic, 2010). The liquidity that an exchange affords the investors enables their holders to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as property and other immoveable assets. Some companies actively increase liquidity by trading in their own shares (Simkovic, 2009).

The price of stocks and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. An economy where the stock market is on the rise is considered to be an up-and-coming economy. In fact, the stock market is often considered the primary indicator of a country's economic strength and development (Cutler, Poterba & Summers, 1991). Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and, in general, on the smooth operation of financial system functions. Financial stability is the raison d'être of central banks. Exchanges also act as clearing houses for each transaction, meaning that they collect and deliver the shares, and guarantee payment to the seller of a security. This eliminates the risk to an individual buyer or seller that the counterparty could default on the transaction.

The smooth functioning of all these activities facilitates economic growth since lower costs and enterprise risks promote the production of goods and services as well as possibly employment. In this way, the financial system is assumed to contribute to increased prosperity, although some controversy exists as to whether the optimal financial system is bank-

based or market-based (Alexander, Dhumale & Eatwell, 2006). Recent events such as the Global Financial Crisis have prompted a heightened degree of scrutiny of the impact of the structure of stock markets (called market microstructure), in particular to the stability of the financial system and the transmission of systemic risk (Mandelbrot & Hudson, 2006).

1.1 Objectives of the Study

The main objective of the study was to assess the effect of firm characteristics on stock returns of non-financial listed companies in Kenya. Specifically the study sought to;

i. Find out the effect of cash flow patterns on stock returns of non-financial listed companies in Kenya.
ii. Examine the effect of firm leverage on stock returns of non-financial listed companies in Kenya.
iii. Assess the moderating effect of firm size on the relationship between firm characteristics and stock returns of non-financial listed companies in Kenya.

1.2 Global Perspective.

Studies of stock market return and market characteristics are based on various theories that have been developed over the previous years. Some of the theories relate to the market efficiency and the ease with which firm characteristics information is reflected in the stock prices. There is a cost of capital problem whereby it's not clear which asset pricing model should be used. The capital assets pricing model (CAPM) of Sharpe (1964) and Lintner (1965) is the common choice. Recent evidence suggests, however that the CAPM is not a good description of the expected returns. As an alternative, Fama and French (1993, 1995) proposed a three-factor pricing model. But some argue that this model is empirically inspired and lacks strong theoretical foundation. There was a significant effect of stock and firm characteristics on stock returns during stock market crash in Indonesia in 1997, 2000 and 2008. As idiosyncratic factors, market value (MVNV) and stock illiquidity (ILLIQ) are inappropriate to be the determinant of stock returns during stock market crashes (Fauzi and Wahyudi (2016).

In the USA, Simlai (2009) tested whether alternative volatility models' forecasts can further improve the common risk factors performance in explaining the fluctuations of portfolio stock returns sorted by two simple accounting ratios: firm size (ME) and book-to-market (BE/ME). In order to do so, the study followed the methodology pioneered by Fama and French in a series of seminal papers (Fama & French 1992a, b, 1993). The patterns in the monthly and yearly average excess returns, with respect to two firm level characteristics documented, were consistent with earlier studies.

Simlai (2009) found that two risk factors based on the mimicking return for the firm size and book-to-market ratios play a significant role in capturing strong variation in stock returns over an extended time period. Khurshed (2009) used a sample consisting of 240 UK IPOs issued during 2001-2005 and covering 95% of the total number of new issues. He found a positive relationship between the size of the firm and its long run performance (the larger size of the firm, in terms of the assets at the time of flotation, the better Long run performance of IPO will be).

Zaighum (2014) examined the impact of pre-specified set of macroeconomic factors on firm's stock returns for nine nonfinancial sectors listed in Karachi Stock Exchange. The macroeconomic factors included are consumer price index, industrial production index, market returns, risk free return and money supply. The studied sample covered data from 2001 to 2011. Using pooled OLS, panel analysis showed that all studied sectors firm's stock returns have negative relationship with consumer price index, money supply and risk free rate, whereas industrial production index and market returns indicates a positive relationship (Zaighum, 2014).

Adedoyin (2011) investigated share price determination and corporate firm characteristics in a view to critically examine the significant effect corporate firm characteristics has in determining the price of shares listed on the Nigerian Stock Exchange. A panel data design was adopted using seventy-two companies from 2004-2009. Ordinary Least Square (OLS), fixed effect and random effect estimation technique were employed in the analysis with the use of Gretel econometric analytical tool. The result indicated that the size of the firm has the most significant effect on share price determination in the two models adapted for the study. The study recommended that investors should be critical and objective in considering corporate firm characteristics in making investment decisions. Also, Managements and board members should aim at improving earnings which were rated through the literature reviewed to be a major determinant of share price.

Fama and French (1992) analyzed all non- financial US IPO firms issued during the period (1962-1989). They excluded financial firms because the high leverage that is normal for these firms probably do not have the same meaning for non-financial firms. They studied the joint roles of market Beta (β), size, E/P, leverage, and book - to-market equity in the cross – section of average stock return. They found that being used alone or in combination with other variables (the slope in the regression of a stock return on a market return) has little information about average return, firm size; E/P, leverage, and book to market equity have explanatory power. In combination firm size, book to market equity seem to absorb the apparent roles of leverage and E/P (earning/price) in average return. Also, Fama and French document that common stock returns are related to firm size and book to market ratio.

Gomes, Kogan, and Zhang (2001) link expected returns to firm size and book-to-market in a dynamic general equilibrium production economy. Firm size and book-to-market can predict returns because they are correlated with the firm's systematic risk. Xiao-Ming and Xiaoguang (2010) examined the effects of firm characteristics on stock returns for China's investable firms specifying 12 alternative panel regression models to ensure the robustness of results, taking into account several issues e.g. errors in beta estimates, possible flat return-beta relation, and results being sensitive to different proxies for market portfolios, outlier problem, and the possible January effect.

1.2 Local Perspective

Some firms perform better than others in financial management and profitability while most of the researches in Kenya have been generalizing the correlation between these variables with all the firms listed at the NSE (Mwangi et al., 2014;

Maina & Kondongo, 2013) and this may give wrong conclusions. Some firms are underperforming and facing financial or managerial problems e.g. CMC Holdings faced boardroom challenges and Mumias Sugar moved into losses, while Unga group and Uchumi profits fell by 43% and 35% respectively as per their half year results for the period ending December 2012. The most consistent in terms of profitability and performance are the firms under NSE 20 Share Index and are the best twenty firms at the NSE.

Barako (2007) investigated the determinants of voluntary disclosures in Kenyan companies' annual reports by examining: firm size, leverage, type of audit firm, profitability and liquidity. The study found that in almost all disclosure studies, company size has featured as an important determinant of disclosure levels (Belkaoui-Riahi, 2001; Lang & Lundholm, 2003; Owusu-Ansah, 2008; Wallace & Naser, 2005).

Omondi and Muturi (2013) did a study on Factors Affecting the Financial Performance of Listed Companies at the Nairobi Securities Exchange in Kenya. The study adopted an explanatory research design and 29 listed firms (excluding listed banks and insurance companies) which have consistently been operating at the Nairobi securities exchange during the period 2006-2012 using Pearson correlation and multiple-regression. Study findings showed that leverage had a significant negative effect on financial performance. The study suggested that there is need to determine an optimal debt level that balances the benefits of debt against the costs of debt and developing sound techniques of managing current assets to ensure that insufficient and unnecessary funds are not invested in current assets as maintaining a balance between short-term assets and short-term liabilities is critical (Omondi & Muturi, 2013).

Muıva (2014) examined the relevance of firm fundamentals in explaining stock returns of non-financial firms listed at the Nairobi Securities Exchange. The specific objectives of the study were to determine the relationship between stock returns and change in total assets, change in revenue growth and change in leverage and to determine the effect of change in total assets, change in revenue and change in leverage on stock returns. The study found a weak positive correlation between stock returns and change in total assets, while change in revenue and change in financial leverage exhibited a negative relationship with stock returns. However, the relationship between stock returns, change in total assets, change in revenue and change in financial leverage was found not to be significant. The study concluded that change in total assets, change in revenue and change in financial leverage cannot be used to meaningfully estimate stock returns for non-financial firms listed at the Nairobi Securities Exchange. Investors should not rely on information contained in change in total assets, change in revenue and change in financial leverage in selecting their investment stock at the Nairobi Securities Exchange. Also, managers cannot rely on changes in these variables as indicators of the effect of their decisions on value of their firms (Muıva, 2014).

2. LITERATURE

2.1 Cash Flow Theory

According to Jensen's (1986) free cash flow theory, when a firm creates many free cash flows while there are few profitable investment opportunities available, the manager tends to abuse the free cash flows. So, ineffective allocation of resources and non-optimal investments are the consequences of increasing agency costs (Brush et al., 2000). In other words, when the free cash flows are more than profitable investment opportunities, interest conflicts go higher; because managers seek only short-term interests for themselves (Talebnia et al., 2012). So, when the managers of a business unit are confronted with free cash flows the important thing is first, they can invest mentioned funds in suitable profitable projects in order to create value for their owners. This happens when there are good opportunities of growth in business units and managers can invest effectively free cash flows and hence increase the growth of business unit (Gul & Tsui, 1998).

2.2 **Pecking Order Theory**

According to Myers and Majluf (1984) the information and transaction costs overwhelm the forces that determine optimal leverage in the trade-off models. According to Pecking order theory financing comes from three sources, they are: Internal financing, New equity and Debt. Myers (2001) postulated that firms arrange their priorities in financing, first by using internal financing, then debt and lastly is new equity. The firms will first use retained earnings as this will avoid the floatation cost, also avoiding the deep disclosure of information to the public and the managers do not want to lose control of the firm to new owners by way of selling new shares. Therefore, should a need for extra funds arise then the firm will use debt financing. But according to this theory there is no optimal debt-equity mix as the capital sources are just ranked in the order above. Good high profitable firms will use more internal financing as much as they can but the low profitable firms do not have as much profits and retained earnings, they will not be able to use internal financing so they will opt for debt, this assists in explaining the puzzle about negative correlation between debt and profitability (Miglo, 2014). This study will therefore consider debt financing and measure leverage by way of debt to equity ratio.

2.3 Trade off Theory

The Trade-off theory of capital structure is the idea that a company chooses how much debt finance to use by balancing the costs and benefits. Trade off theory predicts that larger firms tend to be more diversified and hence likely to be less susceptible to financial distress. Further, if maintaining control is important, then it is likely that firms achieve larger size through debt rather than equity financing. Thus, control considerations also support positive correlation between firm size and debt. Ferri and Jones (2009) found that larger firms are likely to use more debt. Therefore, a positive association is expected between firm's size and leverage. Direct financial distress cost is inversely related to firm size (Cassar & Holmes, 2003). The ratio of direct bankruptcy costs to the value of the firm decreases as the value of firm increases. The impact of direct costs of bankruptcy on borrowing decisions of large firms is negligible. Larger firms are more diversified Ang et al., (2012), and they have easier access to capital markets, and borrow at more favorable interest rates. Chittenden et al., (2006) argued that the large firms have lower agency costs associated with the asset substitution and under investment problems, which mostly arise from the conflicting interests of shareholders and bondholders. Further, the smaller firms are more likely to be liquidated when they are in financial distress (Ozkan, 1996). Firm size is closely related to risk and

bankruptcy costs. All such considerations suggest a positive relationship between the firm size, which is measured as the volume of total assets of firms, the leverage ratio and market capitalization.

2.4 Conceptual Framework

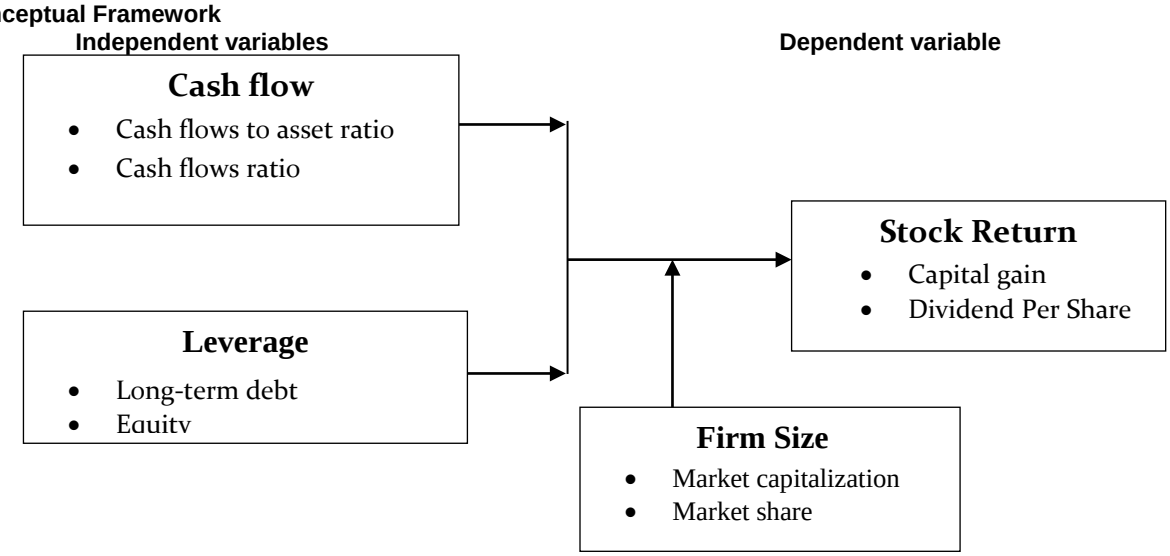

Figure: 2. 1: Conceptual Framework

2.5 Empirical Review

Cash flow of a company is a crucial factor that enhances its operations. According to Efobi (2008), Due to the relevance of cash flows in the company's operations and performance, corporate organizations need to develop a suitable cash flow mix and apply it in order to maximize shareholders' values. Investors prefer cash flow indicators since they believe it gives a better picture of the wealth and value firms generate (Adhikari & Duru, 2006). While earnings numbers were increasingly important to investors during the past decades, publicly listed firms came up with ways to manage their reported income statement numbers through accruals and non-cash charges to avoid negative shocks (Deboeuf, 2010). Cash flow statement is harder to manipulate and gives a better understanding on how much cash company generates through their operations each year (Griffin, Lont & Sun, 2010).

Bingilar and Oyadonghan (2014) examine the relationship between cash flow and corporate performance in the Food and Beverages sector of Nigeria in a survey of Six (6) Food and Beverages companies quoted in the Nigerian Stock Exchange. Data were obtained from the annual report and accounts of the selected companies under study. The relevant data were subjected to statistical analysis using the multiple regression technique. The results of the study revealed that operating and financing cash flows have significant positive relationship with corporate performance in the Food and Beverage Sector of Nigeria. It was also empirically verified that investing cash flow and corporate performance have significant negative relationship. This study however focused on the Food and Beverage Sector of Nigeria while the current study dwells on non-financial listed firms in Kenya.

Ali et al., (2013) studied the association between various earnings and cash flow measures of firm performance and stock returns in Iran. They used the simple and multiple regressions to analyse the data for a period of nine consecutive years from 2003 to 2011. The study revealed that company's performance and cash flow have a significant negative relationship; furthermore, earning based measures are more related to stock returns and depict the company performance better than cash flow measures in some companies with higher accruals.

Ashitiani (2005) studied the relationship between accounting ratios, operating cash flows, investments, financing and stock returns in Tehran Stock Exchange. The researcher used the Pearson correlation and simple linear regression to analyse the data of a sample of 650 listed companies for the years 1998 to 2004. The results showed that there is a meaningful relationship among the growing of operating earnings, growing of net profit, operating cash flows, investing cash flows with stock returns; but there is no meaningful relationship among the growing of trade sale, financing cash flows and stock return.

Khoshdel (2006) studied the relationship between free cash flows and operating earning with stock returns and growth of net market values of operating assets in Tehran Stock Exchange. The researcher tests the hypotheses via Pearson correlation and simple linear regression method. The study revealed that there is a positive meaningful relationship between operating earning with return on equity, return on assets, and growing of net market values in operating assets.

Watson (2005) examined the association of various earnings and cash flow measures of firm performance and stock returns. The researcher used simple and multiple regressions to analysis the data. The study revealed that cash flow and firm performance have a significant negative relationship. Thus, a company, whose performance is acceptable according to managements and shareholders' opinion, may not be acceptable in social aspect.

In Africa, Umer (2014) did a study on the determinants of capital structure; evidence from large taxpayer share companies in Ethiopia. The research used panel data of 37 firms from 2006 to 2010, the results found a negative relationship between leverage and profitability. Akinlo and Asaolu (2012) conducted a study on 66 purposeful selected non-

financial firms listed at the Nigeria Stock Exchange. The panel data covered a period from 1999-2007 and the results showed that leverage was negatively and significantly related to profitability. On the Contrary Fosu (2013) investigated 257 South African firms for the period from 1998 to 2009. The analysis from the panel data indicated that there is a positive effect of leverage on firm's performance. While Salawu et al. (2012) investigated using 70 firms out of the 100 firms listed at Nigerian Stock Market from 1990 to 2006 cutting across 14 sectors of the Nigerian Stock Exchange classification, the estimation from the panel data showed that long term debts and tangibility (asset structure) were positively related to firm's performance (ROA).

Karani (2009) established the relationship between the Debt-equity ratio and the expected common stock returns while controlling for beta and size of the firm. The dependent variable in the study was the expected common stock returns while the independent variables were the firm size, beta the risk measure and the debt-equity ratio. The main objective was to determine whether the debt-equity ratio is positive. Secondary data comprising of stock prices, dividends, financial statements of the listed companies and the Nairobi stock exchange monthly 20 share index was obtained from Nairobi Stock exchange and analyzed using linear multiple regression for a period of 10 years, 1998 to 2007. The results were inconclusive therefore there was no relationship that was found to exist between the expected common stock returns and the debt-equity ratio in the Kenyan market. In the Kenyan capital market, the debt-equity ratio of a firm is probably not a major factor to consider when making investment decisions on common stock securities (Karani, 2009).

A company's financial leverage can be analyzed by looking at the capital structure. By dividing the market value of equity on market value of debt and equity (E/A), you get the relative proportion of equity used to finance the company's debt. Bhandari (1988) analyzes the relationship between risk-adjusted return and the debt-to-equity (D/E) ratio on common stocks. His result shows that debt ratio is one of the stock return's risk premiums, since debt ratio has a positive relation with stock returns. Because of the greater risk of bankruptcy, the company's risk of its common equity will rise with an increase in leverage. With higher risk the investors will demand higher returns. Therefore, one can expect a positive relation between leverage and stock returns ($\alpha 1 > 0$). The study concluded what exactly the D/E ratio is a proxy for. However, Bhandari (1988) argued if it is a proxy for some sort of risk premium, a positive relation to the expected stock returns would be expected. The E/A ratio is used to describe the capital structure effect. When the D/E ratio is high, the E/A ratio would by design be low. In effect, Bhandari's results would imply that E/A is negatively correlated to the stocks return. If the earnings gained by increasing the company's leverage are larger than the costs associated with the increased debt minus the tax shield, the shareholders would benefit. Also, shareholders risk would increase with higher leverage, implying higher expected return. In contrast, the shareholders' value decrease if the company fails to generate returns above the cost of capital, and the chance of distress increases (Bhandari (1988).

Previous studies in finance have shown that company size can predict the future stock price (Simerly & Li, 2000). For instance, Hvide and Moen (2007) in their study concluded that larger firms have better performance. Flamini et.al., (2009) suggested that bigger firms are more competitive than smaller firms in harnessing economies of scale in transactions and enjoy a higher level of profits. Athanasoglou et al., (2005) assert that increase in company size increases the performance of the bank. Almajali et al., (2012) argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi 2007).

In India, Kumar and Sehgal (2004) studied the relationship between company characteristics i.e. firm size effect, value effect and stock classification effect and common stock returns and found that size effect is the relationship between company size and common stock return. This implies that small firm stock should significantly outperform stocks of big firms. Size effect can mainly be attributed to the following: small firms are relatively ignored by investors; they are less researched upon; they exhibit less liquidity and hence their betas are generally under-estimated; they have concentration of management ownership; they do not have diversified operations, and they have weak management, less committed customer base, high labor turnover, poor technology, etc. As there are a variety of ways in which one can measure company size, the following alternatives can be used: Market Capitalization (MC), Total Asset (TA), Enterprise Value (EV), and Net Sales (NS).

Amir (2011) examined the return of the size anomaly in the German stock market by using an instrumental variable estimation to address Berk's critique of a simultaneity bias in prior studies on the small firm effect and to investigate the economic rationale behind firm size as an explanatory variable for the variation in stock returns. The study confirmed an inverse relationship between firm size and return, yet with two qualifications. First, the link was stronger during the bull market period (prosperous) than during the bear market period (slump); and second, the momentum effect surpasses the size effect at least in a risk-based specification. The results indicate that the marginal effect of firm size on stock returns is conditional on the firm's past performance. The results also showed that firm size captures firm characteristic components in stock returns and that this regularity could not be explained by differences in systematic variations.

Aksu and Onder (2000) explore the relationship of size and book-to-market ratio with stock returns and with firm-specific and macro-economic fundamentals in the Istanbul Stock Exchange (ISE). The study applied two different asset pricing models, the one factor CAPM and the three-factor Fama and French model, to individual security returns, size and book-to-market sorted portfolios. The study found both size and book-to-market effects to be significant, but the former has a higher explanatory power. Aksu and Onder (2000) also evaluated the firm-specific risk and return characteristics of the extreme portfolios in different states of the Turkish economy and look at the relationship between the Fama and French factors and macro-economic indicators. The results revealed some new empirical regularities in the Istanbul Stock Exchange (ISE) and support the Fama and French findings to justify models for additional risk factors in returns.

According to Drew, Naughton and Veeraraghavan (2003), small and growth firms generate superior stock returns than big and value firms. Therefore, they report that the value effect is not as pervasive as was found for the US portfolios and other international markets. However, they only run the one–stage time series regressions using mimic portfolios based on size and book-to-market equity. No cross-sectional pricing analysis was conducted. Rutledge, Zhang, and Karim (2008)

examine the relationship between firm size and excess stock returns in the Chinese stock markets in both a bull and bear market. Their results indicate that a size effect exists over the 6-year period from 1998 to 2003. Moreover, small firms are found to have a stronger reaction to the direction of the market than large firms. Small firms have significantly greater positive excess returns than large firms during the bull market and significantly greater negative returns during the bear market period. The value effect was not examined. Eun and Huang (2007) documented that the market risk is not priced; firm size and the book-to-market ratio are systematically related to stock returns. Nevertheless, the high correlations among their explanatory variables—market beta, natural logarithms of market value and natural logarithms of book-to-market ratio of individual firms, make the slopes in the regressions hard to interpret.

2.6 Performance of Non-Financial Listed Companies

Omondi and Muturi (2013) assert that the financial performance of companies is a subject that has attracted a lot of attention, comments and interests from both financial experts, researchers, the general public and the management of corporate entities. Yet, selecting out the most successful firms has always proved to be a difficult task to many as a firm may have a high level of profitability, but at the same time be in a very bad situation regarding its liquidity. The Financial performance of a firm can be analyzed in terms of profitability, dividend growth, sales turnover, asset base, capital employed among others (Omondi & Muturi, 2013).

However, there is still debate among several disciplines regarding how the performance of firms should be measured and the factors that affect financial performance of companies (Liargovas & Skandalis, 2008). A single factor cannot reflect every aspect of a company performance and therefore the use of several factors allows a better evaluation of the financial profile of firms. According to Iswatia, & Anshoria (2007) performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage. Financial performance emphasizes on variables related directly to financial report. The Capital market plays a critical role in the economy by facilitating mobilization and allocation of capital resources to finance long term productive investments. Almajali et al. (2012) argues that there are various measures of financial performance. For instance, return on sales reveals how much a company earns in relation to its sales, return on assets explain a firm's ability to make use of its assets and return on equity reveals what return investors take for their investments.

2.7 **Research Gap**

Limited research exists on the stock return of non-financial listed companies in Kenya; as a result, we know little about how these firms make their decisions (Gwatidzo & Ojah, 2009). It is, therefore, necessary to conduct research on non-financial listed Firms in Africa since they operate within a different environment as compared with firms in developed countries. This is mainly due to the differences in institutional infrastructure and economic development patterns.

Capital markets in Africa are characterized by inefficiency, they are small and thinly traded (Singh, 2009). In contrast, capital markets in developed economies are characterized by well-functioning and efficient stock markets and well developed credit markets. It is therefore inappropriate to claim that the findings that come out of studies done on developed economies apply to developing economies such as the African market and Kenya in particular. This research may prove useful in filling the research gap that exists in the literature and increase our understanding of the financial decisions taken by non-financial listed companies in Kenya on stock return in line with whether cash flows, leverage and firm size as the firm characteristics have any influence on the stock return.

3.0 Materials And Methods.

For the purpose of analysis first of all stock price data of all non-financial listed companies will be collected on the last financial day of the Company i.e. in December of each year. The share price data will then be converted into return data to make it suitable for further estimation. For this purpose, Holding Period Yield (Stock returns) will be calculated for each year using the formula:

$$HPY = \frac{Pe - Pb + D}{Pb}$$

Where Pe = Ending Price of the stock in current year, P_b is beginning price of stock in the current year and D is the dividend earned in the year.

A Panel regression model will be applied to test the significance of independent variables on dependent variable. The model will be as follows:

$$SRn = \alpha + \beta_1 (CF) + \beta_2 (L) + \varepsilon$$

In the above model, the stock return (SRn) is dependent variable and cash flow (CF) and leverage (L) are independent variables. The βs are the parameters to be estimated and ε is the error term.

To test the moderating effect of firm size, moderated panel regression (MPR) analysis, an inferential procedure consisting of comparing two different least-squares regression equations (Aguinis, 2004), will be utilized. Prior to conducting the MPR analysis, preliminary analysis will be conducted to ensure that there will be no violation of the assumptions of normality, linearity and homogeneity of error variance (Sazali et al., 2009). In this study, the following model will be used to represent the variables in the ordinary least-squares (OLS) model:

(OLS model): $Y = \beta 0 + \beta_1 X + \beta_2 Z + \varepsilon$

To determine the presence of moderating effect, the OLS model will then be compared with the MPR model which is represented below:

(MPR model): $Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 X*Z + \varepsilon$

Where;

Y = Stock returns of non-financial listed firms,

X = the two variables (cash flow and leverage)

Z = a hypothesized binary grouping moderator (presence or absence of firm size)

X*Z = the product between the predictors (The two variables * firm size),

β_0 = the intercept of the line-of-best fit which represents the value of Y when X, Z= 0,

β_1 = the least-squares estimate of the population regression coefficient for X,

β_2 = the least-squares estimate of the population regression coefficient for Z,

β_3 = the sample-base least-squares estimates of the population regression coefficient for the product term, and

ε = the error term.

Variable operationalization

Table 3.1: Variable operationalization Matrix

	Variable	Operationalization	Measurement
Dependent variable	Stock Return	$\frac{P_e - P_b + D}{P_b}$	Ratio
Independent variables	Cash flow	Cash Flow Ratio= NCF/TA	Ratio
	Leverage	LTD/Equity	Ratio
Moderating variable	Firm Size	Market Share=MC/TC	Ratio

Where;

P_e = Ending price, P_b = Beginning price, D = Dividend per share, MC = Market capitalization, TC=Total Capitalization, MPS = Market value per Share, NCF = Net Cash Flows, LTD = Long Term Debt, TA=Total Assets.

Unit Root Test

The data will be of time series in nature. It will be necessary to check its stationarity before the application of any technique. For this purpose, the most frequently used Augmented Dickey Fuller (ADF) test will be applied.

Co-integration Test

Co-integration analysis was first used by Johansen & Josuilius. It can be applied to test the existence of R co-integrating vectors. (1) Maximal Eigen value, the maximal Eigen value test the null hypothesis that the number of Co-integrating relationships is less than or equal to or against the alternative r+1. (2) The Trace statistics. The trace statistic is the null hypothesis of r Co-integrating against the alternative of r or more Co-integrating vectors.

Granger Causality Test

In the next step, Granger Causality test will be applied. It is the test which helps researchers to determine the direction of causes i.e. whether Y↔ X. In order to test this hypothesis, the F test in the form given below will be applied.

F= (RSSr- RSSur)/ M ÷ (RSSur/n-k)

Where RSSr is the restricted residual sum of squares, RSSur is the unrestricted residual sum of squares, M is the lag term and n-k is the degree of freedom.

If the computed value exceeds critical value of F at some chosen level of significance, then null hypothesis is rejected and it is concluded that Y is the cause of X. Such test could be repeated for identification of cause for other variables as well.

Descriptive Statistics

Descriptive statistics will be used to describe the basic features of the data in the study. They provide simple summaries about the sample and the measures. Simple graphical analysis will form the basis of virtually every quantitative analysis of data. Descriptive statistics will explain the behavior of stock returns. It will also explain the volatility in returns. Descriptive statistics will include mean of returns, maximum and minimum values, Standard Deviation, Variance and coefficient of variation

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4.0 Results And Discussion

4.1 Descriptive Statistics

Table 4.1 below gives the summary descriptive statistics of the dependent and independent variables of the sample.

Table 4.1 Descriptive statistics

Descriptive Statistics				
	Count	Mean	Standard Deviation	Coefficient of Variation
STOCK RETURNS	374	2.312	29.9370	1294.6%
CASHFLOW RATIO	374	.106535908140110	2.695664499742551	2530.3%
LEVERAGE	374	.1018	128.82260	126508.9%

Table 4.1 showed the results of descriptive analysis. The mean value of stock return was 2.312 with standard deviation of 29.74 indicating higher volatility in the stock returns. Leverage has a mean value of 0.1018 and standard deviation of 128.14. This implied that there was high variation on leverage with firms. Cash flow ratio mean is 0.1065 with relatively smaller standard deviation of 2.695. That shows in terms of cashflow, most firms considered performed slightly the same.

4.2 Unit Root Tests

Unit root tests were conducted using Augmented Dickey Fuller (ADF) test to ensure that the variables had no unit roots. The tables below show the results from the tests.

Table 4.2 Unit roots

	ADF(level)	Philips-Perron (level)
Stock returns	-7.02	-19.261
Leverage	-7.337	-19.479
Firm size	-7.162	-19.123
Cashflow ratio	-8.021	-18.732

ADF results for all the two variables, (leverage and cash flow) indicates that the data was stationary since the values are below zero.

4.3 Granger causality test

To test causality, two regression equations were set. The approach causality used was the past information of both variables. Rejection of the null hypothesis at 5% indicates existence of unidirectional granger causality between independent and dependent variables.

Table 4.3 Granger causality statistics

Pair wise granger causality test			
Null hypothesis	Obs	f-statistics	Prob
Stock returns does not granger causes Leverage	377	0.00194	0.998051
Leverage does not granger causes stock returns		0.04414	0.956596
Leverage does not granger causes Cashflow	377	0.0000	1.000
Cashflow does not granger causes leverage		0.004718	0.995268
Stock returns does not granger causes cashflow	377	0.009509	0.990485
Cashflow does not granger causes stock returns		0.1196	0.886735
Stock returns does not granger causes firm size	377	0.0392	0.961358
Firm size does not granger causes stock returns		0.000	1.000
Firm size does not granger causes leverage	377	0.0000	1.000
Leverage does not granger causes firm size		0.01195	0.988058
Cash flow does not granger causes firm size		0.06055	0.940947

Decision rule: reject H0 if P-value < 0.05.
In all the variables we do not reject the null hypothesis hence there is no granger causality.

4.4 Panel regression

Panel regression for the three variables relating to the data from the year 2008 to 2016 for the 44 non-financial listed companies in Kenya.

Table 4.4 Panel regression model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794[a]	.63	.53	.167671730911196

a. Predictors: (Constant), Cashflow, Leverage

From table 4.4, R-squared (co-efficient of determination) is 63% implying that the predictors in the model (Cash flow, Leverage, and Firm Size) can only explain the variation of stock returns by 63%. Therefore, the panel regression model has a good fit.

Table 4.5. t-test Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.579	.203		2.854	.005
	Leverage	.151	.049	.157	3.086	.002
	Cashflow	.039	.107	-.018	.363	.007

a. Dependent Variable: Stock returns

The panel regression result shows that parameter estimate for cash flow and leverage were found to have positive impact on stock returns. At 95% level of significance these effects were also significant. From the model summary R-squared was 0.63, an indication that approximately 63% variation in the stock returns of non-financial listed companies in Kenya is explained by variations of cashflow and Leverage. Therefore, this model provides a good fit. It is also necessary to explore the OLS and the Moderated panel regression (MPR) models where the moderating variables will be considered as well as the interactions of the variables.

4.6 Effect of cash flow to stock returns with the absence of firm size and interactions

Table 4.6a fitness test for cash flow to stock returns with absence of firm size and interactions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775[a]	.60	.53	.171363599424859

a. Predictors: (Constant), Cashflow

Table 4.6b t- test for cashflow to stock returns with absence of firm size and interactions Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.741	.118		6.285	.000
	Cashflow	.022	.109	-.011	-.205	.038

a. Dependent Variable: Stock returns

H0: Cash flow does not have any significant effect on stock return of non-financial listed companies in Kenya.

Cash flow had a coefficient of 0.022 and the significance value of 0.038. At 95 % significance level we reject the null hypothesis hence Cash flow have significant effect on stock return of non-financial listed companies in Kenya. The R-square of the model is 0.60(60%), this indicates a good fit and therefore Cashflow variations contributes to variations on stock return.

4.7 Effect of cash flow to stock returns with presence of Firm size and interactions.

Table 3.7a fitness test for cashflow to stock returns with presence of firm size and interactions
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794[a]	.63	.52	.171337586644052
2	.800[b]	.64	.54	.171502182849634

a. Predictors: (Constant), Firm size, Cashflow
b. Predictors: (Constant), Firm size, Cashflow, Cashflow *Firm size

Table 4.7b t- test for cash flow to stock returns with presence of firm size and interactions
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.726	.119		6.125	.000
	Cashflow	.006	.110	-.003	.956	.005
	Firm size	.349	.331	-.055	1.055	.029
2	(Constant)	.755	.130		5.803	.000
	Cashflow	.032	.120	-.015	.868	.009
	Firm size	1.477	2.142	-.233	.690	.001
	Cashflow *Firm size	.998	1.872	.182	.595	.004

a. Dependent Variable: Stock returns

The model has been tested using two and three variables. In model one, the effect of cash flow ratio to stock return in presence of moderating variable without considering the interaction. The result shows that both the Moderating variable (Firm size) and cash flow has significant effects on stock returns. There is an improvement in the fitness of this model relative to above model where the moderating variable is absent since the adjusted R-squared for this model is 63%. In model 2, the interaction of cash flow and Firm size is included. Cash flow, moderating effect and interactions variables has positive significance to the stock returns. The adjusted R-squared for this model is 64%. Therefore, from these result the presence of firm size and its interaction with leverage is significant in explaining the variations on the stock returns.

4.8 Effects of leverage to stock returns.

4.8.1 Effects of leverage to stock returns with the absence of Firm Size and interactions.

Table 4.8a Fitness test for leverage to stock returns with absence of firm size and interactions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849[a]	.72	.68	.169112746790790

a. Predictors: (Constant), Leverage

Table 4.8b t- test for leverage to stock returns with absence of firm size and interactions

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.530	.066		8.028	.000
	Leverage	.140	.049	.145	2.840	.005

a. Dependent Variable: Stock returns

H0: Leverage does not have any significant effect on stock return of non-financial listed companies in Kenya.

Leverage had a coefficient of 0.140 and the significance of 0.005. At 95% significance level we reject the null hypothesis hence Leverage has a significant effect on stock returns of non-financial listed companies in Kenya. The R-squared of the model is 0.72(72%), variations on the Leverage explains 72% variations on stock return.

4.8.2 Effects of leverage to stock returns with the presence of Firm Size and interactions.

Table 4.9a Fitness test for leverage to stock returns with presence of firm size and interactions

Model Summary

Model	R	R Square	Adjusted R Squared	Std. Error of the Estimate
1	.860[a]	.74	.69	.169065955437455
2	.9055[b]	.82	.74	.166850499450112

a. Predictors: (Constant), Firm size, Leverage

b. Predictors: (Constant), Firm size, Leverage, Leverage *Firm size

Table 4.9b t- test for leverage to stock returns with presence of firm size and interactions.

4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.533	.066		8.069	.000
	Leverage	.140	.049	.145	2.845	.005
	Firm size	.355	.323	-.056	1.099	.027
2	(Constant)	.513	.066		7.825	.000
	Leverage	.154	.049	.160	3.158	.002
	Firm size	20.021	6.145	3.163	3.258	.001
	Leverage *Firm size	-15.171	4.569	-3.224	3.320	.001

a. Dependent Variable: Stock returns

In model 1, the effect of leverage to stock return was in presence of moderating variable without considering the interaction. The result shows that both the Moderating variable (Firm size) and Leverage have significant effects on stock returns. There is improvement in the fitness of this model relative to the above model where the moderating variable is absent is noted as R-squared for this model is 74%. In model 2, the interaction of leverage and Firm size is included. Moderating effect and interactions variables has positive significance to the stock returns. The R-squared for this model is

82%. Therefore, from these result the presence of Firm size and its interaction with leverage is significant in explaining the variations on the stock returns.

5.0 Summary Of The Findings

The descriptive statistics showed that both the independent variables and the dependent variables had high volatility. However, in most of the firms considered, cash flow was most centralized. It had least coefficient of variation.

From the unit root test, all the variables used in the study were stationary and therefore were suitable to use without differencing.

From the granger causality test, no variable caused another variable, hence there were no existence of unidirectional granger causality.

From the panel regression and the Moderated panel regression, it was found that both independent variables; cash flow and leverage had positive significant effect to performance of stock returns of non-financial firms. With inclusion of firm size and its interaction with each of the independent variables, the fitness of each of the model improved.

5.1 Conclusion

The first objective of the study was to find out the effect of cash flow patterns on stock returns of non-financial listed companies in Kenya. Results showed that cash flow value had significant effect on stock returns. Precision of the model also increased with inclusion of firm size and its interaction with cash flow.

The second objective of the study was to examine the effect of firm leverage on stock returns of non-financial listed companies in Kenya. Findings on the leverage showed that it has significant effect on stock returns. With inclusion of firm size and its interaction with leverage, the precision of the model was increased.

The third objective of the study was to assess the moderating effect of firm size on the relationship between firm characteristics and stock returns of non-financial listed companies in Kenya. With the presence of moderating variable and its interactions with each independent variable, the models precision are increased as discussed above.

5.2 Recommendations

The study recommends that for non-financial firms to increase the performance of their stock returns, this would in turn lead to more cash flow and in return more stock returns. The firms also need to increase leverage to increase their stock returns performance. Also increase in firm size through increasing its market share may lead to an increase in stock returns performance.

The MPR model was more suitable for the study of the performance of stock returns of non –financial listed companies in Kenya as it considers both the predictor variables and the moderating variable with their interactions.

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