

## **Influence of Financial Risk on Stock Return of Non Financial Firms Listed on Nairobi Securities Exchange**

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**ABSTRACT:** *The purpose of this study was to investigate the influence of financial risk on stock return of non-financial firms on Nairobi Securities Exchange. The study used the existing theoretical underpinnings to identify these influencers and then the censers method to assess their impact. The study was guided by research objectives which include; assessing how business risk, liquidity risk and credit risk influence stock returns of non-financial firms on NSE. The research design used in this study employed quantitative design. Secondary data was extracted from the NSE database. A sample of forty out of a target population of forty six non-financial firms on NSE as at January 2016 was extracted from the Nairobi Securities Exchange website. Data analysis was by descriptive statistics and inferential statistics using Statistical Packages for Social Sciences (SPSS) version 22. Analysis of variance (ANOVA) was used to establish if there is a statistical significance between the observed and expected values with the Pearson chi square giving the degree significance of the relations. The results indicate that two of the variables, business risk and credit risk have a negative correlation and significant influence on stock return. Liquidity risk has a positive correlation and significant influence on stock return of non-financial firms on NSE, typical with financial markets which are not strong. The study gives recommendations which include the adoption of proper financial risk management systems and improving the efficiency of credit procedures in order to improve compliance.*

**Keywords:** *Financial Risk, Business Risk, Liquidity Risk, Credit Risk and Stock Return.*

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### **I. INTRODUCTION**

#### **1.1 Background of the Study**

The performance of the capital market in Kenya depends on the performance of the firms listed on the Nairobi Securities Exchange, which affect the stock return (Shashazrina, 2012). The managements' knowledge of the determinants of financial risk and how they affect stock return is therefore important so as to ensure the firms remain competitive (Goyal, 2013). Most firms expand their markets and in an effort to become or remain profitable (Kristine, 2006). One of the paradoxes of the recent global financial crisis is that the crisis erupted in a period where risk management was at the mind of the organization of the largest and most sophisticated financial institutions (Ayuma, 2015). It is repeatedly recommended that the main driver of change has been a series of economically significant and large-scale financial disasters (Moles, 2013). From the celebrated Modigliani-Miller theorem, the value of a firm is independent of its risk structure and firms should make the most of expected profits, regardless of the risk entailed; holders of securities can realize risk transfers via proper portfolio shares (Christoffersen, 2012). This therefore makes the legal aspect in the modern and highly dynamic networks an important issue.

Financial risk is acquired from the use of debt in financing assets of a company. According to Lee (2010) financial risk measures the additional risk that the firm's stockholders accept when the firm is funded with debt as well as equity. Financial risks create the possibility of losses arising from the failure to achieve a financial objective (Sobia, 2015). The risk reflects uncertainty about foreign exchange rates, interest rates, commodity prices, equity prices, credit quality, liquidity, and an organization's access to financing (Margaret & Kevin, 2010). This type of seismic shift naturally exposes any organization to increased risks. Every financial decision contains an element of risk and an element of return. Financial risk has a significant effect on overall economy. It is a primary principle of monetary economics that higher risk assets should command higher expected returns (Cooper & Schindler, 2011).

One of the paradoxes of the recent global financial crisis is that the crisis erupted in an era when risk management was at the heart of the management of the largest and most sophisticated financial institutions (Sobia, 2015). Although financial risk has increased significantly in recent years, risk and risk management are not contemporary issues. The effects of ever more global markets is that risk may originate with events thousands of miles away that have nothing to do with the domestic market (Robert, 2015). Information is available instantaneously, which means that transformation and succeeding market reactions occur very fast.

The economic climate and markets can be affected very quickly by changes in exchange rates, interest rates, and commodity prices (Coope, 2000). Counterparties can rapidly become challenging. Consequently, it is important to make certain that financial risks are identified and managed appropriately (Pathirawasam, 2011). Preparation is a key component of risk management.

According to Napp (2011) who examined financial risk management by the use of financial analysis for identifying, analyzing and monitoring internal financial risks using only internal risk factors were incorporated in the study. The proportions mainly cover the risk categories of financing, liquidity and solvency with ratios about the financial structure, the liquidity and profitability of the firm. His findings were that all organizations face financial risks and their ability to accomplish their goals depends on how well they manage those risks. It is therefore critical to establish a framework that facilitates the identification and quantification of the main types of risk to which a firm is exposed and sets out the main tools and techniques that the firm will use to manage those exposures.

A study amongst undersized Swiss firms found that a lot of small firms had no explicit picture of business risk and that their risk management is time and again not well structured, organized or standardized (Beverly, 2015). This is supported by Goyal pointing out that a position of all firms is not prepared to handle the risks they face (Goyal, 2013) moreover the picture in Germany is a like. According to Florian (2013) in his study found out that two thirds of the firms are not able to identify and measure the influence and impact of their business risks on their business. Surprising findings are also show that approximately 40% of the surveyed firms do not spot their business risks and in addition to that 64% do not evaluate their risks properly (Robert, 2006).

## **1.2 Non-Financial Firms at Nairobi Securities Exchange**

The Nairobi Securities Exchange (NSE) previously known as Nairobi Stock Exchange was constituted as an unpaid association of stock brokers under the society act. In 1990, a trading ground and secretariat was laid down at the IPS building, before moving to the Nation Centre Nairobi in 1994 (Maniagi & Mwalati, 2015). Over the past decade, the securities exchange has witnessed numerous changes, automating its trading between September 2006 and 2007 making it probable for stockbrokers to trade remotely from their offices, doing away with the need intermediation (Machuke, Mwitwa, & Kihoro, 2014). Trading hours were also increased from two pm to six pm by moving to Westlands in the locality of Nairobi symbolically marked the end of an era where the market was owned and run by stockbrokers.

NSE is the principal stock exchange of Kenya which is licensed by Capital Market Authority with its main obligation to regulate the security market and ensure trading of securities by bringing together those in need of money and those with excess funds at low cost (Nocco & Stulz, 2013). Regulation of listed firms is realized by ensuring that firms stand by the rules and regulations set by providing their sporadic performance information. According to Maniagi and Mwalati, (2015) NSE aims at supporting trading clearing, payment of equities debt derivatives and other linked instruments and is mandated to list firms on the securities exchange while enabling investors to trade in securities of firms thus its charged with the health of Securities Exchange. It helps mobilize domestic savings thereby bringing about the reallocation of financial resources from dormant to active agents hence the NSE becomes a point of attention for studies (Mukaria, Mugenda & Akenga, 2015). The NSE non-financial firms are grouped as follows: agricultural, automobile and accessories, construction and allied, commercial and services, energy and petroleum, insurance, investment, manufacturing and allied, and telecommunication and technology.

## **1.3 Statement of the Problem**

Financial risk represents the risk of being unable to meet prior claims on the business with cash generated by the firm. Corporate failure among firms in Kenya has repeatedly been linked with the financing decisions of the firms (Mwangi, Makau & Kosimbei 2014). It is seen that companies possessing related characteristics in a given month may show returns that are dissimilar from the other companies. According to Ayuma (2015) it is important for the management and investors to be conversant with determinants of financial risk and their influence on stock return, therefore, put in place mechanisms to minimize their effects. The stock return of firms varies significantly with the changes in financial risk whose contagion outcome could affect the financial sector gravely (Sobia, 2015). When doing business, decisions have to be made constantly whose outcome is not certain and thus connected with risk and in order to successfully cope with this uncertainty, corporate risk management is obligatory in a business environment which is intolerant by market frictions (Napp, 2011).

The financial performance of firms is a subject that has engrossed a lot of awareness, remarks and interests from both financial experts, researchers, the general public and the management of corporate entities (Maleya 2013). According to a research conducted so far, Uddin (2009) after studying the relationship between financial risk and stock returns in Tokyo Stock Exchange found that variation in financial risk negatively affects the return. Likewise Muteti (2014) studied the relationship between financial risk and stock returns in Ghana

Securities Exchange found out a negative correlation between financial risk and performance. Unlike Mehrara, Falahati and Zahiri (2014) who studied the relationship between financial risk and stock returns in Tehran Stock Exchange found that the relationship between financial risk and stock returns are statistically significant and there is a positive correlation between financial risk and performance. The problem may not be dissimilar in the Kenyan context since financial reporting centers on catching the investor's eye or complying with the strict stock exchange requirements.

This study therefore, attempts to mitigate on this differences in perception by identifying the key features that are required as a common denominator of any firm in order to spawn stock return across listed companies in Kenya, by sorting to determine the influence of financial risk on stock return of non- financial firms listed on NSE for a period of six years and hence bridge the gap that exists in Kenya on what is the influence of financial risk on stock return of non- financial firms. This research content that the study of the influence of financial risk on stock return of non-financial firms on Nairobi Securities Exchange will prove valuable insight to investors and management.

#### **1.4 Research Objective**

The main objective of the study was to investigate the influence of financial risk on stock return of non-financial firms on Nairobi Securities Exchange.

Specific Objective was to:

1. To determine the influence of business risk on stock returns of non-financial firms on Nairobi Securities Exchange.
2. To establish out the influence of liquidity risk on stock returns of non-financial firms on NSE
3. To determine the influence of credit risk on stock returns of non-financial firms on NSE

#### **1.5 Research Questions**

1. Does business risk have an influence on stock returns of non-financial firms listed on Nairobi Securities Exchange?
2. Does liquidity risk have an influence on stock returns of non-financial firms on Nairobi Securities Exchange?
3. Does credit risk have an influence on stock returns of non-financial firms on Nairobi Securities Exchange?

## **II. LITERATURE REVIEW**

### **2.1 Theoretical Review**

In an offer to answer to theoretical review, the Capital Asset Pricing Model Theory (Sharpe, 1964 & Lintner, 1965), Risk Management Theory (David 1997), and Efficient Market Hypothesis Theory (Fama 1975) are reviewed. Empirical literature is captured through reviewing the studies by (Fama & French, 2012), (Muiva, 2014) (Florian, 2010), (Wu & Olson, 2010), (Christine & Beverly 2011), (Andrew 2011) and (Samuel, 2007). Finally, a summary of the chapter is provided and research gaps drawn.

#### **2.1.1 Capital Asset Pricing Model Theory**

One of the most well-known and widely used models to analyze stock returns is the CAPM which is based on the portfolio optimization theory that describes portfolio selection as a question of achieving high returns while minimizing overall portfolio risk or variance (Fama & French, 2012). Rational investors will always try to maximize their return whilst minimizing their portfolio variance. The model states that an investment's cost of capital is lower when it offers a superior diversification payback for an investor who holds the overall market portfolio—less required reward for less risk contribution (Muiva, 2014). Market beta is its measure of risk contribution. CAPM is a model for pricing risky security in relation with risk and expected return of the security. The model states that the expected return of an underlying security or a portfolio is equal to the rate on a risk free security plus a risk premium (Florian, 2010). CAPM provides a tool on how to measure risk and the relation between expected return and risk of a particular security. The model is used to determine the required rate of return of an underlying security if the underlying asset is subject to a portfolio and the assets systematic risk is given.

#### **2.1.2 Risk Management Theory**

The risk management theory (RMT) was developed by (David 1997) to find out why risk management is required more so by emphasizing on market and credit risk. This theory identifies major sources of value loss of market risk as a change in net value of asset (Wu & Olson, 2010). Risk management is primarily concerned with reducing earnings volatility and avoiding huge losses. In a correct risk management process, one need to identify the risk, measure, quantify the risk and develop strategies to manage the risk (Gestel & Baesens, 2009). According to Christine and Beverly (2011), risk management is the processes of managers satisfy the needs of the firm by indentifying, obtaining consistent risk measures and obtaining procedures to measure risk.

### **2.1.3 Efficient Market Hypothesis Theory**

The Efficient Market Hypothesis Theory (EMH) popularly well-known as the Random Walk Theory is the suggestion that current stock prices fully reflect available information about the value of the firm and there is no means of earning excess profits by using this information (Samuel, 2007). It suggests that developed capital markets integrate into their stock price all available public and private information about present and past operational performance of the firm. According to Andrew (2011) the efficient market theory asserts all times that the price of a security reflects all existing information about its fundamental value. Developed independently by Samuelson and Fama in the 1960s, this idea has been applied extensively to theoretical models and empirical studies of financial securities prices which generate significant controversy as well as fundamental insights into the price discovery process. The EMH asserts that it would be impossible consistently to outperform the market which reflects the composite judgment of millions of partaker in an environment characterized by many competing investors each with similar objectives and equal access to the same information.

### **2.2 Empirical Review**

Varotto, (2011) studied liquidity risk, credit risk, market risk and bank capital where the Basel II and the proposed Basel III capital requirements for banks' trading books, with a sample of bond portfolios, are implemented. The indices covered two industry sectors which are industrial and financial, two rating groups and three maturity bands range as 5 to 10 years, 10 to 15 years and 15 and above years. The sample consists of daily returns over the period May 2004 and August 2009. The period was chosen to include the recent crisis and to allow for enough observations to determine the pre-disaster VaR. The findings show that although the incremental credit risk in the trading book may be significant the capital needed to suck up market risk related losses in stressed scenarios can be more than ten times larger.

Takehara (2010) studied expected return, liquidity risk, and contrarian strategy. The data was collected from individual firm and used to perform various cross-sectional tests of conditional asset pricing models at the same time using test portfolios to confirm the mean variance efficiency of basic unconditional models. The sample data for the stock return was composed of all the stocks listed in the first and second sections of the Tokyo Stock Exchange with a daily observation occurrence. The daily return progression of the Nikkei Portfolio Master database was used and it covered a period from January of 1977 to December of 2007. The findings were negative relationship between liquidity risk and performance. The author recommended further research to look at various risk exposure on performance.

Mehrara, Falahati and Zahiri (2014) examined the relationship between stock returns and systematic risk based on CAPM in Tehran Stock Exchange. The sample search includes panel data for top 50 firms of Tehran Stock Exchange for a period from 2007 to 2012. They found out that the relationship between stock returns and systematic risk are statistically significant and a positive correlation between systematic risk and performance. The author recommended further research to be done on longer periods of varying business cycles.

Amidu and Abor (2006) researched on determinants of stock return in Ghana using standard deviation of earnings before interest and tax for the company to measure business risk found out that business risk had a negative relationship with stock return with firms in Ghana. Doff (2008) researched on defining and measuring business risk in an economic-capital framework. The paper analyzes definitions that are used in theory and practice. It analyzes three measurement methodologies: analogue firms/peer group analysis, statistical technique and scenario analysis. These methodologies are tested against the criteria of effective management control because economic capital is more and more being used as a management control instrument. Findings showed that economic capital can be used as business-risk mitigate albeit not the only one. The measurement methodology of scenario analysis assures most of the criteria for efficient control.

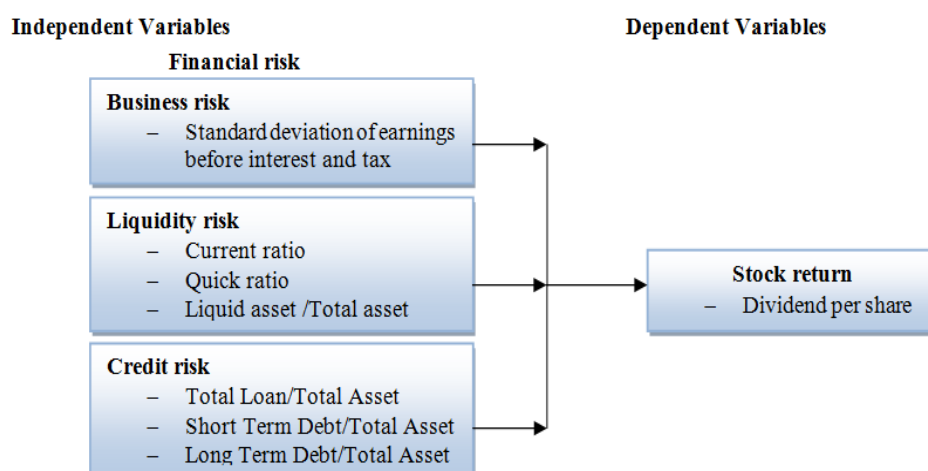
Nasir (2014) researched on the effect of liquidity on stock returns using the Ask-bid spread as a substitute variable to measure the liquidity. Data was taken from 10 listed firms listed on Karachi stock exchange from 2005 to 2012. Two stage regressions were applied to scrutinize the data. The findings were that there is negative relationship between liquidity and stock return. These results are supported with (Pereira & Zhang, 2010, & Salehi, Talebina & Ghorbani 2011).

Giannotti, Gibilaro and Mattarocci (2011) studied liquidity risk exposure for specialized and unspecialized real estate banks. The banks considered are all those that operated in Italy from 2000 to 2007 and were in the data database of ABI bank at least for one year. A panel regression analysis was done in order to spot the main drivers of the liquidity risk measures for the two types of banks. Their findings were that no significant differences exist between REBs and the overall system of liquidity risk measures used by regulators to oversee the banking system is taken into account. Normally liquidity exposure by this type of bank is extensively influenced by interbank market dynamics.



### III. CONCEPTUAL FRAMEWORK

Conceptual framework is a graphical or diagrammatical representation of the relationship between variables in a given study (Borg, Gall & Gall, 2005). A Conceptual framework bases from ideas that can be formulated from the researchers own perspective (Cooper & Schindler, 2011). The importance of the conceptual framework is found in the context of putting the research on track by providing input to the research design, conceptualizing the problem, supplying the reference points for discussion of methodology, literature and data analysis Sekara and Bougie (2010). The stock return depends on the interrelationships of the independent variables which include business risk, liquidity risk, credit risk and the dependent variable; financial risk of non-financial firms listed in the NSE.



#### 3.1 Business Risk on Stock Return

This study visualized business risk on stock return as an explanatory variable. According to Christoffersen (2012) business risk relates to the risk that changes in variables of a business plan will destroy that plan's viability which includes quantifiable risks such as business cycle and demand equation risk, and non-quantifiable risks such as changes in competitive behavior or technology. In line with Takehara (2010) business risk is the types of risks that are an integral part of the business heart for the firm and relates to the risk firms face solely on account of their presence in some product market and this type of risk branches from uncertainty in such activities as technological innovations, product design and marketing and therefore simply should be taken on. Business risk is uncertainty about future income flows of which an increase in uncertainty of business leads to high risk and high returns (Sobia, 2015).

Business risk is related to the scarce expected to achieve fewer gain from expected or losses in a certain financial period that its cause is a hostile situation for a particular deed (Maryam, 2013). Business risk depends on a number of factors that is variability in product demand, variability in sales prices and input costs, slow to bring new products to market and high operating leverage. This study adopted the standard deviation of earnings as the measure for business risk. Standard deviation of earnings is determined as the return on stock  $i$  in time  $t$  from the average earnings before interest and tax of firm  $f$  over the period Maniagi (2013). Shareholders and lenders entrust their capital to firms and their boards because they look for higher return than they could get from a risk free investment in, say, government securities. This implies that they anticipate that the board and management will exhibit entrepreneurship and dynamism; that is, to take risks and that the risks was well considered and well managed and that the risk profile of the enterprise was widely understood (Cooper, 2000).

#### 3.2 Liquidity Risk on Stock Return

This study takes on the liquidity risk on stock return as an independent variable. Liquidity risk is the risk that a firm was unable to resourcefully meet both its expected and unexpected current and future cash flows and collateral needs without causing an effecting on daily operations and the financial condition of the firm. Pastor and Sambaugh (2003) define liquidity risk as the co-variation between a stock's return and the market liquidity factor that represents unexpected changes in market liquidity. Liquidity risk is measured as the co variation between the returns of a stock and unexpected changes in market liquidity. An analysis of balance sheet structure can provide an important insight on banks' liquidity risk (Varotto, 2011).

Liquidity risk was measured by one of the following attributes: current ratio, quick ratio and liquid asset /total asset. The current ratio is computed by dividing the firm's current assets by its current liabilities Baker and Powell (2005). The firm's current liabilities in the denominator show the amount of short-term obligations the firm faced at the balance sheet date; the current assets in the numerator indicate the amount of

short-term assets the firm could use to pay these obligations. Quick ratio is determined as the ratio between quick assets to the sum of current liabilities Collins (2004). Quick ratio is perceived to be the best measure for liquidity of a firm since it indicates the amounts of cash and cash equivalents by excluding trade debtors and inventories Narang and Mandeep (2014). The liquid asset to total assets ratio is computed by dividing liquid asset (current assets minus current liabilities) by total assets. This ratio provides additional liquidity information because it indicates the percentage of total assets the firm carries as net working capital (Grullon & Roni, 2004).

Liquidity problems arise when there are differences at future dates between assets and liabilities in the balance sheet (Tony & Bart, 2009). In his book 'Credit Risk Management' such gaps need to be anticipated to ensure the cost of funding at normal cost and to avoid extreme high funding costs by "last minute actions. Although liquidity risk was a subject that had already been addressed by banks and financial institutions, in recent years, concern about liquidity risk has increased due to, inter alia, the market circumstances caused by the financial crisis which broke in 2007 (Basel Committee, Basel III 2010).

### **3.3 Credit Risk on Stock Return**

This study sustained credit risk on stock return as an independent variable. Credit risk refers to potential losses on acclaims unpaid due to the failure or reluctance of member countries to make repurchases or the potential for loss owing to failure of a borrower to meet up its contractual obligation to repay a debt in accordance with the agreed terms (Florian 2010). To assess credit risk, lenders gather information on a range of factors, including the current and precedent financial situation of the potential borrower and the nature and value of the property serving as loan collateral (Doron, 2010). There are many different forms of credit difficulties: delinquencies, failures, losses.

According to Tony and Bart (2009) Credit risk can occur when the counterpart is unable to pay or cannot pay on time, refuse to comply with its debt service obligation, flaw in the information system or technology, investing in debt of a high-quality borrower of which the risk profile has deteriorated, liquidation the percentage that one can recover from the defaulted counterpart and the total exposure to the counterpart. It then pursues that in measuring the firm's efficiency of converting its property, investments, resources, sales and equity into stock return this study applied the following measures: total loan to total asset, short term debt to total asset and long term debt to total asset.

### **3.4 Stock Return**

Stock Return was adopted as the dependent variable as evident through the measures of EPS and DPS. These measures are explained in detail in specific terms in the foregoing sub chapters. This therefore summarizes the composition of three regression models to be run against the descriptive variables. According to Muiva (2014) earnings capacity is a key element in the stock market valuation of firms and the most important factors that affect growth and productivity and are used to measure the performance of a company stock. The financial objective of the firm is maximizing shareholders wealth which is reflected by the change in the company stock prices. Higher sustainable profits should lead to higher dividend payments and boost firms' equity values (Jing & Kostas, 2012). Financial performance of a company is measured using stock returns (Ogilo & Benard, 2015).

According to Maleya (2013) the financial performance of a firm can be analyzed in terms of dividend growth, sales turnover, profitability, capital employed and asset base among others. The implication for the financial manager in evaluating a prospective investment project is that an effective decision about the project's value to the firm cannot be made simply by focusing on its expected level of returns: the project's expected level of risk must also be simultaneously considered. Joseph (2015) categorized stock return into two dimensional concepts that include dividend income and capital gain.

#### **3.4.1 Dividend per Share**

Dividend per Share was adopted as a dependent variable in this study. Dividend per Share is derived by the division between dividends Paid with the total Number of Shares Issued.

Pandey (2005) explains DPS as the value generated to the equity owners derived by dividend declared and the average number of shares outstanding. A negative DPS indicates that the company is destroying stock return while the contrary reflects creation of stock return. Stewart (2003) puts DPS as a summarized evaluation of corporate performance that indicates how successful a company has been in management and allocation of resources to maximize the wealth of investors of capital. This study perceived DPS as the difference between the economic value of the firm and the value of invested capital (Marco, 2013).

The corporate board of directors is responsible for establishing a dividend policy including the amount, timing, and type of dividends to be declared (Kumar, 2008). Dividend policy is primarily concerned with the decision regarding the distribution of a firm's profit between dividend and retention (Ogilo & Benard, 2015). Dividend as a part of earnings represent firm's current financial condition, past trend and future anticipations

(Amidu & Aborm, 2006). Dividend reflects how efficiently management is utilizing its financial resources and ability to earn profits. Analysts and investors develop expectations about dividend payments before a firm announces the decision by its board of directors on the size of the next dividend payment (Norhasniza, Zuraidah & Shashazrina, 2012). Dividend policy is an essential financial decision made by the board of directors and the management and this decision is one of the fundamental components of corporate policy.

#### **IV. RESEARCH METHODOLOGY**

This study adopts descriptive survey design which was used to give information on current phenomena by selecting samples and analyzing them. A survey is a means of gathering information about the characteristics and opinion of a large group of people (Marco, 2013). Survey research is often used to assess thoughts, opinions, and feelings. According to Kun and Chung (2012) survey is used to assess needs, evaluate demands and examine impact. In survey research, the researcher selects a sample of respondents from a population and administers a standardized questionnaire to them.

For the purpose of this study the population was represented by 52 non-financial firms listed to NSE as from 2010 to 2015. As at December 31, 2015 the firms were group in nine different sectors; agricultural, automobile and accessories, construction and allied, commercial and services, energy and petroleum, insurance, investment, manufacturing and allied, and telecommunication and technology.

The study targeted 52 non-financial firms listed at the NSE as at December 31, 2015. Firms in the financial sector were excluded because of the reporting requirements that are conflicting with those sector and the policies that do not apply to the non-financial firms. A census approach was applied for the study since the population is manageable. According to Saunders, Lewis and Thornhill (2009) a census approach enhance validity of the collected data by including certain information-rich cases for study. The study included only non-financial firms listed on NSE and continuously traded between 2010 and 2015 and have completed the financial statement for the year.

The data was taken from reliable sources to ensure the reliability of the study. Secondary data used was collected from Kenya National Bureau of statistics, central Bank of Kenya and various databases of the firms for audited Statement of financial position, Statement of comprehensive income and Statement of cash flows for the period of 2010 to 2015. According to Dawson (2009) secondary research data involves collecting data using information from studies that others have done in an area or subject. Secondary data is one collected by other people that are used by comparative researcher in ethnographies, censuses and histories (Ember & Ember, 2009). Audited Statement of financial position, Statement of comprehensive income and Statement of cash flows was collected from firms that were in operation and have published accounts for the period of 2010 to 2015.

In order to determine the nature and strength of linkage between the variables measured, bivalent correlation analysis was used. This correlation enables an assessment of the degree to which one variable is linearly related to another. Many researchers have used Correlation analysis to determine the linkage between two variables. For example, Muiva (2011) in his study to investigate the fundamental analysis of stock returns of non-financial firms listed at the Nairobi securities exchange on the relationship between financial risk and the implications of human consciousness relative to stock perceptions in Kenya, Correlation analysis was used to link financial risk to stock return.

Regression model was used to assess variables that are considered in influencing the stock return of non-financial firms listed at Nairobi Securities Exchange (NSE). Regression Analysis is a statistical modeling technique used to identify meaningful, stable relationships among sets of data. The application of analytical procedures is based on the argument that in the absence of identified circumstances to the contrary relationships among information may reasonably be expected to exist. Regression measures the causal relationship between one dependent and one independent variable. Multiple regression analysis measured the influence of the multiple independent variables on one dependent variable. In investigating the determinants of financial risk of firms listed on the NSE in Kenya Ayuma (2015) used multiple regressions analysis to conduct her investigation. General regression model at this level was perceived as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \dots \dots \dots \text{general model}$$

Where:

- Y = Stock return.
- $\beta_1, \beta_2, \beta_3$  = Regression coefficient
- $X_1$  = business risk
- $X_2$  = credit risk
- $X_3$  = liquidity risk
- e = error term
- $\alpha$  = alfa

## V. RESEARCH FINDINGS AND DISCUSSION

### 5.1 Descriptive Analysis

**Table 5.1** Descriptive Statistics Regarding Sector of the Company

Sector	No. of firms	Percent
Agriculture	7	13.5
Automobile & Accessories	3	6.0
Commercial & Services	9	17.0
Construction and Allied	5	10.0
Energy and Petroleum	7	13.5
Insurance	6	11.5
Investment	4	8.0
Manufacturing and Allied	9	17.0
Telecommunication and Technology	1	2.0
Growth Enterprise Market Segment (gems)	2	4.0
<b>Total</b>	<b>52</b>	<b>100</b>

The study indicated that 7 (13.5%) of the non-financial firms listed at Nairobi Securities Exchange were from Agricultural sector, 3 (6.0%) from Automobile and Accessories, 9 (17.0%) from Commercial and Services sector. Five (10.0%) were from Construction Allied, 7 (13.5%) from Energy and Petroleum and 6 (11.5%) were from insurance. 4 (8.0%) were from Investment and 9 (17.0%) from Manufacturing and Allied sector. Telecommunication and Technology accounted for 1 (2.0%) and Growth Enterprise Market Segment (gems) 2 (4.0%) of the sample. The non-financial firms listed at Nairobi Securities Exchange were from varied sectors, both service providers and commodity providers, hence a good reflection of the overall financial risk across all sectors.

**Table 5.2** Descriptive Statistics Regarding Business Risk

Variable statistic	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Standard deviation of earnings	16903.65	35836964.00	1827820.12	5979095.73	5.169	28.548

The table 4.2 depicts that the variable business risk which was measured using standard deviation of earnings before interest and tax with a minimum value of 16,903.65 and maximum value of 35,836,964.00. The Standard deviation is 5,979,095.73415 with a mean of 1,827,820.1163. The independent variables display a positive skewness at 5.169 drawing the conclusion that the data distributions were approaching right and the data had a large kurtosis statistic at 28.548 indicating a slight peak to the right of the data distribution.

**Table 5.3** Descriptive Statistics Regarding Liquidity Risk

Variable statistic	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Current ratio	.45	12.72	2.4454	2.80179	2.832	8.053
Liquid asset to total asset	.11	.85	.4180	.21538	.517	-.884

The table signifies that the variable liquidity risk was measured using 1) Current ratio with a minimum value of 0.45 and maximum value of 12.72. The Standard deviation is 2.80179 with a mean of 2.4454. 2) Liquid asset to total asset with a minimum value of 0.11 and maximum value of 0.85. The Standard deviation is 0.21538 with a mean of 0.4180. The independent variables display a positive skewness at 2.832 on current ratio and 0.517 on liquid asset to total asset drawing the conclusion that the data distributions were approaching normal and the data had a kurtosis statistic at 8.053 for current ratio and -.0884 for liquid asset to total asset indicating a slight peak to normal of the data distribution.

**Table 5.4** Descriptive Statistics Regarding Credit Risk

Variable statistic	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Total loan to total asset	.15	1.04	.4960	.20907	.381	-.369
Short term loan to total asset	.04	.72	.3063	.18399	.462	-.314
Long term loan to total asset	.01	.51	.1793	.13716	.907	.049

The table 4.4 indicates the variable credit risk that was measured using total loan to total asset with a minimum value of 0.15 and maximum value of 1.04. The Standard deviation is 0.20907 with a mean of 0.4960, short term loan to total asset with a minimum value of 0.04 and maximum value of 0.72. The Standard deviation is 0.18399 with a mean of 0.3063 and long term loan to total asset with a minimum value of 0.1 and maximum value of 0.51. The Standard deviation is 0.13716 with a mean of 0.1793. The independent variables display a positive skewness at 0.381 on total loan to total asset, 0.462 on short term loan to total asset and 0.907 on long term loan to total asset drawing the conclusion that the data distributions were approaching normal and the data had a kurtosis statistic at -0.369 on total loan to total asset, -0.314 on short term loan to total asset and 0.049 on long term loan to total asset indicating a slight peak to normal of the data distribution.



**Table 5.5** Descriptive Statistics Regarding Stock Return

Variable statistic	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Stock Return	.23	31.30	3.1400	5.66026	3.750	16.338

The table describes that the variable stock return which was measured using dividend per share with a minimum value of 0.23 and maximum value of 31.30. The Standard deviation is 5.66026 with a mean of 3.1400. The dependent variables display a positive skewness at 3.750 drawing the conclusion that the data distributions were approaching right and the data had a large kurtosis statistic at 16.338 indicating a slight peak to the right of the data distribution.

## 5.2 Correlation Analysis

**Table 5.6** Correlations Matrix SR

		BR	LR	CR	SR
BR	Pearson Correlation	1			
	Sig. (2-tailed)				
LR	Pearson Correlation	-.197	1		
	Sig. (2-tailed)	.223			
CR	Pearson Correlation	.914**	-.222	1	
	Sig. (2-tailed)	.000	.168		
SR	Pearson Correlation	-.469**	.571**	-.536**	1
	Sig. (2-tailed)	.002	.000	.000	

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Correlation shows the relationship existing between variables. The study's dependent variable is SR and the independent variables consist of business risk, liquidity risk and credit risk. The result in table 4.7 provides the Pearson Correlation matrix which indicate that business risk has a negative correlation of -0.469. The p value is actual 0.002 and is significant at 99% confidence level implying that firms with more business risk are more likely to give out low SR thus they move in the opposite direction. Due to future uncertainty and unsure return, the directors become reluctant to declare and pay dividend. This is consistent with Amidu and Abor (2006) who found business risk to have a negative relationship with dividend policy for firms in Ghana.

Liquidity risk is positively correlated with a test statistic of 0.571. The p value is 0.000 and is significant at 99% confidence implying that the relationship is significant. This means that an increase in liquidity risk is due to increased in SR allocations thus an increase in SR will as a result lead to an increase in liquidity risk. This result is consistent with Nasir (2014) whose research findings indicated that there is a negative relationship between liquidity and stock return for firms listed on Karachi Stock Exchange.

The table also shows that there is a negative correlation of -0.536 between credit risk and SR of non-financial firms listed at Nairobi Securities Exchange. The p value is actual 0.000 implying that the relationship is significant at 99% confidence level meaning that an increase in credit risk will lead to a decrease in SR which is consistent with Muhammad (2013) who found a negative relationship between credit risk and performance of firms listed in Nigerian Security Exchange.

## 5.3 Overall Regression Analysis

**Table 5.7** Overall Models of Independent Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.709 <sup>a</sup>	.503	.462	.68394	2.052

a. Predictors: (Constant), CR, LR, BR

b. Dependent Variable: SR

The linear regression models the relationship between the dependent variable SR and the independent variables business risk, liquidity risk and credit risk. The results in table 4.7 summary of R square of 0.503 implying that 50.3% of variance in the dependent variable can be accounted for by the independent variables. When Durbin Watson factors are between 1 and 3 it shows that there is no autocorrelation problem (Alsaeed, 2005). Autocorrelation presence has been tested using Durbin Watson and table 4.17 above shows that the Durbin Watson value of 2.052 indicating that there is no autocorrelation problem and that the residual from linear regression are dependent.

**Table 5.8** ANOVA of Independent Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.060	3	5.687	12.157	.000 <sup>b</sup>
	Residual	16.840	49	.468		
	Total	33.900	52			

a. Dependent Variable: SR

b. Predictors: (Constant), CR, LR, BR

Table 4.8 shows the results of ANOVA test which reveal that all independent variables have significant influence on DPS of non-financial firms listed at Nairobi Securities Exchange since the *P* value is actual 0.000 which is less than 1% level of significance. The *F* value is significant at 1% level ( $F=12.157$ ,  $P< 0.01$ ) indicating the application of model. The model is feasible.

**Table 5.9 Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.530	.557		6.339	.000		
	BR	.108	.292	.106	.368	.715	.165	6.049
	LR	.531	.135	.474	3.937	.000	.950	1.052
	CR	-.547	.301	-.527	-1.815	.078	.163	6.117

a. Dependent Variable: SR

From table 4.9 indicates there is no multicollinearity problem because the VIF values are less than 10. Multicollinearity problems can present if the tolerance value are more than 1 (Robert, 2015). For the above regression the values are less than 1 meaning there is no multicollinearity problem thus less than 100% of independent variables explain variance in dependent variable.

The regression equation is  $Y_{SR} = 3.530 + 0.108BR + 0.531LR - 0.547CR$

From the equation above if business risk, liquidity risk and credit risk are zero, the DPS will be 3.530. Supposing DPS increased by one unit whereas liquidity risk and credit risk are zero this imply that business risk will increase by 0.108 in the same direction. If business risk and credit risk becomes zero while DPS increased by one unit liquidity risk will increase by 0.531 in the same direction and when DPS increased by one unit and business risk and liquidity risk are zero credit risk will increase by -0.547 in different direction.

## VI. CONCLUSIONS AND RECOMMENDATIONS

The aim of this study was to evaluate the influence of financial risk on stock return of non-financial firms listed at Nairobi Securities Exchange. The Pearson Correlation indicated business risk has a negative correlation of -0.469. The *p* value is actual 0.002 and is significant at 99% confidence level. The regression analysis showed that there is a negative relationship  $R=-0.469$  between the dependent variable SR and business risk. Business risk therefore has influence on DPS of non-financial firms listed at Nairobi Securities Exchange since more unpredictable situation in financing implies higher possibilities of uncertainty in return, hence higher financial risk.

The Pearson Correlation showed liquidity risk is positively correlated with a test statistic of 0.571. The *p* value is 0.000 and is significant at 99% confidence level. The regression analysis showed a positive relationship  $R=0.571$  between liquidity risk and DPS of non-financial firms listed at Nairobi Securities Exchange. The study identified that increase in liquidity risk leads to a decrease in SR as more informed financial decisions are likely to be made. However the minimal influence is because the liquidity risk is not reflected on the existing prices of stocks. Informational advantages can allow individuals to ‘outplay’ the stock market. Liquidity therefore not a strong indicator of SR of non-financial firms listed at Nairobi Securities Exchange.

The regression analysis on credit risk and the dependent variable Stock return indicates a positive ad a strong relationship  $R=0.536$ . This because the choice between debt and equity financing determines the possibility of insolvency as interest payment is compulsory. Since other factors influence the choice of financing such as the board of directors and risk tolerance of the manager, the influence of credit risk on the non-financial firms listed at Nairobi Securities Exchange is reduced considerably. The Pearson Correlation confirmed that there is a negative correlation of -.536 between credit risk and SR of non-financial firms listed at Nairobi Securities Exchange. The *p* value is actual 0.000 implying that the relationship is significant at 99% confidence level.

### 5.3.1 Managerial Recommendations

The management and owners of the Companies require investing in competitive financial risk management tools and processes. The internal risk management process must be sophisticated, proactive and adaptable handled by risk management staff and external partners, who can effectively and routinely assess, quantify, prioritize and address risk. This therefore requires massive investments in capital and human resources. Management should put into consideration business risk, liquidity risk and credit risk when putting an investment in large and risky since improved investor confidence will have positive effects on the market value of the Companies.

### 5.3.2 Policy Recommendations

Policies should be put in place to ensure that business risk have very minimal gaps and overlaps in order to make the process efficient and not prohibitive and inhibitive to the Companies being affected. Proper enforcement rules and measures should be put in place to ensure compliance to the rules which are intended to protect investors. The rules should be enforced and disciplinary measures put against those who break the rules. The supervisory authorities should have not only the legal power to search for a solution within the financial system but also the legal power to impose them. This will improve investor confidence. Policies should be put in place by the government to ensure Companies can access debt financing at a reasonable rate by putting in place credit rate control mechanisms.

### 5.4 Areas for Further Research

This study is significant and a pointer for future research in this area, particularly in Kenya. The study findings emphasize the effect of effect of business risk, liquidity risk and credit risk on stock return of non-financial firms on Nairobi Securities Exchange. The researcher recommends additional research to test and analyze other factors which are not considered like:

1. Foreign exchange risk, interest rate risk, operation risk and market risk in order to capture their input which are also important in Influencing stock return of non-financial firms listed at Nairobi Securities Exchange
2. Size as a control variable in analyzing Influence of financial risk on the stock return of non-financial firms listed at Nairobi Securities Exchange

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