FINANCIAL STRUCTURE AND FINANCIAL PERFORMANCE OF SELECTED FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA

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DECLARATION

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To my spouse Regina, daughter Diana and son John.

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OPERATIONAL DEFINITION OF TERMS

Equity	Part of capital which is free of debt and represents ownership interest in the company. Includes ordinary share capital, preferential capital, retained earnings and reserves.
Capital Structure	This refers to how a firm finances its assets with long term debt, preferred stock and common equity. It is the long term sources of debt and equity financing.
Financial Performance	This is the process of measuring the results of a firm's policies and operations in monetary terms. It is a measure of how a firm is utilising its assets to generate wealth or value for its stakeholders and which is measured by various returns as indicated by ROA, ROE and ROS.
Financial Structure	This refers to how a firm finances its assets with all its available resources, whether short term or long term. It is therefore capital structure plus a firm's non-interest bearing liabilities like accounts payables and accruals.
Liquidity Risk	The risk that the company will not be able to meet its financial obligations as they fall due.
Liquidity	This is the level of current assets to current liabilities used by a company at any point in time reflecting the working capital management.
Leverage	This is the degree to which a company uses fixed-income securities such as debt and preferred equity.
Firm Size	This is the book value of total assets of a company

ABBREVIATIONS AND ACRONYMS

LEV	Leverage
LIQ	Liquidity
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
ROS	Return on Sales or Turnover (Profit Margin)
TA	Total assets, representing size
FS	Firm Size
EQ	Equity
EAT	Earnings After Tax
EBIT	Earnings Before Interest and Tax
CMA	Capital Market Authority
MBV	Market to Book Value
MMR	Modified Multiple Regression
MM	Modigliani and Miller
OLS	Ordinary Least Square
NPV	Net Present Value

ABSTRACT

A high number of quoted firms have registered declining financial performance in the recent years resulting to financial difficulties contrary to stakeholders' expectations and adversely affecting the economic growth of the Kenyan economy. Financial structure choice and its impact on financial performance remains a great dilemma to all stakeholders. This study investigated the effect of financial structure on financial performance of selected firms listed at Nairobi Securities Exchange, Kenya. Specifically, the study investigated the effect of leverage, liquidity and equity on financial performance. In addition, the study evaluated the moderating effect of firm size on the relationship between financial structure and financial performance of selected firms listed at NSE, Kenya. The study adopted positivist philosophy as it focused on objectivity and fits a quantitative study with the objective of testing hypotheses. Explanatory research design was employed in this study due to the nature of the problem and available quantitative data. Multivariate tests using panel data model examined the effects of independent variables on firm's financial performance. The target population of the study comprised of all 30 firms listed on the NSE, between years 2007 to 2015 drawn from seven selected sectors of the economy which met the selection criteria. A census of the 30 firms was done and data collected for the 30 companies for the period 2007 - 2015. The study utilised secondary panel data contained in the annual reports and financial statements of selected companies. Various diagnostic tests including Auto-correlation test, Normality test, Heteroscedasticity test, Unit root test and Test for pooling were carried out. Breach-Pagan Lagrange multiplier (LM) test was used showing that there were no panel effects (implying that ordinary least square should be used (pooling). Therefore, the data was pooled. The study used descriptive statistics, correlation analysis and panel linear multiple regression analysis. Regression coefficients were used to test for significance using t-statistic at 5% level of significance and conclusions drawn. The coefficient of determination (R^2) was used to rank explanatory variables' contribution to the response variable. The study found that Leverage, Liquidity and Owners Equity had significant positive effect on financial performance of selected companies listed at NSE, Kenya, while firm size had positive and significant moderating effect on the relationship between financial structure and financial performance. The overall moderating effect of firm size on the relationship between financial structure and financial performance increased by 7.7% after incorporating the moderator which explained 91.6% of changes in financial performance compared with 83.9% without the moderator. The study concluded that leverage, liquidity and owners' equity had positive and significant effect on financial performance and that the use of various components of financial structure jointly enhanced the financial structure's power to explain the variations in financial performance. The study contributed to the financial structure literature by providing evidence of the effect of Leverage, Owners' Equity and Liquidity on financial performance of firms listed in NSE, Kenya for the period 2007-2015. The study recommended that managers of the selected firms listed at NSE, Kenya could utilize the various sources of finance since financial structure has a positive effect on the financial performance of the listed firms with leverage making the highest contribution to financial performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Listed firms contribute in many ways to the Kenyan economy. They provide employment in the firms thus reducing unemployment problems. They pay taxes to the government which is utilized to provide the necessary products and services to the citizen of the country and also contribute to the research and development thus increasing innovation. Therefore, firms' financial performance is critical if they are to fulfill their stakeholders interest.

Firm's financial performance refers to a firm's ability to generate new resources from day to day operations over a given period (Bora, 2008). It involves enhancing shareholders' wealth and profit making which are among the major objectives of a firm (Pandey, 2005). Financial ratios derived from the balance sheet and income statement and also from data on stock market prices, are used to measure how better off a shareholder has become over time (Berger & Patti, 2002). The growth in firms' sales, the improvement in their profit margin, their capital investment decisions and capital structure decisions mainly influence the shareholder's wealth (Arnott & Asness, 2003).

Firm's financial performance further plays the role of increasing the market value of a firm in addition to leading towards the growth of the whole industry and ultimately towards the overall prosperity of the economy. This explains why in corporate finance literature, assessing the determinants of financial performance of listed financial firms has gained great importance despite it having received little attention particularly in

developing economies (Ahmed, Zeng, Sinha, Flavell, & Massoumi, 2011). These companies provide the mechanism for risk transfer and channeling the funds in an appropriate way to support the business activities in the economy.

Financing decisions result to some form of financial structure. Financing choices are major corporate decisions because an optimal capital structure, representing the corporate financing mix, can maximize the market share price and the value of the company. Modigliani and Miller (1958) demonstrated the irrelevance of capital structure in firm value, although the assumption is valuable only in perfect market conditions, where all investors have free access to market information, there are zero transaction costs and no tax difference between dividends and capital gains. However, real economies are far from being perfect and thus many financing decisions theories were developed over time in order to demonstrate the purpose of capital mix and its role in company value and financial performance. After the irrelevance theory, Modigliani and Miller (1963) revised the conditions and explained that interest expenses are tax deductible, and therefore the value of the firm should increase with higher debt ratios. Over time the capital structure literature developed and researchers found many variables that influence both financing decisions and financial performance.

According to Cole, Yan and Hemley (2015), capital structure theory and its relationship to corporate performance has been a controversial issue in corporate finance over the years. Many persons argue that companies should use third-party capital as the main source of financing for the tax benefit, since the interest paid on the debt is deductible from the tax payable. They can increase net profit in the period.

However, the problem of financing with third-party capital is to increase the company's debt, which increases its risk. On the other hand, although equity capital financing is not subject to this situation, it does not obtain the tax benefits provided by the financing with third-party capital, since dividends do not deduct taxes. Shubita and Alsawalhah (2012) noted that it is difficult to determine the optimal financial structure of a firm as this entails analysis of their risk and profitability among other factors.

The financing decisions are also affected by the environments within which the firms operate and which exhibit high degree of instability. The period starting 2007 was characterised with a harsh economic climate because of the financial crisis that faced the world. Due to financial crisis of 2007, the supply of external capital was radically restricted and companies were forced to rely on internal sources. The high cost of borrowing and shallow financial deepening are major challenges facing firms in developing countries. Consequently, the capacity of business entities to undertake investments is directly affected by financial resources available (Fung & Wing, 2011). According to Cole *et al.* (2015), it may seem that the way in which a company chooses how its operations are financed is independent of its current performance. Modigliani and Miller (1958), when introducing studies on capital structure, concluded that the company's value is independent of its capital structure, assuming markets are perfect.

Past studies on the relationship between financial structure and financial performance have concentrated on investigating the direct relationship between financial structure and financial performance of companies and mainly investigating individual component of financial structure at a time. However, authors documented different

results and explained various rationales in this respect. Some authors found positive leverage-performance relationship, while others believe conversely and described debt as negative connotation (Abor, 2010). Mwangi, Muathe and Kosimbei (2014) concluded that increased financial leverage has a negative effect on performance. According to O'Brien (2003), misleading conclusions can be made while studying variables' direct relationship with financial performance. This applied for studies relating leverage, liquidity and Owners equity to financial performance where studies are done individually. This would also apply to this study if a direct financial structure-performance relationship is studied. It is argued that, contingency and situational factors result to contradictions and inconsistencies in the various studies that looked at the relationship between the various components of financial structure and performance (Jermias, 2008).

The study aimed at examining the effect of financial structure on financial performance of firms listed on NSE, Kenya between 2007 and 2015, encompassing the previous economic scenario, during and after the global financial crisis of 2007. This study was justified by the fact that, although there are several studies that address the relationship between financial structure and financial performance, few of them consider these variables in periods marked by economic crisis, more so taking into account the listed companies in Kenya. In addition, this study contributes to the financial structure literature by providing evidence of the effect Leverage, Liquidity and Owners Equity on corporate performance in Kenya, especially in a critical period when organizations tried to re-establish themselves in the market after years of world's economic recession.

Financial performance is measured in different ways by various scholars. The study by Okwo, Okelue and Nweze (2012) used operating profit margin to measure financial performance of firms within the brewery sector. Olatunji and Tajudeen (2014) used Net profit of the commercial banks as the measure of their financial performance. A study by Mwangi, Muathe and Kosimbei (2014), on the relationship between capital structure and performance of non-financial listed firms, used ROA and ROE as the indicators of firm performance.

Firm size is one of the areas that has received little attention and hence less researched despite its ability to moderate the Financial Structure-performance relation and it is viewed as a significant factor that can affect the firm's relation with its external environment (Ezeoha, 2008). The role of large firms is more critical in corporate environment as they have more capacity to influence their stakeholders. Large firms also play significant role in commercializing innovative ideas provided by small firms. It is important to consider firm size's moderation effect while studying the relationship between financial structure and financial performance (Mouhammed, Farooq, & Waheed, 2016).

1.1.1 Financial Structure

According to Titman, Keown and Martin (2011), financial structure is capital structure plus a firm's non-interest bearing liabilities like accounts payables and accruals. It shows how companies finance their assets using the resources available (Moyer, McGuigan, & Kretlow, 1999). Generally, financing of assets is done using either equity capital, long term debts, short term debts or other short term liabilities (Moyer *et al.,* 1999). The way firms finance their assets with permanent short term debt, long

term debt, preferred stock and common equity describe their financial structure (Moyer *et al*., 1999). Capital structure on the other hand refers to how a firm finances its assets with permanent long term debt, preferred stock and common equity (Moyer *et al*., 1999).

The various components of financial structure which constitute the study variables include leverage, liquidity and equity. Leverage is the ratio between total debt to the total assets of the firm and it indicates the extent at which total assets are financed by debts (Mwangi et al, 2014). A higher leverage ratio depicts the dependence of the firm on debt financing is high. The more debt financing a company uses, the higher its financial leverage. A high degree of financial leverage means high interest payments, which negatively affect the company's bottom-line and earnings per share. Although increasing financial leverage might enable a firm to increase its value by profiting from tax shields on debt (Modigliani & Miller, 1963), higher financial leverage might lead to higher expected direct and indirect financial distress costs, which decrease the firm's value (Ross, Westerfield, & Jaffe, 2002). The cost of debt affects the firm's cost of financing its operations and subsequently affects the firm's financial performance. The higher the cost of leverage therefore the low the firms' profitability since interest on debt is an allowable expense against firm profits.

According to the trade-off theory, the optimum financing mix coincides with the level of financial leverage at which the benefits and costs of debt financing are exactly balanced. Businesses use debt because it offers them potential to increase the volume of their operations and increase the average ROE and ROA through tax savings. In many authorities, interest on debt is an allowable expense against profits. The use of debt will have this effect only if the rate of return on the investment or assets is greater

than the rate of return on the debt (Watkins, 2002). Both long-term and short-term creditors are concerned with the amount of leverage a company employs because it indicates the company's risk exposure in meeting debt service charges i.e. interest and principal repayment. A company that is heavily financed by debt gives creditors less protection in the event of bankruptcy (Moyer, James, & William, 2006).

Liquidity of a company on the other hand is a financial measurement that is primarily associated with company performance and the firm's ability to meet its short-term obligations. Géczy, Minton and Schrand (1997) argues that liquidity ratios measure a business' ability to meet the payment obligations by comparing the cash and near cash with the payment obligations. Liquidity-based variables rest on the assumption that firms are more likely to forego positive net present value projects and thus suffer from underinvestment when their cash holding are low. The effective liquidity management – beyond securing their survival – helps companies to reach higher profitability by reducing their input needs. Furthermore, it grants strategic advantages in the economically difficult time periods (Veronika, Tarnóczi , & Vörös , 2014). Liquidity ratios show the relationship of a firm's current assets to its current liabilities, and thus its ability to meet maturing debts. Two commonly used ratios are the current ratio and the quick ratio (Brigham & Micheal, 2008).

When a firm uses more current assets, it means that it can generate internal inflows which can then be used to finance its operating and investments activities. Therefore, if a negative relation is confirmed, that is an implication that firms finance their activities following the financing pattern implied by the pecking order theory. Firms with high liquidity can generate high cash inflows and in turn, can employ the excess

cash inflow to finance their operations and investment activities. Therefore, they use less debt compared to those firms that have low liquidity as suggested in pecking order theory. As for low liquidity firms, they tend to go for debt in financing their activities (Suhaila & Wan Mahmood, 2008). Liquidity of a company expressed as a ratio of current assets to current liabilities is a measure of a company's ability to provide sufficient cash to cover its short-term obligations (debt).

The most common liquidity ratios include; the current ratio and the quick ratio. The current ratio indicates the extent to which the claims of short-term creditors are covered by assets that are expected to be converted to cash in a period roughly corresponding to the maturity of the liabilities. A current liability represents money a company owes and is due in the near future- less than one year. A current asset, on the other hand, is cash or other short-term assets that can be converted into cash soon (i.e. less than a year). By dividing the current assets by the current liabilities, we can determine whether a company can pay off its short-term debt (current liabilities). It also shows the working capital management by the firm. The trade-off theory predicts a positive relationship between liquidity and the debt level (Degryse, de Goeij, & Kappert, 2009). Availability of funds allow firms to invest in positive NPV projects hence increasing firms' profitability. The ratio of current assets to current liabilities was used in this study to proxy for liquidity.

Equity capital is that part of capital which is free of debt and represents ownership interest in a firm (Moyer *et al*., 1999). It is, therefore, that amount contributed by the owners and normally includes ordinary share capital, preferential capital, retained earnings and reserves. Like debt providers, equity providers also earn returns in form

of dividends from the profits generated by the firm (Titman *et al*., 2011). Preference shareholders receive their dividends at an agreed rate before the ordinary shareholders and any unappropriated profit is retained for firm's expansion programs (Titman *et al.,* 2011). Suffice to say that a good financial performance leads to a high retention. If a firm reports a loss, then it has a retained loss which reduces the shareholders' funds. In terms of measurement of equity, preference stock, ordinary stock and retained earnings will be used.

According to Dare and Sola (2010); and Ishaya and Abduljeleel (2014), when firms combine debt and equity in their capital structure, the firms enjoy the benefits of combined debt and equity. The cash flows generated are shared between equity and debt providers. Financial structure decisions assist in maximizing shareholders' wealth due to their impact on sustainability and ability to satisfy external objectives of a firm (Ishaya & Abduljeleel, 2014).

The financial structure of a firm determines the asset structure of a firm and by extension the firm size. According to Koralun-Bereźnicka (2013), asset structure is a combination of the various asset components which were identified as: financial fixed assets; tangible fixed assets; current assets; and current investments and cash in hand and at bank. This affects the financial structure of a company significantly. A similar approach is taken by Schmidt (2014), where asset structure is described in terms of: current assets; long term investments and funds; Property, Plant and Equipment; intangible assets; and others assets. The assets structure is comprised of total assets, which gives the firm size. The concept of assets structure also becomes important in this study.

1.1.2 Firm Size

Firm size has become an important component in corporate finance decisions with increasing recognition to external business environment (Voulgaris, Asteriou, & Agiomirgianakis, 2004). According to Mouhammed *et al*. (2016), the dynamic environment affects the competitiveness of large and small firms and subsequently affecting their capital structure decisions. Lievenbruck and Schmid (2014) also indicates that financial policies of firms are affected by firms' size, while Chi (2004) clarified the relationship and concluded that organizational size has a significant impact on performance as well as rights of the shareholders. Larger firms have better chances to obtain credits from financial institutions. They may obtain loan at cheaper rates, as they have better credit worth and low chances of bankruptcy.

According to Lievenbruck and Schmid (2014), firm size has important economic impact in any financial policies and hence an important predictor of the financial performance as it helps in achieving economies of scale. Larger firms show better profitability while smaller firms do not have the ability to compete with larger firms in this regard. Previous literature has explored various differentiating factors between large and small size firms. According to González & González, 2012, the most prominent distinguishing factors are level of profits and their volatility. They argued that larger firms generate high and less volatile profits while small firms do conversely. Similarly, small firms also document low liquidity as compared to large firms. This indicates that small firms can be riskier due to low liquidity and volatile profits as compared to larger firms. Moreover, larger firms also hold more fixed tangible assets as compared to the small firms. Such characteristics make it easier for

larger firms to access debt markets without difficulty. So, it is mush possible that large firms deploy more debts as compared to small firms.

Previously, moderating effects of firm size on the relationship between financial structure and financial performance is found to have be ignored. Though, one can find studies investigating leverage-performance relation for SMEs without comparing with large firms. Abor, (2010) studied leverage-performance relation for SMEs from Ghana and South Africa and found that in general debt and especially long term debts are negatively associated with firm profitability. Jaggi and Gul, (1999) studied moderating effects of size to the relationship between investment opportunities, free cash flow and debt borrowing. Their results revealed that there is a positive relation between debt and free cash flows for low investment opportunity set firms when firm size is high. They found that size is a significant moderator to the relation between investment opportunities, free cash flow and performance.

González and González, (2012) and Voulgaris *et al.*, (2004) explored determinants of capital structure to the contingency of firm size but did not consider it with respect to leverage-performance relation. The research proposed that leverage-performance relation can vary within different firm size. Since, larger firms generate high and less volatile profits with strong liquidity so their risk premium will also be lower comparatively. Similarly, information is less asymmetric in case of larger firms that also decrease their uncertainty level. Additionally, larger firms also hold high tangible assets that they can use as collateral while borrowing external debt. Accordingly, these larger firms access the debt market easily at lower cost to gain tax advantages.

The relationship of size and performance is searched by researchers and found presence of significant relationship (Vijayakumar & Tamizhselvan, 2010), as well as an inverse relationship (Hall, 1987). The inverse relationship has been supported by other researchers as well in near past (Barret *et al*., 2010). Size is not only being studied as an independent variable for measuring performance of the firms but Rauch et al. (2009) concluded that size of firms is an important moderator. Rauch *et al.* (2009) in that analysis deeply observed a number of researches which were conducted taking size of firm as a moderator and inferred a result that severity of impact of all the environmental factors changes with change in the size of organizations. Size of the organization as well as environmental munificence played a role of moderator variable between entrepreneurial orientation and performance (Dess *et al*., 1997; Zahra, 1996).

Trade-off between external and internal mode of financing is been discussed in trade of theory. Trade-off theory argues that firms larger in size tend to have more debt as compared to those of smaller size due to less chances of bankruptcy. Argument of trade off theory regarding obtaining more debt by larger firm have been supported by assumption that firms with larger size having more diversified portfolio, have low chances of becoming bankrupt (Titman and Wessels, 1988). Reason behind lower chances of bankruptcy is that larger firms generally have better capabilities as well resources and obtain economies of scale. Hence firm size has inverse relation to bankruptcy, besides direct relation to profitability. Size of the firm is being used as control variable for the research to check the differences in the operating environment of the organization. With its increasing recognition to external business environment, firm size can be an important ingredient to corporate finance decisions (Voulgaris et

al., 2004). In this study natural log of net assets was used as a proxy for size of the firm to check its impact on the relationship between financial structure and financial performance.

1.1.3 Selected Firms listed at Nairobi Securities Exchange, Kenya

According to Nairobi Securities Exchange (2015), trading in securities was informal, manual and was purely on a gentleman's agreement until 1954 when the Nairobi Stock Exchange was constituted as a voluntary association of stockbrokers registered under the Societies Act. From the first privatization of 20% government stake in Kenya Commercial Bank (KCB) in 1988, NSE has grown in trading volumes, boosted by among others efficient settlement of deals though automated trading system introduced in in September 2006. The market capitalization of the already demutualized (on July 2014) NSE as at the last day of trading in 2014 was over KS. 2.2 Trillion with 64 firms listed. The Nairobi 20-Share Index had as at end of 2014 surpassed the 5000 points mark, an indication of the huge capital mobilization through NSE. Bonds of Ksh. 494 billion were issued in 2014 up from Ksh. 253 billion in 2013 (NSE, 2015).

Nairobi Securities Exchange plays an important role in mobilizing domestic savings which bringing about the reallocation of financial resources. It has also facilitated transfer of securities between shareholders by making long-term liquid. It also enabled companies to engage local participation in their equity, thereby giving Kenyans a chance to own shares. Companies can also raise extra finance which is essential for expansion and development. Nairobi Securities Exchange also enhances the inflow of international capital. They can also be useful tools for privatization programs.

In Kenya, Statistics available from CMA (2015) have shown that a high number of firms especially quoted companies have registered declining financial performance in the recent years. Examples include Kenya Airways which reported a loss of Kes. 10 billion, Mumias Sugar Company – Kes. 3.4 billion losses, Uchumi super markets – Kes. 226 million losses, Eveready East Africa limited – Kes. 248 million losses, CMC Holdings suspended from NSE among others. Poor financial performance of quoted companies adversely affects the economic growth of the Kenyan economy.

The financial performance of listed firms in Kenya have not been impressive since several of these firms have been making losses due to exposure arising from their financing decisions. Their financing decisions differ from firm to firm and sector to sector. This explains the varying financial performance and performance gaps among the listed firms. The financial structure of these firms is not uniform and firms make financing decisions depending on how they view the various financing models and how they perceive the various capital structure theories. While others do not take regard of the various financing models and the optimal capital structure mix. Firms faced with such challenges require that their management make informed financing decisions to manage their financial structure in a way that it enhances financial performance and stakeholders' wealth.

The study took a census of all firms drawn from seven selected sectors of the economy comprising of Agricultural sector, Commercial services sector, Telecommunications sector, Automobiles sector, Manufacturing and Allied sectors, Construction and Allied sector and Energy and Petroleum sector of NSE, Kenya (Appendix 11). Firms from the financial services sector, banking and insurance sectors were excluded from

the sample. The financial services sector, banking and insurance sectors are highly regulated by Central Bank prudential guidelines and Insurance Act respectively on issues of liquidity, asset and capital holding, and provision for bad debts among other factors (Santos, 2001; Mwangi *et al.,* 2014).

1.1.4 Financial Performance

Firm's financial performance refers to a firm's ability to generate new resources from day to day operations over a given period (Bora, 2008). It involves enhancing shareholders' wealth and profit making which are among the major objectives of a firm (Pandey, 2005). Accounting ratios derived from the balance sheet and income statement and also from data on stock market prices, are used to measure how better off a shareholder has become over time (Berger & Patti, 2006). The growth in firms' sales, the improvement in their profit margin, their capital investment decisions and capital structure decisions mainly influence the shareholder's wealth Arnott and Asness, (2003).

Financial performance is also used as a general measure of a firm's overall financial status over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in totality. The financial performance is measured using accounting Key Performance Indicators such as Return on Assets, return on Sales, Earnings before interest and tax, Economic value added or Sales growth (Crabtree & DeBusk, 2008). The advantage of these measurements is their general availability, since every profit oriented organization produces these figures for their yearly financial reporting (Chenhall *et al.*, 2007).

The study by Okwo *et al*. (2012), used operating profit margin to measure financial performance of firms within the brewery sector. Olatunji *et al*. (2014) used Net profit of the commercial banks as the measure of their financial performance. A study by Wamugo *et al.* (2014), on the relationship between capital structure and performance of non-financial listed firms, used ROA and ROE as the indicators of firm financial performance. The current study developed an all profitability ratios index for financial performance by computing a simple average for return on assets, return on equity and profit margin (return on sales) of the firms under study. This approach was also taken by study on the effects of asset structure on the financial performance of listed manufacturing firms where an evaluation of financial performance of these firms was through the use of ROA and ROE (Mawih, 2014).

1.1.4.1 Financial Performance Trends for selected firms listed at NSE, Kenya

Table 1.1: Average Returns (ROA, ROE, ROS) for period 2007-2015

FINANCIAL PERFORMANCE /YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average Period %
Return on Asset (ROA)	13.32	10.84	11.64	10.09	9.99	6.79	7.71	(11.80)	4.70	7.03 %
Return on Equity (ROE)	17.89	13.09	14.77	7.91	11.97	13.89	12.03	(20.42)	20.58	10.19 %
Return on Sales (ROS)	10.59	12.20	11.21	14.35	14.58	9.34	8.33	(18.51)	5.94	7.56 %
Average Annual Performance %	13.93	12.04	12.54	10.78	12.18	10.01	9.36	(16.91)	10.41	8.26 %

Source: NSE, 2015

Table 1.1 shows corresponding average returns for the financial performance of selected firms listed in NSE, Kenya between years 2007 and 2015. The average annual ROA declined from 13.32% in 2007 to 4.7% in 2015 giving a period annual average of 7.03%, while the average annual ROE fluctuated overtime giving a period average of 10.19%. The return on sales declined from a high of 10.59% in 2007 to a low of 5.94% in in 2015 giving an average period return on sales of 7.56%. The average annual performance for the period averaged 8.26%. This indicated that the financial performance of selected firms listed in NSE, Kenya declined between 2007 and 2015. Given the importance that financing decisions have on financial performance, there is need to examine the effect of financing decisions on financial performance by investigating the effect of financial structure on financial performance of selected firms listed on NSE, Kenya.

1.2 Statement of the Problem

The period starting 2007 saw majority of companies experiencing financing difficulties due financial crisis that hit most parts of the world including Kenya. In Kenya, Statistics available from CMA (2015) show that most firms especially quoted companies registered declining financial performance in the period 2007-2015. Table 1.1 shows that firms average Return on Assets for the period declined to 4.7% in 2015 from 13.32% in 2007. Their Return on Equity declined overtime to average 10.19%, while Return on Sales declined from an average of 10.59% in 2007 to 5.94% in 2015. This saw some firms reporting losses; e.g. Kenya Airways reported a loss of ksh.10 billion, Mumias Sugar Company ksh.3.4 billion losses, Uchumi Super Markets ksh.226 million losses, Eveready East Africa Limited ksh. 248 million losses, CMC Holding suspended from NSE among others. Data available from World Bank (2014)

show that there was decline in service in all sectors of the economy affecting the economic growth of Kenyan economy.

Due to financial crisis of 2007, the supply of external capital was radically restricted and companies were forced to rely on internal sources. The high cost of borrowing and shallow financial deepening are major challenges facing firms in developing countries. Accordingly, the capacity of business entities to undertake investments is directly affected by financial resources available (Fung & Wing, 2011). Management of these companies were concerned whether the company's financing decisions affected their financial performance and especially at that time when majority of the companies were facing financial crisis. The decline in firm's financial performance over the period and the financial environment that affected the financing decisions during the period motivated this study which sought to link the measures of financial structure with financial performance in Kenyan context. The components of financial structure are leverage, liquidity and owners' equity.

Similarly, majority of the studies used accounting measures of profitability, ROA, ROE, ROS and others to proxy for financial performance and did not come up with a unique measure of financial performance. These studies generated mixed results. Studies done so far, for instance, focused on the effects of financial leverage on performance alone (Mwangi et al., 2014) and measured performance as either ROA or ROE. Haq, Sohail, Zaman and Alam (2011), in their studies examined the influence of liquidity on return on assets while Ishaya and Abduljeleel (2014) studied the direct effect of debt on profitability and equity and profitability.

Majority of studies investigating the effect of financial structure on financial performance have investigated individual components of financial structure at a time. The studies didn't link all the components of financial structure and their effect on financial performance in one study. Additionally, though there are several studies that address the relationship between financial structure and financial performance, few of them consider these variables in periods marked by economic crisis and after i.e. 2007 to 2015 taking into account the specific sectors of Kenyan economy and especially for sectors with firms listed at NSE, Kenya. In addition, this study contributes to the financial structure literature by providing evidence of the effect of Leverage, Owners Equity and Liquidity on financial performance of firms listed in NSE, Kenya for the period 2007-2015. A critical period when firms tried to re-establish themselves in the market after years of economic crisis. This justified the study.

1.3 Objectives of the study

1.3.1 General objectives

To investigate the effect of financial structure on financial performance of selected companies listed at NSE, Kenya.

1.3.2 Specific objectives

i. To determine the effect of leverage on financial performance of selected companies listed at NSE, Kenya.
ii. To examine the effect of liquidity on financial performance of selected companies listed at NSE, Kenya.
iii. To assess the effect of equity on financial Performance of selected companies listed at NSE, Kenya.

iv. To evaluate the moderating effect of firm size on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya.

1.4 Hypotheses

The research used the following null hypotheses for the study.

i. **H_{01}**, Leverage has no significant effect on financial performance of selected companies listed at NSE, Kenya.

ii. **H_{02}**. Liquidity has no significant effect on financial performance of selected companies listed at NSE, Kenya.

iii. **H_{03}**. Equity has no significant effect on financial performance of selected companies listed at NSE, Kenya.

iv. **H_{04}.** Firm size has no significant moderating effect on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya.

1.5 Significance of the study

1.5.1 Policy Implications

The regulators of business organization can use recommendations of this study in examining relationship between financial structure and financial performance and how such relationship could be considered when evaluating the strength of the financial institutions, and provide informed advice to the firms accordingly. This could reduce the cases of firms' failure and enhance their survival. This could also benefit other firms that would be seeking to make informed financial decisions.

1.5.2 Firms' Stakeholders

The study will benefit various company stakeholders and add value to the world of knowledge, by establishing a model to determine the financial performance of selected listed firms at NSE, Kenya in terms of their financial structure composition. The study will be a good basis for finance managers in their formulation of financing strategies. This is because the outcome of the study will help them in planning and controlling functions and hence meet the financial needs of the firms. It will help the shareholders to understand the importance of financial structure and how it affects financial performance.

1.5.3 Researchers and Academicians

This study makes contributions to the existing literature on financial structure and financial performance by providing a basis for future reference to academicians and those making related studies in developing their research projects/theses and hence enriching available literature.

1.6 Scope of the Study

The study focused on all quoted firms from seven selected sectors of Nairobi Securities Exchange for the period 2007 – 2015 (Appendix 11). A total number of 270 firm year observations were used from 30 firms listed at NSE. The sectors included Agriculture sector, Commercial services sector, Telecommunication sector, Automobiles sector, Manufacturing and Allied sector, Construction and Allied Sector and Energy and Petroleum sector. Banking and investment, financial and insurance sectors were left out since their financial structure is regulated by the Banking Act while firms in the insurance sector have their financial structure regulated by the

Insurance Act. After data collections, 9 firms were dropped due to lack of full data for the period. Leaving 30 firms' data available for study analysis. Based on the data availability, 30 firms' financial statements were used in the research.

1.7 Organization of the Study

Chapter One covers the Background of the study, financial structure, performance, the study problem, objectives and hypotheses; significance and scope of the study. Chapter Two covers theoretical and empirical review, summary of literature reviewed, research gap and conceptual framework while Chapter Three covers philosophy of research and design of research, empirical model, target population, data collection procedures, data analysis and presentation, diagnostic tests and ethical considerations. Chapter 4 covers results and discussions while Chapter Five covers summary, conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviewed both the theoretical and empirical literature related to the study variables and how they are related. The chapter covered the review of various theories, the empirical literature review of each variable, summary of literature and research gaps and the conceptual framework.

2.2 Theoretical Literature review

The Capital structure theories underpin this study and provide the basis for choice of the study variables. Various theories are reviewed here.

2.2.1 Stakeholder Theory

This theory by Freeman (1984) looks at the equilibrium of stakeholder interests as the main determinant of corporate policy. However, despite its importance to stakeholders, little attention has been devoted to questions regarding what it means to create value for stakeholders and how it can be measured. The literature on stakeholder theory focuses on the interests of stakeholders, advocating that they are treated well and that managing for their interests, helps a firm create value along several dimensions and is therefore good for firm performance (Donaldson & Preston, 1995; Freeman, 1984; Freeman, Harrison, & Wicks, 2007; Harrison, Bosse, & Phillips, 2010). The existing empirical literature, reviewed by Freeman, Harrison, Wicks, Parmar and de Colle (2010), is generally supportive of a positive relationship between stakeholder-oriented management and firm performance, which is measured in financial returns (Choi & Wang, 2009; Hillman & Keim, 2001).

The stakeholder theory further shows that improving firm's financial returns enhances firm's value and performance. The financial performance is measured by the various financial returns that the company is able to achieve by investing using the various sources of finance namely; Long term debt, owners' equity and liquid assets. The financial returns i.e. Return on Asset, return on Equity and Return on Sales or profit margin constitute the firm's financial performance as measured by various stakeholders and this makes the financial performance as the dependent variable of the study; and which creates value to the various stakeholders. According to Harrison and Wicks (2013), firms that provide more utility to their stakeholders are better able to retain their participation and support and stakeholders depend on both the firm and its other stakeholders to satisfy their own interests.

While making financing decisions, the management of firms should consider the expected profitability of the firm and earnings from their investments to satisfy the stakeholders' expectations. Therefore, since stakeholders are interested in returns from their investments, which is measured in financial returns, the stakeholders' theory is important in this study as the theory defines the various interests of the investors and how their interests in terms of returns are measured in financial returns which constitute the dependent variable of the study. Thus the stakeholders are interested in the financial performance of their firms.

2.2.2 Trade-off Theory

The theory advocates that firms' management should emphasize favourable liquidity level to balance the costs and benefits of cash holdings. The cost of cash holdings is the low yield of these liquid assets because of liquidity premium and tax disadvantages

(Ajao & Small, 2012). Businesses must keep liquidity risk premium in consideration to secure a competitive position in market while using external resources to maintain liquid assets. Frank and Goyal (2005) stated that in all the theories of trade-off, there is an evaluation of the cost and benefits of alternative capital structure plans.

Trade-off theory advocates an inverse relationship between liquidity and profitability that centre the cost and benefit of every decision. Whereas, pecking order advocates the positive relationship between liquid assets and performance. The trade-off theory looks at the various components of financial structure and indicates that there is need to look at their cost benefit analysis and decide on the best mixture of financial structure decisions. This means there is need to look at the various variables of the study and determine their contributions to firm's financial performance and this would inform future capital structure decisions. This would inform their future financial structure decisions aimed at obtaining an optimal financial structure of firms where cost of capital is minimised and financial performance enhanced. Hence the Trade-off theory is important in this study since the theory highlights the expected relationship between firm's liquidity position and firm's financial performance which is important consideration by firm managers while making financing decisions.

2.2.3 Pecking Order Theory

This theory by Myers (1984) posits that in designing their capital structure, businesses should first use internally generated funds, followed by external debt and finally the external equity. They regarded internal funds as cheap and not subject to any outside interference and external debt being less costly due to fewer restrictions than issuing equity. The theory therefore assumes that firm's managers understand better their

company's status and they would do everything possible to benefit the existing company's shareholders (Sheikh & Wang, 2011). They are also keen to keep the firm's proprietary information secret (Liesz, 2002), since the use of internal funds allows managers to avoid making public disclosures about the company's investment opportunities and potential profits on investment.

Myers and Majluf (1984) notes that, with a view to safeguarding the interest of their existing shareholders, managers may forgo positive-NPV projects if these would require the issue of new equity, as this would give much of the project's value to new shareholders. However, Fama and French (2005) supports the preference for equity over debt contrary to this theory. They argue that firms can avoid the information costs or the adverse selection by issuing the equities which are less subject to asymmetric information such as equity issues to employees in their compensation plan or to existing stock holders through rights issue.

There is need therefore to review debt and equity financing while making financing decisions and propose an optimal structure. The pecking order theory advocates for companies to use liquidity, leverage (debt) and equity in financing their operations in the order in which it is less costly to the company. The three components of financial structure constitute the study variables and hence the need to investigate how they affect financial performance. The theory indicates that leverage influences financial performance positively since it is cheaper. The theory has no preference to use of equity as it is most expensive and dangerous due to potential loss of control and therefore a review of the relationship between equity and financial performance was done since the companies are also financed by equity. The relationship between

liquidity and financial performance was also investigated in the study since pecking order advocates for positive relationship between liquid assets and financial performance.

2.2.4 Modigliani and Miller (1963) Capital Structure relevance theory

According to Modigliani and Miller (1958), without taxes and under assumptions of perfect markets, capital structure financing decisions are irrelevant since the value of the levered firm is equal to the value of the unlevered firm. However, the assumptions of the MM irrelevance theory are not likely to hold in the long run. Empirical works have shown that the MM irrelevance theorem fails under a variety of circumstances with the most commonly used elements including consideration of taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, time-varying financial market opportunities, and investor clientele effects (Luigi & Sorin, 2009). According to Breuer, Gürtler and Schuhmacher (2008), MM irrelevance theory does not take into consideration any kind of objections resting on the imperfections of capital markets. The assumption of same risk class and hence borrowing rate by firms is practically not true unless by sheer coincidence.

The MM (1963) incorporated taxes in their irrelevance theory arguing that in determining the firm value, capital structure matter given that interest on debt is an allowable expense and therefore a tax shield. By raising debt to equity ratio, this results to additional personal taxes payable by investors and they would therefore require higher returns to compensate them for the associated higher risks. The proposition by MM was therefore modified in 1977 to incorporate personal taxes but

with the same argument that capital structure indeed matters. It is not therefore possible for a firm to have a 100% debt financing.

An understanding of the MM propositions on capital structure relevance theory helps corporate managers in making financing decisions. They suggest that any combination of finance sources by a firm is as good as another. This holds true only in theory since in real life there exists bankruptcy and agency costs which will even increase as debt increases in a firm (Brigham & Gapenski, 1996). The theory therefore advocates the use of various sources of finance in their financial structure since capital structure is relevant and helps finance managers in making financing decisions and incorporate the various sources of financing. In this study, the components of financial structure; long Term debt, liquidity and Owners Equity constitute the study variables and their effect on firms' financial performance will be investigated.

2.3 Empirical Literature Review

This section discusses the relevant empirical literature that supports the research problem. This ensured that the study content was informed by past studies related to the study being undertaken.

2.3.1 Effect of Leverage on Financial Performance

Empirical findings on the effect of leverage on financial performance have been reported by various researchers.

Mwangi *et al.* (2014), carried out a study to investigate the relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange in Kenya. The study employed an explanatory non-experimental research design. A census of non-financial companies listed in the Nairobi Securities

Exchange, Kenya was taken. The study used secondary panel data contained in the annual reports and financial statements of listed non-financial companies for the period 2006 - 2012. The study concluded that increased financial leverage has a negative effect on performance. The current study included other components of financial structure that influence financial performance like firm size, liquidity and owners' equity.

Gabrijelcic *et al*. (2013) examined the relation of firm's performance and the leverage. This study results showed that increase in leverage cause the decrease in performance. The study suggested that firms should use foreign financing to improve the performance but not too much which can negatively affect the firm performance.

Khalid, Ali, Baloch and Ali (2014) investigated non-financial firms listed on Karachi Stock Exchange. The used panel data spans from the period 1988 - 2008. The study found that, leverage has positive significant impact on corporate performance. Almajali *et al.* (2012) studied financial performance of Jordanian Insurance Companies listed at Amman Stock Exchange during the period 2002 – 2007. The results showed that the leverage, size and liquidity have a positive statistical effect on the financial performance of Jordanian Insurance Companies.

Hassan, Ahsan, Rahman and Nurul (2014) investigated Bangladeshi firms listed in Dhaka Stock Exchange during the period 2007 - 2012. They used ROA, EPS and Tobin's Q to measure performance. They found that there is significant negative correlation between ROA and Capital leverage. While there is no significant relationship between leverage and firm's performance as measured by ROE and

Tobin's Q, they associated the negative relationship to higher cost of debt and strong covenants attached to the use of debt.

Mahmoudi (2014) conducted a study using panel data from cement firms listed at the Tehran Stock Exchange for a period from 2008 to 2011. He investigated the effects of leverage on firm's profitability measured by ROA and ROE. He found a significant negative relationship between leverage and firm profitability. Siahaan, Ragil and Solimon (2014) conducted a study research on listed firms at the Indonesia Stock Exchange. The firms were clustered into two, 30 firms as the large listed firms and another cluster of 30 firms listed as small firms. He found that large firms had an insignificant positive relationship between leverage and firm value but a significant negative relationship for small firms.

Tsuji (2013) studied the relationship between firm capital structure and profitability in the Japanese machinery firms listed on Tokyo Stock Exchange using panel data for the period 1981 - 2011. The results showed that leverage has a negative relationship with profitability. Dogan (2013) investigated firm profitability of 200 companies listed at the Istanbul stock exchange using data for the period 2008 to 2011 by a multivariate regression model. He found that liquidity was positively related to profitability as measured by ROA while leverage was negatively related to profitability.

Abbasali and Esfandiar (2012) investigated the impact of capital structure on the financial performance of companies listed in the Tehran Stock Exchange and tested a sample of 400 firm. They concluded that there was a significant negative relationship between debt ratio and financial performance of companies, and a significant positive

relationship between asset turnover, firm size, asset tangibility ratio, and growth opportunities with financial performance measures. The study tested all sectors and did not isolate the financial sectors whose objective in use of derivative is both for risk hedging and for speculation to make profits.

Almajali *et al*. (2012) studied financial performance of Jordanian insurance companies listed at Amman Stock Exchange during the period 2002 – 2007. The results showed that leverage, size and liquidity have a positive statistical effect on the financial performance of Jordanian insurance companies.

Abdul (2012) studied the relationship between capital structure decisions and the performance of firms in Pakistan. ROA, GM, and Tobin's Q were used to measure firm performance and he concluded that financial leverage had a significant negative relationship with firm performance while there was negative but not statistically significant relationship between financial leverage and firm performance when measured as return on equity (ROE).

Majority of these studies looked at the effect of leverage on specific measures of profitability and performance mainly ROA, ROI, ROE, Tobin Q, EPS and Profit Margin but failed to obtain an average measure of financial performance to take care of the various stakeholders' interests. Additionally, majority of these studies looked at leverage as the only component of financial structure and failed to incorporate other components in their studies. This is the gap that this study aims to cover by incorporating the various components of financial structure in the study and taking care of all stakeholder interests by incorporating various measures of profitability in measuring financial performance.

2.3.2 Effect of Liquidity on Financial Performance

The results of the study by Velnampy and Anojan (2014) on how Liquidity and Capital structure impact on profitability, for all listed firms in telecommunication sector of the Colombo Stock Exchange, Sri Lanka for the period 2008 - 2012, showed that there was no significant impact of both liquidity and leverage on profitability. García-Teruel and Martinez-Solano (2007) studied the effects of working capital management over companies ROA. The findings indicated that, reducing the cash conversion cycle had significant impact on companies' profitability. Smith and Begemann (1997) in their study on whether maximization of the firm's returns would risk its liquidity and whether pursuit of liquidity would tend to dilute returns, the results of the study indicated that there was negative relationship between liquidity and financial performance. They used a sample of industrial firms listed on the Johannesburg Stock Exchange (JSE), to analyse the relationship between measures of working capital and return on investment (ROI).

Raheman and Nasr (2007) in their study on the relationship between Working Capital Management and profitability for Pakistani companies listed on Karachi Stock Exchange, observed that there was a significant negative relationship between companies' liquidity and profitability. There is need therefore to investigate whether firm's liquidity level which proxy investment opportunities has any effect on firm's financial performance. This is because, when cash holding is low, a firm is likely to suffer underinvestment problem.

Eljelly (2004) examined the relation between profitability and liquidity measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock

companies in Saudi Arabia using correlation and regression analysis. They found a negative relationship between profitability and liquidity indicators. It was also observed that there was great variation among industries with respect to the significant measure of liquidity.

Ajanthan (2013); Egbide, Uwuigbe and Uwalomwa (2013); Nimer, Warrad and Omari (2013); Haq *et al*. (2011) in their studies found that there is a significant positive relationship between quick ratio and return on assets. This inferred that companies with strong liquidity ratios tend to face lower risk and better performance. This is against the trade-off theory on the relationship between liquidity and profitability as both are conflicting goals. Bhunia, Khan and Mukhuti (2011) observed a mixed impact of liquidity on profitability during the investigation of the top four Steel companies in India. Results showed that current ratio of Tata Steel Ltd is positively associated with profitability, current ratio of Lloyds Steel Ltd is negatively associated with profitability, current ratio of Kalyani Steels Ltd is negatively associated with profitability and the current ratio of JSW Steel Ltd is positively associated with profitability.

Kaur and Silky (2013) studied all the companies listed on the National Stock Exchange of India to analyse the impact of working capital management in terms of liquidity management on profitability. The revealed results were consistent with the trade-off theory that there is a negative relationship between current ratio and return on assets. Agha (2014); Afeef (2011) found that there is no significant relationship exist between current ratio and profitability (ROA). Kaur and Silky (2013); Malik and Ahmed (2013) found that there is a negative association between quick ratio and

return on assets. The study supports the trade-off theory of liquidity and profitability. Any increase in liquidity will cause a diminishing trend in asset utilization capability of the firm.

Majority of these studies looked at the effect of liquidity on specific measures of profitability mainly ROA and ROI and failed to look at other measures of profitability like ROE and gross Profit margin and therefore failing to incorporate the interests of other stakeholders. Additionally, these studies looked at liquidity as the only component of financial structure and failed to incorporate other components in their studies. This gave only one sided view of the effect of financial structure on performance as all components of financial structure and financial performance were not taken into account in those studies. This is the gap that this study aims at covering by incorporating the various components of financial structure in the study and taking care of all stakeholder interests by incorporating various measures of profitability in measuring financial performance.

2.3.3 Effect of Equity on Financial Performance

Equity capital is that part of capital which is free of debt and represents ownership interest in a firm (Moyer *et al*., 1999). It is, therefore the amount contributed by the owners and normally includes ordinary share capital, preferential capital, retained earnings and reserves. Like debt providers, equity providers also earn returns inform of dividends from the profits generated by the firm (Titman *et al*., 2011). Preference shareholders receive their dividends at an agreed rate before the ordinary shareholders and any unappropriated profit is retained for firm's expansion programs (Titman *et al*., 2011).

Ishaya and Abduljeleel (2014) observed that debt is negatively related with profitability but equity is directly related with profitability. They did a study to examine the capital structure and profitability of the Nigerian listed firms from the agency cost theory perspective. Firms' panel data from 70 out of population of 245 firms listed at the Nigerian securities exchange for the period 2000 – 2009 were used and analysed using fixed-effects, random-effects and Hausman Chi Square estimations. Their findings were consistent to the survey by Shubita and Alsawalhah (2012) and provided evidence against the agency cost theory.

Maina and Kondongo (2013), while evaluating the effect of leverage and the financial performance of listed firms in Kenya for the period 2002-2011, found that there was a significant negative effect of debt and profitability but no effect on firm value. The study used descriptive, regression and correlation to analyse data. The study used Tobin's Q to proxy for firm value while ROE and ROA were used as proxies for financial performance. Other proxies for leverage included; debt to equity, debt to assets and long term debt to equity. The findings were contradicting and interesting. MM (1958) used the Tobin Q to validate the irrelevance theory.

Zurigat (2009), using data from non-financial firms in Jordan for the years 1997-2005, analysed how firms, choose their capital structure under pecking order and trade-off theories especially when they have leverage target. The study concluded that equity is not the last resort for financing as the pecking order theory. They report evidence suggesting that equity issues track the financing deficit relatively more closely. Panel data analysis was used to analyse data from the 114 firms. Therefore, the study disagreed with the pecking order theory hypothesis and it would have been

appropriate to do a similar study in a different market. The current study seeks to capture the Kenyan market to overcome that shortcoming.

Ebaid (2009), using data from listed firms in Egypt, studied the impact of choice of capital structure on their performance. The study found that capital structure has little or no impact on the performance of the firms. Various profitability ratios were used as indicators of financial performance; they included return on equity, return on assets and return on sales (gross profit margin). The indicators of capital structure in the study were short-term debt to asset ratio, total debt to total assets and long term debt to asset ratio. To analyse the data, multiple regression was used. The results were similar to those of Berger and Patti (2006).

Abor (2007) studied the effect of capital structure on the financial performance of SMEs in South Africa and Ghana. The study established that there was a positive relationship between the long-term debt, gross profit margin and financial performance whereas short-term debt showed significant and negative relationship with gross profit margin in both South African and Ghana. Total debt was also observed to be significantly and negatively related with gross profit margin. In Ghana, ROA had significant and negative relationship with all the measures of capital structure. The study used secondary data through random sampling and data was analysed using regression technique.

There are few studies looking at the effect of Equity on specific measures of profitability mainly return on assets (ROA), return on equity (ROE), Return on investment (ROI) and return on sales (profit margin). The interests of all stakeholders would have been addressed by incorporating all measures of profitability in getting

the financial performance measure. Additionally, majority of these studies looked at equity as the only component of financial structure and did not incorporate other components in their studies. The current study incorporates the various components of financial structure and takes care of all stakeholder interests by incorporating various measures of profitability (ROA, ROE and ROS) in measuring financial performance.

2.3.4 Moderating effect of Firm Size

Previous literature has explored various differentiating factors between large and small size firms. The most prominent distinguishing factors are level of profits and their volatility (González & González, 2012). It is argued that larger firms generate high and less volatile profits while small firms do conversely. Similarly, small firms also document low liquidity as compared to large firms. This indicates that small firms can be riskier due to low liquidity and volatile profits as compared to larger firms. Moreover, larger firms also hold more fixed tangible assets as compared to the small firms. Such characteristics make it easier for larger firms to access debt markets without difficulty. So, it is mush possible that large firms deploy more debts as compared to small firms.

The relationship of size and performance is searched by researchers and found presence of significant relationship (Vijayakumar and Tamizhselvan, 2010), as well as an inverse relationship (Hall, 1987). The inverse relationship has been supported by other researchers as well in near past (Barret *et al*., 2010). Size is not only being studied as an independent variable for measuring performance of the firms but Rauch *et al*. (2009) concluded that size of firms is an important moderator. Rauch *et al*.

(2009) in that analysis deeply observed number of researches which were conducted taking size of firm as a moderator and inferred a result that severity of impact of all the environmental factors changes with change in the size of organizations. Size of the organization as well as environmental munificence played a role of moderator variable between entrepreneurial orientation and performance (Dess *et al*., 1997; Zahra, 1996).

Jaggi and Gul, (1999) studied moderating effects of size to the relationship between investment opportunities, free cash flow and debt borrowing. Their results revealed that there is a positive relation between debt and free cash flows for low investment opportunity set firms when firm size is high. They found that size is a significant moderator to the relation between investment opportunities, free cash flow and performance.

Ezeoha (2008) argues that these traditional capital structure theories do not endow with sufficient explanation of capital structure for small, medium or large firms. Implication of these theories can vary within these categories of firm size because small and large firms contain different characteristics which can direct to different financial decisions (Voulgaris *et al.,* 2004).

Velnampy and Nimalathasan (2010), have studied the relationship between firm size and profitability of all the branches of Bank of Ceylon and Commercial Bank in Sri Lanka between the years 1997 and 2006. From their study they observed that there was a positive relationship between firm size and profitability in Commercial Bank, but there was no relationship between firm size and profitability in Bank of Ceylon. Lee (2009) observed that firm size has positive impacts on profitability when he

analysed the effects of size on profitability of US publicly-held firms during the period 1987-2006.

Ozgulbas, Koyuncugil and Yilmaz (2006) studied the effect of firm size on performance of the firms operating in Istanbul Stock Exchange between the years of 2000 to 2005. Their study found that big scale firms had a higher performance as compared to small scale firms. In a similar fashion, Jonsson (2007) has studied the relation between profitability and size of the firms operating in Iceland. Results of the analysis showed that bigger firms have higher profitability as compared to smaller firms. Becker-Blease, Kaen and Etebari, (2010) have studied the effects of firm size on profitability in the firms operating in manufacturing sector in USA using the data of years 1987 to 2002. Results of the study showed that negative and statistically significant relations exist between the total assets, total sales and number of employees of the firms and their profitability.

Chi (2004) clarified the relationship and concluded that organizational size is having significant impact on performance as well as rights of the shareholders. Larger firms have better chances to obtain credits from financial institutions. They may obtain loan at cheaper rates, as they have better credit worth and low chances of bankruptcy. The book value of total assets was used to measure firm size. The size could measure not only the scale economies argument, but also the firm's financial distress costs (Berkman & Bradbury, 1996), or the extent of information asymmetry (Graham & Rogers, 2002). Lel (2004); Lin and Smith (2003) use Natural Logarithm of total assets to measure this effect, while others use Natural Logarithm of market value. The measure of Natural Logarithm of total net assets Ln (TA) will be adopted in this study.

The review of the empirical studies on the effects of size on profitability shows that the results are far from being explicit with some results supporting a positive impact, while others find negative or no relationship between firm size and profitability. A study showing the effect of firm size on the relationship between financial structure and financial performance is missing. This will be covered in this study.

2.4 Summary of Literature and Research Gaps

The components of financial structure comprise of Leverage, Liquidity and Equity. The financing decisions of companies revolves around making decisions on how much of each of these components will be used by a company to finance its operations and investments. Empirical literature reviewed relating to financial structure variables and how they affect financial performance have focused on only individual component of financial structure on financial performance at a time. The same studies have adopted only individual measure of return to proxy financial performance leaving other measures of returns. Other studies incorporating various components of financial structure have looked at different time periods and also studied different sectors. This leaves the current sectors not studied and the period when the world experienced financial crisis. Performance of a firm can be measured using various profitability measures which include return on assets, return on equity, profit margin and return on investment among others. This means that majority of the studies are either deficient of adequate variables or the scope of study is deficient.

Some studies, for instance, focused on the effects of financial leverage on performance alone (Mwangi *et al.,* (2014) and measured performance as either ROA or ROE. Haq *et al*. (2011), in their studies examined the influence of liquidity on

return on assets. Ishaya and Abduljeleel (2014), studied the direct effect of debt on profitability and equity and profitability for listed firms in Nigeria to examine the effect of capital structure on profitability from the agency cost theory perspective. Ebaid (2009), used ROA and gross profit margin as proxies for performance while carrying out a study of listed firms in Egypt to determine the impact of capital structure on performance.

The present study contributed to the knowledge gap by incorporating the components of financial structure in the examination of the relationship between financial structure and financial performance. This involved analysing the effect of components of financial structure (leverage, liquidity and Equity) in one model on financial performance (profitability measures index) of selected companies listed at the NSE, Kenya. Further, empirical studies reviewed only attempted to establish the direct relationship between certain components of financial structure and financial performance but did not consider the moderating effects components linking financial structure and financial performance. The study also covered the period before and after the financial crisis. This study, therefore, attempted to fill this gaps in literature by determining the moderating effects of firm size on the relationship between financial structure and performance and studying the period prior and after the financial crisis of 2007. The table below shows some of the studies reviewed and the gaps that existed in these studies that were addressed in this study.

Table 2.1: Summary literature review and research gap

	AUTHOR	STUDY TITLE	FINDINGS	WEAKNESS AND KNOWLEDGE GAP	CURRENT STUDY FOCUS
1	Mouhammed et al. (2016)	Relationship between leverage and performance as moderated by firm size. A review of Emerging Market.	The study found a negative relationship between leverage and performance for all types of firms.	The study only looked at one component of financial structure.	The study focused on financial structure components and the moderating effect of firm size on their relationship with firm financial performance.
2	Hassan et al. (2014)	Influence of Capital Structure on Firm Performance: Evidence from Bangladesh.	Found significant negative correlation between ROA and Performance and no significance relationship between Leverage and ROE.	The study did not consider other components of financial structure including liquidity and equity.	This study focused on financial structure components and performance as measured by ROA, ROE and ROS.
3	Mwangi et al. (2014)	The relationship between Capital Structure and Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya.	Increased financial leverage has a negative effect on performance.	The study only considered Financial leverage only as the only financial structure component.	The study considered leverage, liquidity and equity as modes of financing and integrate all in one study.

4	Khalid et al. (2014)	Analysis of the impact of leverage on various measures of corporate performance of non-financial firms listed on Karachi Stock Exchange.	Leverage has positive significant impact on corporate performance.	The study considered only one component of financial structure.	The current study considered other variables like liquidity and equity.
5	Ishaya and Abduljeleel (2014)	Capital Structure and Profitability of quoted companies in Nigeria: From the perspective of The Agency Cost Theory.	Results show that debt was negatively related with profitability and equity directly related with profitability.	The study has not indicated what happens to other components of capital structure.	The current study considered various components of financial structure and their effect on financial performance.
6	González and González (2012)	Firm size and capital structure: Evidence using dynamic panel data. Applied Economics.	Found that leverage – performance relationship can vary within different firm size.	The study only considered leverage and failed to consider other components of financial structure	Other components of financial structure were considered in this study.
7	Abor(2010)	Debt policy and performance of SMEs Evidence from Ghanaian and South African.	Found that Debts especially long terms are negatively associated with form profitability.	The study did not consider the short-term debts and the working capital of the firm.	The study considered working capital management as indicated by current ratio.

8	Javed and Akhtar (2012)	Financial Performance and its Interrelationships with Capital Structure, firm size and growth. A cases for Karachi stock exchange in Pakistan.	Results revealed a positive relationship between financial leverage, growth and size of the companies with financial performance.	The moderating effect of firm size in the capital structure and performance relationship was not reviewed.	The study used firm size as a moderating variable for the relationship between financial structure and financial performance.
9	Saeedi and Mahmoodi (2011)	Capital Structure and Firm Performance: Evidence from Iranian Companies	According to the study ROE and capital structure didn't have significant relationship but ROA was positively related to capital structure.	The study did not examine the relationship Liquidity and ROA & ROE.	The study incorporated firm size and liquidity and investigated their effect on firm financial performance.
10	García-Teruel and Martinez-Solano (2007)	Effects of working capital management on SME profitability.	Found that shortening cash conversion cycle had significant effect on companies' profitability.	The study only considered one aspect of liquidity and did not consider the current ratio and quick ratio.	This study focused on current ratio alongside other components of financial structure.
11	Eljelly(2004)	Liquidity – profitability tradeoff: an empirical investigation in an emerging market. Saudi Arabia.	There was negative relationship liquidity and profitability indicators.	The study looked in the perspective of various industries. And, only considered liquidity and ignoring other factors.	The study looked at the selected firms listed at the NSE, Kenya.

12	Lee (2009)	Does Size matter in Firm Performance? Evidence from U.S Public Firms.	Found that firm size has positive impact on profitability.	This study looked on at relationship between size and profitability.	The study used firm size as a moderating variable for financial structure-performance relationship.
13	Stierwald (2010)	Determinants of Profitability: Large Australian Firms.	The study found positive and significant parameter estimate for firm size. The study shows that bigger firms are more profitable than smaller firms.	The study has not brought in other determinants of profitability for small firms in an integrated way.	The study integrated other determinants of profitability like leverage, liquidity.
14	Kuhn (2007)	Corporate risk management and hedging practice by medium-sized companies in Denmark.	Companies were using derivatives and the use of foreign debt was more pronounce among large companies.	The study used only primary data and considered unlisted medium-sized firms.	The study used secondary data from all listed selected companies to find out if size of a firm affects financial performance.

Source: Survey Data (2018)

2.5 Conceptual Framework

According to Smyth (2004), a well presented conceptual framework helps to explain the possible connections between the variables of the study. The graphical representation of the conceptual framework for this study is shown in Figure 1.

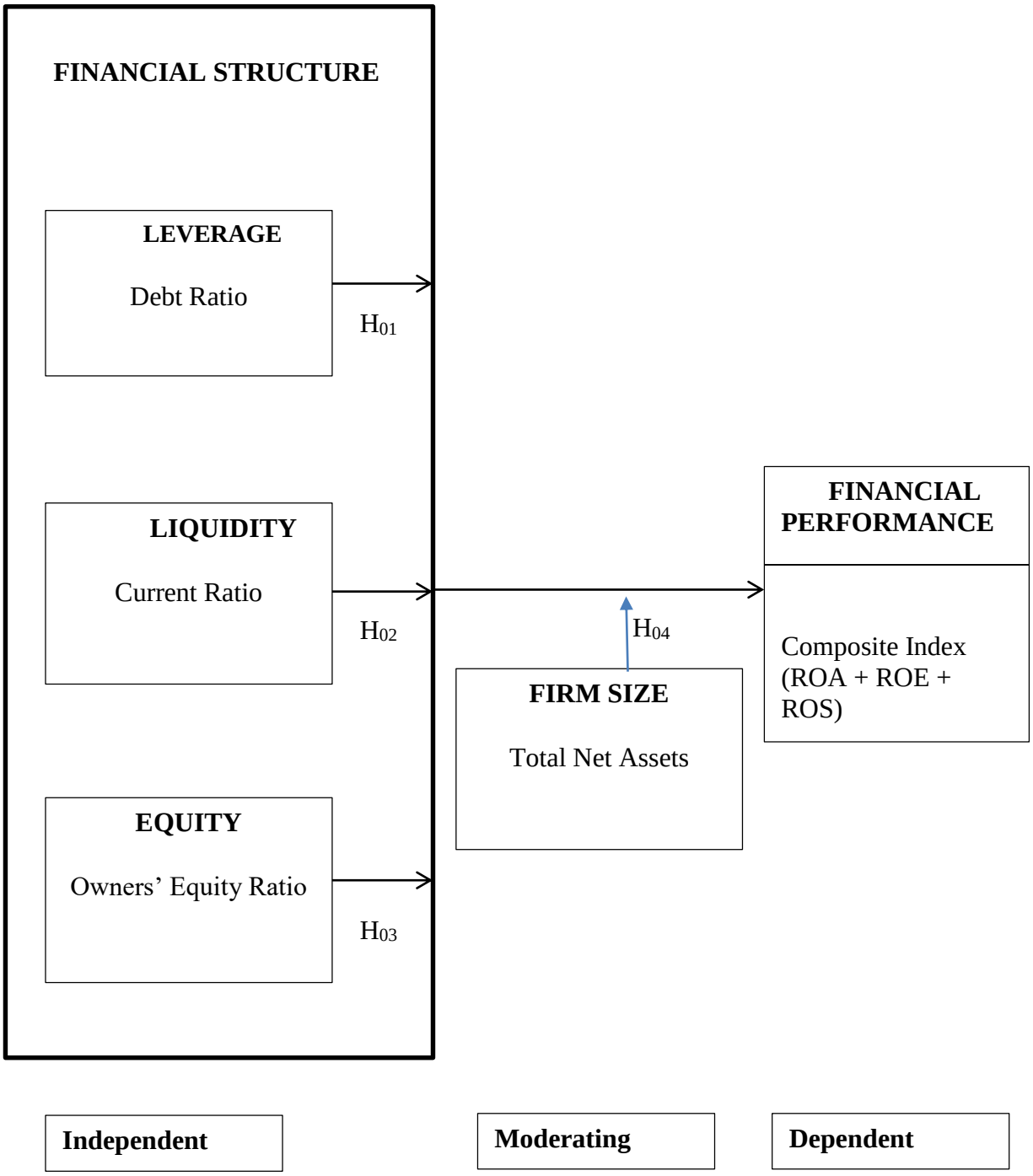

Figure 1: Conceptual Framework

Source : Researcher (2018)

The conceptual framework as depicted in Figure 1, shows the effect of leverage, liquidity and equity as independent variables, firm size as moderating variable and financial performance as dependent or response variable. It is aimed at bridging the gaps presented by various studies by incorporating the various components of financial structure as study variables and also establishing a unique measure of financial performance which incorporates the interests of various stakeholders. This was achieved by obtaining a composite index for ROA, ROE and ROS (gross profit margin) as a proxy for financial performance. The firm size moderated the relationship between financial structure and financial performance.

The independent variables used in the study were leverage, liquidity and equity. Their Indicators were debt ratio, current ratio and owners' equity ratio for leverage, liquidity and equity respectively. The dependent variable of the study was financial performance measured as a composite index of various performance measures of return on assets, return on equity and return on sales (profit margin). Like in the past studies, the current study hypothesized that the independent variables had direct effect on financial performance of companies.

The firm size of the various companies was used as a moderating variable. Given the different sizes of the companies listed at NSE, Kenya, the researcher conceptualized that firm size may have a moderating effect on the relationship between financial structure and financial performance. The size of the firm is represented by total net assets and measured as the natural logarithm of net total assets.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The procedures that were followed when the study was being carried out are described in this section. They cover the introduction, research philosophy and design, model specification and estimation, operationalization and measurement of study variables, target population, sampling design, data collection procedures, data analysis, interpretation and presentation and ethical considerations.

3.2 Research Philosophy

A philosophy is defined as a fundamental perspective adopted by scientists in their search for meaning and could be viewed as the basic belief system or world view that defines the nature of the world and the individual's position and relationship with that world (McMurray, 2005). The research philosophy adopted in the study was guided by research paradigm of positivism. The philosophy focuses on objectivity, where the researcher is independent of the research project, free of bias and personal value, without influence on the data or research results (Creswell, 2004). This study utilized quantitative paradigm to investigate the effect of financial structure on financial performance of selected companies listed at the Nairobi Securities Exchange, Kenya. The study was guided by the idea that observation and measurement is the core of scientific endeavour. The study followed a deductive approach because it was based on testing established theories (Saunders & Thornbill, 2009).

3.2.1 Research Design

Explanatory research design was used due to the nature of problem and availability of data. This design showed the effect of a variable(s) towards another variable(s) and

attempted to explain the causes of such changes (Kerlinger & Lee, 2000). The research design conducted when researchers want to explore the extent to which changes in one variable are reflected in changes in the other variable (Creswell & Garrett, 2008). Tashakkori and Teddlie (2010) posit that explanatory research is intended to explain, rather than to simply describe the phenomena studied. This design does not involve manipulation of the independent variables in making inferences about causality (Kerlinger & Lee, 2000).

Explanatory design is preferred in situations where key information is available about the phenomenon of the study (Cooper & Schindler, 2003). It uses quantitative data in most cases. This study used quantitative data. Mwangi *et al*. (2014) used the same design while analysing the effect of capital structure and financial performance of non-financial companies listed at the NSE, Kenya and Molavi and Jamalzade (2015) in analysing the correlation between financial ratios and capital adequacy across banking network in Iran. The use of this design is therefore justified as the study uses quantitative data in analysing the effect of financial structure on financial performance of selected firms listed in NSE, Kenya. In addition, sufficient data and which cannot be manipulated for ease of validity check was used in this study.

3.3 Model Specification

The study was guided by a panel regression model that involved analysing the explanatory variables and the moderating variable to analyse the effect of financial structure on financial performance of selected companies listed at NSE, Kenya. According to Ticehurst and Veal (2000), Multiple Regression tests are appropriate where we have three or more variables and there is linear relationship between two or

more variables. Multiple regression analysis aims at predicting the changes in the dependent variable in response to changes in independent variables.

According to Mwangi *et al.,* (2014) using panel data yields much larger data set with more variability and less collinearity among variables than is characteristic of cross-section or time series data. More reliable estimates and more complicated behavioural models can be estimated with less limiting assumptions due to expanded and more informative data. Panel data sets are also better to recognize and estimate the effects that cannot be merely detected in pure cross-sections or pure time series data.

3.3.1 Empirical Model Specification and Estimation

General empirical model:

$$(\mathbf{Y_{it}}) = \beta_o + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \varepsilon_{it} \qquad \text{(3.1)}$$

Where:

Yit is the financial performance of company *i* at time *t*.

i denotes the observation (company), *i* = 1, 30.

t is the time period *t*= 2007…….,2015.

x_{1it} denotes vector for leverage of company *i* in period *t.*

x_{2it} denotes vector for Liquidity of company *i* in period *t.*

x_{3it} denotes vector for Equity of company *i* in period *t.*

εit is the composite error term explaining the variability of financial performance changes as a result of other factors not accounted for.

β0 – is a constant, the concept explaining the level of success and it is Y when all the indicators (X1, X2 X3,) are zero.

β1, β2 and β3 are coefficients representing the conditions of the independent variables to the dependent variable.

The equations for estimating the financial performance measured as ROA, ROE and ROS is:

$$\mathbf{ROAi}_t = \beta_o+\beta_1 X_{1\,it}+\beta_2 X_2\,it+\beta_3 X_{3it}+\varepsilon_{it} \quad \textbf{(3.2)}$$

$$\mathbf{ROE}_{it} = \beta_o+\beta_1 X_{1\,it}+\beta_2 X_2\,it+\beta_3 X_{3it}+\varepsilon_{it} \quad \textbf{(3.3)}$$

$$\mathbf{ROS}_{it} = \beta_o+\beta_1 X_{1\,it}+\beta_2 X_2\,it+\beta_3 X_{3it}+\varepsilon_{it} \quad \textbf{(3.4)}$$

The Relationship between financial structure and financial performance

$$\mathbf{Yit} = \beta0 + \beta1LEVit + \beta2LIQit + \beta3EQit + ej \quad \textbf{(3.5)}$$

with the subscript *i* denoting the cross-sectional dimension for firm sectors and *t* representing the time series (9 years) dimension. The left-hand variable, **Yit**, represents the dependent variable in the model, which is the firm's financial performance. *Xit* contains the set of explanatory variables in the estimation model, β_o is the constant and β represents the coefficients.

Where:

Yit is Financial performance (Dependent variable).

Yit is the ROA, ROE and ROS for each company i and year t.

ROA is Return on Assets (net profit after tax/total net assets),

ROE is Return on Equity (net profit after tax/Owners equity),

ROS is Return on Sales (net profit after tax/total sales),

Yit (Financial Performance) is a I/3 (ROA + ROE + ROS),

$\beta 0$ - Intercepts of equation,

β_1, β_2, β_3, and β_4, - Coefficients of variables,

ε_{it} – disturbance term,

$\mathbf{X_1}$ - Leverage,

$\mathbf{X_2}$ -Liquidity,

$\mathbf{X_3}$ - Equity,

$\mathbf{X_4}$ - Firm Size.

3.3.2 Moderating Effects Model

A moderated multiple regression (MMR) analysis was used to test the moderating effect of firm size on the relationship between financial structure and financial performance. Using MMR analysis, the moderating effect of the variable (product term) was analysed by interpreting the R^2 change obtained from the model summaries and the regression coefficients for the product obtained from the coefficient tables.

To determine the presence of moderating effect, the OLS model was then compared with the MMR model which is represented by equation (3.6):

(MMR model): Yit=β0+β1Xit+β2Zit+β3Xit*Zit+εit...……. (**3.6)**

Where:

Y = Financial performance as the dependent variable,

X = All the three independent variables indicators

Z = A hypothesized firm size moderator (Firm Size),

X*Z = the product between the predictors (Independent variables * Firm Size),

B0 = the intercept of the line-of-best-of-fit which represents the value of Y when X = 0,

β1 = the least-squares estimate of the population regression coefficient for X,

β2 = the least-squares estimate of the population regression coefficient for Z,

β3 = the sample-base least-squares estimates of the population regression coefficient for the product term, and

εit = the error term.

3.4 Operationalization and measurement of study Variables

Table 3.1 contains a list of the study variables, operationalisation and the measurements used to estimate these variables. The measures adopted have been used and validated by other researchers.

Table 3.1: Operationalization and measurement of Study variables

Category	Variable name	Operationalization	Measurement
Dependent	Financial Performance	The performance of a company as measured by the profit generated by each shilling invested in assets and obtained.	Ratio: Net income (Profit after tax) / Total Net Assets Ratio: Net income (Profit after tax) / Total Equity (shareholders' funds Ratio: Net income (Profit after tax) / Total Sales A composite index for ROA, ROE, & ROS is computed. (Omagwa and Mwaniki, 2017)
Moderating	Firm size	Is a proxy for the size of a company	Natural Logarithm of Total Net Assets of each company
Independent	Leverage	Amount of long-term debt in the total capital	Ratio: Non-current liabilities/ Total Net Assets (Mwangi *et al*, 2014)
Independent	Liquidity	Amount of liquid assets held by company as measured by amount of current assets to current liabilities	Ratio: Total current Assets / Total current liabilities (Brigham & Micheal, 2008)
Independent	Equity	Amount of capital provided by owners of Equity compared to total net assets	Ratio: Owners' Equity / Total Net Assets

Source: Survey Data (2018)

3.5 Target Population

The target population of the study comprised of all 39 firms listed on the NSE, between years 2007 to 2015 drawn from seven selected sectors of the economy comprising of Agricultural sector, Commercial services sector, Telecommunications

sector, Automobiles sector, Manufacturing and Allied sectors, Construction and Allied sector and Energy and Petroleum sector of NSE, Kenya (Appendix 11). The 39 firms were screened against various factors which included availability of data for the period under review and firm remaining listed in NSE for the entire period. Nine firms were dropped as they did not meet the criteria thus the remaining 30 firms became the target population of the study which was done on a census.

Firms from the financial services sector, banking and insurance sectors were excluded from the sample. The financial services sector, banking and insurance sectors are highly regulated by Central Bank prudential guidelines and Insurance Act respectively on issues of liquidity, asset and capital holding, and provision for bad debts among other factors (Santos, 2001; Mwangi *et al.*, 2014). The 30 firms were classified as shown in Table 3.2 based on NSE categorization of segments.

Table 3.2 Distribution of target population

No.	Sector	Number of listed firms	Firms meeting the threshold	Percentage
1	Agricultural Sector	7	6	20 %
2	Commercial Services	8	6	20 %
3	Telecommunication Sector	2	1	4 %
4	Automobiles Sector	4	3	10 %
5	Manufacturing and Allied Sector	9	6	20 %
6	Construction and Allied Sector	5	4	13 %
7	Energy and Petroleum Sectors	4	4	13 %
Total		39	30	100 %

Source: NSE Website (2015)

Table 3.2 represents the target population of the listed firms from seven selected sectors. Agricultural sector, Commercial services sector and Manufacturing and Allied sectors produced 20% each of the target population while telecommunication sector and automobile sectors produced 4% and 10% respectively. Construction and Allied sector and Energy and Petroleum sector each produced 13% of the target population.

3.6 Sampling design

A census approach was adopted for this study due to relatively small number of firms listed in the NSE. According to Saunders, Lewis and Thornhill (2009), a census approach enhances validity of the collected data. In addition, it eliminates sampling error (Watson, 2001). 30 listed firms in the NSE, Kenya were used in this study.

3.7 Data Collection Procedures

The researcher obtained research permit (Appendix 111) from National Commission for Science, Technology and Innovation to allow utilization of data from published financial statements of firms listed in the NSE, Kenya. The data consisted of time series (years 2007 to 2015) and cross-sections (firms). The study utilised secondary panel data consisting of time series and cross-sections. According to Gujarati (2003), a combination of cross-sections and time series improves the quality, quantity and levels of data which is impossible to achieve with only one-time series or only cross-section dimension. Panel data was extracted from Statements of Comprehensive Income, Statement of Financial Position of these companies. Data collected included; Profit after tax, Total Assets, Total Equity, Total Current Liabilities, Total current Assets and Total Non-Current Liabilities. The data collection guide/sheet presented

in Appendix1 was utilised by the researcher to extract and complete the required data for analysis.

3.8 Data Analysis, Interpretation and Presentation

Descriptive statistics, correlation analysis and panel multiple linear regression analysis were used to analyse the data obtained. The study utilized secondary panel data. The panel methodology was aided by R software. After extracting data from the financial statements, excel program was used to compute the relevant ratios for each of the companies across time. The data was then formatted in R software forms before being imported to R from excel.

Descriptive statistics were used to summarise and profile the status of leverage, liquidity, Owners equity, firm size and financial performance of selected companies listed on the NSE, Kenya. The multiple regression model fulfilled the assumptions of the multiple linear regression model. Panel data can be estimated using any of the following models: a pooled effect, random effects and fixed effects. Pooled effects model assumes that parameters do not vary across observations. Pooled effect model was utilised in this study. Regression coefficients were tested for significance using t-statistic at 5% level of significance and conclusions drawn. Several regression models were run to address the objectives and test hypotheses of the study. The regressions output gave the coefficient values, the standard error, the t-value and p-values.

The beta coefficients gave the nature of relationship while the P-value was used to test the hypothesis by indicating whether the hypothesis would be accepted or not. As a rule, where the p-value is less than the level of significance chosen, then the Null hypothesis is rejected, and conclude that the effect is significant. Otherwise accept

and conclude that the effect is not significant. The coefficient of determination (R^2) was used to rank explanatory variables contribution to the response variable to validate or invalidate the pecking order theory. R^2 is the proportion of variation of the response variable that is explained by the variation of the predictor variable(s) and as such the higher it is the better (Kumar, 2005).

The study tested for the existence of any moderating effects of firm size on the financial structure of selected companies listed at NSE, Kenya Using MMR analysis, the moderating effect of the variable (product term) was analysed by interpreting the R^2 change obtained from the model summaries and the regression coefficients for the product obtained from the coefficient tables. The financial performance of the companies was measured in terms of: return on assets; return on equity; return on sales (profit margin) by aid of a composite index. This study developed a composite index by getting the simple average of: ROA, ROE and ROS (profit margin) as a measure of the financial performance of the companies under study. Omagwa and Mwaniki (2017) used a similar approach while studying "Asset structure and Financial performance: A case of firms quoted under commercial and services sector at the Nairobi securities exchange, Kenya."

3.8.1 Hypotheses Testing

The hypotheses tests were carried out with the following results.

Table 3.3: Hypotheses testing

No.	Objective	Hypotheses	Statistical tests	Interpretation
1	To determine the effect of leverage on financial performance of selected companies listed at NSE, Kenya.	Leverage has no significant effect on performance of selected companies listed at NSE, Kenya.	Regression analysis Correlation analysis T test	β_1 (Leverage) P value>0.05 Accept Ho P Value < 0.05 Fail to accept Ho ANOVA F=significance of the model R Squared = Strength of the relationship
2	To examine the effect of Liquidity on financial performance of selected companies listed at NSE, Kenya.	Liquidity has no significant effect on financial performance of selected companies listed at NSE, Kenya.	Regression analysis Correlation analysis T test	β_2 (Liquidity) P value>0.05 Accept Ho P Value < 0.05 Fail to accept Ho ANOVA F=significance of the model R Squared = Strength of the relationship
3	To assess the effect of owners' equity on performance of selected companies listed at NSE, Kenya.	Owners' Equity has no significant effect on financial performance of selected companies	Regression analysis Correlation analysis T test	β_3 (Owners' Equity) P value>0.05 Accept Ho P Value < 0.05 Fail to accept Ho

		listed at NSE, Kenya.		ANOVA F=significance of the model R Squared = Strength of the relationship
4	To evaluate the moderating effect of firm size on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya.	Firm size has no significant moderating effect on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya.	Regression analysis Correlation analysis T test	**β_4 (Firm Size)** Change in **β**Value for financial structure index when P<0.05 Change in R^2 Value

Source: Survey Data (2018)

3.8.2 Diagnostic Tests

Various diagnostic tests were carried out. These included, Auto-correlation tests, Normality test, Heteroscedasticity tests, Unit root test, Random/Pooled regression tests and multicollinearity tests.

3.8.2.1 Auto-Correlation Tests

Durbin-Watson Test was used to check serial correlation among variables. When error terms from different (usually adjacent) time periods (or cross-section observations) were correlated, we say that the error term is serially correlated. Serial correlation affect the effeciency of (OLS) ordinary least square estimator but do affect their biasness or consistency. Therefore to use a linear model, the dependent variable must

be independent. This means that there should be no serial correlation among the observations.

Auto-correlation test

$H_{0:}$ y= 0 The residuals are independent,

H_a: y> 0 The residuals are inter-dependent,

P value >0.05 fail to reject null hypothesis,

According to Wooldridge (2002), serial correlation is present when P-value is less than 5% significance level.

3.8.2.2 Heteroscedasticity

The study used Breusch-Pagan test for heteroscedasticity. The Breusch-Pagan test is designed to detect any linear form of heteroscedasticity. Breusch-Pagan tests the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables (Allison, 2001). A large chi-square would indicate that heteroscedasticity was present. This test assumes that the error variance varies with a set of regressors. According to Gujarati (2003), heteroscedasticity is lack of constant error variance which should not be a bother unless it is severe since it does not result to biased parameter estimates. According to Wooldridge (2002), the problem make the standard errors biased leading to bias or invalid test statistics and confidence intervals.

3.8.2.3 Breusch-Pagan Lagrange multiplier (LM)

This research used panel data which is a combination of time series and cross sectional data implying that panel data is obtained from a cross section of individual data observed over and over at different times.

Breusch-Pagan Lagrange multiplier (LM) test was used to test for random effects on dependent variable to show whether one should use random effect or pooled estimation. The BP tests null was that the variance of the random effect is zero. This would mean that every item has the same intercept. Hence run a pooled regression.

Hypotheses:

H_0: No panel effect (Implying that ordinary ols should be used (pooling)).

H_1: Presence of panel effects (use of random effects is implied).

The BP tests null is that the variance of the random effect is Zero. This would mean that every company has the same intercept and hence run a pooled regression.

3.8.2.4 Testing for multicollinearity among independent variables

To test the multicollinearity between two or more independent variables, variance inflation factor was used (VIF). The threshold is 5. If VIF is greater than 5, then the independent variable should be dropped from the model. In table 4.28 all the variables had VIF less than 5. Therefore, firm size had was an independent variable and could be used in the moderation model.

All the independent variables had p-values of less than 5% level of significant and therefore significant. Firm size had positive significant effect on the relationship between financial structure and performance.

3.9 Ethical Consideration

This study utilised secondary data from selected companies listed at Nairobi Securities Exchange. Authorization to collect data was obtained from Kenyatta University before data collection commenced and a research permit obtained from National Commission for Science, Technology and Innovation. Only data from published financial statements of these institutions was considered for this research.

CHAPTER FOUR: EMPIRICAL RESULTS, INTERPRETATIONS AND DISCUSSION

4.1 Introduction

The general objective of the study was to investigate the effect of financial structure on performance of selected companies listed at NSE, Kenya. This chapter presents the research findings and discussions in line with the specific objectives of the study. The chapter starts with discussion on the descriptive statistics, the diagnostic tests performed to validate the use of the techniques, test of hypotheses, inferential statistics and their interpretations.

4.2 Descriptive Statistics

This section discusses the various descriptive characteristics of the variables used in the study. They include for each variable the mean, standard deviation, maximum and minimum values for each variable, skewness and kurtosis. These descriptive statistics gave the characteristics of each variable, how they are distributed in all companies, various sectors and the observed trend for the period of study between the period 2007-2015. The mean will indicate an average of variable over the study period and extent of variations in the period given by the standard deviation. The minimum and maximum for the period will also be included in the data for analysis.

Table 4.1: Summary Statistics for various variables

VARIABLES	MEAN	STD. DEV	MAX	MIN	SKEWNESS	KURTOSIS
Leverage	0.251518	0.209637	1.52	0	1.634733	7.755598
Liquidity	2.405561	2.99726	18.76	0.1	3.435623	16.01694

Equity	0.727593	0.2109	1	-0.52	-1.42235	7.119516
Size	6.69923	0.761174	8.371613	4.67684	-0.0023	2.51432
ROA	0.070322	0.291843	0.51	-2.83	-6.70269	62.832
ROE	0.101907	0.555942	4.28	-5.51	-3.3967	57.59233
ROS	0.075584	0.447362	0.88	-5.74	-8.89517	111.45

Source: Survey Data (2018)

Table 4.1 show that most firms on average financed 25.15% of their assets by long term-debt and 72.75% by Equity, an indication that the firms were lowly geared over the period and relied heavily on internal financing to finance their assets. In addition, the companies had a positive working capital throughout the period as shown by the average liquidity trend. The average value of company size over the period was 6.699, with a standard deviation of 0.7611, a minimum of 4.676 and maximum of 8.3716 with a negative skewness of 0.0023. This shows that the total net assets for majority of the periods under study were below the country average with more values being around the mean.

The average ROA over the period was 7.03% with a minimum value of -2.83, maximum value of 0.51 and a standard deviation of 0.291843. With the recorded minimum of -2.83 and a maximum of 0.51, it indicates that some companies operated at a negative Return on Asset with majority being to the left of the distribution. While the average value for ROE for the companies was 10.19% with a standard deviation of 0.555942, a minimum of -5.51 and a maximum of 4.28. This shows that though on average firms had a positive return on equity, most firms ROE are to the left of the

distribution just like ROA. Further the kurtosis of 62.832 and 57.59233 for ROA and ROE respectively shows that there were fewer values around the mean. The average profit margin (ROS) for the period was 7.56% with a standard deviation of 0.447362, a minimum of -5.74 and a maximum of 0.88.

4.2.1 Leverage

The first independent variable of the study is leverage. Leverage is a component of the financial structure of a firm computed as ratio of long term debt to total net assets. The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in Tables 4.2, 4.3, 4.4 and Figure 2.

Table 4.2: Companywide Average for Leverage

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	0.157778	0.067598	0.15	0.23	0.06	-0.23616	1.5507
2	0.227778	0.059745	0.2	0.35	0.18	1.154179	2.930124
3	0.256667	0.018028	0.25	0.28	0.24	0.528005	1.5
4	0.213333	0.033166	0.22	0.28	0.17	0.714707	2.868285
5	0.213333	0.047697	0.23	0.27	0.13	-0.65165	1.986898
6	0.186667	0.020616	0.19	0.22	0.15	-0.07062	2.66263
7	0.165556	0.086039	0.18	0.29	0.02	-0.46702	2.29643
8	0.248889	0.295992	0.06	0.76	0	0.741998	1.977781
9	0.05	0.020616	0.05	0.07	0	-1.63428	5.122837
10	0.437778	0.120497	0.47	0.65	0.22	-0.10106	2.946871
11	0.666667	0.153216	0.62	1.06	0.57	2.139515	6.171369
12	0.025556	0.018105	0.02	0.07	0.01	1.781823	5.266375
13	0.031111	0.025712	0.03	0.07	0	0.150986	1.674617
14	0.305556	0.124108	0.29	0.47	0.09	-0.12347	2.165259
15	0.283333	0.043012	0.29	0.33	0.21	-0.74202	2.197407
16	0.561111	0.070966	0.53	0.65	0.47	0.02845	1.332876
17	0.168889	0.047813	0.15	0.27	0.13	1.375447	3.297053
18	0.067778	0.040859	0.08	0.11	0	-0.71696	1.940829
19	0.457778	0.080588	0.45	0.6	0.3	-0.21217	3.490987
20	0.067778	0.041767	0.05	0.12	0.02	0.154922	1.328254
21	0.594444	0.366166	0.53	1.52	0.31	2.000421	5.847376
22	0.523333	0.158588	0.56	0.81	0.25	0.106328	2.84724
23	0.231111	0.17546	0.25	0.51	0.06	0.410924	1.738537
24	0.232222	0.039299	0.24	0.27	0.17	-0.46411	1.733402

25	0.386667	0.322102	0.21	0.76	0.09	0.212927	1.115424
26	0.248889	0.13779	0.21	0.54	0.06	1.020853	3.46562
27	0.226667	0.064031	0.27	0.29	0.12	-0.47506	1.631953
28	0.104444	0.045308	0.1	0.17	0.02	-0.23058	2.669263
29	0.107757	0.015632	0.11	0.13	0.09	0.182324	1.855769
30	0.096667	0.049244	0.11	0.15	0	-0.79345	2.551228
Industry Aggregate	**0.251518**	**0.209637**	**0.21**	**1.52**	**0**	**1.634733**	**7.755598**

Source: Survey Data (2018)

Table 4.2 gives the various descriptive statistics for leverage in all the 30 companies that were studied for the period 2007-2015. The total mean of leverage for the period 2007 to 2015 was 0.2515. This indicates that on average, the proportion of debt to total capital was low over that period as the variation was relatively low as evidenced by a standard deviation of 0.209637 indicating small variability in leverage over time. The minimum and maximum values of leverage over the same period of time were 0.0 and 1.52 respectively. There was a great variation in leverage as evidenced by the fact that the minimum observed leverage was 0.0 while the maximum was 1.52. This implies that some companies were able to increase their access to credit facilities over the period.

Leverage represents the organisations debt ratio measured as Total Non-Current Liabilities to Total Net Assets. Table 4.2 and further supported by Appendix (1V) show that Kenya Airways had the highest average debt ratio with an annual mean of 66.67% while Nation Media Group Ltd had the lowest average debt ratio with annual mean of 2.55%. The industry aggregate for leverage was 25.15%, with a standard deviation of 0.209637, a minimum of 0, maximum of 1.52 and a positive skewness of 1.6347. This showed there were great variation in use of leverage in financing activities within the industry. It further indicated that the firms were lowly geared over

the period and relied heavily on internal financing to finance their assets. The companies had a positive long-term debt to total net assets throughout the period.

Table 4.3: Sector wise Average for Leverage

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	0.209259	0.05323	0.22	0.35	0.06	-0.36825	3.947583
Automobiles	0.154815	0.190452	0.06	0.76	0	1.920895	6.153192
Commercial Services	0.291667	0.244114	0.29	1.06	0	0.640471	3.052407
Construction & Allied	0.313889	0.213452	0.285	0.65	0	0.106357	1.466832
Energy & Petroleum	0.354167	0.301694	0.32	1.52	0.02	1.55478	7.141258
Manufacturing & Allied	0.217774	0.170348	0.18	0.76	0.02	2.00723	6.571843
Telecommunications	0.096667	0.049244	0.11	0.15	0	-0.79345	2.551228

Source: Survey Data (2018)

Table 4.3 above gives the various descriptive statistics for leverage in all the 7 sectors that were studied for the period 2007-2015. This shows the variation in use of leverage in financing activities within the selected sectors. The Energy &Petroleum sector had the highest average leverage of 0.354167 for the period while telecommunication sector had the lowest average of 0.096667. This is due to the fact that the Energy & petroleum sector is capital intensive while the telecommunication sector is not.

Table 4.4: 9-year industry annual average for leverage

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	0.235327	0.157348	0.19	0.65	0.01	0.844944	3.108132
2008	0.261	0.180809	0.235	0.65	0	0.521344	2.208325
2009	0.258667	0.1732	0.235	0.68	0	0.520378	2.520551
2010	0.271667	0.216828	0.225	0.81	0.02	1.040721	3.208418
2011	0.244	0.170347	0.21	0.62	0	0.854302	2.817566
2012	0.249	0.19992	0.22	0.74	0	0.98167	2.970204
2013	0.242333	0.201882	0.2	0.76	0.01	1.019461	3.094234
2014	0.241333	0.2119	0.185	0.74	0	0.953047	2.894108
2015	0.260333	0.342591	0.13	1.52	0	2.230828	7.840901

Source: Survey Data (2018)

Table 4.4 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in use of leverage over the years. On average companies financed their investments 25% by leverage. Figure 2 shows the 9-year industry trend Annual average analysis for leverage. Year 2010 had the highest annual average of 0.271667 while year 2007 had the lowest annual average of 0.2353. This can be associated with the 2007/2008 financial crisis that hit the world making the cost of borrowing very high and less affordable by companies.

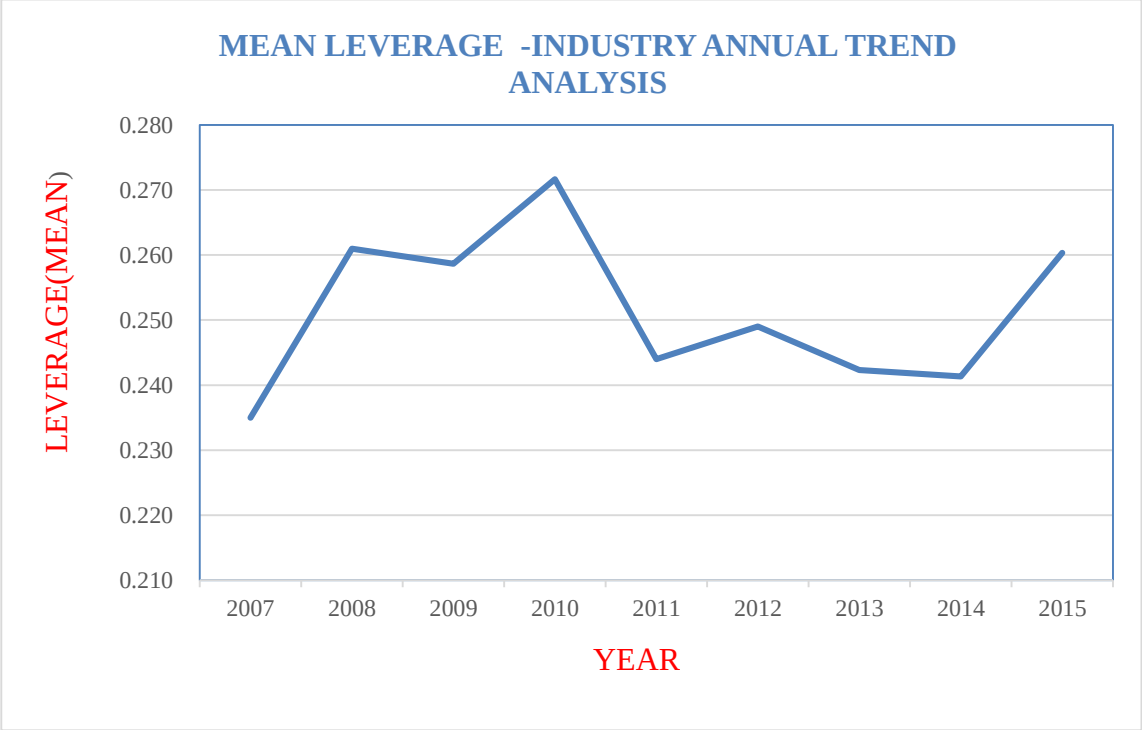

Figure 2: 9 -Year Industry Annual Trend Analysis for 30 companies

4.2.2 Liquidity

The second independent variable of the study was Liquidity. Liquidity as a component of the financial structure of a firm focus on the ratio of current assets to current liabilities. The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.5, 4.6, 4.7 and figures 3. From the table 4.5, the mean value for Liquidity for the 9-year period is 2.405 and the standard deviation of 2.997. Liquidity represents the companies' ratio of Total Current Assets to Total current liabilities. According to this finding, 2.405 is relatively high average since in most cases the required ratio is 1:1. This shows that on average the selected companies had a positive liquidity throughout the period, where current assets covered current liabilities at least 2.4 times. This implies that companies can pay off their

current liabilities as and when they fall due and continue operating without difficulties. It also means that companies are holding more liquid assets than expected since the companies are holding more than required rate of 1:1 by industry standards to avoid holding excess cash at the expense of further investment.

Table 4.5: Companywide Average for Liquidity

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	4.987778	5.644293	2.39	18.76	0.87	1.76572	5.102877
2	4.057778	2.950215	3.35	8.47	0.78	0.433965	1.637698
3	2.633333	1.565599	2.01	5.63	1.64	1.311106	2.838123
4	9.2	5.424627	7.97	18.29	3.84	0.703555	1.995368
5	2.464444	0.7854	2.33	4.4	1.77	1.813353	5.32946
6	8.405556	6.33916	7.97	18.29	1.43	0.385931	1.821247
7	1.363333	0.513347	1.2	2.71	1.06	2.322869	6.697356
8	0.783333	0.366367	0.67	1.29	0.27	0.181854	1.609383
9	2.751111	0.462208	2.71	3.43	2.12	0.187326	1.88955
10	0.541111	0.2806	0.4	1.13	0.31	1.079832	3.038774
11	0.911111	0.372775	0.91	1.52	0.46	0.356222	1.988372
12	2.148889	0.205697	2.13	2.43	1.85	-0.09489	1.672658
13	2.141111	0.412142	2.13	2.76	1.41	-0.3537	2.429861
14	1.202222	0.137093	1.22	1.37	0.95	-0.50132	2.226084
15	1.147778	0.282656	1.05	1.54	0.8	0.233719	1.52134
16	0.923333	0.316978	1	1.32	0.38	-0.65667	2.27436
17	2.294444	0.333358	2.35	2.68	1.72	-0.60375	2.182119
18	1.427778	0.102564	1.44	1.59	1.3	0.178568	1.767431
19	1.515556	0.55082	1.51	2.26	0.94	0.276082	1.435041
20	1.176667	0.175997	1.24	1.38	0.93	-0.51342	1.552022
21	1.723333	1.25087	1.44	4.71	0.1	1.496462	4.982582
22	1.094444	0.226667	1.07	1.64	0.87	1.614413	4.94526
23	1.277778	0.148726	1.26	1.53	1.1	0.607502	2.238356
24	1.19	0.155161	1.18	1.45	0.91	-0.17952	2.755685
25	1.286667	0.642301	1.05	2.21	0.62	0.349563	1.414292

26	1.374444	0.223165	1.41	1.66	0.98	-0.50917	2.126067
27	1.322222	0.753322	1.35	2.3	0.19	-0.1242	1.794061
28	2.057778	0.391369	1.91	2.54	1.53	-0.04059	1.511193
29	8.137937	3.258141	8.591429	14.23	4.26	0.476214	2.336035
30	0.625556	0.088475	0.64	0.74	0.49	-0.35536	1.785555
Industry Aggregate	**2.405561**	**2.99726**	**1.435**	**18.76**	**0.1**	**3.435623**	**16.01694**

Source: Survey Data (2018)

Table 4.5 gives the various descriptive statistics for liquidity in all the 30 companies that were studied for the period 2007-2015. Table 4.5 and further supported by appendix (1v) show that Limuru Tea Ltd has the highest average current ratio with an annual mean of 9.2 while Sameer Africa Ltd had the lowest average current ratio with annual mean of 0.5411. This shows the variation in use of liquidity in financing activities within the industry. The mean value of Liquidity for the period was 2.40556 with a standard deviation of 2.997, a minimum of 0.1, maximum of 18.76 and a positive skewness of 3.4356. This is an indication that the selected companies had a positive working capital throughout the period. This is further supported by trend analysis for current ratio as shown by figure 4.3 below. Majority were to the right tail with kurtosis of 16.01694 showing that there are fewer values around the mean.

The companies had a positive working capital throughout the period. This can explain why availability of liquidity affected performance positively by making significant contribution to financial performance of the companies. However, firms should maintain adequate liquidity to meet their obligations as and when they fall due. Keeping too much funds in current assets could mean that the funds are not adequately invested in profit generating activities.

Table 4.6: Sector wise Average for Liquidity

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	5.291481	4.915792	3.02	18.76	0.78	1.540271	4.472088
Automobiles Sector	1.632593	0.946543	1.29	3.43	0.27	0.498179	1.949402
Commercial Services	1.348704	0.670004	1.25	2.76	0.31	0.269475	2.030998
Construction & Allied	1.540278	0.60635	1.45	2.68	0.38	0.269382	2.226806
Energy & Petroleum	1.318056	0.664959	1.24	4.71	0.1	3.697278	20.33835
Manufacturing & Allied	2.561508	2.864204	1.52	14.23	0.19	2.429238	8.390111
Telecommunications	0.625556	0.088475	0.64	0.74	0.49	-0.35536	1.785555

Source: survey Data (2018)

Table 4.6 gives the various descriptive statistics for liquidity in all the 7 sectors that were studied for the period 2007-2015. This shows the variation in use of liquidity in financing activities within the selected sectors. Firms in the Agricultural sector had high liquidity with a mean of 5.291481, while firms in the telecommunications sector had the lowest liquidity with a mean of 0.625556. The Agricultural sector had the highest level of current ratio over the period at 5.29 which was above the selected companies' average of 2.41. This means that the Agricultural sector maintained high liquidity to enable the sector finance its day to day financial obligations. The agricultural sector requires adequate working capital management due to the nature of its operations that requires farm inputs continuously. The Telecommunication sector had the lowest current ratio of 0.625 which was below all the companies' average of 2.41 which also mean that the sector couldn't meet its short term obligations when they fall due as they were operating on negative working capital.

Table 4.7: 9-Year industry annual average for Liquidity.

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	1.900048	1.54456	1.5	8.591429	0.51	3.244973	13.78702
2008	2.032333	2.406416	1.4	14.23	0.36	4.546393	23.58349
2009	2.146	2.001917	1.61	10.63	0.31	3.012276	12.55584
2010	2.366333	2.028433	1.615	7.97	0.32	1.7385	4.973303
2011	3.496667	5.290719	1.505	18.76	0.27	2.347164	6.900321
2012	2.442	3.086707	1.28	12.41	0.4	2.565792	8.314528
2013	2.904	4.323526	1.27	16.87	0.56	2.518454	8.135396
2014	2.196667	2.258412	1.235	8.08	0.41	1.650486	4.414122
2015	2.166	1.909095	1.38	6.77	0.1	1.070491	2.875414

Source: survey Data (2018)

Table 4.7 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in use of liquidity over the years. On average, companies maintained a current ratio of 2.41 between current assets and current liabilities. Figure 3 on the other hand shows 9-year industry trend analysis for Liquidity. Year 2011 had the highest annual average of 3.4967 while year 2007 had the lowest annual average of 1.900. This can be associated with the 2007/2008 financial crisis that hit the world making firms suffer low liquidity.

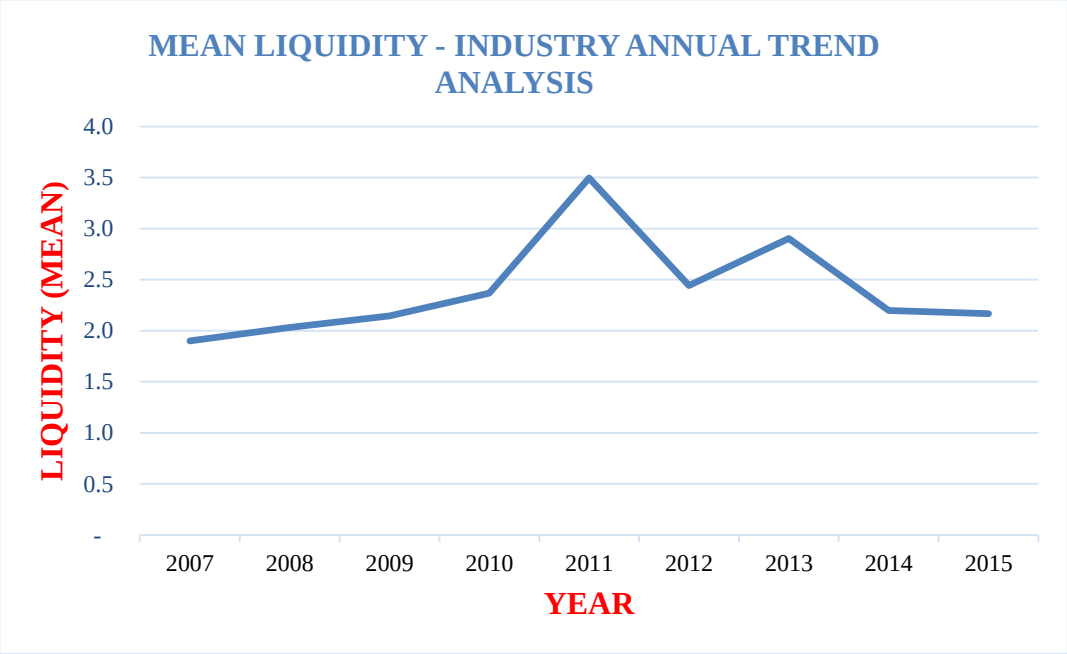

Figure 3: 9-year Industry Annual Trend Analysis for Liquidity

4.2.3 Equity

The third independent variable of the study was Equity. Equity as a component of the financial structure of a firm focus on the ratio of Owners Equity/Total Net Assets. The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.8, 4.9, 4.10 and figure 4. From the table, the mean value for Equity for the 9-year period is 0.7275 and the standard deviation of 0.2109. Equity represents the organisations shareholder's equity ratio measured as Owners Equity/Total Net Assets. According to this finding, 72.75% is relatively high average. This shows that on average the selected companies have been financing their investments 72.75% through owners' equity. It further indicates that most of the companies used more of their internal funds to finance their business hence supporting the pecking order theory to explain variations in capital structure. This argument

supports that businesses first use internally generated funds, then external debt and as a last option they will use external equity.

Table 4.8: Companywide Average for Equity

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	0.842222	0.067598	0.85	0.94	0.77	0.236162	1.5507
2	0.741111	0.07474	0.72	0.82	0.63	-0.13273	1.460645
3	0.743333	0.018028	0.75	0.76	0.72	-0.528	1.5
4	0.786667	0.033166	0.78	0.83	0.72	-0.71471	2.868285
5	0.766667	0.048218	0.75	0.85	0.71	0.699333	2.050815
6	0.805556	0.018105	0.81	0.83	0.78	-0.36298	1.775998
7	0.817778	0.084229	0.82	0.95	0.69	0.244611	2.139077
8	0.751111	0.295992	0.94	1	0.24	-0.742	1.977781
9	0.95	0.020616	0.95	1	0.93	1.634281	5.122837
10	0.545556	0.115554	0.53	0.78	0.35	0.484549	3.573635
11	0.333333	0.153216	0.38	0.43	-0.06	-2.13951	6.171369
12	0.974444	0.011304	0.97	0.99	0.96	0.145054	1.784972
13	0.922222	0.071899	0.95	0.99	0.81	-0.67555	1.754596
14	0.588889	0.166391	0.61	0.89	0.37	0.276615	2.271952
15	0.687778	0.027285	0.69	0.72	0.63	-0.92818	3.257922
16	0.432222	0.071375	0.47	0.53	0.34	-0.06556	1.361694
17	0.743333	0.08	0.78	0.81	0.56	-1.48983	4.062836
18	0.932222	0.040859	0.92	1	0.89	0.71696	1.940829
19	0.542222	0.080588	0.55	0.7	0.4	0.212165	3.490987
20	0.932222	0.041767	0.95	0.98	0.88	-0.15492	1.328254
21	0.405556	0.366166	0.47	0.69	-0.52	-2.00042	5.847376
22	0.476667	0.158588	0.44	0.75	0.19	-0.10633	2.84724
23	0.876667	0.121655	0.93	1	0.69	-0.58325	1.654518
24	0.767778	0.039299	0.76	0.83	0.73	0.464113	1.733402
25	0.538889	0.276787	0.62	0.82	0.2	-0.17623	1.217421
26	0.742222	0.136819	0.77	0.94	0.46	-0.8433	3.302189

27	0.773333	0.064031	0.73	0.88	0.71	0.475058	1.631953
28	0.603333	0.034278	0.62	0.65	0.54	-0.55741	2.352875
29	0.892229	0.015634	0.89	0.91	0.87	-0.17955	1.854137
30	0.912222	0.058689	0.89	1	0.85	0.565476	1.775555
Industry Aggregate	**0.727593**	**0.2109**	**0.77**	**1**	**-0.52**	**-1.42235**	**7.119516**

Source: Survey Data (2018)

Table 4.8 gives the various descriptive statistics for Equity in all the 30 companies that were studied for the period 2007-2015. Results of table 4.8 and appendix (iv) show that Nation Media Group Ltd has the highest average Equity ratio with an annual mean of 97.44% while Kenya Airways Ltd had the lowest average Equity ratio with annual mean of 33.33%. This shows the variation in use of Equity in financing activities within the industry. The mean value of Equity for the period was 72.75% and a standard deviation of 0.2109, a minimum of -0.52, maximum of 1 and a negative skewness of 1.422 with fewer values around the mean as indicated by a kurtosis of 7.119516. This indicates that generally firms raised capital through Equity.

This shows that most selected companies on average financed their investments 72.75% by equity. This is an indication that the companies had their investments financed 72.75% by equity and some firms operated with negative equity in the period under study. This is against the pecking order theory that places equity as the last in order of financing preference by companies as it is perceived most expensive and dangerous in terms of potential loss of control of ownership. Equity had moderate contribution to financial performance compared with the other variables of leverage and Liquidity.

Table 4.9: Sector wise Average for Equity

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	0.780926	0.058641	0.78	0.94	0.63	0.213891	3.742342
Automobiles	0.83963	0.190697	0.93	1	0.24	-1.84745	5.899021
Commercial Services	0.67537	0.245378	0.68	0.99	-0.06	-0.40518	2.718325
Construction & Allied	0.6625	0.205515	0.63	1	0.34	0.091426	1.669497
Energy & Petroleum	0.672778	0.310526	0.705	1	-0.52	-1.59975	6.976618
Manufacturing & Allied	0.719631	0.171256	0.765	0.94	0.2	-1.43857	4.923865
Telecommunications	0.912222	0.058689	0.89	1	0.85	0.565476	1.775555

Source: Survey Data (2018)

Table 4.9 gives the various descriptive statistics for Equity in all the 7 sectors that were studied for the period 2007-2015. The Telecommunication sector had the highest average level of Owners Equity ratio over the period at 0.9122 which was above the selected companies' average of 0.7275. This means that the Telecommunications sector maintained high Equity ratio to enable the sector to finance its investments from internal sources. The Construction and Allied Sector had the lowest Equity ratio of 0.6625 which was below all the companies' average of 0.7275. This shows there were variation in use of Equity in financing activities within the selected sectors.

Table 4.10: 9-year industry annual averages for Owners Equity

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	0.757002	0.163775	0.805	1	0.35	-0.9597	3.474476
2008	0.735	0.185021	0.765	1	0.35	-0.48288	2.281788
2009	0.717667	0.173	0.725	0.99	0.32	-0.34166	2.399411
2010	0.702	0.211079	0.745	0.99	0.19	-0.84196	3.013549
2011	0.723667	0.166888	0.75	1	0.37	-0.4933	2.494308
2012	0.719333	0.202824	0.76	1	0.2	-0.78491	2.917597
2013	0.737	0.204386	0.78	0.99	0.22	-0.81151	2.843784
2014	0.734	0.218547	0.78	1	0.25	-0.65429	2.353558
2015	0.722667	0.341376	0.835	1	-0.52	-2.10887	7.504742

Source: Survey Data (2018)

Table 4.10 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in use of Equity over the years. On average companies financed 72.75 % of their investment with Equity over the 9-year period. Figure 4 shows the 9-year industry trend analysis for Owners Equity. Year 2007 had the highest annual average of 0.757 while year 2010 had the lowest annual average of 0.702. This can be associated with the 2007/2008 financial crisis that hit world making the cost of borrowing very high and therefore companies relied on Owners' equity to finance their investments. Figure 4 shows that the general trend for the thirty (30) companies under study indicated that for the period 2007 to 2015, there were significant variations among companies in use of Equity.

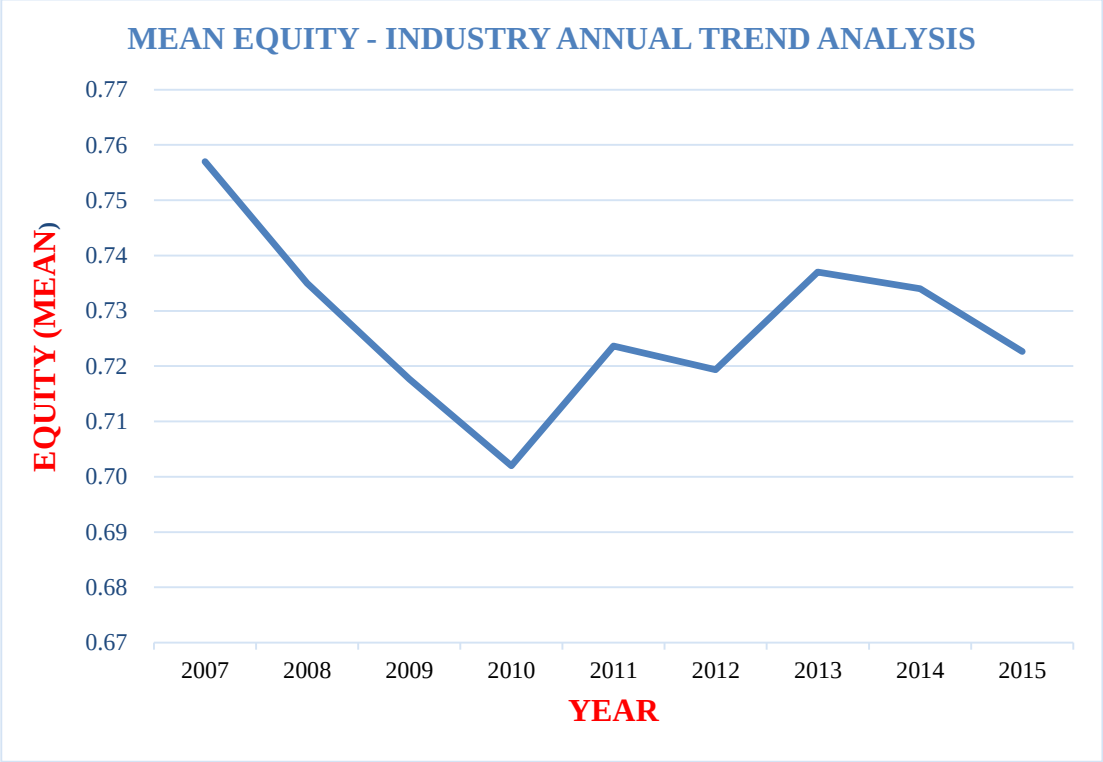

Figure 4: 9-year Industry Annual Trend Analysis for Owner's Equity

4.2.4 Firm Size

Firm size focuses on the total assets of a firm which is computed as Natural Logarithm of total assets. The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.11, 4.12, 4.13 and figure 5.

Table 4.11: Companywide Average for Size

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	5.589812	0.18946	5.610506	5.869613	5.316528	-0.04937	1.713089
2	6.479867	0.110569	6.534746	6.621796	6.288642	-0.50438	2.006378
3	6.11041	0.128407	6.112642	6.271562	5.936751	-0.00908	1.422953
4	5.186627	0.357508	5.268941	5.524767	4.67684	-0.44083	1.502975
5	6.92364	0.187475	6.921028	7.192479	6.552067	-0.41362	3.129702
6	6.258978	0.243278	6.27033	6.688528	5.939115	0.365922	2.079752
7	6.359108	0.20443	6.390404	6.601218	6.032038	-0.34041	1.804918
8	5.656548	0.174555	5.605917	5.906991	5.457605	0.14332	1.466512
9	6.385523	0.039343	6.380141	6.452082	6.32506	0.318253	2.352053
10	5.680892	0.181212	5.555142	5.909066	5.504252	0.361966	1.283264
11	7.813795	0.098895	7.797039	8.006136	7.72167	0.905076	2.533902
12	6.795861	0.135478	6.798333	6.959309	6.602407	-0.11081	1.486008
13	6.584152	0.380986	6.671389	6.951925	5.78329	-0.96284	3.121212
14	6.407554	0.203856	6.365064	6.902043	6.176593	1.646373	5.137794
15	6.973289	0.171421	7.048595	7.132947	6.73664	-0.5556	1.526416
16	7.101993	0.327213	7.206715	7.500754	6.536347	-0.6779	2.15415
17	7.455039	0.107686	7.453395	7.568495	7.242964	-0.74564	2.584436
18	6.088313	0.143897	6.058181	6.359858	5.962155	0.878295	2.409915
19	7.046221	0.123216	7.058073	7.295812	6.875253	0.531395	3.199361
20	6.957889	0.126901	6.942823	7.11992	6.745757	-0.22069	1.793408
21	8.127067	0.12417	8.157146	8.3522	7.9765	0.377001	2.189445
22	7.92359	0.303269	7.951864	8.371613	7.469466	-0.02463	1.800014
23	7.068392	0.224246	7.123354	7.275182	6.676839	-1.06425	2.518643
24	6.907508	0.125241	6.924792	7.082084	6.757809	0.032659	1.477279
25	7.477338	0.085176	7.49295	7.623342	7.35988	0.220298	2.041616
26	5.720029	0.135718	5.697036	5.93661	5.553597	0.664333	2.256836
27	7.135502	0.162153	7.137208	7.336031	6.830138	-0.48554	2.417294
28	6.611713	0.131669	6.611734	6.804114	6.374668	-0.24643	2.397917
29	6.24476	0.120251	6.228987	6.434824	6.069014	0.117913	1.961052
30	7.905501	0.124333	7.925744	8.067216	7.691281	-0.5195	2.146149
Industry Aggregate	**6.69923**	**0.761174**	**6.697188**	**8.371613**	**4.67684**	**-0.0023**	**2.51432**

Source: Survey Data (2018)

Table 4.11 shows the fluctuations in firm size. The average value of company size over the period was 6.699, with a standard deviation of 0.7611, a minimum of 4.676 and maximum of 8.3716 with a negative skewness of 0.0023. This shows that the total net assets for majority of the periods under study were below the country average with more values being around the mean. The ratio was fairly high for all the companies in the industry. Kenya Electricity generating company Ltd having the highest average size of 8.127 while Limuru Tea Ltd having the lowest average size of 5.186 (Appendix iv).

The general trend for the thirty (30) companies under study indicated that for the period 2007 to 2015, there were significant variations among companies in the size of their net assets.

Table 4.12: Sector Wise Average for Size

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	6.091556	0.610809	6.145234	7.192479	4.67684	-0.36267	2.583395
Automobiles	6.133726	0.375579	6.354894	6.601218	5.457605	-0.63678	1.941429
Commercial Services	6.709257	0.678085	6.735404	8.006136	5.504252	0.05415	2.435627
Construction & Allied	6.922891	0.547183	7.075078	7.568495	5.962155	-0.65924	2.003102
Energy & Petroleum	7.519235	0.556834	7.372324	8.371613	6.676839	0.077571	1.46735
Manufacturing & Allied	6.682808	0.597019	6.764594	7.623342	5.553597	-0.30819	2.039764
Telecommunications	7.905501	0.124333	7.925744	8.067216	7.691281	-0.5195	2.146149

Source: Survey Data (2018)

Table 4.12 gives the various descriptive statistics for firm size in all the 7 sectors that were studied for the period 2007-2015. This shows the variation in firm size within

the selected sectors. The Telecommunication sector had the highest average level of firm size over the period at 7.905 which was above the selected companies' average of 6.6992. The Agricultural Sector had the lowest average size of 6.0915 which was below all the companies' average of 6.6992. This can be supported by the fact that the industry has heavy investments in telecommunication sector.

Table 4.13: 9-Year industry annual average for size

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	6.482225	0.747349	6.455508	7.9765	4.715393	0.052689	2.859205
2008	6.553933	0.755027	6.578138	7.995936	4.67684	-0.09009	2.937912
2009	6.629528	0.747209	6.611579	8.011723	4.830306	-0.11518	2.705112
2010	6.682864	0.746215	6.655194	8.157146	5.167639	0.049134	2.325723
2011	6.723241	0.768605	6.734861	8.175328	5.268941	-0.00979	2.230455
2012	6.745909	0.760911	6.786409	8.170684	5.490641	0.041608	2.184782
2013	6.785682	0.782528	6.894256	8.232998	5.46918	-0.00869	2.294327
2014	6.816056	0.790683	6.913752	8.3522	5.47464	0.012655	2.444312
2015	6.873635	0.768933	6.922433	8.371613	5.457605	-0.06709	2.488808

Source: Survey Data (2018)

Table 4.13 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in size of companies over the years. However, the variation was not high and ranged from a low of 6.48 in 2007 to a high of 6.87 in 2015. Figure 5 shows the 9-year industry trend analysis for firm size. It shows a gradual increase in firm size over the years from a low average size of 6.4822 in 2007 to a high of 6.8736 in 2015. This shows a marked growth over time in the size of the selected companies. This further indicated that firms utilized the available

sources of finance to expand their operations and subsequently growing in size. The small growth also indicates that firms were hard hit and could not expand more due to the increased cost of financing.

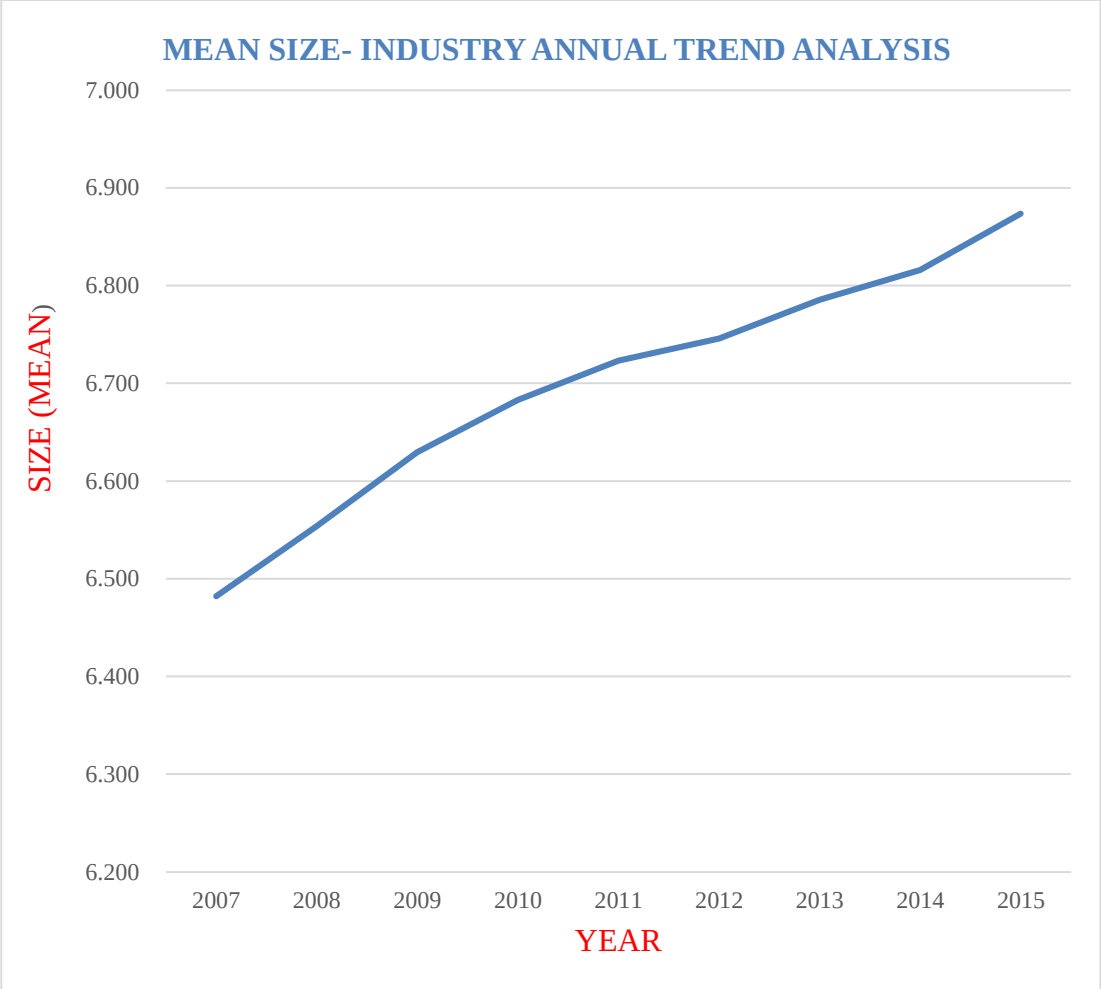

Figure 5: 9-year Industry Annual Trend Analysis for Size

4.2.5: Return on Assets

The dependent variable of the study was financial performance which can be measured as either ROA, ROE, ROS or a composite of the three (ROA, ROE and ROS) as is the case in this study. The first case is where financial performance is

measured as Return on Assets (ROA). Return on Assets as a component of the financial performance of a firm focus on the ratio of Net income (profit after tax) / Total Net Assets. The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.14, 4.15, 4.16 and figure 6. ROA represents returns as a proportion to total assets. Showing the rate of return on assets employed.

Table 4.14: Companywide average for Return on Assets

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	0.025556	0.103333	0.04	0.21	-0.13	0.161708	2.556865
2	0.12	0.05099	0.13	0.19	0.04	-0.29402	2.127681
3	0.04	0.071589	0.05	0.14	-0.08	-0.09323	2.086222
4	0.197778	0.182741	0.18	0.51	0	0.4713	1.883606
5	0.048889	0.056001	0.05	0.14	-0.01	0.415689	1.814884
6	0.165556	0.073673	0.16	0.3	0.05	0.43359	2.689366
7	0.1	0.04899	0.1	0.16	0.03	-0.2774	1.848633
8	-0.15333	0.31269	-0.15	0.45	-0.62	0.438795	2.792225
9	0.044444	0.059815	0.06	0.14	-0.06	-0.37198	2.5887
10	-0.39333	0.940612	-0.04	0.13	-2.83	-2.23525	6.368709
11	-0.02444	0.107134	0.03	0.07	-0.25	-1.05674	3.051574
12	0.234444	0.121769	0.28	0.34	-0.07	-1.94166	5.601018
13	0.161111	0.101667	0.15	0.4	0.05	1.425622	4.597447
14	0.093333	0.066144	0.08	0.19	-0.04	-0.54399	3.127788
15	0.041111	0.022608	0.04	0.08	0.01	0.061478	2.323281
16	0.062222	0.060782	0.07	0.12	-0.09	-1.89711	5.702566
17	0.174444	0.054109	0.17	0.26	0.1	0.062696	1.817859
18	0.101111	0.035512	0.11	0.16	0.03	-0.45189	3.368283
19	0.083333	0.132853	0.07	0.36	-0.08	0.831541	3.145794
20	0.047778	0.347411	0.11	0.28	-0.86	-2.28265	6.606198

21	0.033333	0.029155	0.02	0.1	0.01	1.512281	4.07699
22	0.046667	0.014142	0.04	0.07	0.03	0.34375	1.828125
23	0.065556	0.050772	0.08	0.14	-0.01	-0.36291	2.130315
24	0.323333	0.065574	0.36	0.41	0.24	-0.1746	1.387135
25	0.29	0.068374	0.33	0.38	0.19	-0.25633	1.55053
26	-0.03889	0.232725	0.03	0.23	-0.5	-0.95768	2.795312
27	-0.3	0.894763	0.1	0.14	-2.58	-2.12601	5.971915
28	0.074444	0.025055	0.07	0.12	0.05	0.8787	2.393551
29	0.21627	0.081216	0.206377	0.416394	0.142258	1.777043	5.373259
30	0.228934	0.063005	0.215474	0.326406	0.149823	0.328447	1.70598
Industry Aggregate	**0.070322**	**0.291843**	**0.085**	**0.51**	**-2.83**	**-6.70269**	**62.832**

Source: Survey Data (2018)

Table 4.14 gives the various descriptive statistics for Return on Assets (ROA) in all the 30 companies that were studied for the period 2007-2015. On average, all the companies recorded positive ROA save for 5 companies, Marshals EA Ltd, Express Kenya Ltd, Eveready Limited, Kenya Airways and Mumias sugar Ltd that recorded negative ROA (appendix 1v). Table 4.14 further shows that there were significant variations among companies in their performance per company as measured by ROA for the period 20007-2015. According to this findings, a return on assets of 7.03% was achieved.

Table 4.15: Sector wise Average for ROA

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	0.09963	0.116311	0.08	0.51	-0.13	1.054886	5.118943
Automobiles	-0.00296	0.210235	0.06	0.45	-0.62	-1.10654	4.956849
Commercial Services	0.018704	0.42584	0.06	0.4	-2.83	-5.72364	38.65008

Construction & Allied	0.105278	0.087586	0.105	0.36	-0.09	0.224278	4.297573
Energy & Petroleum	0.048333	0.168972	0.06	0.28	-0.86	-4.34149	24.73279
Manufacturing & Allied	0.094193	0.422946	0.147359	0.416394	-2.58	-4.94252	31.08652
Telecommunications	0.228934	0.063005	0.215474	0.326406	0.149823	0.328447	1.70598

Source: Survey Data (2018)

Table 4.15 gives the descriptive statistics for each sector. Telecommunication sector has the highest mean of 0.2289 while Automobile sector had the lowest mean of negative ROA of 0.00296. The table further indicate that majority of Sectors recorded positive Return on Assets over the period. This fluctuated from sector to sector with telecommunications sector recording the highest Return on Assets.

Table 4.16: 9-Year industry annual average for ROA

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	0.133241	0.102748	0.11	0.4	-0.01	0.760954	2.974458
2008	0.108356	0.114998	0.12	0.38	-0.25	-0.57347	5.34775
2009	0.116374	0.112749	0.1	0.4	-0.15	0.264047	3.640082
2010	0.100922	0.178189	0.095	0.51	-0.62	-1.78296	10.74811
2011	0.099939	0.194149	0.11	0.45	-0.64	-1.93103	8.881111
2012	0.067883	0.239279	0.08	0.416394	-0.86	-2.0335	9.131051
2013	0.077122	0.135679	0.08	0.36	-0.37	-0.86878	5.634207
2014	-0.11798	0.719465	0.055	0.38	-2.83	-3.24587	12.11893
2015	0.047037	0.209425	0.04	0.41	-0.69	-1.17656	6.453199

Source: Survey Data (2018)

Table 4.16 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in performance as measured by ROA over the 9-years period. Figure 6 shows the 9-year Annual Trend analysis for ROA for the period showing a consistence decline in ROA from 2007 and a performance dive in 2014. This is an indication that on average the selected firms were not performing well in the said period.

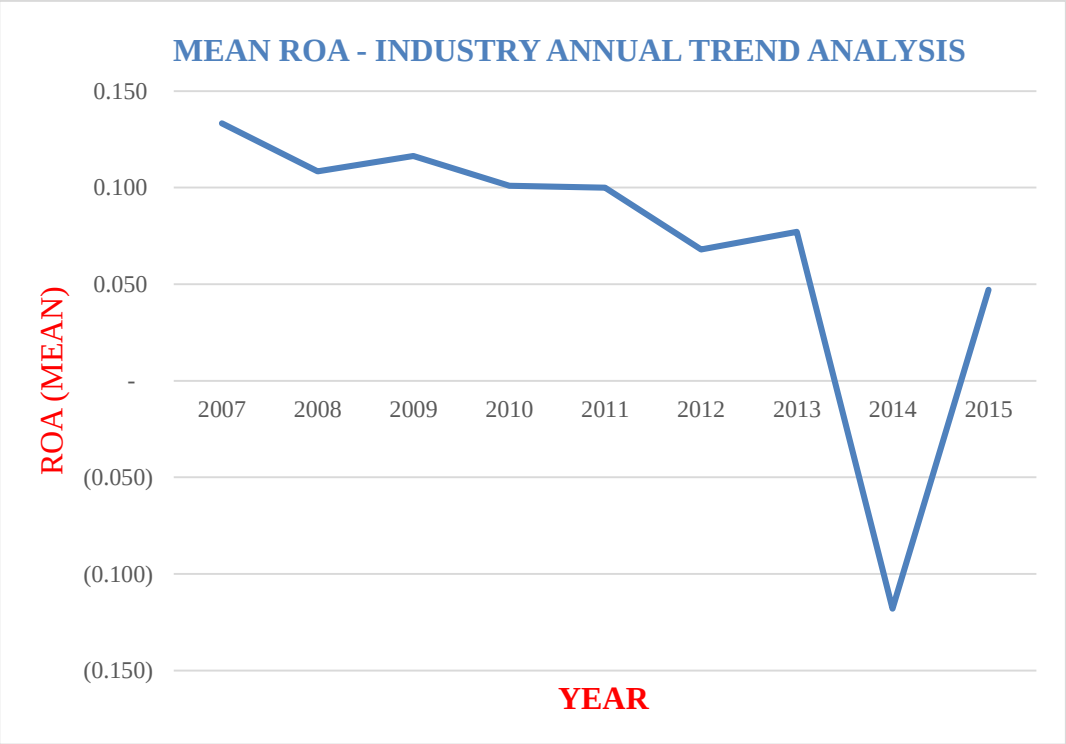

Figure 6: 9-year Average Trend Analysis

4.2.6: Return on Equity

The second case is where financial performance is measured as Return on Equity (ROE). Return on Equity as component of the financial performance of a firm focus on the ratio of Net income (profit after tax) / Total Equity (Shareholders' funds). The

computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.17, 4.18, 4.19 and figures 7. ROE represents returns as a proportion to Total Equity. Showing the rate of return on Total Equity. According to this findings, an aggregate return on Equity of 10.19%, and standard deviation of 0.555942, a maximum of 4.28 and a minimum of -5.51 was achieved and which was relatively moderate return on shareholders' funds. The firms had positive return on equity. A return of 15% which is above the borrowing rate of 14.4% would be ideal. However, a weighted average cost of capital would be used to set the level of returns required by each company depending on the composition of financing sources.

Table 4.17: Companywide Average for ROE

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	0.025556	0.103333	0.04	0.21	-0.13	0.161708	2.556865
2	0.12	0.05099	0.13	0.19	0.04	-0.29402	2.127681
3	0.04	0.071589	0.05	0.14	-0.08	-0.09323	2.086222
4	0.197778	0.182741	0.18	0.51	0	0.4713	1.883606
5	0.048889	0.056001	0.05	0.14	-0.01	0.415689	1.814884
6	0.165556	0.073673	0.16	0.3	0.05	0.43359	2.689366
7	0.1	0.04899	0.1	0.16	0.03	-0.2774	1.848633
8	-0.15333	0.31269	-0.15	0.45	-0.62	0.438795	2.792225
9	0.044444	0.059815	0.06	0.14	-0.06	-0.37198	2.5887
10	-0.39333	0.940612	-0.04	0.13	-2.83	-2.23525	6.368709
11	-0.02444	0.107134	0.03	0.07	-0.25	-1.05674	3.051574
12	0.234444	0.121769	0.28	0.34	-0.07	-1.94166	5.601018
13	0.161111	0.101667	0.15	0.4	0.05	1.425622	4.597447
14	0.093333	0.066144	0.08	0.19	-0.04	-0.54399	3.127788
15	0.041111	0.022608	0.04	0.08	0.01	0.061478	2.323281
16	0.062222	0.060782	0.07	0.12	-0.09	-1.89711	5.702566
17	0.174444	0.054109	0.17	0.26	0.1	0.062696	1.817859
18	0.101111	0.035512	0.11	0.16	0.03	-0.45189	3.368283
19	0.083333	0.132853	0.07	0.36	-0.08	0.831541	3.145794
20	0.047778	0.347411	0.11	0.28	-0.86	-2.28265	6.606198
21	0.033333	0.029155	0.02	0.1	0.01	1.512281	4.07699

22	0.046667	0.014142	0.04	0.07	0.03	0.34375	1.828125
23	0.065556	0.050772	0.08	0.14	-0.01	-0.36291	2.130315
24	0.323333	0.065574	0.36	0.41	0.24	-0.1746	1.387135
25	0.29	0.068374	0.33	0.38	0.19	-0.25633	1.55053
26	-0.03889	0.232725	0.03	0.23	-0.5	-0.95768	2.795312
27	-0.3	0.894763	0.1	0.14	-2.58	-2.12601	5.971915
28	0.074444	0.025055	0.07	0.12	0.05	0.8787	2.393551
29	0.21627	0.081216	0.206377	0.416394	0.142258	1.777043	5.373259
30	0.228934	0.063005	0.215474	0.326406	0.149823	0.328447	1.70598
Industry Aggregate	**0.101907**	**0.555942**	**0.125**	**4.28**	**-5.51**	**-3.3967**	**57.59233**

Source: Survey Data (2018)

Table 4.17 gives the various descriptive statistics for Return on Equity in all the 30 companies that were studied for the period 2007-2015. On average, all the companies recorded positive ROE save for three companies; Marshals EA Ltd, Express Kenya Ltd, Kenya Airways, Eveready Limited and Mummies Sugar Ltd that recorded negative ROE. BAT Kenya Ltd had the highest Return on Equity of 32.33% while Express Kenya Ltd had the lowest ROE of negative 39.33%. This shows that there were significant variations among companies in their Return on Equity.

Table 4.18: Sector wise Average for ROE

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	0.127407	0.145941	0.105	0.63	-0.15	0.95766	4.69978
Automobiles	-0.08815	0.550056	0.06	0.45	-2.6	-3.73167	17.4901
Commercial Services	0.061667	0.991779	0.1	4.28	-5.51	-1.95044	25.49569
Construction & Allied	0.157222	0.135364	0.16	0.52	-0.21	-0.46997	4.735643
Energy & Petroleum	0.061944	0.19651	0.09	0.29	-0.97	-4.11178	22.59022
Manufacturing & Allied	0.176881	0.586464	0.19	1.77	-3.13	-3.1373	20.90123

Telecommunications	0.249268	0.057544	0.242209	0.326406	0.173957	0.251158	1.593649

Source: Survey Data (2018)

Table 4.18 shows the descriptive statistics for each sector for ROE. Telecommunication sector had the highest mean of 0.249268 while Automobiles sector had the lowest mean of negative ROE of -0.08815. This shows there were variations on return on equity among various sectors.

Table 4.19: 9 – year industry annual average for ROE

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	0.178923	0.131877	0.165	0.52	-0.01	0.65753	2.971682
2008	0.130945	0.198004	0.15	0.46	-0.7	-2.39215	11.67032
2009	0.147726	0.156501	0.135	0.48	-0.25	-0.43394	4.154081
2010	0.079051	0.525665	0.165	0.63	-2.6	-4.57768	24.12277
2011	0.119663	0.30109	0.165	0.48	-1.21	-3.07672	14.17323
2012	0.138926	0.409371	0.125	1.77	-0.97	1.445454	11.10327
2013	0.120313	0.226118	0.1	0.95	-0.39	1.275489	8.029802
2014	-0.20423	1.18691	0.08	0.76	-5.51	-3.61928	15.59031
2015	0.205847	0.819405	0.07	4.28	-0.78	4.220825	21.90669

Source: Survey Data (2018)

Table 4.19 gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in performance as measured by ROE over the years. Figure 7 shows the 9-Year industry annual trend average analysis for ROE showing a performance dive 2014. Year 2015 had the highest annual average of 20.58% while year 2014 had the lowest of negative 20.42%. This indicated that the companies had started recovering from the poor performance in 2014.

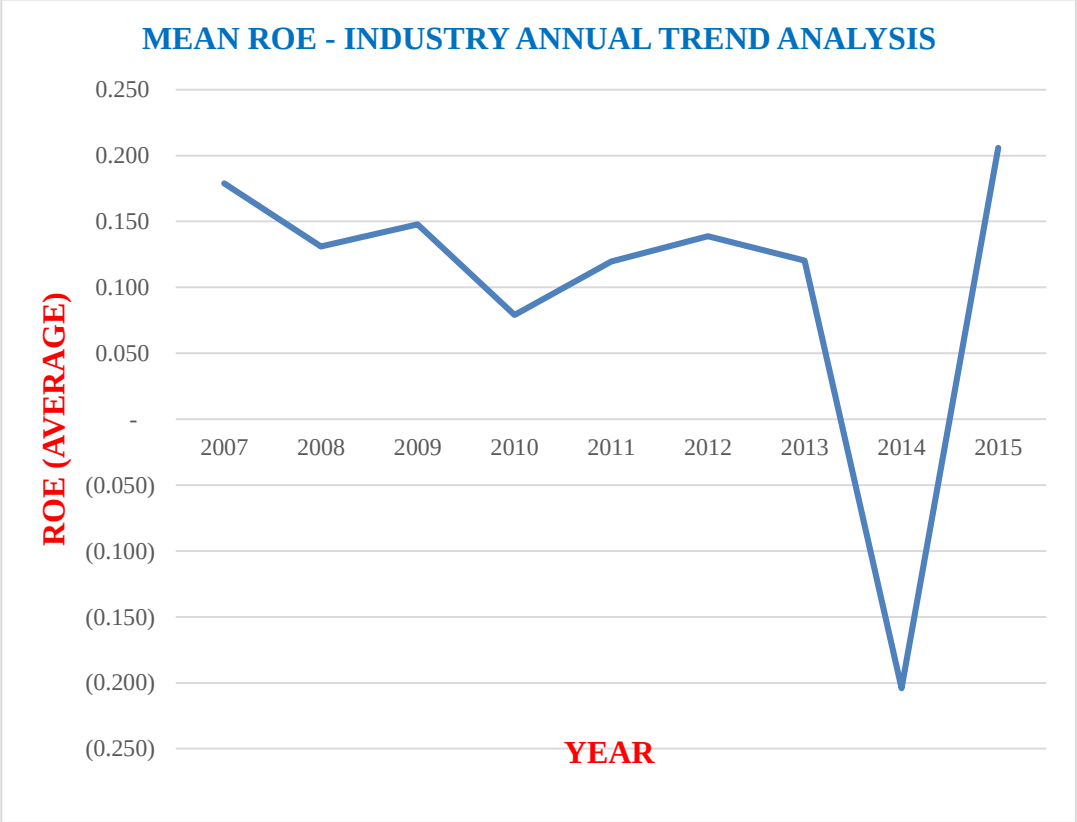

Figure 7: 9-year Industry Annual Analysis for ROE

4.2.7: Return on Sales (profit Margin)

Return on Sales as a component of the financial performance of a firm focus on the ratio of Net income (profit after tax) / Total Sales (Turnover). The computed ratios for the companies, sectors, industry aggregates and 9-year annual averages are presented in tables 4.20, 4.21, 4.22 and figure 8. ROS represents returns as a proportion to Total Sales. Showing the rate of return on Total Sales.

Table 4.20: Company Wide Average for Return on Sales

COMPANY	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
1	-0.00222	0.411879	0.1	0.42	-0.87	-1.11579	3.233803
2	0.176667	0.056125	0.18	0.27	0.09	0.006999	2.160053
3	0.028889	0.082681	0.02	0.15	-0.12	-0.18688	2.412029
4	0.294444	0.293262	0.27	0.88	0	0.882838	2.713415
5	0.203333	0.233238	0.17	0.61	-0.04	0.50195	1.900322
6	0.455556	0.275595	0.65	0.69	0.09	-0.47513	1.378612
7	0.06	0.027839	0.07	0.09	0.01	-0.8849	2.336629
8	-0.18111	0.411322	-0.19	0.69	-0.71	0.842063	3.378915
9	0.03	0.041231	0.03	0.1	-0.04	-0.19294	2.664576
10	-0.74	1.888558	-0.03	0.08	-5.74	-2.40879	6.931019
11	-0.02	0.094604	0.02	0.07	-0.23	-1.2364	3.66681
12	0.136667	0.075333	0.16	0.2	-0.05	-1.86406	5.427264
13	0.164444	0.080949	0.19	0.27	0.05	-0.15291	1.520384
14	0.058889	0.052068	0.05	0.11	-0.06	-1.3024	4.082959
15	0.077778	0.037006	0.09	0.12	0.02	-0.63015	2.075143
16	0.087778	0.110655	0.11	0.18	-0.2	-2.22959	6.511737
17	0.152222	0.040242	0.15	0.23	0.11	0.682605	2.488708
18	0.038889	0.021473	0.04	0.09	0.01	1.436854	4.986537
19	0.148889	0.284932	0.07	0.85	-0.11	1.800852	5.303219
20	0.01	0.016583	0.01	0.03	-0.03	-1.56993	5.095041
21	0.265556	0.138032	0.18	0.51	0.14	0.768965	2.080938
22	0.081111	0.019003	0.09	0.1	0.05	-0.39882	1.682663
23	0.007778	0.00441	0.01	0.01	0	-1.33631	2.785714
24	0.117778	0.044096	0.11	0.22	0.08	1.493418	4.278924
25	0.187778	0.059954	0.2	0.28	0.11	0.054019	1.810795
26	-0.01444	0.071783	0.01	0.06	-0.15	-0.8085	2.297317
27	-0.31222	0.897089	0.1	0.14	-2.55	-1.99468	5.507713
28	0.043333	0.059161	0.02	0.2	0.02	2.411801	6.936429
29	0.54279	0.121577	0.49908	0.841436	0.430776	1.807189	5.262992
30	0.166942	0.034319	0.159101	0.225736	0.11802	0.285267	2.038099
Industry Aggregate	**0.075584**	**0.447362**	**0.09**	**0.88**	**-5.74**	**-8.89517**	**111.4538**

Source: Survey Data (2018)

Table 4.20 above gives the various descriptive statistics for Return on Sales (ROS) in all the 30 companies that were studied for the period 2007-2015. On average, all the companies recorded positive ROS. According to these findings, an aggregate return on Sales of 7.56%%, with a standard deviation of 0.447362, a minimum of -5.74 and a maximum of 0.8 was achieved and which was fairly low return on Sales. Several companies posted a negative ROS. They included Marshals EA Ltd, Express Kenya Ltd, Eveready Limited, Kenya Airways and Mumias sugar Ltd. This shows there were significant variations in return on sales among companies that were studied.

Table 4.21: Sector Wise average for Return on sales

SECTOR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
Agricultural	0.192778	0.290403	0.135	0.88	-0.87	-0.38951	5.485037
Automobiles	-0.03037	0.254505	0.03	0.69	-0.71	-0.44794	5.823845
Commercial Services	-0.0537	0.801045	0.07	0.27	-5.74	-6.80951	48.8193
Construction & Allied	0.106944	0.155229	0.11	0.85	-0.2	2.847493	16.07764
Energy & Petroleum	0.091111	0.125829	0.04	0.51	-0.03	1.920489	6.227383
Manufacturing & Allied	0.094169	0.438285	0.11	0.841436	-2.55	-4.1464	26.16088
Telecommunications	0.166942	0.034319	0.159101	0.225736	0.11802	0.285267	2.038099

Source: Survey Data (2018)

Table 4.21 above shows the descriptive statistics for each sector for ROS. Agriculture sector has the highest mean of 0.192778 while Commercial Services sector had the lowest mean of negative 0.0537. Automobile sector and commercial services sector operated at a loss over the period since the sectors recorded a negative ROS. The rest of the sectors had positive ROS though this fluctuated from sector to sector.

Table 4.22: 9 –year industry annual average for Return on Sales

YEAR	MEAN	STD. DEV	MEDIAN	MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS
2007	0.105852	0.10814	0.09	0.549837	-0.03	2.279383	10.53967
2008	0.122009	0.173338	0.085	0.61	-0.19	1.193641	4.407075
2009	0.112138	0.122467	0.095	0.463734	-0.2	0.355968	4.533807
2010	0.143483	0.227071	0.11	0.65	-0.57	-0.22821	5.353073
2011	0.145753	0.221615	0.11901	0.69	-0.51	0.279955	5.76007
2012	0.093419	0.336048	0.08	0.88	-0.87	-0.28198	5.884412
2013	0.083273	0.217507	0.085	0.68	-0.48	-0.10207	5.429669
2014	-0.18505	1.166644	0.045	0.66	-5.74	-4.04356	18.95774
2015	0.059371	0.30387	0.035	0.85	-0.84	-0.28939	5.184023

Source: Survey Data (2018)

Table 4.22 above gives the 9-year industry annual averages for the entire period under study 2007-2015. This shows that there were variations in performance as measured by ROS over the years. Figure 8 show the 9-year industry trend analysis for ROS which has shown a gradual increase over the period 2007 -2011 and major decline of ROS by 2014 recording a negative return on sales for that year.

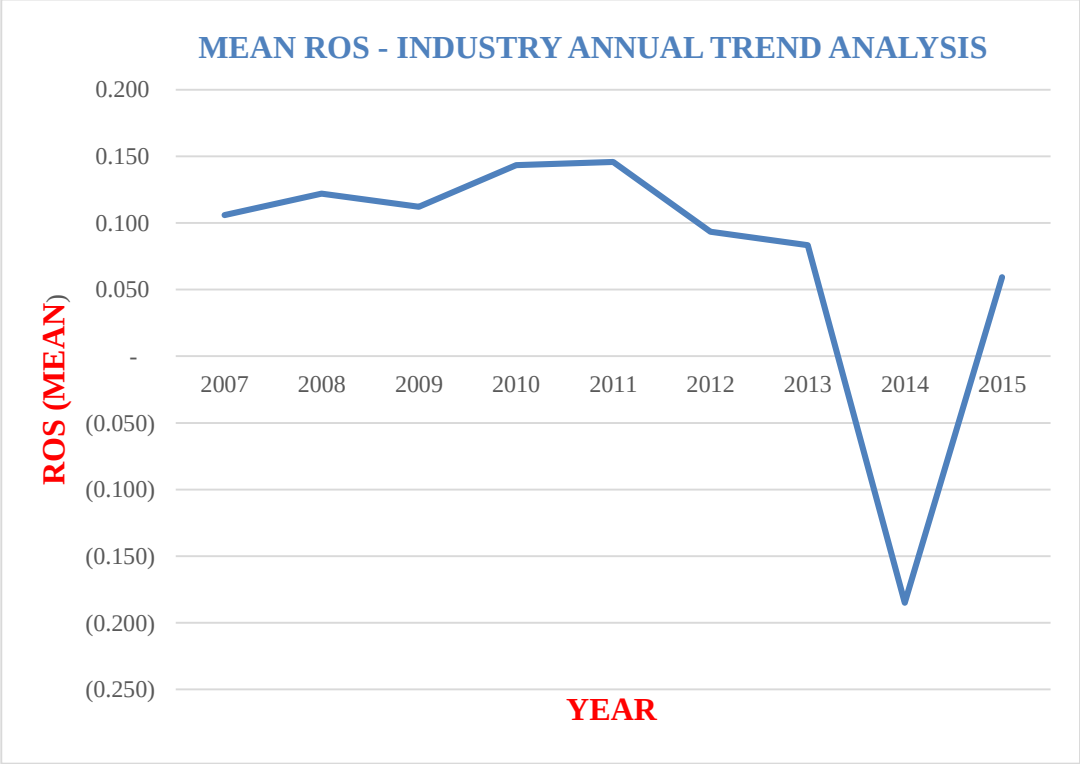

Figure 8: 9-year Trend Analysis for all companies on ROS

4.3 Diagnostic Tests

Diagnostic tests are performed on the data variables to ensure conformity with requirements of the multiple regression technique used. The Durbin Watson statistics test for autocorrelation and the Kolmogorov-Smirnov test for Normality, Heteroscedasticity test, the Dickey-Fuller test, Breusch-Pagan Lagrange multiplier (LM) and Multicollinearity Test have been conducted and reported.

4.3.1 Test for auto-correlation

The study used the Durbin Watson statistic tests for autocorrelation (a relationship between values separated from each other by a given time lag) in the residuals (prediction errors) from a statistical regression analysis.

Durbin-Watson Test is used to check serial correlation among variables. Error terms from different time periods are said to be serially correlated when they are correlated. Serial correlation will not affect the biasness or consistency of ordinary least squares (OLS) estimators, but it does affect their efficiency.

Therefore to use a linear model, the dependent variable must be independent. This means that there should be no serial correlation among the observations. The dependent variable in this study was tested using Durbin-Watson Test and the results are indicated.

Table 4.23: Durbin Watson Test of Autocorrelation

Durbin-Watson statistic	1.742391

Survey Data (2018)

The Durbin-Watson test reports a test statistic, with a value from 0 to 4. A value of 2 means that there is no autocorrelation in the sample. Values from 0 to <2 indicate positive autocorrelation and values >2 to 4 indicate negative autocorrelation. The value of test statistics is 1.742391 indicating that there is insignificant positive autocorrelation.

Auto-Correlation test

Ho: y=0 The residuals are independent,

Ha: y>0 The residual is inter-dependent,

P value > 0.05 accept null hypothesis,

P value of 1.742391 > 0.05 (5% level of significance), fail to reject the null hypothesis and conclude that the residuals are independent and therefore (OLS) estimator can be used.

The test statistics were therefore insignificant at 5% level to indicate the residuals are independent, guarantee efficiency and consistency of the estimators for valid significance tests.

4.3.2 Kolmogorov-Smirnov Test

The study tested the Normality of variables using the Kolmogorov-Smirnov Test for Normality. The null hypothesis for this test was that the data is normal in distribution, while the alternative hypothesis was that the data was not normal in distribution. When the p-value is less than 5% level of significance (0.05), the null hypothesis will not be accepted and conclude that the data is not normal. Otherwise when the p-value is greater than the 5 % level of significance the null hypothesis is accepted and conclude that the data is normal. The test for normality of financial performance (dependent variable) was done by use of Kolmogorov-Smirnov test. Given that H_0 and H_1, set α=0.05, the rule is that reject H_0 if P-value is less than α else fail to reject H_0, where:

H_0: The data is normal

H_1: The data is not normal

Table 4.24: Kolmogorov-Sminorv Test for normality of Performance

	Performance	**Leverage**	**Liquidity**	**Equity**	**FSI**
N	270	270	270	270	270
Normal Mean	0.0826	0.2515	2.4056	0.7276	1.1282
Parameters					
Standard Deviation	0.40122	0.20964	2.9973	0.2109	1.00037
Most Extreme Absolute differences	0.277	0.153	0.304	0.123	0.304
Positive	0.199	0.153	0.304	0.098	0.304
Negative	-0.277	-0.115	-0.231	-0.123	-0.234
Kolmogorov-Smirnov Z	0.549	0.516	0.095	0.016	0.055
Asymp.Sig. (2-tailed)	0.231	0.132	0.241	0.371	0.210

Survey Data (2018)

Table 4.24 indicates that using the Kolmogorov-Smirnov Test of normality, financial performance data is normal since the P-value of 0.231 is above 0.05 and thus the null hypothesis (H_0) was not rejected.The study therefore concluded that financial performance variable is normal in distribution and hence subsequent analysis was carried out.

Table 4.24 further shows that financial performance is approximately normally distributed with a mean of 0.0826, standard deviation of 0.40122 and the number of observations were 270 represented by N=270. According to Lapan, Quartaroli and Riemer (2012), to use multiple linear regression, normality conditions must be satisfied and hence the dependent variable should be normally distributed.

Other independent variables of Leverage, Liquidity and Equity were also tested for normality using the the Kolmogorov-smirnov test shown in table 4.24 above. Their P-values were greater than 0.05, and hence concluded that the data is normal. The study therefore concluded that Leverage, liquidity and Equity variables are normal in distribution and hence subsequent analysis was carried out.

Table 4.24 further indicates that Leverage has a p-value of 0.132, Liquidity a p-value of 0.241 and Equity a p-value of 0.371. In all models, the p-value is greater than 5% percent level of significance. The null hypothesis is therefore accepted and concluded that data is normal in distribution and hence subsequent analysis was carried out.

4.3.3 Heteroscedasticity Test

The study tested the panel level heteroscedasticity using the Breusch-Pagan test (BP). The null hypothesis for this test was that the data is homoscedastic, while the alternative hypothesis was that the data was heteroscedastic. When the p-value is less than 5% level of significance (0.05), the null hypothesis will be rejected and conclude that the data is heteroscedastic. Otherwise when the p-value is greater than the 5 % level of significance the null hypothesis is accepted and conclude that the data is Homoscedastic. That data is spread the same across times and companies. The test results are given in Table 4.25

Table 4.25: Breusch – Pagan Test of Heteroscedasticity

MODELS	BP Statistic	Degrees of Freedom	P-Value
ROA	6.3104	9	0.1021
ROE	3.0014	9	0.4021
ROS	5.1231	9	0.2246

Survey Data (2018)

Table 4.25 indicates that the test statistics reported was BP test with 9 degrees of freedom. ROA model reported a t-statistics value of 6.3104 and a p-value of 0.1021, while ROE model reported a t-statistics value of 3.0014 and p-value of 0.4021. The ROS model reported a t-statistics value of 5.1231 and p-value of 0.2246. In all models, the p-value is greater than 10 percent level of significance. The null hypothesis is therefore accepted and concluded that data is homoscedastic.

4.3.4 The Dickey-Fuller test

Panel unit root test was applied for all variables used in the analysis in order to avoid spurious regression results. The study applied Fisher-type test because it has more advantages than other panel unit root tests. The Fisher –type unit root test requires specification of Dickey-Fuller to test whether a variable has unit root. The test was done to check for stochastic trends. To check if data had unit roots to determine whether stationary or not. Data is stationery if there no unit roots and non-stationery if unit roots are found.

Hypothesis:

H_0: The series (Performance) has a unit root (i.e. non-stationary).

H_1: The series (Performance) has no unit root (i.e. stationary).

Table 4.26: Dickey-Fuller Test of Unit Root

Dickey-Fuller Statistic	Lag order	p-value
-12.9243	0	0.01

Survey Data (2018)

Table 4.26 indicates that the p-value of 0.01 which is less than 0.05 (5%) level of significance and hence we reject the H_0 and conclude that data has no unit roots and hence stationary. Data requires to be stationary to run a multiple linear regression. Therefore, panel linear multiple regression can be run.

4.3.5 Breusch-Pagan Lagrange multiplier (LM)

BP Test was used to test for random effects on dependent variable to show whether one should use random effect or pooled estimation. The BP tests null is that the variance of the random effect is zero. This would mean that every item has the same intercept. Hence a pooled regression would be used.

Hypothesis:

H_0: No panel effect (Implying that ordinary ols should be used (pooling)),

H_1: Presence of panel effects (Implying Random effects model should be used).

From table 4.27, the P-value is 0.1923. This is greater than 0.05 (5% level of significance).

The H_0 cannot be rejected implying there are no panel effects and conclude that pooled regression should be used. The BP tests null is that the variance of the random effect is Zero. This would mean that every company has the same intercept and hence pooled regression would be used.

Table 4.27: Lagrange Multiplier Test

chis	df	p-value
1.6794	1	0.1923

Survey Data (2018)

4.3.6 Multicollinearity Test

To test the multicollinearity between two or more independent variables, variance inflation factor is used (VIF). The threshold is 5. If VIF is greater than 5, then the independent variable should be dropped from the model. In table 4.28 below, all the variables have VIF less than 5. Firm size is therefore an independent variable and can be used in the moderation model.

All the independent variables p-values of less than 5% level of significance and therefore significant. Firm size has positive significant effect on the relationship between financial structure and performance.

Table 4.28: Multicollinearity test among variables using VIF

Model	Standardized coefficients	T-Value	P-Value	Collinearity Statistics	
	Beta			Tolerance	VIF
FS	0.506	2.996	0.002	0.874	1.144
Size	0.259	2.650	0.009	0.542	1.845
FS.Size	0.254	2.659	0.009	0.754	1.326

Source: Survey Data (2018)

4.4 Test of Hypotheses

Several regression models were run to address the objectives and test hypotheses of the study. Various tests were done to establish the individual independent variable relationship with financial performance. The financial performance of the companies was measured in terms of: return on assets; return on equity; return on sales (profit margin) by computing a composite index. This study developed a composite index by getting the simple average of: ROA, ROE and ROS (profit margin) as a measure of the financial performance of the companies under study. Omagwa and Mwaniki (2017) used a similar approach while studying "Asset structure and Financial performance.

The hypotheses were achieved by running regression models which gave coefficient values, the standard error, the t-value and p-values as outputs. The beta coefficients gave the nature of relationship while the P-value were used to test the hypotheses by indicating whether the hypothesis will be accepted or not. As a rule, where the p-value is less than the level of significance level chosen, then the Null hypothesis is not

accepted and conclude that the effect is significant. Otherwise it is accepted and conclude that the effect is not significant. The effect of financial structure on financial performance as provide by Leverage, Liquidity and Equity was established. The regressions output gave the coefficient values, the standard error, the t-value and p-values and results interpreted. Table 4.29 gives the results of independent variables with financial performance.

Table 4.29: Results of independent variables with financial performance

Hypothesis	**Parameter**	**Coefficient Value**	**Std. Error**	**T-value**	**P-value**
Ho_1	Leverage	0.840	0.270	3.111	0.000
Ho_2	Liquidity	0.023	0.008	2.777	0.006
Ho_3	Owners' Equity	0.243	0.082	2.963	0.004
	R Squared	0.850			
	Adjusted R Squared	0.839			
	Prob > F	0.000			
	F (3, 267)	511.64			

Source: Survey Data (2018)

Table 4.29 presents the regression model of financial structure on financial performance. As presented in the table 4.29, the coefficient of determination Adjusted R square is 0.839 for financial performance as measured as a composite index of ROA,

ROE and ROS. The coefficient of determination indicates that 83.9% of the variation on financial performance is explained by financial structure components holding all other factors constant. The Analysis of variance (ANOVA) results as shown in Table 4.29 with F statistics equal to 511.64, p-value of 0.000, confirms that the overall model is a good fit in measuring the effect of financial structure on financial performance of selected firms listed at NSE, Kenya. Since the p-value is 0.000 which is less than 0.05, the null hypothesis is not accepted and conclude that the multiple linear model between financial structure and financial performance fits the data well.

4.4.1 Test of hypothesis one

Hypothesis one ($\mathbf{H_{01}}$) of the study stated that leverage has no significant effect on financial performance of selected companies listed at NSE, Kenya. The implied alternative hypothesis ($\mathbf{H_1}$) of the study was that leverage has significant effect on performance of selected companies listed at NSE, Kenya. The hypothesis was achieved by running regression models which gave coefficient values, the standard error, the t-value and p-values as outputs.

The results in Table 4.29 show that the coefficient of leverage is 0.84 and P-Value =0.000 which is less than 0.05. This indicates that Leverage has a positive and significant effect on financial performance of selected firms listed at NSE. This further implies that a unit change in Leverage will increase financial performance by the rate of 0.840 or 84% other factors being equal. The t statistics of 3.111, with a p-value of 0.000 which is less than 5 percent level of significance implies that the relationship is significant. The null hypothesis is not accepted and conclude that leverage has

significant positive effect on financial performance of selected companies listed in NSE, Kenya.

The findings of this study are consistent with the empirical results obtained by Almajali et al. (2012), who studied financial performance of Jordanian Insurance Companies listed at Amman Stock Exchange during period (2002 – 2007) and concluded that the leverage, size and liquidity have a positive statistical effect on the financial performance of Jordanian Insurance Companies. However, the results of this study contradicted results by Abdul (2012) who conducted a study to determine the relationship between capital structure decisions and the performance of firms in Pakistan. The study concluded that financial leverage has a significant negative relationship with firm performance as measured by ROA. According to Hassan et al. (2014), the negative relationship between leverage and firm's performance is associated to higher cost of debt and strong covenants attached to use of debt.

In his study, Mahmoudi (2014) concluded that there was a significant negative relationship between leverage and firm profitability as measured by ROA & ROE. Siahaan et al. (2014) concluded that there is a positive but not significant relationship between leverage and firm performance. The finding of this study contradicted the empirical results of the two studies and established that there is a positive and significant effect of debt on financial performance.

Based on Ebaid (2009) research, capital structure has weak-to-no influence on the financial performance of listed firms in Egypt. By using three accounting-based measurement of financial performance which is Return on Asset (ROA), Return on Equity (ROE), and Gross Margin (GM), the empirical tests come out with the result that capital structure (particularly short-term debt and total debt) on financial

performance, which is measured by ROA have a negative impact on an organization's performance. Apart from that, capital structure (including short-term debt, long-term debt and total debt) on financial performance measured by ROE and GM have no significant impact on an organization's performance.

These findings were inconsistent with the capital structure irrelevance theory that was first postulated by Modigliani and Miller (1963). It is also in conflict with the pecking order theory that implies that there is a negative effect of leverage on firm's profitability. According to the pecking order hypothesis, firms that are profitable are expected to use less debt capital than those that do not generate high earning (Abor, 2008). This theory, therefore proposes that financing firm through leverage (debt) is cheaper and therefore could influence positively the firms' performance.

4.4.2 Test of hypothesis two

The second hypothesis ($\mathbf{H_{02}}$) predicted that liquidity has no significant effect on financial performance of selected companies listed at NSE, Kenya. The implied alternative hypothesis ($\mathbf{H_2}$) of the study was that liquidity has significant effect on performance of selected companies listed at NSE, Kenya. The hypothesis was achieved by running regression models which gave coefficient values, the standard error, the t-value and p-values as outputs.

The results in Table 4.29 show that the coefficient of liquidity with respect to financial performance was 0.023 indicating that Liquidity has significant positive effect on financial performance. The T statistics of 2.777, with a p-value of 0.006 which is less than 5 percent level of significance implies that the null hypothesis is not accepted

and conclude that the relationship is significant. This indicates that liquidity has significant contribution to performance implying that a unit change in liquidity will increase financial performance by the rate of 0.023 or 2.3% and the higher the liquidity, the higher the performance holding other factors constant.

The finding of this study is supported by Ehiedu (2014) on Nigerian Stock Exchange listed manufacturing firms, and Rehman, Khan and Khokhar (2015) on Saudi Stock Exchange listed firms, liquidity in terms of current ratio has statistically positive effect on profitability. However the empirical findings from the studies by Sur, Biswas and Ganguly (2001) on Indian aluminium manufacturing industry, Bardia (2004) on Indian steel manufacturing industry; Eljelly (2004) on a sample of joint stock firms in Saudi Arabia; Lyroudi, McCarty, Lazaridis and Chatzigagios (1999) on London Stock Exchange listed manufacturing firms; Narware (2004) on the fertilizer industry of India and Saldani (2012) on Turkish manufacturing firms reveal that liquidity in terms of current ratio has statistically negative effect on profitability and hence contradicting the finding of this study and supporting the theory.

Whereas, pecking order advocate the positive relationship between liquid assets and performance, trade off theory advocates an inverse relationship between liquidity and profitability that centre the cost and benefit of every decision. The findings of this study therefore don't support the Trade-off theory but supports the Pecking order theory which advocates for positive relationship between liquidity and financial performance. This further implies that the higher the liquidity, the higher the performance holding other factors constant. This is in conflict with the trade-off theory which advocates for an inverse relationship between liquidity and profitability

that centre the cost and benefit of every decision. However, the findings are consistent with the pecking order theory which advocates for the positive relationship between liquid assets and performance.

In theory, liquidity and profitability goals are generally assumed to be contradictory to each other. The goal of liquidity management should be to enable a firm to maximize profits of its operations while meeting both short-term debt and upcoming operational expenses, i.e. to preserve liquidity (Panigrahi, 2014). To achieve this goal, the firm should eliminate the risk of inability to meet its short-term obligations on one hand, while avoiding excessive investments in current assets on the other hand (Eljelly, 2004).

However, decisions regarding the management of assets should not conflict with the primary objective of the firm: to maximize shareholder wealth. When a firm uses more current assets, it means that it can generate internal inflows which can then be used to finance its operating and investments activities. A very essential part of this asset management is the determination of an optimal level of liquidity. Referring to the ability of a firm to meet its short-term obligations, liquidity plays a central role in its successfully functioning as a profitable firm. According to Adams and Buckle (2003), liquidity measures the ability of managers in companies to fulfil their immediate commitments to policyholders and other creditors without having to increase profit from investment activities and or liquidate financial assets. Therefore, having high liquidity obviates the need for the management of the companies to improve their financial performance.

4.4.3 Test of hypothesis three

The third hypothesis ($\mathbf{H_{03}}$) was that equity has no significant effect on performance of selected companies listed at NSE, Kenya. The implied alternative hypothesis ($\mathbf{H_3}$) of the study was that Equity has significant effect on performance of selected companies listed at NSE, Kenya. The hypothesis was achieved by running regression models which gave coefficient values, the standard error, the t-value and p-values as outputs.

The results on Table 4.29, show that the coefficient of equity with respect to financial performance was 0.243 indicating that equity had a positive and significant effect on financial performance. The t statistics of 2.963, with a p-value of 0.004 which is less than 5 percent level of significance implies that the null hypothesis is not accepted and conclude that the relationship is significant. This implies that equity has significant positive contribution to performance and that a unit change in equity will increase financial performance by the rate of 0.243 or 24.3%. The higher the equity, the higher the performance holding other factors constant. This supports the findings of this study which found that owners' equity has a positive and significant effect on financial performance. The results of the study indicate that Owners Equity has a positive and significant effect on financial performance. This further implies that the higher the Owners' equity, the higher the performance holding other factors constant. Equity financing add value to shareholders by way of improving capital structure of firms to an optimal level to balance the benefits of the tax shield and the costs of financial distress (Myers, 2001).

Equity financing add value to shareholders by way of improving capital structure of firms to an optimal level to balance the benefits of the tax shield and the costs of

financial distress Myers (2001). This further indicates that most of the companies used more of their internal funds to finance their business. This supports the pecking order theory by Myers (1984) to explain variations in capital structure. It further supports the theory that businesses first use internally generated funds, then external debt and as a last option they will use external equity.

Results of Table 4.29 further presents the regression model of financial structure on financial performance. As presented in the table 4.29, the coefficient of determination Adjusted R square is 0.839 for financial performance as measured as a composite index of ROA, ROE and ROS. The coefficient of determination indicates that 83.9% of the variation on financial performance is explained by financial structure components holding all other factors constant. The overall model for financial structure and financial performance is:

FP = 0.840 LEV + 0.023 LIQ+ 0.243EQ. This implies that a unit change in Leverage will increase financial performance by the rate of 0.840 or 84%, a unit change in Liquidity will increase financial performance by the rate of 0.023 or 2.3% while a unit change in Owners' Equity will increase financial performance by the rate of 0.243 or 24.3%. Therefore, the financial structure components contributed positively to financial performance in different proportions. The results further indicate that all the three variables of leverage, liquidity and equity have their p-value less than 0.05 critical value implying that jointly all the independent variables determine financial performance other factors being equal.

4.4.4 Test of hypothesis four

Hypothesis ($\mathbf{H_{04}}$) four predicted that firm size has no significant moderating effect on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya. The alternative hypothesis ($\mathbf{H_4}$) of the study was that firm size has significant moderating effect on the relationship between financial structure and performance of selected companies listed at NSE, Kenya. The hypothesis was achieved by running regression models which gave coefficient values, the standard error, the t-value and p-values as outputs.

4.4.4.1 Moderated multiple regression

Table 4.30 presents the regression model on financial structure versus financial performance. As presented in the table 4.30, the coefficient of determination Adjusted R square is 0.916. The coefficient of determination indicates that 91.6% of the variation on financial performance is explained by financial structure when firm size is used as a moderating variable in the relationship between financial structure and financial performance holding all other factors constant. This means that Leverage, liquidity, equity, firm size and interaction between the independent variables and moderator (firm size) explain 91.6 percent of the variations in the dependent variable which is financial performance. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 4.30: Correlation results for moderating effect of company size on the effect financial structure on financial performance.

Correlations

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.960	.922	.916	.36769

Source: Survey Data (2018)

The Analysis of variance (ANOVA) results as shown in Table 4.31 with F statistics equal to 438.769, P-value of 0.000, confirms that the model fit is appropriate for this data since p-value of 0.000 which is less than 0.05. The null hypothesis is not accepted and conclude that the multiple linear model between financial structure and financial performance with firm size as the moderating variable fits the data well. The results indicate that the overall model was statistically significant.

Table 4.31: Analysis of Variance (ANOVA) financial structure and firm Size

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.926	7	5.704	438.769	.000
	Residual	3.377	262	.013		
	Total	43.304	269			

Source: Survey Data (2018)

The results in Table 4.32, on the effect of financial structure on financial performance while firm size is incorporated in the model show that the coefficient of leverage*size was 3.599 hence leverage has positive impact on financial performance as firm size increased. The p-value was 0.000 which is less than 5 percent level of significance. This indicate that the moderating effect of firm size on leverage was statistically significant on financial performance's contribution.

The results of Table 4.32 further show that the coefficient of liquidity*size was 7.142 hence liquidity has positive effect on financial performance as firm size increased. The p-value was 0.000 which is less than 5 percent level of significance. This indicate that the moderating effect of firm size on liquidity was statistically significant on financial performance's contribution. Similarly, the results of Table 4.32 show that the coefficient of Owners' Equity *size was 4.00 hence Owner's Equity has positive effect on performance as firm size increased. The p-value was 0.000 which is less than 5 percent level of significance. This indicate that the moderating effect of firm size on Owner's Equity was statistically significant on financial performance's contribution.

Table 4.32: Results of Firm Size, Financial structure and Financial Performance

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
LEVERAGE	24.060	5.537	12.571	4.346	.000
LIQUIDITY	6.325	1.087	3.488	5.819	.000
EQUITY	27.045	5.494	14.216	4.923	.000
SIZE	3.981	.810	7.553	4.913	.000
LEVERAGE.SIZE	3.599	.823	14.339	4.374	.000
LIQUIDITY.SIZE	7.142	2.052	2.199	3.481	.000
EQUITY.SIZE	4.000	.819	14.217	4.882	.000

Source: Study data 2018

The MMR model: $Y\ it=\beta 0+\beta 1X_{it}+\beta 2Z_{it}+\beta 3X_{it}*Z_{it}+\varepsilon_{it}$

Where,

Y = Financial performance as the dependent variable,

X = All the independent variables

Z = A hypothesized Firm Size moderator

X*Z = the product between the predictors (All the variables * Firm Size),

$\mathbf{E_{i,\,t}}$ **=** the error term

The overall moderating effect of firm size on the explanatory variables towards performance was 7.7% since the proportion of variation of financial performance due to the variation in the explanatory variables when the moderator was incorporated was 91.6%, compared with 83.9% without the moderator. The study therefore found firm size to have an interaction effect with financial structure. These results corroborate the findings by Jaggi & Gul, (1999) who studied moderating effects of size to the relationship between investment opportunities, free cash flow and debt borrowing. Their results revealed that there is a positive relation between debt and free cash flows for low investment opportunity set firms when firm size is high. They found that size is a significant moderator to the relation between investment opportunities, free cash flow and performance.

Size is not only being studied as an independent variable for measuring performance of the firms but Rauch et al. (2009) concluded that size of firms is an important moderator. Rauch et al. (2009) in that analysis deeply observed number of researches which were conducted taking size of firm as a moderator and inferred a result that severity of impact of all the environmental factors changes with change in the size of organizations. Size of the organization as well as environmental munificence played a role of moderator variable between entrepreneurial orientation and performance (Dess et al., 1997; Zahra, 1996). The current study therefore conclude that firm size has a moderating effect in the relationship between financial structure and financial performance of selected firms listed at NSE, Kenya.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises the findings of the study and draws conclusions which form the basis of recommendations. It further provides suggestions for further research in line with the shortcomings and findings of the study. The conclusions are discussed in line with the four objectives of the study and the corresponding hypotheses.

5.2 Summary of findings

The existing evidence indicates that listed firms at the Nairobi Securities Exchange Kenya adopt various financing models. These have affected firms' financial performance differently and therefore there is need to review the effect of the firms' financial structure on financial performance. Previous studies have shown that leverage, liquidity and owners' equity can enhance financial performance of firms. Corporate managers have lacked guidance on the effect of the various sources of finance and how they affect firms' financial performance. It is against this background that this study sought to establish the effects of financial structure on financial performance of selected firms listed on NSE, Kenya. A census of 30 firms listed on NSE, Kenya from selected sectors was taken. Panel data of companies covering year 2007 to 2015 was used in the analysis.

The first objective of the study was to determine the effect of leverage on financial performance of selected companies listed at NSE, Kenya. The study measured leverage in terms of long term debt. Using the OLS estimation technique, the study established that there was significant positive relationship between increased use of

leverage and financial performance of selected firms listed at NSE, Kenya. This implied that as firms increased their level of long term debt, their performance also improved.

The second objective of the study was to examine the effect of liquidity on financial performance of selected companies listed at NSE, Kenya. The study measured liquidity in terms of the current ratio. Using the OLS estimation technique, the study established that there was significant positive relationship between increased use of liquidity and financial performance of selected firms listed at NSE, Kenya. This implied that as firms increased their liquidity, their performance also improved.

The third objective of the study was to assess the effect of equity on performance of selected companies listed at NSE, Kenya. The study measured equity in terms of the Owners' equity ratio. Using the OLS estimation technique, the study established that there was significant positive relationship between increased use of equity and financial performance of selected firms listed at NSE, Kenya. This implied that as firms increased their level of owners' equity, their performance also improved.

The fourth objective of the study was to evaluate the moderating effect of firm size on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya. The study measured firm size as natural logarithm of total net assets. Using the OLS estimation technique, the study established that firm size had a positive and significant moderating effect on the relationship between financial structure and financial performance of selected companies listed at NSE, Kenya. The study found firm size had an interaction effect with financial structure.

Hence firm size had a moderating effect on the relationship between financial structure and financial performance of selected companies listed in Nairobi securities exchange, Kenya.

The overall moderating effect of firm size on the relationship between financial structure and financial performance was 7.7% since the proportion of variation of financial performance due to the variation in the financial structure when the moderator was incorporated was 91.6%, compared with 83.9% without the moderator. The study therefore found firm size to have an interaction effect with financial structure.

5.3 Conclusions of the study

Based on the study findings, it is concluded that financial structure affects the financial performance of selected companies listed at NSE, Kenya differently depending on the source of finance. The results concluded that all components of financial structure had positive and significant effect on financial performance. The study further concluded that the use of various components of financial structure jointly enhanced the financial structure's power to explain the variations in financial performance. All variables of the study had a positive and significant effect on financial performance. From the study findings, it can also be concluded that when financial performance is expressed as a composite of ROA, ROE and ROS (profit margin), the three variables of study i.e. the leverage, liquidity and equity contribute positively to financial performance.

The results of the effect of Leverage on financial performance show that leverage has a positive and significant effect on financial performance. It can be concluded that leverage contributes positively to financial performance. The higher the leverage the higher the financial performance and firm managers should borrow to finance their growth.

The results of the effect of Liquidity on financial performance show that liquidity has a positive and significant effect on financial performance. It can be concluded that liquidity contributes positively to financial performance and the higher the liquidity the higher the financial performance. Liquidity is therefore a very essential part of asset management and plays a central role in its successfully functioning of a firm as a profitable firm and therefore should be utilised and maintained in an optimal level to ensure that firms continuously meet their obligations as and when they fall due.

The results of the effect of equity on financial performance show that equity has a positive and significant effect on financial performance. It can be concluded that equity contributes positively to financial performance. As equity increases, financial performance also improves. The results of the moderation conclude that the firms' size had significant and positive moderating effect on the relationship between financial structure and financial performance. The results obtained found that Interaction term (Size*Financial Structure) had significant positive effect on company's financial performance. Further, by adding the interaction term, the explanatory power of the model (R^2) showed a significant positive change.

The findings of this study supports the Pecking order theory which advocates for positive relationship between liquidity and financial performance. It can therefore be concluded that pecking order theory is applicable for the selected companies listed in NSE, Kenya. Based on standardized coefficients (beta), Leverage is the most preferred mode of financing followed by Equity and lastly Liquidity. It can further be concluded that equity is not the last resort for financing as suggested by the pecking order theory. All of the variables have positive and significant contribution to profitability.

5.4 Contributions to knowledge

Based on study conclusions, the results make contributions to the existing literature by indicating that all the financial structure components of a firm jointly make positive contributions to financial performance when studied together or jointly used in financing firm operations. The results concluded that the components of financial structure had positive and significant effect on financial performance. The study further contributed to the existing literature by showing that the use of various components of financial structure jointly enhanced the financial structure's power to explain the variations in financial performance. Therefore, all variables had a positive and significant effect on financial performance.

The study makes contributions to the existing literature by showing that combining leverage with other variables of liquidity and equity has an effect of increasing each variables contribution to performance and obtaining a high explanatory potential of the financial structure variables on their effect on financial performance and therefore firms cannot possibly have a 100% debt financing only.

In addition, this study contributes to the financial structure literature by providing evidence of the effect of Leverage, Owners' Equity and Liquidity on financial performance of firms listed in NSE, Kenya for the period 2007-2015. A critical period when firms tried to re-establish themselves in the market after years of economic crisis. The study also contributes to the existing literature by introducing a composite index on accounting measures of profitability to proxy for financial performance. This also introduces the recognition of the various profitability measures of ROA, ROE and ROS as key in analysing the financial structure and financial performance relationship.

The study has contributed to existing literature by adding the moderating effect of firm size in the relationship between financial structure and performance of companies. The study revealed that firm size has a great positive impact on the relationship between financial structure and financial performance. The study variables and their combination makes contributions to existing literature by opening new avenues of analysis and ample insights into business research and establish potent basis to analyse the effect of financial structure on financial performance.

5.5 Recommendations of the study

5.5.1 Policy Recommendations

From the conclusions, the results of this study have generated significant policy recommendations that can affect companies at the firm and industry levels.

The results of hypothesis one indicate that as leverage increased, companies' financial performance increased. The study therefore recommends access to debt finance be enhanced in order to increase further the company's financial performance. The National treasury through the Central Bank should use the appropriate monetary and fiscal policies which include reducing the interest rates and government's internal borrowing to reduce the cost of borrowing since companies rely on this mode of funding to undertake investment projects.

The results of the study further revealed that liquidity has a positive and significant effect on financial performance and therefore financial performance increased as liquidity increased. It is recommended that firm managers take great attention to firm's liquidity and should invest in positive net present value projects and generate cash inflow to finance their operations and investment activities. It is further recommended that firm managers should ensure that they do not hold idle cash that will not generate returns and should therefore strive to keep optimal cash requirements and invest the rest to maximize shareholder's wealth. It is recommended that firms revise their policies of use of free cash flow to ensure maximum returns.

The results of the study indicate that Owners Equity has a positive and significant effect on financial performance. The government through the legislations could reduce the cost of issuing equity to enable firms supplement other financing sources and exploit various investment opportunities and improve their performance. It is recommended that firm managers do a cost benefit analysis of use of equity against

other sources of finance and obtain the most optimal financial structure where the cost of capital is lowest and returns are high.

Since firm size has a moderating effect in the relationship between financial structure and financial performance. It is recommended that firms invest in more assets to increase their sizes that will enable them enjoy the economies of scale. In the expansion programme, firm managers should utilize the sources of finance that makes higher contribution to financial performance. Therefore, while making financing decisions, the management of firms should consider the expected return on investments that satisfies the various stakeholders by reviewing all sources of financing in making financing decisions and obtaining the best combination of the various sources of finance at lowest cost of capital.

5.5.2 Limitations of the study and recommendations for further research

The main limitations of the study comprised of the size of the study population. The number of companies listed on NSE, Kenya is relatively small and hence the study used panel data to increase the quantity and quality of the data available for analysis. Another limitation was the theoretical anchorage which is skewed towards capital structure since the financial structure theoretical structure has not been popular compared to capital structure and therefore used the capital structure theories to anchor the study. Further, the study excluded firms falling under banking; finance and investment and insurance sectors since they are regulated by banking and insurance Acts and therefore the results of this study could not be generalised to these sectors or entire the NSE, Kenya. The size of the study population was also an issue. The number

of companies listed on NSE, Kenya is relatively small. The study used panel data to increase the quantity and quality of the data available for analysis.

A study should be undertaken on the effect of financial structure on performance for companies that have not been listed at NSE, Kenya; targeting the same industries and compare results found with those of the listed companies. Further studies can be undertaken to analyse financial decisions and their effect on performance across industries, sectors and countries within the region. A similar study can also be done by looking at similar data in different countries or other proxies e.g. sales growth for firm size.

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APPENDICES

APPENDIX (I): SECONDARY DATA COLLECTION TOOL

DATA FROM NSE HAND BOOKS FOR PERIOD 2007 TO 2015								
N0.	**Company Name**	**Year**	**Non-Current Liabilities (Kshs'000')**	**Shareholders' Funds (Kshs'000')**	**Profit After Tax (Kshs'000')**	**Turnover (sales) (Kshs'000')**	**Total Net Assets (Kshs'000')**	**Current Assets/ current Liabilities (Ratio)**
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APPENDIX (I1): FIRMS (FROM SELETED SECTORS) LISTED AT NSE, KENYA

AGRICULTURAL SECTOR

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

COMMERCIAL & SERVICES

1 Express Ltd
2 Kenya Airways Ltd
3 Nation Media Group
4 Standard Group Ltd
5 TPS Eastern Africa (Serena) Ltd
6 Scan group Ltd
7 Uchumi Supermarkets
8 Hutchings Biemer Ltd

TELECOMMUNICATION AND TECHNOLOGY

1 Access Kenya Group Ltd
2 Safaricom Ltd

AUTOMOBILES AND ACCESSORIES

1 Car and General (K) Ltd
2 CMC Holdings Ltd

3	Sameer Africa Ltd
4	Marshalls (E.A.) Ltd

MANUFACTURING AND ALLIED

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

CONSTRUCTION AND ALLIED

1	Athi River Mining
2	Bamburi Cement Ltd
3	Crown Berger Ltd
4	E.A. Cables Ltd
5	E.A. Portland Cement Ltd

ENERGY AND PETROLEUM

1	Kenol Kobil Ltd
2	Total Kenya Ltd
3	KenGen Ltd
4	Kenya Power & Lighting Co Ltd

Source: NSE, (2015)

APPENDIX 111: RESEARCH PERMIT

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No.A 15366

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APPENDIX (IV): List of studied companies listed at NSE, Kenya.

Number	Sector	Company
1	Agricultural	EAAGADS LIMITED
2	Agricultural	KAKUZI LIMITED
3	Agricultural	KAPCHORUA REA LIMTED
4	Agricultural	LIMURU TEA LIMITED
5	Agricultural	SASINI TEA & COFFEE LIMITED
6	Agricultural	REA VIPINGO PLANTATIONS LTD
7	Automobiles	CAR & GENERAL (KENYA) LIMITED
8	Automobiles	MARSHALLS (E.A) LIMITED
9	Automobiles	SAMEER AFRICA LTD
10	Commercial Services	EXPRESS KENYA LIMITED
11	Commercial Services	KENYA AIRWAYS LIMITED
12	Commercial Services	NATION MEDIA GROUP LIMITED
13	Commercial Services	SCANGROUP LIMITED
14	Commercial Services	STANDARD GROUP LIMITED
15	Commercial Services	TPS EAST AFRICA LIMITED
16	Construction & Allied	ARM CEMENT LIMITED
17	Construction & Allied	BAMBURI CEMENT CO. LIMITED
18	Construction & Allied	CROWN PAINTS KENYA LIMITED
19	Construction & Allied	E. A PORTLAND CEMENT CO. LTD
20	Energy & Petroleum	KENOL KOBIL LIMITED

21	Energy & Petroleum	KENYA ELECTRICITY GENERATING CO.
22	Energy & Petroleum	KENYA POWER & LIGHTING CO. LTD
23	Energy & Petroleum	TOTAL KENYA LIMITED
24	Manufacturing & Allied	BRITISH AMERICAN TOBACCO K. LTD
25	Manufacturing & Allied	E.A BREWERIES LIMITED
26	Manufacturing & Allied	EVEREADY E A LIMITED
27	Manufacturing & Allied	MUMIAS SUGAR COMPANY LTD
28	Manufacturing & Allied	UNGA GROUP LIMITED
29	Manufacturing & Allied	CARBACID INVESTMENTS LIMITED
30	Telecommunications	SAFARICOM

Source: NSE, (2015)

APPENDIX V: SECONDARY DATA FOR ALL VARIABLES

DATA FROM NSE HAND BOOKS FOR PERIOD 2007 TO 2015

N0.	Sector	Year	Non-Current Liabilities (Kshs'000')	Shareholders' Funds (Kshs'000')	Profit After Tax (Kshs'000')	Turnover (sales) (Kshs'000')	Total Net Assets (Kshs'000')	Current Assets/ current Liabilities (Ratio)
1	AGRI	2007	44,280	162,986	(1,508)	51,050	207,266	2.39
1	AGRI	2008	58,511	192,672	29,686	71,259	251,183	2.34
1	AGRI	2009	59,350	194,461	11,838	120,298	253,811	6.70
1	AGRI	2010	74,073	266,245	71,784	184,597	340,318	5.94
1	AGRI	2011	87,377	481,449	21,805	157,075	568,826	18.76
1	AGRI	2012	61,950	402,136	(59,215)	68,025	464,086	1.33
1	AGRI	2013	47,403	360,452	(41,684)	95,635	407,855	0.87
1	AGRI	2014	32,851	534,302	21,155	101,468	567,153	0.89
1	AGRI	2015	48,912	691,738	8,163	126,012	740,650	5.67
2	AGRI	2007	677,843	1,232,912	191,597	1,512,118	1,943,759	0.78
2	AGRI	2008	685,997	1,487,290	282,918	1,620,319	2,253,630	1.07
2	AGRI	2009	604,515	1,807,587	451,619	2,008,157	2,569,124	2.03
2	AGRI	2010	624,408	1,994,143	388,666	2,113,774	2,834,912	2.07
2	AGRI	2011	709,398	2,499,070	644,397	2,376,862	3,466,163	3.35
2	AGRI	2012	624,452	2,801,255	408,656	2,043,332	3,425,677	8.47
2	AGRI	2013	666,334	2,904,028	165,028	1,384,375	3,570,362	7.95
2	AGRI	2014	695,305	2,984,728	160,205	1,689,917	3,680,033	6.66
2	AGRI	2015	742,099	3,443,870	527,687	2,481,844	4,185,969	4.14
3	AGRI	2007	270,523	710,646	(928)	610,303	981,169	2.01
3	AGRI	2008	243,165	621,308	(69,778)	574,997	864,473	1.77
3	AGRI	2009	271,966	689,260	69,908	743,079	961,226	1.68
3	AGRI	2010	266,582	818,732	139,252	1,130,108	1,085,314	1.64
3	AGRI	2011	319,713	976,397	187,005	1,246,636	1,296,110	2.10
3	AGRI	2012	372,367	1,133,635	78,392	3,607,409	1,506,002	1.65
3	AGRI	2013	405,477	1,284,013	125,991	3,490,681	1,689,490	2.12
3	AGRI	2014	426,641	1,380,665	(22,787)	1,192,483	1,807,306	5.10

3	AGRI	2015	441,116	1,427,679	(22,785)	1,073,989	1,868,795	5.63
4	AGRI	2007	14,426	37,501	1,402	54,362	51,927	5.59
4	AGRI	2008	11,399	36,117	8,466	69,528	47,516	3.95
4	AGRI	2009	11,693	55,963	26,969	91,130	67,656	3.84
4	AGRI	2010	27,782	119,327	74,840	123,859	147,109	7.97
4	AGRI	2011	36,045	149,710	40,484	102,504	185,755	18.29
4	AGRI	2012	67,253	242,233	101,834	116,012	309,486	12.41
4	AGRI	2013	74,440	260,346	28,513	104,192	334,786	16.87
4	AGRI	2014	70,554	251,715	(331)	92,250	322,269	8.08
4	AGRI	2015	59,714	254,260	7,208	122,374	313,974	5.80
5	AGRI	2007	610,433	2,868,149	(40,752)	1,325,354	3,565,065	2.03
5	AGRI	2008	1,717,778	4,595,434	885,204	1,455,575	6,435,083	2.69
5	AGRI	2009	1,929,050	5,530,299	533,032	2,182,090	7,590,872	2.56
5	AGRI	2010	2,051,037	6,353,240	993,729	2,297,927	8,541,016	2.37
5	AGRI	2011	2,116,420	6,573,054	450,347	2,665,877	8,878,592	2.13
5	AGRI	2012	1,910,550	6,294,116	(124,113)	2,779,883	8,337,352	1.90
5	AGRI	2013	1,940,206	6,283,033	91,689	2,816,834	8,323,117	1.77
5	AGRI	2014	2,272,769	11,879,213	45,421	2,762,547	14,394,737	2.33
5	AGRI	2015	2,018,310	13,168,402	1,101,212	2,786,126	15,576,815	4.40
6	AGRI	2007	160,026	709,165	115,302	1,232,980	869,191	1.59
6	AGRI	2008	202,358	875,166	168,153	1,356,427	1,077,524	1.43
6	AGRI	2009	214,222	975,450	148,949	1,371,090	1,189,672	2.24
6	AGRI	2010	281,068	989,099	67,355	103,910	1,270,167	7.97
6	AGRI	2011	394,644	1,468,860	467,196	678,846	1,863,504	18.29
6	AGRI	2012	396,489	1,722,145	380,433	555,293	2,118,634	12.41
6	AGRI	2013	491,686	2,121,662	444,811	651,342	2,613,348	16.87
6	AGRI	2014	521,107	2,483,973	351,055	530,929	3,005,080	8.08
6	AGRI	2015	731,552	3,804,994	1,466,681	3,568,118	4,881,218	6.77
7	A&AC	2007	189,960	881,941	174,794	1,846,523	1,076,559	1.32
7	A&AC	2008	208,038	1,120,991	214,840	2,997,342	1,336,883	1.29
7	A&AC	2009	221,552	1,288,858	197,984	4,349,489	1,529,354	1.30

7	A&AC	2010	122,618	2,168,142	57,396	3,344,895	2,290,760	2.71
7	A&AC	2011	536,670	1,862,329	288,706	3,757,075	2,456,992	1.12
7	A&AC	2012	633,783	2,090,003	266,556	4,083,631	2,776,937	1.16
7	A&AC	2013	630,648	2,430,350	315,790	4,029,841	3,134,826	1.11
7	A&AC	2014	1,129,957	2,743,545	278,363	3,777,146	3,962,355	1.20
7	A&AC	2015	97,114	3,709,771	127,147	9,929,190	3,992,257	1.06
8	A&AC	2007	192,168	462,982	42,321	1,291,845	655,150	1.23
8	A&AC	2008	449,880	241,078	(169,837)	894,585	690,958	1.29
8	A&AC	2009	329,984	477,234	(117,479)	592,843	807,218	0.89
8	A&AC	2010	423,163	132,513	(344,722)	604,815	555,676	0.50
8	A&AC	2011	500	403,067	181,501	263,078	403,568	0.27
8	A&AC	2012	500	392,129	(165,527)	234,306	392,629	1.13
8	A&AC	2013	12,464	282,100	(110,029)	230,463	294,564	0.67
8	A&AC	2014	18,672	279,619	(2,481)	221,161	298,291	0.59
8	A&AC	2015	10,021	276,896	(20,393)	105,254	286,817	0.48
9	A&AC	2007	151,947	1,961,922	118,615	3,469,283	2,113,779	2.12
9	A&AC	2008	128,528	2,135,566	150,848	3,026,747	2,264,094	2.55
9	A&AC	2009	117,044	2,282,567	158,005	3,278,118	2,399,611	3.43
9	A&AC	2010	122,618	2,168,142	57,396	3,344,895	2,290,760	2.71
9	A&AC	2011	121,145	2,249,788	96,948	3,757,075	2,370,933	3.02
9	A&AC	2012	132,164	2,326,723	186,454	4,083,631	2,458,887	2.83
9	A&AC	2013	152,313	2,679,616	401,189	4,029,841	2,831,926	3.37
9	A&AC	2014	182,953	2,536,444	(89,097)	3,777,146	2,719,397	2.52
9	A&AC	2015	4,573	2,492,447	(141,714)	3,363,976	2,497,020	2.21
10	COM S	2007	123,617	444,294	73,617	922,347	567,911	0.80
10	COM S	2008	378,979	432,106	(43,236)	802,973	811,085	0.36
10	COM S	2009	389,913	412,453	15,070	892,928	802,366	0.31
10	COM S	2010	397,396	384,362	(28,091)	856,512	781,758	0.32
10	COM S	2011	169,456	189,583	(229,088)	450,324	359,039	0.32
10	COM S	2012	135,831	198,286	13,028	229,907	334,118	0.40
10	COM S	2013	120,823	198,516	229	387,494	319,339	0.64

10	COM S	2014	121,123	180,208	(993,518)	173,033	351,331	0.59
10	COM S	2015	225,203	120,119	(60,089)	123,851	345,322	1.13
11	COM S	2007	41,084,000	21,640,000	4,098,000	58,792,000	62,724,000	1.39
11	COM S	2008	36,794,000	25,873,000	3,869,000	60,471,000	62,667,000	1.52
11	COM S	2009	37,081,000	17,176,000	(4,083,000)	71,829,000	54,257,000	0.91
11	COM S	2010	32,710,000	19,923,000	2,035,000	70,743,000	52,683,000	0.87
11	COM S	2011	33,386,000	23,090,000	3,538,000	85,836,000	56,529,000	1.06
11	COM S	2012	30,653,000	22,962,000	1,660,000	107,897,000	53,676,000	0.92
11	COM S	2013	40,646,000	31,155,000	(7,864,000)	98,860,000	71,855,000	0.56
11	COM S	2014	56,672,000	28,186,000	(3,382,000)	106,009,000	84,901,000	0.46
11	COM S	2015	107,386,000	(6,009,000)	(25,743,000)	110,161,000	101,423,000	0.51
12	COM S	2007	267,200	3,823,800	1,076,400	7,685,600	4,003,200	1.91
12	COM S	2008	131,200	4,327,700	1,295,900	8,251,500	4,445,800	1.85
12	COM S	2009	89,300	4,646,500	1,119,200	8,189,800	4,803,000	2.13
12	COM S	2010	-	5,360,200	1,538,400	9,602,500	5,422,100	1.99
12	COM S	2011	163,000	6,052,500	1,203,300	11,245,800	6,285,400	2.31
12	COM S	2012	137,200	7,251,100	2,510,300	12,346,800	7,460,700	2.25
12	COM S	2013	84,400	8,181,600	2,533,200	13,373,700	8,327,800	2.43
12	COM S	2014	57,900	8,714,200	2,460,500	13,351,300	8,826,000	2.37
12	COM S	2015	151,900	8,905,300	(600,500)	12,339,500	9,105,600	2.10
13	COM S	2007	3,481	587,536	244,433	1,157,088	607,142	1.41
13	COM S	2008	4,065	2,061,082	315,789	5,789,716	2,083,529	2.13
13	COM S	2009	11,620	2,353,840	401,148	5,920,012	2,377,842	2.07
13	COM S	2010	191,143	3,256,973	640,585	2,345,554	3,768,948	1.68
13	COM S	2011	337,430	3,847,969	911,116	3,597,260	4,692,339	2.05
13	COM S	2012	298,482	4,142,436	752,009	3,922,763	5,092,421	2.25
13	COM S	2013	358,383	8,064,609	831,327	3,838,912	8,484,833	2.46
13	COM S	2014	301,464	8,513,137	625,476	5,125,162	8,952,111	2.46
13	COM S	2015	185,756	8,444,415	478,672	5,022,408	8,790,016	2.76
14	COM S	2007	709,278	552,749	289,820	2,608,218	1,501,733	1.33
14	COM S	2008	842,960	733,890	286,192	2,818,860	1,841,004	1.37

14	COM S	2009	891,572	971,800	263,384	2,767,835	2,153,000	1.27
14	COM S	2010	734,550	1,215,605	279,784	3,105,436	2,270,328	1.32
14	COM S	2011	663,672	1,405,846	147,345	3,174,907	2,317,738	1.08
14	COM S	2012	543,943	1,616,211	183,307	3,617,816	2,382,845	1.12
14	COM S	2013	686,716	1,813,623	189,493	4,818,808	2,715,111	1.16
14	COM S	2014	670,765	1,982,627	220,514	4,782,649	2,878,808	1.22
14	COM S	2015	690,796	7,113,216	(289,603)	4,488,399	7,980,728	0.95
15	COM S	2007	1,774,649	3,678,411	416,475	3,667,660	5,453,060	1.05
15	COM S	2008	1,738,714	3,750,925	222,717	3,243,203	5,489,639	1.23
15	COM S	2009	1,943,771	4,064,390	380,675	4,077,657	6,008,161	1.54
15	COM S	2010	2,768,787	7,399,172	516,384	4,480,128	10,265,127	1.41
15	COM S	2011	3,469,720	7,949,969	615,891	5,465,975	11,516,544	1.50
15	COM S	2012	3,256,705	7,870,475	493,588	5,343,960	11,183,940	0.89
15	COM S	2013	2,961,910	9,576,662	451,011	6,814,334	13,517,985	0.87
15	COM S	2014	2,755,930	9,404,567	108,636	6,337,210	13,168,419	0.80
15	COM S	2015	3,896,123	8,563,408	141,339	6,189,360	13,581,473	1.04
16	CON & AL	2007	1,666,345	1,734,766	421,659	3,881,736	3,438,329	1.11
16	CON & AL	2008	2,382,004	2,127,531	503,454	4,619,473	4,509,535	1.02
16	CON & AL	2009	4,658,399	4,128,930	645,774	5,144,822	8,787,329	1.00
16	CON & AL	2010	8,431,581	4,945,425	1,075,268	5,964,670	13,358,440	1.32
16	CON & AL	2011	9,993,361	5,998,657	1,150,498	8,180,992	16,095,887	0.84
16	CON & AL	2012	13,329,740	7,013,771	1,245,638	11,400,569	20,450,260	1.22
16	CON & AL	2013	14,234,938	8,124,040	1,348,803	14,179,208	22,458,670	0.95
16	CON & AL	2014	10,001,177	9,418,317	1,493,393	13,743,185	19,421,984	0.47
16	CON & AL	2015	14,831,994	16,840,597	(2,890,841)	14,735,936	31,677,762	0.38
17	CON & AL	2007	2,422,000	14,229,000	3,810,000	22,111,000	17,497,000	2.20
17	CON & AL	2008	6,170,000	15,496,000	3,412,000	27,467,000	22,772,000	1.84
17	CON & AL	2009	6,227,000	19,497,000	6,970,000	29,994,000	27,168,000	2.58
17	CON & AL	2010	4,216,000	20,165,000	5,299,000	28,075,000	25,842,000	1.72
17	CON & AL	2011	4,231,000	22,028,000	5,859,000	35,884,000	28,405,000	2.62
17	CON & AL	2012	5,166,000	20,079,000	4,882,000	37,491,000	36,027,000	2.35

17	CON & AL	2013	5,515,000	28,930,000	3,673,000	33,928,000	37,025,000	2.68
17	CON & AL	2014	5,104,000	26,728,000	3,903,000	36,029,000	34,223,000	2.30
17	CON & AL	2015	4,631,000	27,315,000	5,872,000	39,200,000	34,337,000	2.36
18	CON & AL	2007	102,678	813,869	76,669	2,089,988	916,547	1.59
18	CON & AL	2008	96,002	821,952	30,777	2,389,520	917,954	1.34
18	CON & AL	2009	97,860	836,943	86,308	2,543,657	934,803	1.44
18	CON & AL	2010	78,211	902,345	91,417	3,068,468	980,556	1.49
18	CON & AL	2011	90,934	1,052,420	129,002	1,366,393	1,143,354	1.46
18	CON & AL	2012	47,352	1,153,344	133,543	4,432,877	1,200,696	1.54
18	CON & AL	2013	14,922	1,361,714	213,843	5,158,992	1,376,636	1.38
18	CON & AL	2014	4,925	1,862,991	219,597	5,804,909	1,867,916	1.30
18	CON & AL	2015	209,903	2,080,218	271,479	6,385,224	2,290,121	1.31
19	CON & AL	2007	3,896,220	3,607,097	764,164	6,402,736	7,503,317	2.21
19	CON & AL	2008	3,870,221	4,026,749	536,652	7,204,479	7,896,970	2.26
19	CON & AL	2009	4,426,723	6,114,862	1,834,054	8,101,377	10,541,585	2.07
19	CON & AL	2010	4,499,714	5,701,201	(292,402)	9,408,711	10,200,915	1.59
19	CON & AL	2011	5,168,236	6,262,456	561,255	10,172,140	11,430,692	1.51
19	CON & AL	2012	6,976,194	4,601,423	(972,715)	8,508,120	11,577,617	1.02
19	CON & AL	2013	5,723,968	7,090,257	1,775,383	9,211,462	12,814,225	1.09
19	CON & AL	2014	5,500,293	6,704,675	(386,631)	9,057,292	12,204,968	0.95
19	CON & AL	2015	5,951,528	13,809,593	7,157,070	8,417,621	19,761,121	0.94
20	E&P	2007	584,305	4,984,434	593,434	51,621,436	5,568,739	1.30
20	E&P	2008	490,983	10,915,860	1,155,319	134,518,341	11,406,843	1.30
20	E&P	2009	541,042	11,454,628	1,294,505	96,692,834	11,995,670	1.30
20	E&P	2010	284,298	11,209,204	1,915,045	101,649,560	11,493,502	1.38
20	E&P	2011	1,529,666	11,650,461	3,273,831	222,440,715	13,180,127	1.22
20	E&P	2012	897,625	6,445,725	(6,284,575)	192,527,486	7,343,350	0.97
20	E&P	2013	716,625	6,666,264	558,419	109,687,453	7,382,889	0.93
20	E&P	2014	285,748	7,330,496	1,423,011	91,315,702	7,616,244	0.95
20	E&P	2015	210,797	8,555,639	2,479,532	86,557,936	8,766,436	1.24
21	E&P	2007	31,094,483	63,638,189	2,445,666	14,551,767	94,732,672	1.44

21	E&P	2008	30,943,433	68,125,174	5,896,879	11,548,176	99,068,607	1.34
21	E&P	2009	39,422,908	63,313,228	2,070,913	12,652,388	102,736,136	2.17
21	E&P	2010	73,066,203	70,530,868	3,286,487	10,998,429	143,597,071	4.71
21	E&P	2011	80,318,110	69,418,587	2,080,121	14,389,027	149,736,697	1.74
21	E&P	2012	78,074,365	70,069,551	2,822,600	15,999,078	148,143,916	1.49
21	E&P	2013	97,042,137	73,958,516	5,224,704	16,451,195	171,000,653	1.42
21	E&P	2014	148,299,622	76,709,673	2,826,323	17,423,771	225,009,295	1.10
21	E&P	2015	178,445,931	(60,661,110)	11,517,327	25,602,038	117,784,821	0.10
22	E&P	2007	7,226,460	22,249,400	1,718,477	24,436,491	29,475,860	1.07
22	E&P	2008	17,412,457	23,881,922	1,764,870	23,917,599	41,294,379	1.12
22	E&P	2009	20,461,017	26,848,063	3,225,094	36,458,817	47,309,080	0.87
22	E&P	2010	53,337,033	12,841,627	3,716,370	73,166,794	66,178,660	1.09
22	E&P	2011	49,765,323	39,722,278	4,219,566	69,729,000	89,508,386	1.16
22	E&P	2012	46,874,965	55,873,880	4,617,136	45,007,884	102,748,845	0.90
22	E&P	2013	82,099,841	63,237,554	4,352,165	47,916,237	145,337,395	0.97
22	E&P	2014	98,375,341	72,886,283	6,456,234	62,597,035	171,261,624	1.03
22	E&P	2015	151,832,608	83,462,608	7,431,957	77,835,634	235,295,216	1.64
23	E&P	2007	-	4,751,591	524,190	44,109,728	4,751,591	1.26
23	E&P	2008	-	5,017,822	703,894	54,807,521	5,017,822	1.24
23	E&P	2009	3,978,000	8,962,191	482,585	41,311,598	12,940,191	1.12
23	E&P	2010	3,704,925	9,579,853	916,205	79,206,640	13,284,778	1.18
23	E&P	2011	3,020,584	9,194,818	(71,436)	105,590,360	12,215,402	1.10
23	E&P	2012	854,765	14,192,676	(202,142)	119,788,989	15,047,441	1.30
23	E&P	2013	1,117,028	15,379,060	1,312,277	154,626,092	16,496,088	1.28
23	E&P	2014	1,192,167	16,425,423	1,424,088	170,725,560	17,617,590	1.49
23	E&P	2015	1,244,627	17,599,746	1,615,003	138,027,279	18,844,373	1.53
24	MAN & AL	2007	1,032,190	4,693,250	1,385,647	15,770,234	5,725,440	1.13
24	MAN & AL	2008	1,013,524	4,893,645	1,700,395	17,453,970	5,907,169	1.05
24	MAN & AL	2009	1,248,055	4,672,076	1,478,431	18,719,542	5,920,131	0.91
24	MAN & AL	2010	1,900,596	5,114,312	1,767,236	22,603,910	7,014,908	1.17
24	MAN & AL	2011	1,997,849	6,412,067	3,097,755	20,138,122	8,409,916	1.31

24	MAN & AL	2012	2,025,898	7,097,917	3,270,852	30,503,560	9,123,815	1.18
24	MAN & AL	2013	2,633,213	7,571,608	3,723,691	34,915,663	10,204,821	1.26
24	MAN & AL	2014	2,943,683	8,126,922	4,225,314	34,124,565	11,070,605	1.25
24	MAN & AL	2015	3,227,303	8,853,178	4,976,256	22,300,000	12,080,481	1.45
25	MAN & AL	2007	2,051,597	18,802,668	7,528,891	47,272,753	22,902,373	2.21
25	MAN & AL	2008	2,269,487	19,980,780	9,184,385	32,488,112	24,386,330	1.98
25	MAN & AL	2009	2,746,441	20,621,803	8,609,185	34,407,715	26,400,093	2.01
25	MAN & AL	2010	2,783,675	20,811,961	8,837,560	38,679,196	26,736,301	1.49
25	MAN & AL	2011	7,314,817	21,300,971	9,014,175	44,895,037	34,202,944	1.05
25	MAN & AL	2012	23,384,654	6,330,709	11,186,113	55,522,166	31,687,489	0.80
25	MAN & AL	2013	23,515,016	6,874,443	6,522,200	59,061,875	31,113,616	0.70
25	MAN & AL	2014	26,304,445	9,018,977	6,858,608	61,292,176	35,405,293	0.72
25	MAN & AL	2015	27,325,000	15,021,761	9,535,000	64,420,000	42,009,009	0.62
26	MAN & AL	2007	101,757	443,085	126,408	2,232,143	544,842	1.56
26	MAN & AL	2008	86,765	366,425	17,840	1,774,675	453,190	1.66
26	MAN & AL	2009	469,496	394,696	28,271	1,645,193	864,192	1.51
26	MAN & AL	2010	123,592	403,399	8,703	1,635,106	526,991	1.41
26	MAN & AL	2011	79,076	279,405	(123,994)	1,374,847	385,481	1.12
26	MAN & AL	2012	105,476	349,489	70,084	1,374,789	454,965	1.26
26	MAN & AL	2013	101,863	394,581	45,092	1,415,395	497,778	1.54
26	MAN & AL	2014	139,301	216,992	(177,589)	1,216,580	357,764	1.33
26	MAN & AL	2015	54,071	806,288	(77,710)	1,132,136	860,359	0.98
27	MAN & AL	2007	1,965,833	8,337,660	1,393,611	10,381,190	10,303,493	2.30
27	MAN & AL	2008	1,712,983	9,041,497	1,213,837	11,970,101	10,754,480	1.35
27	MAN & AL	2009	3,675,907	10,039,469	1,609,972	11,791,708	13,715,376	1.36
27	MAN & AL	2010	4,084,237	10,999,852	1,572,383	15,617,738	15,084,089	2.00
27	MAN & AL	2011	5,738,818	14,476,007	1,933,225	15,795,300	20,214,825	2.20
27	MAN & AL	2012	6,076,872	15,601,706	2,012,679	15,542,686	21,678,578	1.25
27	MAN & AL	2013	5,490,730	13,382,490	(1,660,406)	11,957,823	18,873,220	0.84
27	MAN & AL	2014	2,286,132	10,641,805	(33,359,595)	13,075,912	12,927,937	0.41
27	MAN & AL	2015	830,929	5,932,044	(4,644,801)	5,531,357	6,762,973	0.19

28	MAN & AL	2007	50,571	1,529,749	133,610	675,347	2,369,560	1.57
28	MAN & AL	2008	259,438	2,045,061	373,661	9,450,824	3,223,484	1.91
28	MAN & AL	2009	334,142	2,166,974	185,192	11,643,639	3,480,529	1.84
28	MAN & AL	2010	355,354	2,299,769	236,173	11,524,454	3,720,057	2.54
28	MAN & AL	2011	345,150	2,530,635	441,043	13,214,442	4,090,101	2.52
28	MAN & AL	2012	463,988	2,661,900	348,195	15,976,763	4,431,876	1.91
28	MAN & AL	2013	650,214	2,818,680	264,773	15,142,017	4,941,515	1.53
28	MAN & AL	2014	987,381	3,053,535	382,767	17,002,302	5,674,624	2.33
28	MAN & AL	2015	1,014,344	3,721,571	429,781	18,723,250	6,369,623	2.37
29	MAN & AL	2008	146,750	1,024,484	166,760	387,115	1,172,234	14.23
29	MAN & AL	2009	142,237	1,167,594	256,377	552,853	1,309,831	10.63
29	MAN & AL	2010	151,851	1,293,757	307,392	620,083	1,445,608	5.79
29	MAN & AL	2011	226,922	1,467,365	302,195	576,092	1,694,287	8.84
29	MAN & AL	2012	209,880	1,652,770	775,596	921,753	1,862,650	4.26
29	MAN & AL	2013	191,553	1,924,429	475,541	952,836	2,115,982	10.09
29	MAN & AL	2014	220,523	2,156,883	490,641	826,630	2,377,406	6.30
29	MAN & AL	2015	244,575	2,477,026	393,863	809,719	2,721,601	4.51
30	TELCOM	2007	6,480,000	42,642,593	13,853,286	61,369,408	49,122,593	0.51
30	TELCOM	2008	4,774,580	51,253,350	10,536,760	70,479,587	55,921,660	0.49
30	TELCOM	2009	8,005,762	62,541,160	15,148,038	83,960,677	70,300,880	0.67
30	TELCOM	2010	12,282,945	67,852,747	13,158,973	94,832,227	79,737,036	0.64
30	TELCOM	2011	12,202,079	72,590,584	12,627,607	106,995,529	84,283,777	0.56
30	TELCOM	2012	12,000,000	80,265,128	17,539,810	124,287,856	92,265,128	0.69
30	TELCOM	2013	5,102,380	91,235,979	23,017,540	144,672,477	96,338,359	0.74
30	TELCOM	2014	490,762	104,276,531	31,871,303	163,364,121	104,767,293	0.62
30	TELCOM	2015	-	116,738,947	38,104,290	195,685,224	116,738,947	0.71

Source: Survey Data (2018)