EFFECT OF FINANCIAL STATEMENT INFORMATION ON IDIOSYNCRATIC VOLATILITY OF STOCK RETURNS AMONG LISTED FIRMS IN KENYA

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Effect of Financial Statement Information on Idiosyncratic Volatility of Stock Returns among Listed Firms in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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This thesis has been submitted for examination with our approval as university supervisors

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DEDICATION

I want to dedicate this thesis to my mother, Esther Koibarak and brother Timothy Ayabei who have been very instrumental to my success in education.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABBREVIATIONS AND ACRONYMS

ASX	Australian Stock Exchange
CAPM	Capital Asset Pricing Model
CDSE	Central Depository and Settlement Corporation
CMA	Capital Market Authority
CSE	Colombo Stock Exchange
DPS	Dividend per Share
DSE	Dhaka Stock Exchange
EBIT	Earnings before Interest and Taxes
EMH	Efficient Market Hypothesis
EPS	Earnings per Share
IAS	International Accounting Standards
IASB	International Accounting Standard Board
IASC	International Accounting Standard Committee
IFRS	International Financial Reporting Standard
IPO	Initial Public Offer
NSE	Nairobi Securities Exchange
ROE	Return on Equity
SOX	Sarbanes-Oxley Act of 2002

SSA	Sub-Saharan Africa
TSE	Tunisian Stock Exchange

DEFINITION OF KEY TERMS

Book Value Book value is the value at which an asset is carried on a statement of financial position. The asset value is based on the original cost less any depreciation, amortization or impairment cost made against the asset. (Elliott, 2009).

Cash Flow Cash flow is the amount of net cash generated by an investment or a business during a specific period. It is the money coming into a business from sales and other receipts and going out of the businesses in the form of cash payments to suppliers and workers (Caanz, 2016).

Dividend Per Share (DPS) Dividend per share is the amount of dividends that the shareholders receive on a per-share basis; it can also be defined as the sum of declared dividends for every ordinary share issued. It is the total dividends paid out over an entire year (including interim dividends) divided by the number of outstanding ordinary shares issued. (Wood &Alan, 2005).

Earnings per share (**EPS**) Earning per share is the portion of a company's profit that is apportioned to each outstanding share of ordinary stock, serving as an indicator of the company's profitability. EPS is calculated as net income over average outstanding ordinary shares (Holmes, Sugden & Gee, 2008).

Financial statement information - Financial accounting information is the product of a reporting system that is designed on the basis of international financial reporting standard (IFRS) and international accounting standards (IAS), the system routinely measures and disclose quantitative data

	concerning the financial position and performance of listed firms. Audited statement of financial position, income statements, and statements of cash flow, along with supporting disclosures forms the foundation of the firm specific information set available to investors and regulators (Bushman & Smith, 2000).
Idiosyncratic Volatility	Idiosyncratic volatility is a risk that is specific to an asset or a small group of assets and has little or no correlation with market risk (Boloorforoosh, 2014).
Liquidity	Liquidity is the ability of an entity to pay its liabilities in a timely manner, as they come due for payment under their original payment terms. Having a large amount of cash and current assets on hand is considered evidence of a high level of liquidity. It is a measure of the extent to which a person or organization has cash to meet immediate and term obligations, or assets that can be quickly converted to do this. The ability of current assets to meet current liabilities (Business Dictionary, 2013).
Volatility	Volatility is as a measure of dispersion around the mean or average return of a security. It is a measure of the range of an asset price about its mean level over a fixed amount of time (Abken & Nandi, 1996).

ABSTRACT

Idiosyncratic volatility has always been ignored in asset pricing, this is due to capital asset pricing model's suggestion that idiosyncratic volatility is diversified away since investors hold a proportion of the well diversified market portfolio. In reality however, this is not always the case. Studies have shown that investors do not always hold well diversified portfolios and idiosyncratic risk is priced to compensate investors for their inability to hold the market portfolio, therefore the main objective of the study was to establish the effect of financial statement information on idiosyncratic volatility of stocks return among listed firms in Kenya. Idiosyncratic volatility was the dependent variable while independent variables were earning per share, dividend per share, book value per share, cash flow and liquidity moderated by firm size. Correlational and descriptive research design were used, the study also used census technique and target all 39 listed companies that existed and their shares were actively traded at the Nairobi securities exchange NSE from 1998 to 2017. Descriptive as well as inferential statistics were generated. The study employed a dynamic panel data regression model, the analysis of variance (ANOVA) was used to reveal the overall model significance, the calculated F-statistic was compared with the tabulated F-statistic and a critical p-value of 0.05 was used to determine whether the overall model is significant. The study found out that there was a positive and significant relationship between earnings Per share and idiosyncratic volatility of stock returns among listed firms in Kenya. There was a positive and significant relationship between dividends Per share and idiosyncratic volatility. There was a negative and significant relationship between book value per share and idiosyncratic volatility of stock returns among listed firms in Kenya. There was a positive and significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya. There was a negative and significant relationship between liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya. Firm size was revealed a good moderator on the relationship between financial statement information and idiosyncratic volatility. The null hypotheses was rejected. Based on the findings, the study concluded that earning per share, dividend per share, book value per share, cash flow and liquidity have a significant relationship with idiosyncratic volatility of stock returns among listed firms in Kenya. The study recommended for management in the listed firms to focus on earning per share, dividend per share, book value per share, cash flow and liquidity on their strategic decision-making. These indicators will further guide in expanding the interpretation of the financial dynamics in the listed firms at the Nairobi securities exchange and other related firms.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Volatility is as a measure of dispersion around the mean or average return of a security. It is a measure of the range of an asset price about its mean level over a fixed amount of time (Abken & Nandi, 1996). Volatility is associated with the variance of an asset price. If a stock is labeled as volatile, then it is plausible that there will be a systematic variance of its mean over time. Conversely, a less volatile stock will have a price that will deviate relatively little over time. Idiosyncratic volatility is a risk that is specific to an asset or a small group of assets and has little or no correlation with market risk (Boloorforoosh, 2014).

Financial accounting information is the product of a reporting system that is designed on the basis of international financial reporting standard (IFRS) and international accounting standards (IAS), the system routinely measures and disclose quantitative data concerning the financial position and performance of listed firms. Audited statement of financial position, income statements, and statements of cash flow, along with supporting disclosures forms the foundation of the firm specific information set available to investors and regulators (Bushman & Smith, 2000). The value relevance of published financial statement has increased significantly over the last fifteen years; this can be attributed to the adoption and harmonization of accounting standards as from the year 2001. Studies by Zhou (2004), Sharma (2011), Halonen, Pavlovic and Persson (2013) have shown that there is correlation between accounting information and price movement in the equities market.

The use of published financial statement information in making investment decision in the stock market and its subsequent impact on firm's market price volatility has not been studied widely in Sub-Saharan Africa (SSA), studies elsewhere have resulted in mixed findings. After examining the impact of earning per share, book value per share and the cash dividend per share on the share price of listed companies, Halonen, Pavlovic and Persson (2013) found that accounting data

explains a high portion of stock price movement in Swedish stock market. Wang and Chang (2008) noted that there was a positively significant relationship between book value and stock price as well as between earnings per share and stock price at the Taiwan SEC.

De Medeiros and Lago (2014) investigated if there is a relationship between accounting information and the volatility of stock returns of Brazilian firms, the empirical results obtained demonstrate that the level of disclosure of accounting information has a significant and negative effect upon stock's market risk measured by stock return volatility. Al-Farah, Almeri and Shanikat (2014) study indicated lack of significant correlation between accounting variables and the volatility in the stock prices explaining only 2.6% of the volatility in the stock prices.

Research has also shown that due to some reasons, investors do not always hold diversified portfolio which eliminate idiosyncratic volatility as advocated by capital asset pricing model (CAPM) (Fazil, 2013). Other accounting studies document that investors appear to under-react to firms accounting information even when it leads to a drift in stock prices (Bushee & Noe, 2000); Gleason and Lee (2003). Therefore, investors who are unable to diversify their portfolios should take into consideration idiosyncratic risk beside systematic risk in predicting expected return. This paper therefore seeks to establish the effects of financial statement information on idiosyncratic volatility of stock returns among listed firms in Kenya.

1.1.1 Financial information and stock volatility: A global perspective

Market information has always prevailed over accounting data when it comes to factors that affect stock prices (Glezakos, 2012). However, over the last fifteen year, an increasing number of empirical studies indicate that the financial statements of listed companies contain information that assist investors in equities market investment decisions; this role was especially enhanced after the year 2000 when new international accounting standards and International financial reporting standards were established and adopted across the world. According to Sibel (2013), value relevance of accounting information has improved in the post IFRS period. The increase use of financial statement information in stock market investment

decision has therefore lead to stock price volatility, Mgbame and Ikhatua (2013) found that accounting information influences stock volatility in Nigerian stock market.

Financial accounting information is the product of corporate accounting and external reporting systems that measure and routinely disclose audited, quantitative data concerning the financial position and performance of publicly held firms (Bushman & Smith, 2003). Statement of financial position, income statements and statements of cash flow, along with supporting disclosures form the foundation of the firm specific information set available to investors and regulators. The international accounting standard board (IASB) which is an independent private sector body established in 2001, as part of the international accounting standard committee (IASC) foundation is responsible for the development and approval of international financial reporting standards and related documents. The standards have been adopted globally and are being used by 174 countries as at December 2015 (Aiyabei, Tobias, & Macharia, 2019).

Do investors relay on financial accounting information in making their investment decision in the stock market, and is there a correlation between published financial statement information and listed equities idiosyncratic volatility?. Idiosyncratic volatility is a risk that is specific to an asset or a small group of assets and has little or no correlation with market risk. Drew and Naughton (2004) defined the idiosyncratic volatility as the difference between total risk and the systematic risk of a stock.

Earnings manipulation by Enron, WorldCom, and AOL Time Warner, has made market participants aware of fraudulent financial reporting. In addition, the Asia economic crisis of 1997 caused the world to pay attention to executive officer fraud. Thus, worldwide regulating authorities proposed corporate governance and disclosure regulation to prevent a reoccurrence (Wang & Chang, 2008). The U.S. government set up Sarbanes-Oxley Act of 2002 (SOX) in order to reinforce investment confidence and protect investors by improving the accuracy and reliability of corporate financial information. The SOX is the public company

accounting reform and investor protection legislation with the goal of preventing business failures and fraudulent financial reporting.

The study by Bradbury (2009) on the financial information disclosure of segment data by New Zealand companies and related to the extent of quantified segment disclosure to firm specific characteristics, the findings showed that the extent of quantified segment financial information was not significantly related to the earnings volatility of 29 New Zealand companies. Pereia and Thrikawala (2010) analyzed the published financial statements of commercial banks listed in the Colombo stock exchange over the period 2005 -2009. Their result shows that the earnings per share, earnings yield and return on equity have not declined in value relevance. They argue that investors react accordingly to the aggregate of accounting information that is published in the financial statement and without confidence in accounting numbers as whole, investors will not take their investment decisions.

Ghosh and Ghosh (2015) studied whether corporate accounting disclosures through annual report influence stock price movement in Dhaka stock exchange (DSE); they used panel data from 2010 through 2014 of 25 private commercial banks. The resulting output revealed that earning per share, return on equity, and book value per share positively influenced stock price movement during their study period but earning per share, and net asset value per share jointly can explain highest variation in stock price movement in DSE.

Abo Osba (2007) examined the impact of some accounting variables that are earning per share, book value per share and the cash dividend per share on the share price volatility of companies listed in Amman Stock Exchange over the years 2001 to 2005. The results of the study revealed there was a statistically significant strong relationship between earning per share, share's book value, the cash dividend in one hand and the share price movement on the other hand.

In their study Collins, Li and Xie (2009) concluded that an increase in idiosyncratic volatility in the US and other developed markets could be because of electronic trading by unsophisticated traders in the capital market and not necessarily because of reviewing published financial statements. Campbell, Lettau, Malkiel and Xu

(2001) found that stock return volatility increased considerably from 1962 to 1997 in the U.S furthermore, most of this increase was attributable to idiosyncratic stock return volatility as opposed to the volatility of the stock market index. Similarly, Morck, Yeung and Yu (2000) found that the ratio of idiosyncratic risk to systematic risk surged over time in the U.S.

1.1.2 Accounting information and stock volatility in Africa

Equities market is generally underdeveloped in Africa, more so in Sub-Saharan Africa where only 17 countries have fully functional stock market. However, all countries with well-functioning financial market have adopted IFRS or some form of structured financial reporting that is similar to international accounting standard (Riscura, 2013). It has been noted that emerging markets are illiquid and characterized by low market capitalization; Kibuthu (2005) for instance observed that many of the Africa's stock exchanges were small, underdeveloped and illiquid

There are few studies done in SSA on the use of financial statement information in decision making at the stock market and the impact of such decision in stock price volatility. In their study to ascertain if accounting information contributes to stock volatility in the Nigerian capital market, Mgbame and Ikhatua (2013) concludes that accounting information influences stock volatility and as such the regulation of disclosures may be an area for consideration by the relevant agencies alongside the need to address volatility issues.

Abdelghany (2015) investigated the impact of accounting disclosure quality and information asymmetry on the Egyptian stock market activity. Data was collected for companies listed in the Egyptian stock market for the period from 2002 through 2014; research sample comprised of 60 companies which results in 780 observations for the research. The researcher concluded that there are significant association between both accounting disclosure quality and information asymmetry and the stock market activity.

Naceur and Nachi (2007) examined the impact of the accounting reforms on the value relevance of financial information in the Tunisian stock exchange (TSE). They

examine whether market's evaluation of earnings and book values improved the investors' decision after the implementation of accounting returns. Using a sample of firms trading in the TSE from the period 1992-2001, they examine the relationship between earnings, book value and cash flow with stock prices, before and after accounting reforms. The documented evidence from the examination reveals that earnings, cash flows and book values are significantly and positively related to share price.

1.1.3 Financial statement information and stock volatility in Kenya

The effect of financial statement information on stock volatility is an area that has not been widely studied in Kenya. In his study Mokua (2003) noted that Nairobi securities exchange is never perfect and therefore provides fertile breeding ground for stock return variations caused by market imperfection, he further added that it is important for investor to understand the stock market volatility to be able to take advantage of them. Odongo (2008) investigated the effects of liquidity level on stock returns at the NSE and found no evidence to link share prices movement to liquidity of the firms listed.

Nyamai (2012) study on the effects of cash management and firm's liquidity on share prices of companies listed at the NSE concluded that liquidity has a positive influence on share performance. He recommended further research since liquidity influenced 4.6% of total variations in share performance thus the need for further research to analyze other variables that affected the share performance. Kihara (2011) study on the relationship between dividend announcements and return on investments: a case study of companies quoted at the NSE found that there is no strong evidence that stock prices react significantly on the announcement of dividend; He also noted a positive correlation between cash flows and the earnings.

Melissa (2013) addressed the relationship between share price and bottom line accounting information, this included dividends, earnings and book value in the Nairobi stock exchange. The study shows that earnings and book values are significantly associated with share price movement, though book value was found to be least significant of the three variables. In his study on the empirical investigation

of stock returns reaction around earnings announcement for quoted companies at NSE, Maina (2009) showed that stock returns and trading activity react to earnings announcements. Sasa (2013) examined the relationship between capital structure and stock prices volatility at the Nairobi stock exchange and noted that debt-equity ratio had a positive impact on the stock prices

1.1.4 Equity market trends in Kenya

Shares trading in Kenya dates back to 1920s when the country was still a British colony. There was, however, no formal market, nor rules or regulations to govern stock-broking activities. Trading took place on gentleman's agreement, in which standard commissions were charged with clients being obligated to honor their contractual commitments of making good delivery and settling relevant costs (Wahome, 2008). The Nairobi stock exchange (NSE) was registered under the Societies Act (1954) as a voluntary association of stockbrokers and charged with the responsibility of developing the securities market and regulating trading activities. Business was transacted by telephone and prices determined through negotiation (NSE).

NSE equity market has grown significantly over the last 10 year; the number of investors has increased from 526,290 in 2007 to 1,278,161 as at 31st December 2015 this account for 143% growth. The increase on new investors at the NSE in the year 2008 can be attributed to the euphoria that came with the Safaricom IPO that saw a 532% subscription rate.

Table1.1: Number of accounts opened between 2006-2015

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Corporate	53728	17149	110097	2300	4651	1655	1313	4688	2792	2457
Individuals	472562	223786	854551	53249	121288	32053	19869	174861	38218	32377
Total	526290	240935	964648	55549	125939	33708	21182	179549	41010	34834

(Source: CMA Quarterly statistical bulletin, December 2015)

Similarly, there has been an increased interest in the equity trading by retail investors in Kenya, their holding as increased from 15% in 2009 to 53% as at December 2015, Retail investors accounted for 96.6% of all investor accounts at the NSE as at December 2015 (CDSE/CMA, 2015)

Table 1.2: Investor equity holdings outstanding

Category of Investor	No. of investors	No. of shares held	% of shares held
East African Corporate	256	633,672,432	0.78%
East African Individuals	7,695	100,117,582	0.12%
Foreign Corporate	640	16,850,838,534	20.69%
Foreign Investors (Individuals)	7,695	845,654,418	1.04%
Local Corporate	42,762	20,584,690,569	25.27%
Local Individuals	1,219,113	42,441,872,406	52.10%

(Source: CDSC, 2015)

NSE equity market activity has grown significantly in the last one decade; this can be shown by the growth of equity turnover and share volume over the same period. Equity turnover grew by 114% over that period from KES. 94.9 Billion in 2006 to KES. 209Billion in 2015, the traded Share volume grew from 1,454.7 Million in 2006 to 6,812.14Million shares in 2015. Year 2014 recorded a high equity turnover and share volume of KES 215.7Billion and 8,233.4Million share respectively. Market capitalization grew by 153% between the years 2006 to 2015. More specifically the capitalization grew from KES. 791.6 Billion in 31st December 1996 to KES 2000.8Billion in 31st December 2015.

Table 1.3: Key equity market performance indicators: 2006-2015

Year	Equity turnover (KshsBn)	Share volume (Mn)	Avg. NSE 20-Share index	Avg. Market Cap (KshsBn)
2006	94.9	1,454.70	5,646	791.6
2007	88.6	1,938.20	5,445	851.1
2008	97.5	5,856.50	3,521	853.7
2009	38.2	3,169.10	3,247	834.2
2010	103.5	6,479.80	4,257	1,089.20
2011	78.1	5,684.70	3,751	1,035.80
2012	86.8	5,464.20	3,736	1,072.90
2013	155.8	7,576.20	4,784	1,691.50
2014	215.7	8,233.40	5,155	2,286.90
2015	209.38	6,812.14	3,975	2,000.80

(Source: Nairobi securities exchange, 2015)

The growth of the Nairobi securities exchange in terms of market activity and the number of active investors has resulted in an increased level of volatility. From figure 1.1 below, the NSE stock market index declined consistently from 3,477 in January 1998 to 1,043 in August 2002, before picking up to the highest ever level of 5,774 in January 2007. However, the high growth in the market index could not be sustained longer and the index fell to 2,475 in February 2009 before taking an upward trend again. The bull run in equities market prior to financial crisis of 2008 was also evident, this was a result of sustained high economic growth and increased foreign investor participation, but subsequently declined following uncertain economic prospects and exit of foreign investors (Nyang`oro, 2013). The trend depicted by the movement in the index shows significant levels of volatility in the stock market.

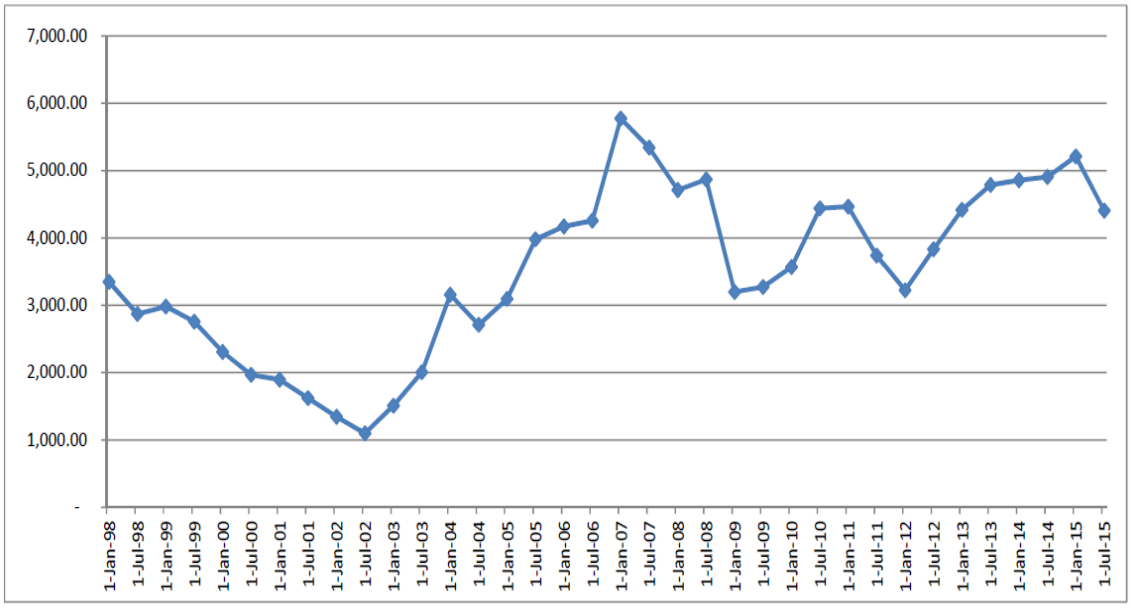

Figure 1.1: NSE 20 share index trend

1.2 Statement of the problem

Idiosyncratic volatility has always been ignored in asset pricing, this is due to capital asset pricing model's suggestion that idiosyncratic volatility is diversified away since investors hold a proportion of the well diversified market portfolio (Sandberg, 2005). In reality however, this is not always the case. Studies have shown that investors do not always hold well diversified portfolios and idiosyncratic risk is priced to compensate investors for their inability to hold the market portfolio (Fu, 2009; Eiling, 2008; Malkiel & Xu, 2006; Fazil, 2013; Boloorforoosh, 2014). With increasing number of empirical studies indicating that financial accounting information affect stock prices volatility (Yu & Huang, 2005; Sharma, 2011; Glezakos, 2012; Sibel, 2013), and with the growth of NSE over the last 10 years, especially that of active investors, equity turnover and market capitalization; which has led to increased stock price movement and market volatility (Kihara, 2011), there is need to investigate the effect of published financial statement information on equities price movement.

After examining the impact of earning per share, book value per share and the cash dividend per share on the share price of listed companies, Halonen, Pavlovic and

Persson (2013) found that accounting data explains a high portion of stock price movement in Swedish stock market. Abo-Osba (2007) found that there was a statistically significant strong positive relationship between accounting variables and share prices volatility. Wang and Chang (2008) noted that there was a positively significant relationship between book value and stock price as well as between earnings per share and stock price at the Taiwan SEC. Wang and Luo (2013) analyzed the relationship between accounting information and stock price reactions in Shanghai stock exchange, the results showed a positive relationship between accounting information and stock price, but the significant degree varies; earnings per share and return on equity have the most significant correlation. In his study, Gachucha (2014) found important and strong positive correlation between dividend per share, current ratio, return on investment and weak positive correlation between debt/equity ratio and volatility in stock returns.

Other studies have shown mixed and conflicting results on the effect of financial statement information on listed equities volatility. Razaq and Almeri (2014) studied the ability of accounting variables to explain volatility of stock prices at the Amman stock exchange, the study concluded that the accounting variables explained only 3.8% of the volatility in stock price while 96.2% of the volatility in stock price referred to other reasons. In his study, Hussainey (2011) found a significant and negative relationship between the payout ratio, dividend yield and the firm volatility of stock price at the UK stock market. Xing and Zhang (2008) found that there is a negative relationship between earning per share and idiosyncratic volatility in the G7 countries. Al-Farah, Almeri and Shanikat (2014) study indicated lack of significant correlation between accounting variables and the volatility with the financial information explaining only 2.6% of the volatility in the stock prices.

These mixed and contradictory results of studies done across different exchanges, located in diverse geographical places, characterized by diverse global economic and political factors form the research gap and basis of undertaking this study. Therefore, this study sought to establish the effect of published financial statement information on idiosyncratic volatility of stocks return listed at the Nairobi securities exchange.

1.3 Objectives

1.3.1 General Objective

The general objective of this study was to establish the effect of financial statement information on idiosyncratic volatility of stock returns among listed firms in Kenya.

1.3.2 Specific Objectives

This study was guided by the following specific objectives:

i) To establish the effect of earning per share on idiosyncratic volatility of stock returns among listed firms in Kenya.
ii) To determine the influence of dividend per share on idiosyncratic volatility of stock returns among listed firms in Kenya.
iii) To find out the effect of book value per share on idiosyncratic volatility of stock returns among listed firms in Kenya.
iv) To establish the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya.
v) To establish the effect of firm liquidity on idiosyncratic volatility of stock returns among listed firms in Kenya.
vi) To establish the moderating effect of firm size (market value) on the relationship between financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya.

1.3.3 Research Hypotheses

H_{o1}: Earning per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya

H_{o2}: Dividend per share has no significant influence on idiosyncratic volatility of stock returns among listed firms in Kenya.

H_{o3}: Book value per share has no significant influence on idiosyncratic volatility of stock returns among listed firms in Kenya.

H_{o4}: Cash flow has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

H_{o5}: Firms liquidity has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

H_{o6}: Firm size (Market value) does not significantly moderate the relationship between the financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya.

1.4 Significance of the Study

The findings of this study will be of great importance to various parties and in particular the following;

1.4.1 Investors

Based on study findings that investors do not always hold diversified portfolios, and that all investors are concerned about the prevailing risk on their investment, this study was therefore useful in giving new insights to both existing and potential investors on the impact of release of various set of accounting information on current or targeted holdings. Market arbitrageurs and speculators will find the finding useful in their investment decision-making, based on the financial statement and its impact on market price movement of specific stock of small group of portfolios. Arbitrageurs usually require substitutes for mispriced stocks with lower idiosyncratic risk. Research suggests that investment strategy based on volatility can earn statistically and economic significant abnormal returns (Xing and Zhan, 2006). Therefore, all types of investors will be able to structure and implement investment strategies aimed at improving their returns in an informed manner and avoid obvious pitfalls.

1.4.2 Government and the financial standards setting bodies

Government policy makers, capital market regulators and financial reporting standards' setting bodies will be able to borrow from this study and identify areas

that will need policy development or enhancement, new reporting standard and financial statement release timing in order to improve equities market stability and minimize unsystematic volatility/risk. In particular, the recommendations of the study will be targeted towards existing policy gaps on matters related to published financial statement information and equities market volatility in Kenya.

1.4.3 Scholars

Due to immense interest on idiosyncratic volatility, this study will contribute to existing literature; one such contribution is its potential application of idiosyncratic volatility in asset pricing.

1.4.4 Market analysts and practitioners

The study will also be of interest to market analysts and practitioners who will use the finding to advice their client on risk associated with financial statement information and in making portfolio management decisions which is normally affected by idiosyncratic risk.

1.5 Scope of the Study

The study looks at financial statement information that include earning per share, dividend per share, and book value per share, cash flow and liquidity. Firms listed in Nairobi Securities Exchange (NSE) were used for study. This study focused on all companies listed at the Nairobi securities exchange that existed and their shares were actively traded at the NSE from the year 1998 to the year 2017. Following the criterion employed by Fu (2009), the researcher zeroed in on the stocks that were traded for a minimum of 15 days during each month of the sample period.

1.6 Limitations of the study

Over the last nine years, Nairobi securities exchange has seen a significant growth of listed securities, with listing of 19 companies through initial public offer (IPO) and by introduction, these accounts for 30% of all listed firms. Although it forms a significant number of listed firms, these companies and those that either were

suspended or delisted within the sample period were not included in the study. To counter this limitation, the researcher used census of all 39-target companies that existed and their shares were actively traded at the NSE from 1998 to 2017, this ensured representation from all sectors were achieved from the remaining listed firms and therefore the resulting findings can be generalized to the entire population.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of literature on the effect of financial statement information on idiosyncratic volatility of stock returns among listed firms in Kenya. A conceptual framework was developed anchored on the literature reviewed for purposes of modeling and data analysis. Multi-theoretical approach help generalize and to identify common elements in multiple studies across time and space, but different definitions of theory are linked strongly to the different assumptions made about the nature of the world and our ability to understand it. Second, the policy literature contains many different ways to combine theories and concepts. The chapter was organized as follows: theoretical review and conceptual framework of the study, the empirical review, critique of the existing literature, summary and gaps to be addressed.

2.2 Theoretical Literature

A Theory is a contemplative and rational type of abstract or generalizing thinking or the results of such thinking, it is a set of interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relations among variables in order to explain and predict the events or situations (Van Ryan and Heaney, 1992. The theories discussed are the efficient market theory, signaling theory, modern portfolio theory and market for lemons hypothesis.

2.2.1 Efficient Market Hypothesis

The first time the term "efficient market" was used, was in a 1965 paper by Fama who said that in an efficient market, on the average, competition would cause the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices. Efficient market hypothesis (EMH) was further refined by Eugene

Fama in 1970 through his paper "Efficient Capital Markets: A review of theory and empirical work." According to the theory, share prices at all times fully reflect all available information that is relevant to their valuation. Thus, security prices at any point in time are an unbiased reflection of all available information on the security's expected future cash flow and the risk involved in owning such a security.

Fisher, Fama, Jensen, and Roll (1969) examined the stock price reaction around stock splits and found that stock splits were preceded, on average, by periods of strong performance, most likely because firms tend to split in good times. In his study market efficiency, long-term returns, and behavioral finance, Fama (1998) suggested that abnormal returns are usually interpreted as evidence of market inefficiency because they seem to indicate that the market overreacts or underreacts to new information. He classified the information items into three levels depending on how quickly the information is impounded into share prices: weak form EMH, semi strong form EMH, and strong form EMH.

Weak form efficiency: If the market is efficient in the weak form, share prices reflect all past market information; hence information on past prices and trading volumes cannot be used for share valuation. Investigating the presence of any statistically significant dependence or any recognizable trend in share prices changes, is traditionally used to directly test weak form efficiency. The weak form of the efficient markets hypothesis asserts that the current price fully incorporates information contained in the past history of prices only. That is, nobody can detect mispriced securities and "beat" the market by analyzing past prices.

The semi-strong-form of market efficiency hypothesis suggests that the current price fully incorporates all publicly available information. Public information includes not only past prices, but also data reported in a company's financial statements. The assertion behind semi-strong market efficiency is still that one should not be able to profit using something that "everybody else knows" Fama (1970).

The strong form of market efficiency hypothesis states that the current price fully incorporates all existing information, both public and private. The main difference between the semi-strong and strong efficiency hypotheses is that in the latter case,

nobody should be able to systematically generate profits even if trading on information not publicly known at the time (Clarke & Jandik, 2000). Implicit in the efficient market hypothesis is the fact that the agents that participate in the market are rational. Theories such as prospect theory and bounded rationality have proven that at best human agents are not fully rational but usually are not rational. Marwala (2015) surmised that artificial intelligent agents make markets more rational than human agents do.

The theory will inform this study to the extent the researcher hypothesized that listed companies' earnings information is fully reflected in the company's market price and therefore by analyzing earnings per share, investors are able to make informed decision on investment, the investment decision made by investors will affect the overall equities price movement and volatility. Abnormal returns are also interpreted as evidence of market inefficiency because they seem to indicate that the market overreacts or under reacts to new information, these reactions increases idiosyncratic volatility.

2.2.2 Signalling Theory

The concept of signaling was first studied in the context of job and product markets by Akerlof and Arrow and was developed into signal equilibrium theory by Spence (1973), which says a good firm can distinguish itself from a bad firm by sending a credible signal about its quality to capital markets. Ross (1977) shows how debt could be used as a costly signal to separate the good from the bad firms. Under the asymmetric information between management and investors, signals from firms are crucial to obtain financial resources. Ross assumes that managers who are insiders know the true distribution of firm returns, but investors do not.

The other is the costless signaling equilibrium as proposed by Bhattacharya and Heinkel (1982), Rennan and Kraus (1984). A signal is costly if the production of the signal consumes resource or if the signal is associated with a loss in welfare generated by deviations from allocation or distribution of claims in perfect markets. The signaling paradigm is multivariate for financial instruments. Poitevin (1989)

demonstrates that debt could be used as a signal to differentiate the potential competition of new entrant firms.

According to signaling theory, also referred to as the information content hypothesis, corporate announcements are hypothesized to have information content, for example, managers use cash dividend announcement to signal changes in their expectation about the future prospect of the company when the markets are imperfect. The investments and financing decisions of a firm are made at the management's discretion. An increase in equity issued by the company reduce the price of its shares, stock splits cause an increase in the price, while issuing more debt instruments leads to price increase actions. However, though managers use dividend to convey information, dividend changes may not be the perfect signal. According to Easterbrook (1994), dividend increase may be an ambiguous signal unless the market can distinguish between growing firms and disinvesting firms.

Modigliani and Miller (1961) argued that dividend may have a signaling effect. The top management of a firm has more information about the strategy of the firm and can also forecast future earnings of the company. Therefore, people working in the firm have more information as the other investors and the market in general. Thus, this leads to the problem of information asymmetry. Hence, firms can use dividends as a signaling mechanism that sends information to investors in the market or to its shareholders. The information may reflect the strategies that the firm is employing in the short run or long run. Managers of the firm can change the expectations of people about its future earnings through dividends. A firm has several ways is sending information to the market. This can include costly methods that will prevent smaller firms from imitating the signal. The methods refer to increasing the price of dividend; that is increasing dividend payout.

Signaling theory is becoming increasingly popular within strategic management research (Bergh & Gibbons, 2011). This growing popularity is not surprising, as the theory directs attention to core problems facing strategic decision makers, namely how they can use signals to reduce the uncertainty associated with making a

selection among a choice set in situations that have incomplete and asymmetrically distributed information (Bergh, 2014).

In this study, the researcher hypothesized that listed company's dividend per share that is reported in the published financial statement will inform the decision that will be made by shareholders, and decision will have an influence on the price movement of listed companies stocks in the market. It is argued that company managers use earnings as a signaling tool to convey information about the prospects of a company, and that like dividends, if earnings convey useful information, this will be reflected in stock price changes immediately following a public announcement.

2.2.3 Modern Portfolio Theory

Modern portfolio theory was pioneered by Markowitz (1952) in his paper, Portfolio Selection, published by the Journal of finance. According to the theory, it's possible to construct an efficient frontier of optimal portfolios offering the maximum possible expected return for a given level of risk.

Modern portfolio theory assumes that investors are risk averse, meaning that given two portfolios that offer the same expected return, investors will prefer the less risky one. Thus, an investor will take on increased risk only if compensated by higher expected returns. Conversely, an investor who wants higher expected returns must accept more risk. The exact trade-off will be the same for all investors, but different investors will evaluate the trade-off differently based on individual risk aversion characteristics. An investor can reduce portfolio risk simply by holding combinations of instruments that are not positively correlated, In other words, investors can reduce their exposure to individual asset risk by holding a diversified portfolio of assets. Diversification may allow for the same portfolio expected return with reduced risk (Markowitz, 1959).

Building on the Markowitz framework, Sharpe (1964), Lintner (1975) and Mossin (1966) independently developed what has come to be known as the Capital Asset Pricing Model. CAPM describes how investors determine expected returns, and thereby asset prices of risky assets, based upon their volatility relative to the market

as whole. Just like Markowitz's modern portfolio theory model, the CAPM is based upon several simplifying assumptions that make the model more tractable from a mathematical standpoint. Sandberg (2005) standard asset pricing theory suggests that idiosyncratic should not be priced, because firm-specific risk can be diversified away. In other words, under the assumption of capital asset pricing model (CAPM) investors should be compensated only for bearing systematic risk (Tran and Nguyen, 2015). Research has however shown that due to some reasons, investors do not always hold a diversified portfolio which eliminates idiosyncratic volatility as advocated by CAPM (Fazil, 2013).

2.2.4 Asymmetric Information Theory

The theory was first suggested by Akerlof (1970) in his paper, "The market for lemons: Quality uncertainty and the market mechanism", published in Quarterly journal of economics in 1970. According to the theory, quality of goods traded in a market can degrade in the presence of information asymmetry between buyers and sellers, leaving only "lemons" behind. Information asymmetry is studies of decisions made by human beings were one human agent has more information than another human agent does. There are cases were information asymmetry is not desirable, for example in an interview setting were one human agent, the potential employer, needs to know as much as possible about the potential employee and this problem was studied extensively by (Spence, 1973).

Aboody and Lev (2000) developed the theory of asymmetry of information and its impact in the markets in their paper Information Asymmetry, R&D, and Insider Gains, some of the proposed undesirable consequences of information asymmetry are moral hazards, monopoly of information and adverse selection. Information asymmetry in the stock market occurs when one or more investors possess private information about the firm's value while other investors are uninformed. The root cause of financing difficulty for SMEs is the serious information asymmetry that exists between financial institutions, which lead to adverse selection and moral hazard (Huang, 2014). The secrecy in most company operations leads to information asymmetry, which is revealed when the firm faces serious financial crisis or is on

the verge of bankruptcy. Thus, it is expected that the asymmetric response to bad and good news reduce the ability of investors to interpret various firm performances (Aboody & Lev, 2000).

The information content inherent in a dividend announcement would cause the shareholders to react to the announcement and thus influence share prices because of information asymmetry between a company's management and outside investors. Managers use the release of earnings announcements to validate some of their verbal declarations. Nonetheless, investors are more interested in the financial statements with the details leading to the revealed earnings figures. However, sometimes the financial statement does not make all the disclosures necessary for investors to make informed decision, later when the information is made public, investors make investment decision that would influence to a greater extend the volatility of stock prices. This paper therefore seeks to investigate whether financial statement information has a significant influence on stock price movement or other factors or information that are not disclosed in the published report influence the prices.

2.3 Conceptual Framework

Conceptual framework is a written or visual presentation that explains either graphically, or in narrative form, the main things to be studied, it indicates the key factors, concepts or variables and the presumed relationship among them (Miles & Huberman, 1994). According to Kothari (2004), a concept that can take on different qualities of qualitative values is referred to a variable. If one variable depends on or is a consequence of another variable, it is dependent variable. The variable that is antecedent to the dependent or that makes it to change is called an independent variable. A conceptual framework consists of independent variables that cause changes in the dependent variable.

The independent variables in this study effect of financial statement information on idiosyncratic volatility of stocks listed at the Nairobi securities exchange are: Earning per share, dividend per share, book value per share, liquidity, cash flow and market value which affect the dependent variable namely; idiosyncratic volatility of listed stocks.

Below is a figurative representation of the variables to be explored by this study.

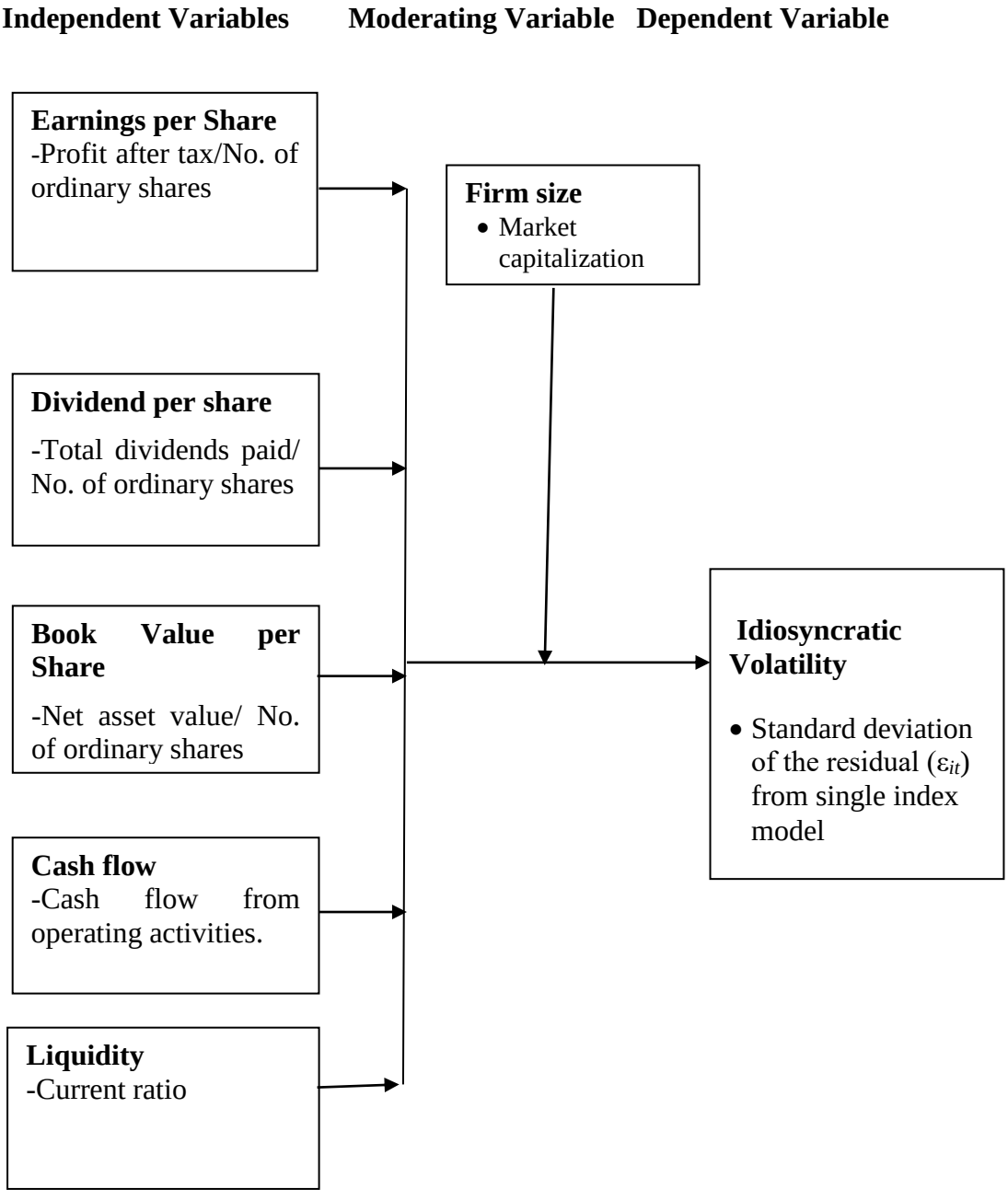

Figure 2.1: Conceptual Framework

2.3.1 Earnings per share

Earnings per share (EPS) is the portion of a company's profit that is apportioned to each outstanding share of common stock, serving as an indicator of the company's profitability, it measures the amount of a company's net income that is theoretically available for payment to the holders of its common stock. EPS is calculated as net income divided by average outstanding ordinary shares. Earnings yield are the earnings per share divided by the current market price per share. The earnings yield shows the percentage of each amount invested in the stock that was earned by the company. (Holmes, Sugden & Gee, 2008).

According to IAS 33, an entity whose securities are publicly traded must present on the face of the statement of comprehensive income, basic and diluted earnings per share, this will assist in improving performance comparisons between different companies in the same reporting period and between different reporting periods for the same companies. (IAS 33, 2003).

Diluted and basic EPS for all periods is adjusted retrospectively when the number of ordinary shares outstanding increases as a result of a capitalization, bonus issue, share split, or a decrease as a result of a reverse share split. If such changes occur after the balance sheet date but before the financial statements are authorized for issue, the EPS calculations for those and any prior period financial statements presented are based on the new number of shares. (Iasplus, 2016). This study seeks to find out the effect of earning per share on idiosyncratic volatility of stocks listed at the Nairobi securities exchange.

2.3.2 Dividend per share

Dividend per share is the amount of dividend that the shareholders receive on a per share basis; it is the sum of declared dividends for every ordinary share issued. When calculating total dividends, both interim and final dividends are taken into account. Dividend per share is therefore the total dividends paid out over an entire

year divided by the number of outstanding ordinary shares issued (Wood & Alan, 2005).

The main goal of a company is to return value to its shareholders and the investors receive value through dividend payments and the prevailing prices of stock that is equal to a company's total expected future dividend payments. Therefore, shareholders value is driven primarily by the profits the companies realize and the amount it pays out as dividends. The researcher seeks to find out the effect of dividend per share on idiosyncratic volatility of stock returns listed at the Nairobi securities exchange.

2.3.3 Book value per share

Book value is the value at which an asset is carried on a statement of financial position. The asset value is based on the original cost less any depreciation, amortization or impairment cost made against the asset. The book value per share is an accounting measure based on historical transactions, it is a measure used by shareholders of a company to determine the level of safety associated with each individual share after all debts have been paid (Elliott, 2009).

Book value per share is therefore is the firms book value divided by total outstanding number of issued ordinary shares, the book value of ordinary equity in the numerator reflects the original proceeds that a firm realizes from issuing ordinary shares, this is increased by profits and decreased by losses and paid dividends. A firm's stock buyback decreases the book value and the total ordinary share count (Pereia & Thrikawala, 2010). This study therefore seeks to investigate the effect of book value per share on idiosyncratic volatility of stock returns among listed firms in Kenya.

2.3.4 Liquidity

Liquidity reflects the ability of a firm to meet its short-term obligations using those assets that are most readily converted into cash. Assets that may be converted into cash in a short period of time are referred to as liquid assets; they are listed in

financial statements as current assets. Current assets are also referred to as working capital, since they represent the resources needed for the day-to-day operations of the firm's long-term capital investments (Thorpe & Holloway, 2008).

Liquidity ratios are the main tools normally used by firms to estimate the level of company's liquidity; these ratios measure the ability of a company to meet its short-term debt obligations when they fall due. Most common examples of liquidity ratios are current ratio and quick ratio and are derived as follows. Current ratio is current assets divided by current liabilities and quick ratio is derived as current assets minus Inventories divided by current liabilities (Wood & Alan, 2013), Current ratio is preferred to quick ration because it does not exclude stock.

The liquidity ratios are a result of dividing cash and other liquid assets by the short term borrowings and current liabilities. They show the number of times the short term debt obligations are covered by the cash and liquid assets. If the value is greater than 1, it means the short term obligations are fully covered (Siegel & Shim, 2010**).**This study therefore seeks to establish the effect of firm's liquidity on idiosyncratic volatility of stocks listed at the Nairobi securities exchange.

2.3.5 Cash flow

Cash flow is the net amount of cash flowing into and out of a business. A positive cash flow indicates that a firm's liquid assets are increasing, enabling it to easily settle outstanding liabilities and reinvest excess cash in order to increase shareholders value. Negative cash flow on the other hand indicates that a firm has a decreasing liquid asset position. Net cash flow is distinguished from net income which includes accounts receivable and other items for which payment has not been received (Epstein & Lee, 2010).

Cash flow statement indicates whether a company's cash flow position is sustainable in the long term, a company may be profitable but can still declared insolvent if they do not have cash or cash equivalent to settle short term liabilities. If a firm's profit is tied up in accounts receivables, prepayments and inventory, it may not have enough operating cash flow to settle short term debts. Cash flow determines the quality of a

company's income; a firm should be concerned if net cash flow is less than net income (Epstein & Lee, 2010).

Statement of cash flow is divided into three categories; Cash flow from operating activities, investing cash flow and Cash flow from financing activities. Operating cash flows are those related to a company's day to day business operation. Investing cash flows relate to its investments in businesses through acquisition of long term assets. Financing cash flows relate to a company's investors and creditors. (Wood & Alan 2005), this study therefore seeks to investigate the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya, the researcher will us cash flow from operating activities and cash flow from investing activities because they more volatile in nature.

2.3.6 Firm size

In this study, the researcher will take market capitalization as a proxy of firm size, using market capitalization to show the size of a company is important because company size is a basic determinant of various characteristics in which investors are interested, including risk (Ang, Hodrick, Xing, & Zhang, 2009).

Market capitalization refers to an estimation of the value of a business that is obtained by multiplying the number of shares outstanding by the current price of a share. It is the total market value of all of a company's outstanding shares. The investment community uses this figure to determine a company's size, as opposed to sales or total asset figures (Chessar, 2015). This study seeks to find out the moderating effect of firm size (market value) between independent variables and idiosyncratic volatility of stock returns among listed firms in Kenya

2.3.7 Idiosyncratic volatility

Idiosyncratic volatility represents firm-specific risk that is not associated with the market. Standard asset pricing theory suggests that it should not be priced, because firm-specific risk can be diversified away. In other words, under the assumption of capital asset pricing model (CAPM) investors should be compensated only for

bearing systematic risk (Tran & Nguyen, 2015). However, in reality, this is not always the case. Several studies have shown that investors do not always hold well-diversified portfolios. Goetzman and Kumar (2008) found that 25% of investors hold only one stock, and 50% of investor portfolios contain no more than 3 stocks and less that 10% of investor portfolios contain no more than 10 stocks.

Goetzman and Kumar (2008); Fu (2009) and Eiling (2008) argued that most investors hold undiversified risky portfolios. By definition, idiosyncratic risk is independent of the common movement of the market, Fu (2008), Campbell and Xu (2001) suggest that in order to achieve diversification investors must hold at least 50 randomly selected stocks in their portfolio. Exogenous factors such as resource limitations, transaction costs, incomplete information or various institutional constraints might restrict investors from holding the market portfolio; this restriction leads investors to demand return based on the total risk of their portfolio (Henker & Jojo, 2012). Additional theories suggest that idiosyncratic risk is priced to compensate investors for their inability to hold the market portfolio (Kropf 2003; Malkiel, Burton & Xu; 2006; Boloorforoosh, 2014).

Malkiel and Xu (2003) suggest that 200 stocks may be necessary to achieve the same level of diversification that would be achieved with 20 stocks in 1960's. With remarkable increase in the market volatility, it is obvious that a portfolio of 20 or 30 stocks seems inadequate to diversify investment risk (Malkiel & Xu, 2006). Campbell (2001) suggests that the number of randomly selected stocks needed to achieve relatively complete portfolio diversification is about 50. Stocks with high levels of idiosyncratic skewness offer low probability high payoff prospects (Ang et al., 2009). Retail investors however perceiving high idiosyncratic volatility stocks as lottery type investments and are willing to overpay for them, lowering subsequent returns (Han & Kumar, 2013). In their study on why idiosyncratic matters in the emerging markets, Campbell and Malkiel (2001); Fazil (2013) found that idiosyncratic volatility is the largest component of total volatility irrespective of the size and employed weighting scheme.

A study by the Australian Stock Exchange (ASX) reports that in 2002, 37% of the adult population owned stocks directly, as opposed to through retirement or other managed funds, and this ownership was increasingly distributed over all income and education levels of the population. Similarly, there has been an increased interest in the equity trading by retail investors in Kenya, their holding as increased from 15% in 2009 to 53% as at December 2015. Retail investors accounted for 96.6% of all investor accounts at the NSE as at December 2015 (CDSE/CMA, 2015). Due to the increased in retail investor activity at the NSE, the researcher hypotheses that there is a corresponding increase in idiosyncratic volatility.

To estimate idiosyncratic volatility for sampled stocks at the Nairobi securities exchange, the researcher will employ the standard deviation of the residual (ε_{it}) from Single Index Model as outlined in Sias (1996), Malkiel and Xu (2003), Herskovic, Kelly and Lustig (2016).

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + \varepsilon_{i,t} \quad \textit{(2.1)}$$

Where i is the specific stock, R_m is the return on the all ordinaries index, t is the time interval, $R_{i,t} - R_{f,t}$ is the excess return of firm i in week t, $R_{m,t} - R_{f,t}$ is excess market return in week t and ε_{it} is the regression residual. For each year, the researcher will run the model for each firm using weekly excess returns.

2.4 Empirical Review

This section reviews literature from prior scholars regarding the effect of financial statement information on idiosyncratic volatility of stocks listed at various the securities exchanges.

2.4.1 Earnings and Idiosyncratic Volatility

Company earnings forms part of critical information that assist current and potential investors in making decision on whether to buy or sale stake in a targeted firm, the influence of earnings on stock volatility has been examined from several perspectives and different approaches have been adopted in detecting its effects on stock movements. (Ghosh & Ghosh, 2015) conducted a study on whether corporate

accounting disclosures through annual report influence stock price volatility in Dhaka Stock Exchange. To conduct their study, they gathered a series of panel data from 2010 through 2014 of 25 private commercial banks. The resulting output revealed that Earning per share, Return on equity and Net asset value per share (book value) significantly and positively influenced stock price volatility during the study period but earning per share and net asset value per share jointly can explain highest variation in stock price movement in Dhaka Stock Exchange. Mgbame and Ikhatua (2013) found that earnings per share significantly influence stock price volatility at the Nagerian stock market.

Wang and Luo (2013) analyzed the relationship between accounting information and stock price reactions in Shanghai stock exchange, based on 60 listed companies in Shanghai stock exchange for 2011 to 2013, the results showed a positive relationship between accounting information and stock price, but the significant degree varies; earnings per share and return on equity have the most significant correlation. In their study on the effect of accounting data on stock price volatility Halonen, Pavlovic and Persson (2013) found that earning per share explain a high portion of stock price movement in Swedish stock market. Piotroski and Roulstone (2004) drew a conclusion that market prices of the stock depend on demand and supply forces of a particular security in the stock market and not necessarily the profitability of the targeted counter.

After examining the impact of earning per share on the share price of the banking sector listed in Amman stock exchange over the years 2001-2005, Abo Osba (2007) found that there was a statistically significant strong relationship between earnings and share prices movement. In their study Al-Farah, Almeri and Shanikat (2014) found that there is no correlation between accounting information including earnings and stock price volatility. Pastor and Veronesi (2003) indicated that significant uncertainty about a firm's average profitability influences stock return volatility. To the extent that financial reporting quality is poor, uncertainty about a firm's future profitability is likely to be high.

Dongwei (2003) analyzed stock price reactions to earnings announcements in the Chinese market, a sample of 183 earnings announcements between 1996 and 1998 was used, using an event study methodology, and found that the stock price reactions to change in earning per share in the Chinese stock markets. The study also found that domestic investors do not correctly anticipate the changes in earnings and fail to adjust new earnings information quickly, but international investors can predict earnings changes better than domestic investors can. As a result, abnormal returns can be obtained by trading on the earnings information for domestic investors only. The study explained that most domestic investors are individuals with short-term investment horizon while most foreign investors are large institutions that trade on more detailed and accurate financial information not immediately available to domestic investors.

In their study, Wang and Chang (2008) noted that there was a positively significant relationship between earnings per share and stock price volatility at the Taiwan SEC. A positive link between earning per share and market value of stock was also disclosed showing that earning per share had greater impact on retail investors in determining the value of a particular stock (Seetharaman & Rudolph, 2011). Shehzad and Ismail (2014) studied the value relevance of accounting information and its impact on stocks listed at Karachi stock exchange, the study employed the pooled regression technique on nineteen private banks from the period of 2008 to 2012. The findings showed that earning per share is more value relevant than book values, while accounting data explains a high proportion of the stock price. The relevant information is such that it influences the economic decisions of users by helping them evaluate past, present and future events.

2.4.2 Dividend per Share and Idiosyncratic Volatility

Empirical investigations on the effect of dividend per share on stock price volatility have generated mixed results over time, Menike and Prabath (2014) examined the impact of dividend per share, earnings per share and book value per share of stock price on a sample of 100 companies listed in the Colombo Stock Exchange (CSE) from 2008 to 2012. Using a single and multiple regressions model the results reveals

that all variables were positive and had a significant impact on the stock price volatility in the CSE. On the other hand, Hussainey and Mgbame (2011) examined the relationship between dividend payout and the volatility of stock price. The study was based on a sample of publicly quoted companies in the UK for a period of 10 years from 1998 to 2007. The empirical findings suggest that there is a significant negative relationship between the payout per share of a firm and the volatility of its stock price

Hashemijoo and Ardekani (2012) studied the relationship between dividend policy and share price volatility with a focus on consumer product companies listed in Malaysian stock market for a period of six years from 2005 to 2010. The empirical results of this study showed significant negative relationship between share price volatility with dividend yield and dividend payout, they also found that dividend have most impact on share price volatility amongst predictor variables. In his study, Abo Osba (2007) found that there was a statistically significant and strong relationship between cash dividend in one hand and the banks share price movement on the other hand at Amman Stock Exchange.

Al-Farah, Almeri and Shanikat (2014) studied the ability of accounting variables to explain volatility of stock's price of the industrial companies listed in Amman Stock Exchange during the years 2001 to 2010. The sample of the study consisted of 64 industrial companies. To test the hypotheses of the study, the multiple regression model was used to test the independent variables' ability in explaining the variance in the dependent variable. The study concluded that the accounting variables and more specifically dividend per share and dividend yield explained only 3.8% of the volatility in stock price while 96.2% of the volatility in stock price referred to other reasons. The results of the study also showed that there was an important weak correlation between ratios of dividend Payout ratio and between volatility in stock price and this relation explained 1.2% of the changes in volatility in stock price. Finally, the results indicated lack of significant correlation between the other accounting variables and the volatility in the stock prices explaining only 2.6% of the volatility in the stock.

In their study to explore the impact of cash dividend and the retained earnings on the market share price movement in the United States of America Belkaoui and Picur's (2001) depending on some models of evaluation that are based on accounting information, applied a study on a set of US multinational companies during the years 1992-1998. The sample of the study consisted of 256 company. The study concluded that market value of these companies' shares was determined greatly by relying on the retained earnings and the dividend affect with less degree of the market value of these companies.

2.4.3 Book Values and Stock Volatility

In their study on whether accounting information contributes to stock volatility in the Nigerian Capital Market, Mgbame and Ikhatua (2013) specifically examined if Book value per share, Dividend per share and Earnings per share have a sign effect on stock volatility. Using the simple random sampling technique, a sample size of 10 quoted companies was selected using the simple random sampling technique for the period the year 2000-2010 and this gives 100 company data points. The findings reveal that Book value per share has a significant influence stock volatility Nigerian Capital Market, The study concludes that accounting information influences stock volatility and as such, the regulation of disclosures may be an area for consideration by the relevant agencies alongside the need to address volatility issues in the Nigerian capital market.

Khurana and Kim (2003) notes that the effect of book equity on stock movements is also a function of differences relating to the extent and accounting measurement of unrecognized intangible assets, However Francis and Schipper (1999) indicated that book value of equity is highly associated with stock prices movement. Collins. Maydew and Weiss (1997) suggest that a decline in the effect of earnings on stock movements and an increase in effect of book values. In other studies Ayers (1998), Radhakrishnan and Ronen (2004) documents that book values of equity are highly associated with stock prices volatility, these studies also show that the statistical association between stock prices and book equity is typically stronger than the association between stock returns and earnings.

A study by Macharia (2013) to establish the effect of financial performance indicators on shareholders' value among listed commercial banks in Kenya where shareholders' value was the dependent variable while independent variables were loans, deposits, core capital, borrowed funds and profit before tax moderated by interest rate. Macharia (2013) used Correlational and descriptive research design while target population of the study was 11 listed commercial banks. Secondary data from 2008 to 2012 was collected. The study established a significant influence from core capital, borrowed funds, and profit before tax, loan value, deposits value and interest rate

In their study, Ghosh and Ghosh (2015) found that book value per share positively influenced stock price movement at the Dhaka Stock Exchange. Carroll, Linsmeier, and Petroni (2003) in their study conclude that fair value estimates are more pervasive in affecting stock price movements. Abo Osba (2007) found that there was a statistically significant strong and positive relationship between share's book value and market price movement at Amman securities exchange. Ayzer and Cema (2013) examine the value relevance of financial statement information in Turkish Stock Markets during the period 1997-2011, using the Ohlson (1995) model. Their result shows that combined book values and earnings are significantly value relevant in explaining stock prices in the Turkish Stock Markets. Book values and earnings were individually significantly value relevant, with book values having higher explanatory power than earnings. In another study by Ohlson (1995) in Australia also found that book value was more significant than earnings of the organization in equity valuation.

2.4.4 Cash Flow from Operations and Stock Volatility

From the published financial statement, cash flow statement, cash flow from operating activities is more volatile as compares to financing and investing activities. There are limited empirical studies that explain the impact of cash flow from operations on stock price volatility. A study by , Habib and Elhamawy (2009) adopted the Pope and Wang's (2004) residual income model specification to ascertain the value relevance of accounting information in Egyptian equity market.

The study variables were drawn from financial statements of 88 firms as of the year-end 2005. Their result shows a positive correlation between cash flow and equity market values in Egypt.

Omokhudu and Ibadin (2015) investigated the value relevance of accounting information in Nigeria Securities Exchange; the period covered by the study was 1994 to 2013. The study used the basic Ohlson (1995) model and the modification of the model. It includes cash flow from operation, and dividends, to ascertain the value relevance of accounting information in Nigeria for the period covered by the study was 1994 to 2013.The results of the study provide strong evidence that cash flow from operations is positively and significantly related to share prices movement of stocks listed at the Nigerian Exchange. The researchers concluded that the findings of have policy implications, not only for regulators but for investors and management of listed firms, they stated that focus of investors should be on earnings, dividends and cash flows and less emphasis should be on book values.

After examining value relevance of accounting earnings and components in the Tunisia Stock Exchange over the period 1997 to 2004, Ayed and Abaoub (2006) concluded that cash flow from operations is not value relevant and have no incremental information content beyond earnings. The researchers present empirical evidence that operating income before taxes, special items and income taxes are value relevant for firm valuation and that cash flow from operation and accruals are not value relevant.

2.4.5 Firm Liquidity and Stock Volatility

A study by Gachucha (2014) on identifying the relationship between financial management practices which are and stock returns of listed companies in Nairobi Securities Exchange. The researcher studied the relationship between financial management practices and stock returns of listed companies in Nairobi Securities Exchange; a review of the annual reports of public companies listed in Nairobi Securities Exchange for the years 2008-2012 was done to get the accounting variables and the stocks' closing prices. He used stratified sampling technique to sample 29 companies from the NSE. The study concluded that financial

management practices, liquidity management, investing decisions, Dividend policies and financing activities explained 64.80% of the volatility in stock return while 35.20% of the volatility in stock returns referred to other reasons, the results of the study also showed that there was an important strong positive correlation between current ratio and volatility in stock returns**.**

Nyamai (2012) study on the effects of cash management and firm's liquidity on share prices of companies listed at the NSE concluded that liquidity has a positive influence on share performance. He recommended further research since liquidity influenced 4.6% of total variations in share performance thus the need for further research to analyze other variables that affected the share performance. The inventory control models of Brunner Meier and Pedersen (2006) imply a negative relationship between liquidity and idiosyncratic volatility.

Kihara (2011) noted a positive correlation between cash flows and the earnings. Spiegel and Wang (2005) show that idiosyncratic volatility and liquidity are inversely related and conclude that the relationship between idiosyncratic volatility and returns could be capturing both the relationship between liquidity and returns and the relationship between size and returns. Odongo (2008) investigated the effects of liquidity level on stock returns at the NSE found no evidence to link share prices to liquidity of the firms listed

2.4.6 Firm Size and Stock Volatility

Market value is an important measure for investors in the determination of the returns on their investment. Chessar (2015) analyzed the relation between market capitalization, which is a proxy for firm size and stock market volatility in the Nairobi Securities Exchange. A descriptive survey design using quantitative data from secondary sources was applied in the study. The study analyzed the volatility in stock prices at Nairobi Securities Exchange, using data that span 5 financial years from January 2010 to December 2014. The study concluded that market capitalization did affect the volatility of listed firms and that although there was a relationship, it was weak.

Market capitalization refers to an estimation of the value of a business that is obtained by multiplying the number of shares outstanding by the current price of a share. It is the total market value of all of a company's outstanding shares. The investment community uses this figure to determine a company's size, as opposed to sales or total asset figures (Baker, 2001). Chessar (2015) confirmed that the most significant factor that affected the stock market volatility of the listed firms was market capitalization, followed by liquidity respectively. Ang, Hodrick, Xing, and Zhang (2009) used data from 23 countries and concluded that high idiosyncratic volatility stocks generate lower future returns than low idiosyncratic volatility stocks; however, their previous article showed a negative relation between a stock's monthly returns and its 1-month lagged idiosyncratic risk.

Chordia, Tarun, Sarkar and Avanidhar (2005) estimated impulse response functions to examine the dynamics of the cross-sectional relationships in liquidity, volatility and returns between small and large capitalization stocks in the United States. The responses showed that large capitalization bid-ask spreads respond to shocks in spreads, volatility and returns in the small capitalization sector, with the response to volatility and returns persisting for more than 10 days. In the reverse direction, the study showed that shocks to large-cap spreads, volatility and returns had a persistent impact on small-cap spreads, with the response peaking after a few trading days. Giot, Beaupain and Petitjean (2010) showed that the magnitude of liquidity co-movements was on average positively related to the market capitalization of the index and that liquidity co-movements were least intense among small caps and most intense among large caps

2.4.7 Single Index Model

The single-index model (SIM) is a simple asset-pricing model to measure both the risk and the return of a stock, commonly used in the finance industry. Sharpe developed the Model in 1963; the model was developed in order to ease the challenges of using Markowitz's mean-variance settings in Optimal Portfolio Construction. One of the most significant limitations of Markowitz's model is the increased complexity of computation that the model faces as the number of

securities in the portfolio grows. To determine the variance of the portfolio, the covariance between each possible pair of securities must be computed, which is represented in a covariance matrix (Mandal, 2013). As a result, the model can reduce the burden of large input requirements and difficult calculations in Markowitz's mean- variance settings (Sharpe, 1963).

Single Index Model proposes that the relationship between each pair of securities can indirectly be measured by comparing each security to a common factor 'market performance index' that is shared amongst all the securities. Mathematically the SIM is expressed as:

$R_{i,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + \varepsilon_{i,t}$ ……*(Equation 2.2)*

where: R_{it} is return to stock *i* in period *t*

R_f is the risk free rate (i.e. the interest rate on treasury bills)

R_{mt} is the return to the market portfolio in period *t*

$\varepsilon_{i,t}$ random disturbance term relating to security i

$\alpha_i$is the stock's alpha, or abnormal return

β_i is the stocks's beta, or responsiveness to the market return

$R_{i,t} - R_{f,t}$ is called the excess return on the stock and $R_{m,t} - R_{f,t}$ is the excess return on the market, $\varepsilon_{i,t}$ are the residual (random) returns, which are assumed independent normally distributed with mean zero and standard deviation

The single-index model divides a security's return into two components, a unique part, represented by α_i, and a market-related part represented by $\beta_i(R_{m,t} - R_{f,t})$. The unique part is a micro event, affecting an individual company but not all companies in general. The market-related part, on the other hand, is a macro event that is broad-based and affects all firms. Empirical evidence shows that the more complicated models have not been in a position to outperform the single index model in terms of

their ability to predict ex-ante covariance between security returns (Reilly & Brown, 2006).

To estimate idiosyncratic volatility, standard deviation of regression residual (ε_{it}) from this Single Index Model is used, the model has also been used by Sias (1996), Malkiel and Xu (2003), Chang (2004), Henker (2012); Herskovic, Kelly and Lustig (2016).

2.5 Critique of Literature

After reviewing existing literature, the researcher found that most of the past studies have dwelled mostly on value relevance of accounting information and its effect on stock prices and not the relationship between published accounting information and idiosyncratic volatility. Shehzad and Ismail (2014) found that earning per share is more value relevant than book values, while accounting data explains a high proportion of the stock price. The relevant information is such that it influences the economic decisions of users by helping them evaluate past, present and future events. Other researchers who studied value relevance of accounting information include Collins, Maydew and Weiss (1997); Ayed and Abaoub (2006); Habib and Elhamawy, (2009); Ayzer and Cema (2013), Halonen and Pavlovic (2013).

Other past empirical literature on effect of published financial information on stock volatility has resulted in contradictory and inconclusive findings. For instance, Ghosh and Ghosh (2015) conducted a study on whether corporate accounting disclosures through annual report influence stock price volatility in Dhaka stock exchange, they found that earning per share, return on equity and book value per share significantly and positively influenced stock price volatility. Nyamai (2012) studied the effects of cash management and firm's liquidity on share prices of companies listed at the NSE and concluded that liquidity has a positive influence on share performance. Kihara (2011) noted a positive correlation between cash flows and the earnings.

After investigating the impact of dividend per share, earnings per share and book value per share of stock price movement on a sample of 100 companies listed in the

Colombo Stock Exchange (CSE) from 2008 to 2012. Menike and Prabath (2014) found that all variables were positive and had a significant impact on the stock price volatility in the CSE. Osba (2007); Luo, (2008); Wang and Chang (2008); Pavlovic and Persson (2013) also found that accounting information have positive and significant effect on stock price volatility. Gachucha (2014) studied the relationship between financial management practices and stock returns of listed companies in Nairobi securities exchange, he found important and strong positive correlation between dividend per share, Current ratio (Liquidity), Return on investment and weak positive correlation with debt to equity ratio and volatility in stock returns.

On the other hand, other studies have either shown negative or non-existence relationship between financial accounting information and stock volatility. For instance, AL-Farah, Almeri and Shanikat (2014) studied the ability of accounting variables to explain volatility of stock's price of companies listed in Amman Stock Exchange during the years 2001 to 2010, and found that accounting variables explained only 3.8% of the volatility in stock price while 96.2% of the volatility in stock price referred to other reasons. De Medeiros and Lago (2014) investigated if there is a relationship between accounting information and the volatility of stock returns of Brazilian firms; the empirical results obtained demonstrate that accounting information has a significant and negative effect upon stock's market risk measured by stock return volatility.

2.6 Summary of the literature and gaps

This chapter reviewed the various theories that explain the independent and dependent variables. The reviewed theories were analyzed for relevance to specific variables. This chapter explored the conceptualization of the independent and the dependent variables by analyzing the relationships between the two set of variables. In addition, empirical review was conducted where past studies both global and local were reviewed in line with the following criteria, title, scope, methodology resulting into a critique of the literature. It is from these critiques that the research gap was identified.

A review of past empirical literature shows existence of a research gap in the effect of financial statement information on idiosyncratic volatility of listed securities. Several attempts have been made to find out the effect of published financial information on stock volatility but the findings have been in most cases contradictory and inconclusive, past studies have shown either positive, negative or no relationship between financial statement information and stock price volatility of individual stocks.

Ghosh and Ghosh (2015) conducted a study on whether corporate accounting disclosures through annual report influence stock price volatility in Dhaka stock exchange, the findings revealed that earning per share, return on equity and book value per share significantly and positively influenced stock price volatility. (Gachucha, 2014) found important and strong positive correlation between dividend per share, current ratio, return on investment and weak positive correlation with debt/equity ratio and volatility in stock returns.

Menike and Prabath (2014) examined the impact of dividend per share, earnings per share and book value per share of stock price movement on a sample of 100 companies listed in the Colombo Stock Exchange (CSE) from 2008 to 2012. The results revealed that all variables were positive and had a significant impact on the stock price volatility in the CSE. This result is consistent with the findings by Osba (2007), Luo (2008), Wang and Chang (2008); Pavlovic and Persson (2013) who found that published financial information have a significant and positive effect on stock price volatility. Fu (2009) shows a positive relationship between conditional expected idiosyncratic volatilities and expected stock returns.

Chessar (2015) analyzed the relation between market capitalization, which is a proxy for market value and stock market volatility in the Nairobi Securities Exchange, the study concluded that market capitalization did affect the volatility of listed firms and that although there was a relationship, it was weak. Odongo (2008) investigated the effects of liquidity level on stock returns at the NSE found no evidence to link share prices movement to liquidity of the firms listed.

Al-Farah, Almeri and Shanikat (2014) studied the ability of accounting variables to explain volatility of stock's price of companies listed in Amman Stock Exchange during the years 2001 to 2010. The study found that the accounting variables explained only 3.8% of the volatility in stock price while 96.2% of the volatility in stock price referred to other reasons. Their study concluded that there is lack of significant correlation between accounting information and the stock price volatility. De Medeiros and Lago (2014) investigated if there is a relationship between accounting information and the volatility of stock returns of Brazilian firms; the empirical results obtained demonstrate that accounting information has a significant and negative effect upon stock's market risk measured by stock return volatility.

These mixed and contradictory results of the studies done across different exchanges characterized by diverse global economic and political factors form the research gap and the basis of undertaking this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in gathering data, analyzing the data and reporting results. The chapter covered research philosophy, research design, and population, sampling technique, research instruments, pilot test and data analysis.

3.2 Research philosophy

A review of philosophy is a vital aspect of the research process as it opens researcher's minds to other possibilities, which can lead to both an enrichment of their research skills and an enhancement in their confidence that they are using the appropriate methodology (Holden & Lynch 2004). To be accepted by or convince others in the credibility of our own research methodology a research philosophy must be stated clearly (Remenyi, Williams, Money, & Swartz, 1998).

This study employs positivistic epistemology. A research philosophy is a belief about the way data regarding a phenomenon should be collected and analyzed (Levin, 1988). According to Bryman and Bell (2007), positivism is an epistemological position which studies social reality and beyond by employing natural sciences' methods. The purpose of this study is to establish the effect of financial statement information on idiosyncratic volatility of stocks listed at the Nairobi securities exchange. The independent variables that are considered in this study are, earning per share, dividend per share, book value per share, cash flow and liquidity. Under the positivistic philosophical approach, we set up the hypotheses on the basis of the existing relevant theories. Then these hypotheses are tested and confirmed or disproved by quantitative and statistical methods in order to answer the research questions and accomplish the research purposes. Remenyi, Williams, Money and Swartz, (1998) claimed the result of such research can be applicable

through the positivist approach. The results of this study will be applicable for emerging and the underdeveloped markets.

Under positivist perspective, the concepts need to be operationalized in a way that enables facts to be measured quantitatively; static design categories isolated before study. Moreover, in order to be able to generalize about regularities in human and social behavior it is necessary to select samples of sufficient size; aim of generalizations is to lead to prediction, explanation and understanding (Hussey & Hussey 1997; Remenyi 2000; Bryman & Bell, 2007). Research language is formal, based on set definitions, impersonal voice; use of accepted quantitative words (Creswell, 1994). The researcher is independent and should neither affect nor be affected by the subject of research, the end product of research is aimed to be law, like generalizations similar to those that are produced by natural scientists, and positivism emphasizes quantifiable observations that are used for statistical analysis (Remenyi, Williams, Money, & Swartz 2005).

3.3 Research Design

Research design refers to how data collection and analysis are structured in order to meet the research objectives through empirical evidence economically (Chandran, 2004). According to Cooper and Schindler (2013) research design is the plan and structure of investigation so conceived as to obtain answers to research questions. According to Kothari (2004), research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The choice of the research strategy is guided by the research questions and objectives the extent of existing knowledge, the amount of time and resources available. Sounders, Lewis and Thornhill (2009); Schwab (2005) stated that a research design establishes procedures to obtain cases for study and to determine how scores were obtained from those cases

This study employed correlational research design because it is based on the premise that if a statistically significant relationship exists between two variables, then it is possible to predict one variable using the information available on another variable. A correlational study is a quantitative method of research in which you have two or

more quantitative variables from the same group of subjects, and you are trying to determine if there is a relationship between the variables (Kothari, 2004). Mugenda and Mugenda (2003) explain that a correlational research is used to explore the relationship between variables. Theoretically, any two quantitative variables can be correlated as long as you have scores on these variables from the same participants; however, it is probably a waste of time to collect and analyze data when there is little reason to think these two variables would be related to each other (John & Johnson 2002, Baumgartner, Strong & Hensley, 2002). The correlation between idiosyncratic volatility and financial statement information namely, earning per share, dividend per share, book value per share, cash flow and liquidity is the basis on this study, the study also describe the nature of the relationship between independent and dependent variables.

Correlational and descriptive research design was previously used by Sasa (2013), Macharia (2013) and Chessar (2015). The purpose of this study to examine effect of financial statement information on idiosyncratic volatility of stocks returns among listed firms in Kenya.

3.4 Target Population

Population is the entire group of individuals, events or objects having a common observable characteristic (Mugenda & Mugenda, 2003). The population of this study was the 64 companies listed at the Nairobi Securities Exchange.

Borg and Gall (2007) defines a target population as all members of a real or hypothetical set of people, events or objects from which a researcher wishes to generalize the results of their research while accessible population consists of all the individuals who realistically could be included in a study. Following the criterion employed by Fu (2009), the researcher targeted the stocks that were traded for a minimum of 15 days during each month of the sample period. For ease of analysis, the researcher considered only those shares that were present in all months from 1998 to 2017.

Target and accessible population for this study comprised of the 39 listed companies that existed and their shares were actively traded at the NSE from 1998 to 2017.

3.5 Sampling Design

A sample design is a definite plan for obtaining a sample from the sampling frame. It refers to the technique or the procedure the researcher would adopt in selecting some sampling units from which inferences about the population is drawn. Sampling design is determined before any data are collected (Kothari, 2004).

In this study, the researcher used census study, a census study is any inquiry of the entire population of a particular set of 'objects', it is a complete enumeration of all items in the population. A census study occurs if the entire population is very small or it is reasonable to include the entire population (Kothari, 2004). Therefore, this study considered all 39 listed companies that existed and their shares were actively traded at the NSE from 1998 to the year 2017.

3.6 Data Collection Instrument and Procedures

Data collection is the precise, systematic gathering of information relevant to the research problems, using methods such as interviews, participant observations, focus group discussion, narratives and case histories. In this study, the researcher used secondary data. Secondary data means data that are already available, and when using such data, the researcher must ascertain its reliability, suitability and adequacy to the study at hand (Kothari 2004). The information is economical in terms of effort and expenses, and helps to improve the understanding of the problem (Wilson, 2010)

The researcher collected annual audited and published financial statements for all 39 sampled listed companies for the twenty-year period under study (1998 to 2017). The financial statements were obtained from specific listed company's websites and NSE handbook. A research assistant was engaged to extract the required accounting data (earning per share, dividend per share, book value per, cash flow from operating activities, current asset, current liabilities and number of issued shares) for

all companies in all the financial years under review. The extracted data was input to pre-structured work sheet.

Data used in the derivation of idiosyncratic volatility was listed companies weekly share prices and weekly NSE 20 share index; both data sets was obtained from The Nairobi Securities Exchange data vendors. Weekly average 91-day Treasury bill (TB) rate was taken as proxy for risk free rate, and was collected from Central Bank of Kenya weekly statistical bulletin. This data was then arranged in a pre-structured work sheet and then converted to software format. The researcher took greater care to ensure accuracy and reliability of the data collected. This was to ensure that the study focused on its key objectives and enabled the researcher to come up with reliable findings.

3.7 Data Analysis Procedures

The secondary data extracted from the financial statements was used to compute the relevant ratios. The secondary data encompassed panel data which consists of time series and cross-sections. The panel data obtained was analyzed using descriptive statistics, correlation analysis, and panel regression analysis. The data extracted from the financial statements was keyed in to Excel worksheets to compute the relevant ratios for each of the firms for the period under consideration. The data was then formatted in to suit the software for further analysis. Descriptive statistics was used to summarize and profile the status of Earnings per Share, Dividend per share, Book value per share, Cash flow from operations, Firms size, Firms liquidity and Idiosyncratic volatility of the 39 listed firms at the NSE. Descriptive statistics used include the mean, median and standard deviation.

The researcher perfumed various diagnostic tests, Multicollinearity test was performed to find out presence of correlations between the predictor variables. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed (Field, 2009). Unit root tests was conducted using the LLC test to establish whether the variables were stationary or non-stationary. The purpose of

this is to avoid spurious regression results being obtained by using non-stationary series.

Normality test was conducted to find out if the residuals are normally distributed. Heteroscedasticity test was run in order to test whether the error terms are correlated across observation in the time series data. The study employed the Wooldridge test for autocorrelation to detect the existence of autocorrelation in the data, that is, whether or not the residual is serially correlated over time and finally Hausman's specification test (1978) wos conducted in order to choose between fixed and random effect models.

The analysis of variance (ANOVA) was checked to reveal the overall model significance. In particular, the calculated F-statistic was compared with the tabulated F-statistic. A critical p-value of 0.05 was used to determine whether the overall model is significant or not. The individual regression coefficients were checked to see whether the independent variables (Financial statement information) significantly affected the idiosyncratic volatility of listed firms. A critical p-value of 0.05 was used to determine whether the individual variables are significant or not.

The conclusion was based on the basis of p value where, if the null hypothesis of the beta is rejected then the overall model is significant and if null hypothesis is accepted the overall model was insignificant. In other words, if the p-value is less than 0.05 then it was concluded that the model is significant and is a good predictor of the dependent variable and that the results are not based on chance. If the p-value was greater than 0.05 then the model was not significant and could not be used to explain the variations in the dependent variable

To estimate idiosyncratic volatility for sampled stocks at the Nairobi securities exchange, the researcher employed the standard deviation of the regression residual (ε_{it}) from Single Index Model as outlined in Malkiel and Xu (2003).

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + \varepsilon_{i,t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3.1)$$

Where: i =Specific stock,

R_m =Return on the all ordinaries index

t = Time interval

$R_{i,t} - R_{f,t}$ = Excess return of firm *i* in month t

$R_{m,t} - R_{f,t}$ =Excess market return in month t

ε_{it} = regression residual.

For each year, the researcher conducted the regression model for each firm using monthly excess returns.

3.7.1 Empirical Model

The study employed a dynamic panel data regression model to analyze the effect of financial statement information on idiosyncratic volatility of stocks listed at the Nairobi securities exchange. Panel data contain observations of multiple phenomena obtained over multiple time periods for the same firms or individuals (Hsiao, 2003). The data is preferred because it reveals changes at the individual firms' level, establishes time order of variables and shows how relationships emerge (Frees, 2004).

Panel data regression has been chosen for a number of reasons. Firstly, panel data allows for the control of individual heterogeneity, making it possible to exclude biases deriving from the existence of individual effects (Hsiao, 2003). Secondly, panel data yields more informative data, more variability and less collinearity among variables than is characteristic of cross-section or time-series data, more degree of freedom and more efficiency (Baltagi, 2005). Thirdly, panel data can be used to obtain consistent estimators in the presence of omitted variables (Wooldridge, 2002). Panel data sets are also able to recognize and estimate the effects that cannot be merely detected in pure cross-sections or pure time-series data (Baltagi, 2005). Since the study focused only on 39 listed companies that existed and their shares were actively traded at the NSE from 1998 to the year 2017, using cross-section data alone would give a small sample but incorporating the time series of 20 years, the

sample expands to 780 observations. The resultant large sample made it possible for the study to satisfy asymptotic requirements (Gujarati, 2003).

The general empirical model used in the study is defined as follows:

$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$ ……. (3.2)

Where: Y_{it} is the dependent variable denoting idiosyncratic volatility of firm *i* at time *t*; *i* denotes the observation (firm), i = 1,……, 39 while t is the time period, t = 1998, ……, 2017; X_{it} denotes a vector of independent variables, β are coefficients to be estimated, α is a constant term, and ε_{it} is a composite error term.

Equation 3.2 is expanded to obtain equations 3.3, 3.4, 3.5, 3.6, 3.7 and 3.8 which are used for estimation.

$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X4_{it} + \beta_5 X_{5it} + \varepsilon_{it}$ ……..….(3.3)

Where;

Y_{it} = Idiosyncratic volatility of firm *i* at time *t;*

X_{1it} = Earnings per Share of firm *i* at time *t;*

$X_{2\,it}$ = Dividend per share of firm *i* at time *t;*

X_{3it} = Book value per share of firm *i* at time *t;*

X_{4it} = Cash flow from operations of firm *i* at time *t;*

X_{5it} = Firms liquidity of firm *i* at time *t;*

X_{6it} = Firms size (moderating variable)

β_0 = the constant term

β_s= The coefficients for the various independent variables

Subscript *i*= Firms (cross-section dimensions) ranging from 1 to 39;

Subscript *t* = Years (time-series dimensions) ranging from 1998 to 2017;

ε_{it} = Composite error term of the model.

3.7.2 Moderating effect

Stepwise regression models was used to find out the moderating effect of firm size (market value) between independent variables and idiosyncratic volatility of stock returns among listed firms in Kenya. The following models was used to test hypothesis six. The test was in five levels to assess whether firm size moderates the relationship between each of the independent variables and idiosyncratic volatility of stocks.

Level one; Earnings per Share

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_1 X_{1it} * X_{6it} + \varepsilon_{it} \quad (3.4)$$

Level two; Dividend per share

$$Y_{it} = \beta_0 + \beta_1 X_{2it} + \beta_1 X_{2it} * X_{6it} + \varepsilon_{it} \quad (3.5)$$

Level three; Book value per share

$$Y_{it} = \beta_0 + \beta_1 X_{3it} + \beta_1 X_{3it} * X_{6it} + \varepsilon_{it} \quad (3.6)$$

Level four; Cash flow from operations

$$Y_{it} = \beta_0 + \beta_1 X_{4it} + \beta_1 X_{4it} * X_{6it} + \varepsilon_{it} \quad (3.7)$$

Level five; Firms liquidity

$$Y_{it} = \beta_0 + \beta_1 X_{5it} + \beta_1 X_{5it} * X_{6it} + \varepsilon_{it} \quad (3.8)$$

3.7.3 GARCH Model

To check on volatility of stocks listed at the Nairobi securities exchange, a GARCH (1, 1) model was used. GARCH-type models are the most prevalent among empirical studies on stock market volatility (Shin, 2005; Nikkinen, Omran, Sahlström & Äijö, 2008; Karunanayake, 2011; & Er and Fidan, 2013). Under the $\mathrm{GARCH}\ (1,1)$ process, conditional volatility is modelled as:

$$\sigma^2_{t|t-1} = \omega + \alpha\vartheta^2_{t-1} + \beta\sigma^2_{t-1|t-2} \quad \text{.....(3.9)}$$

Where;

σ^2_t = time-dependent standard deviation

ω =constant

ϑ^2_t =Residual

The parameters of the $\mathrm{GARCH}\ (1,1)$ process must be non-negative ($\omega > 0$, $\alpha \geq 0$ and $\beta \geq 0$) to ensure that $\sigma^2_{t|t-1}$ is positive for all values of the white noise process, ε_t. The new information at time $t-1$ is embodied in the ARCH term, the squared residual,ϑ^2_{t-1}. The carrier of the old information at time $t-1$ is the GARCH term,$\sigma^2_{t-1|t-2}$ (Rachev *et al.*, 2008). Persistence of shocks to volatility becomes greater as the sum $(\alpha+\beta)$ approaches unity. A significant impact of

volatility on the stock prices can only take place if shocks to volatility persist over a long time (Porteba & Summers, 1986).

A value less than unity implies that shocks decay with time (Chou, 1988). The closer to unity the value of the persistence measure, the slower is the decay rate. A major shortcoming of the "plain vanilla" $\mathrm{GARCH}\ (1,1)$ model is that it does not capture the volatility asymmetry typically observed in practice. Both positive return shocks (when$\vartheta_{t-1} > 0$) and negative return shocks (when$\vartheta_{t-1} < 0$) have an identical impact on the conditional variance, $\sigma^2_{t|t-1}$, since the residual ϑ_{t-1} appears in squared form.

3.8 Diagnostic Tests

It was essential to ensure non-violations of the assumptions of the classical linear regression model (CLRM) before attempting to estimate equations 3.3- 3.8. Estimating these equations when the assumptions of the linear regression are violated runs the risk of obtaining biased, inefficient, and inconsistent parameter estimates (Brooks, 2008). Consequently, the multicollinearity, autocorrelation, heteroscedasticity, and panel unit root tests were conducted to ensure proper specification of equations 3.3 to 3.8.

3.8.1 Multicollinearity

Multicollinearity was tested in the study using correlation matrix whereby the cut-off point for severe multicollinearity is 0.8 (Gujarati, 2003; Cooper & Schindler, 2008). Failure to account for perfect multicollinearity results into indeterminate regression coefficients and infinite standard errors while existence of imperfect multicollinearity results into large standard errors. Large standard errors affect the precision and accuracy of rejection or failure to reject the null hypothesis. During estimation, the problem is not the presence of multicollinearity but rather its

severity, a correlation coefficient greater than 0.8, thus, indicates the presence of multicollinearity.

3.8.2 Panel Unit Root Test

Unit root tests was conducted using the Levi lechun (LLC) test to establish whether the variables were stationary or non-stationary. The purpose of this is to avoid spurious regression results being obtained by using non-stationary series. The null hypothesis of this test was that all panels have unit root. The alternative hypothesis is that at least one panel did not have unit roots or some panels did not have unit root (Choi, 2001). If any of the variables has unit root, the researcher would difference it and run the equations using the differenced variable.

3.8.3 Normality Tests

The normality assumption ($ut \sim N(0, \sigma 2)$) is required in order to conduct single or joint hypothesis tests about the model parameters (Brooks, 2008). In order to check if the data is normally distributed two different methods to be used. Firstly, normal probability plots were used and if there is a systematic deviation of the plots from a straight line this means that the data is non-normal distributed. However, if the plots are reasonably close to the line the data can be seen as normally distributed (Rupert, 2004). Secondly, in some cases it can be hard to establish if the data is normally distributed by just looking at the scatter plot and hence Bera and Jarque (1981) tests of normality was performed. The study tested normality using probability plots. The study found out that the data was normally distributed.

3.8.4 Heteroscedasticity

Since the data for this research is a cross-section of firms, this raises concerns about the existence of heteroscedasticity. The CLRM assumes that the error term is homoscedastic, that is, it has constant variance. If the error variance is not constant, then there is heteroscedasticity in the data. Running a regression model without accounting for heteroscedasticity would lead to unbiased parameter estimates. To test for heteroscedasticity, the Breusch-Pagan/Godfrey test was used. The null

hypothesis of this study was that the error variance is homoscedastic. If the null hypothesis is rejected and a conclusion made that heteroscedasticity is present in the panel data, then this would be accounted for by running a FGLS model.

3.8.5 Autocorrelation

Since the data involves both cross section and time-series, it raises the suspicion of the existence of serial correlation. The presence of serial correlation indicates that the variables in the model violate the assumptions of the regression (Anderson *et al.,* 2007). To cater for serial correlation, the Woodridge test for autocorrelation was employed. Serial correlation is a common problem experienced in panel data analysis and has to be accounted for in order to achieve the correct model specification. According to Wooldridge (2002), failure to identify and account for serial correlation in the idiosyncratic error term in a panel model would result into biased standard errors and inefficient parameter estimates. The null hypothesis of this test is that the data has no serial correlation. If the serial correlation is detected in the panel data, then the Feasible Generalized Least Squares (FGLS) estimation was adopted.

3.8.6 Test for Fixed or Random Effects

When performing panel data analysis, one has to determine whether to run a fixed effects model or a random effects model. Whereas the fixed effect model assumes firm specific intercepts and captures effects of those variables which are specific to each firm and constant over time, the random effect model assumes that there is a single common intercept and it varies from firm to firm in a random manner (Baltagi, 2005). Thus, for estimating the models, first it is important to determine whether there exists a correlation between the independent variables. If the correlation exists then a fixed effect model would give consistent results otherwise random effect model would be an efficient estimators and it is estimated by generalized least square (Teruel & Solano, 2007).

To determine which of these two models is appropriate, coefficients are estimated by both fixed and random effects. Hausman's specification test (1978) was used to

determine whether fixed or random effect should be used. If the null hypothesis i.e. $E(\mu_i / x_{it}) = 0$ is accepted, then random effect was an efficient estimator otherwise in case of rejection of null hypothesis, fixed effect estimation gave better or efficient estimation of betas.

If Hausman test rejects the null hypothesis, therefore decision is taken to use fixed effect model. STATA was used to estimate the above models. In the event that the Hausman test identifies the fixed effects model as appropriate, then the researcher tested for inclusion of time-fixed effects in the study estimation. The time fixed effects tests if the dummies for all years are equal to zero and if they are, then there is no need for time fixed effects in the specification of the model to be estimated.

To test whether the dummies for all years are equal to zero, F-test was used as proposed by Greene (2008). On the other hand, if the Hausman test selects the random effects model as the more suitable one then there would be need to test whether the panel effects so as to determine whether to run a simple Ordinary Least Square (OLS) regression or the random effects model. Breusch-Pagan multiplier test proposed by Breusch and Pagan (1980) was used to choose between the simple Ordinary Least Square (OLS) regression and the random effects model. The null hypothesis of this test is that variance across the entities is zero, that is, there are no panel effects.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the patterns of the results and their analyses as to their relevance to the objectives and hypotheses. The findings are presented in tables and narrations as per the specific objectives. The chapter presents descriptive statistics, trend analysis, and the pre-estimation and post-estimation tests. The chapter further

presents the results of the models that was adopted in order to achieve the study's objective.

4.2 Sample representation

The 39 sampled listed companies represented 9 sectors as categorized by Nairobi Securities exchange, the sectors are, Agricultural, Automotive, Banking, Commerce and Service, Construction and allied, Energy and Petroleum, Insurance, Investment and Manufacturing. The companies were distributed this sectors and shown in table 4.1 below.

Table 4.1: Sectoral representation of sampled firms

Sectors	Listed firms	% Proportion
Agricultural	6	18%
Automotive	3	8%
Banking	8	21%
Commercial and Services	4	11%
Construction and Allied	3	8%
Energy and Petroleum	3	5%
Insurance	3	5%
Investment	2	8%
Manufacturing	7	16%
Total	**39**	**100%**

The sectoral representation in table 4.1 above indicates that all segments of Nairobi securities exchange has been represented in sample. Therefore the finding can be generalized to total population.

4.3 Descriptive Statistics

Table 4.2 shows the mean, minimum, and maximum values with standard deviation of various variables used in the model for period 1998-2017.

Table 4.2: Descriptive Statistics of all Variables

Variables	Minimum	Mean	Maximum	Std. Deviation
Earnings per share	0.005	6.645	63.406	9.515
Dividends per share	0.004	2.707	46.467	5.670
Book value per share	0.001	1.833	69.598	9.495
Cash flow	1991	9,000,000	130000000	22000000
Liquidity	0.072	2.418	21.259	2.314
Firm Size	420,000	29504000000	900359000000	101879000000
Idiosyncratic Volatility	2.044	26.000	28.890	4.251

Table 4.2 shows all the variables share the same sample size of 780 observations. The overall mean for earnings per share was 6.645 with a minimum of 0.005 and a maximum of 63.406. The standard deviation of earnings per share at 9.515 indicated a variability in earnings per share over time. The mean value of dividend per share was 2.707 with a minimum of 0.004 and maximum of 46.467. The standard deviation for dividend per share was 5.670.

Further, the results showed that the mean of book value per share was 1.833 with a minimum of 0.001 and a maximum of 69.598. The standard deviation of book value per share was 9.495 indicating variability in book value per share over time. Results showed that the mean value of cashflow was 9,000,000 with a minimum of 1991 and a maximum of 130,000,000. The standard deviation of cashflow was at 22,000,000 indicating variability in total cashflow. The mean value of liquidity was 2.418 with a minimum of 0.072 and maximum of 21.259. The standard deviation was for liquidity was 2.314.

Further, the results showed that the mean value for firm size was 29,504,000,000 with a minimun of 420,000 and a maximum of 900,359,000,000. The statndard deviation for firm size was 101,879,000,000. Finally the results indicated that

Idiosyncratic Volatility had a mean of 26 with a minimum of 2.044 and a maximum of 28.890. The standard deviation of 4.251 indicated that there was a small variation of Idiosyncratic Volatility over time.

4.4 Trend Analysis

This section presents the analysis of the trends of the variables. The study conducted a trend analysis to establish the movement of the variables overtime. This helps in carrying out unit root tests as the trend analysis graphically indicates the blueprint of movement in the variables.

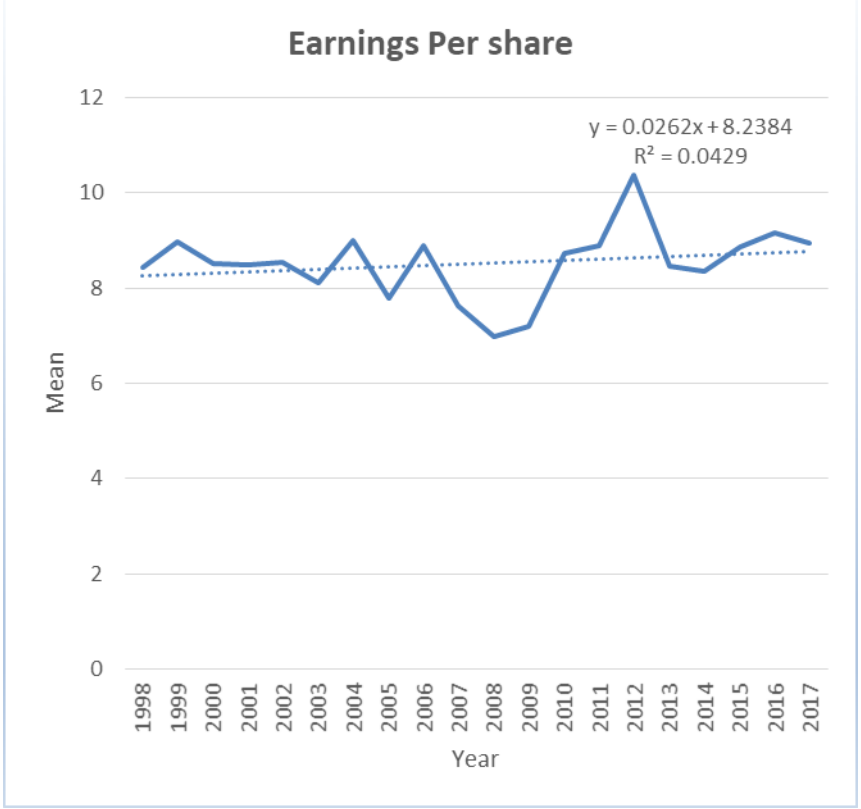

Figure 4.1: Trend of Earnings per share for the Year 1998-2017

Figure 4.1 shows the earnings per share trend line for the firms listed at NSE from the year 1998 to 2017. The trend line indicates that earnings per share varied between 6 and 10. However, there was a slight drop in the year 2007 and 2008

where it recorded values. The values of earnings per share later stabilized in the year 2010 before raising again in 2011 with highest value of 10 in the year 2012. According to Seetharaman and Rudolph (2011), a positive link between earning per share and market value of stock shows that earning per share had greater impact on retail investors in determining the value of a particular stock.

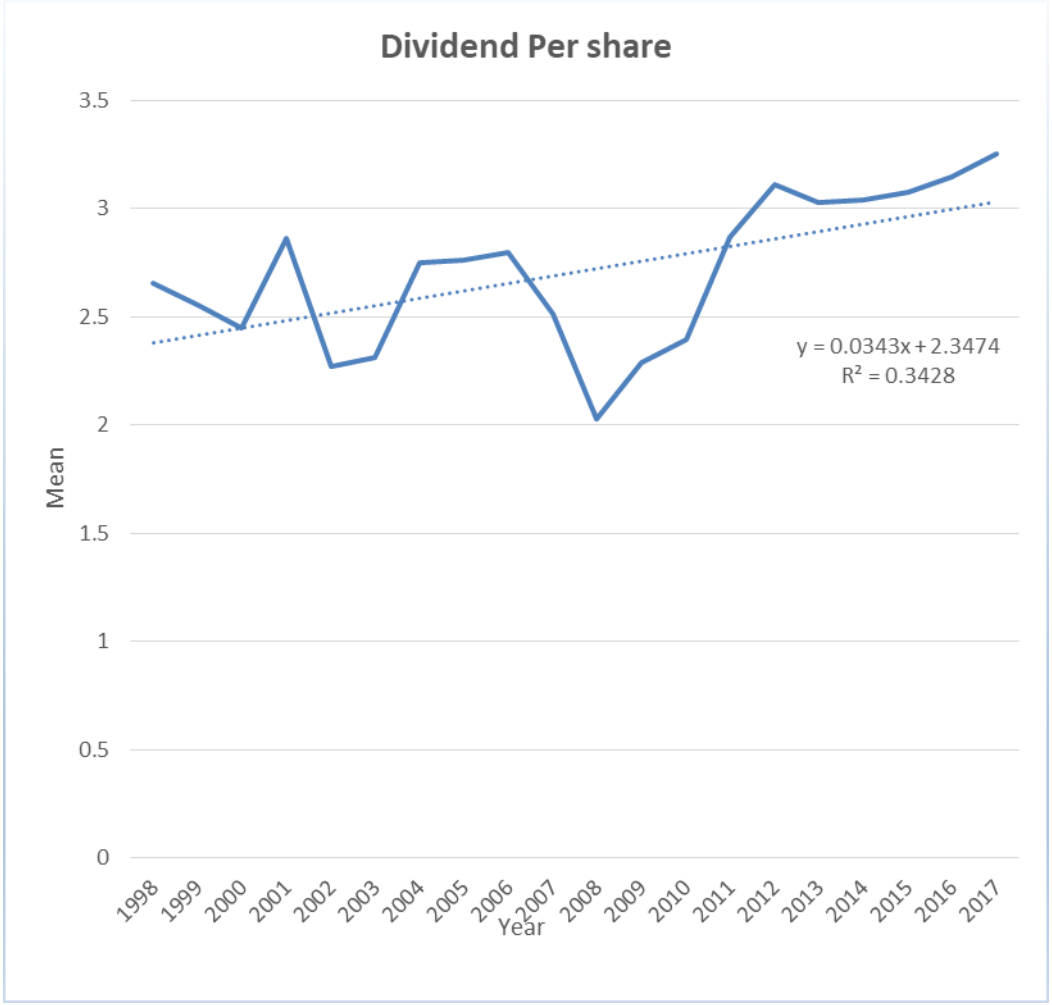

Figure 4.2: Trend of Dividend per share for the Year 1998-2017

Figure 4.2 shows the dividend per share trend line for the firms listed at NSE from the year 1998 to 2017. The trend line shows that dividend per share a general

increasing trend. Dividend per share value was at 2.5 in the year 1998 and rose to 3 in the year 2000. The sharpest drop was in 2008 when it recorded the lowest at 2 and thereafter sustained a general increase to 2017 with a highest record of 3.25. Abo Osba (2007) found that there was a statistically significant and strong relationship between cash dividend in one hand and the banks share price movement on the other hand at Amman Stock Exchange.

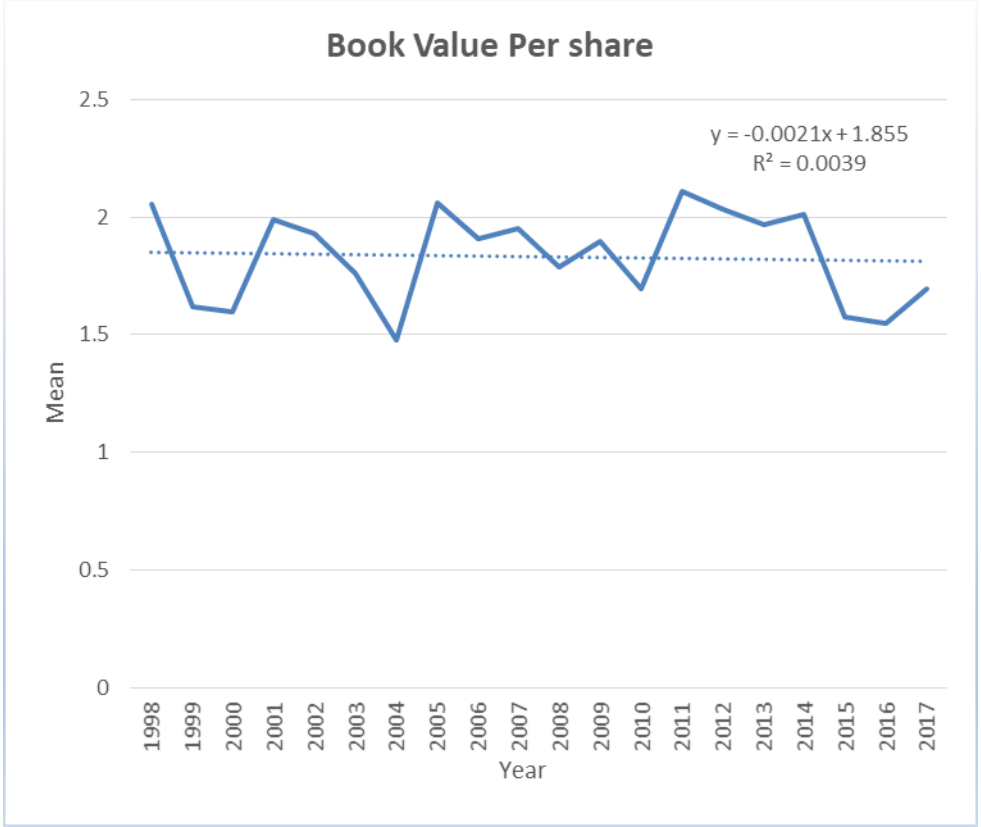

Figure 4.3: Trend of Book Value per share for the Year 1998-2017

Figure 4.3 shows the book value per share trend line for the firms listed at NSE from the year 1998 to 2017. The results show that the trend line had a slight decreasing trend line. The lowest record for book value per share was in 2004 and 2015. The highest record for book value per share was in 1988, 2006 and 2011 with a record of 2.1. Khurana and Kim (2003) notes that the effect of book equity on stock

movements is also a function of differences relating to the extent and accounting measurement of unrecognized intangible assets.

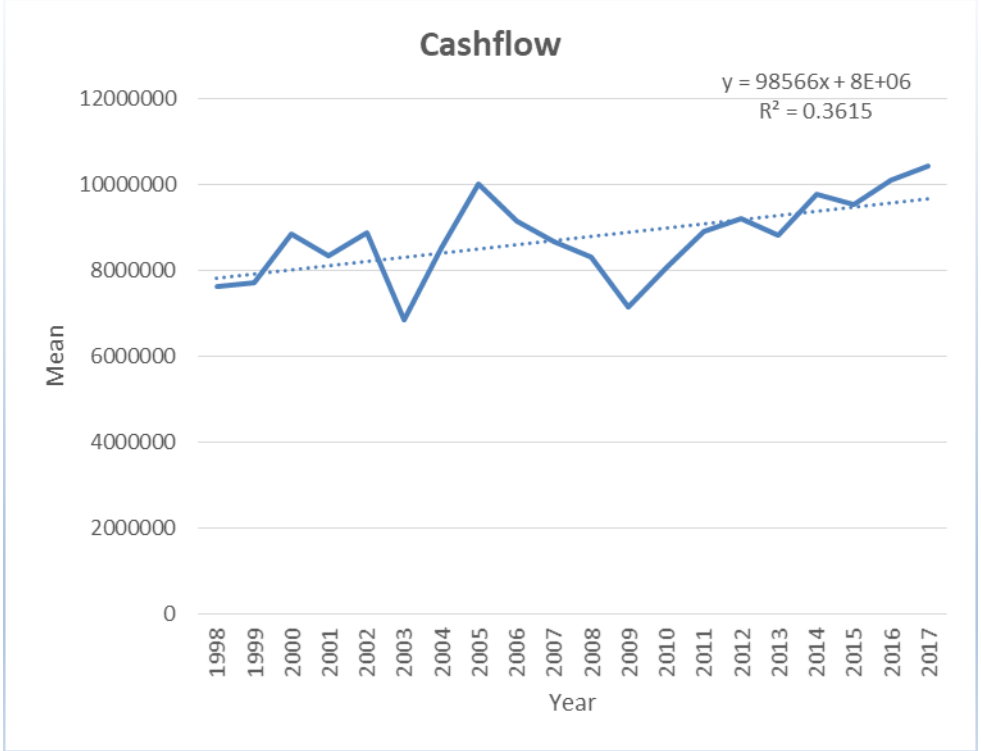

Figure 4.4: Trend of Cash flow for the Year 1998-2017

Figure 4.4 shows the cashflow trend line for the firms listed at NSE from the year 1998 to 2017. The trendline shows a steady incearse from the year 1998 to the year 2017. Cashflow recored two sharp drops in cash flows in the year 2002 and 2008. The highest record for cash flow was in the year 2005 where there was a sharp incesre from the year 2003 to year 2005. However the highest recod was in 2017. According to Epstein and Lee (2010), cash flow statement indicates whether a company's cash flow position is sustainable in the long term, a company may be profitable but can still declared insolvent if they do not have cash or cash equivalent to settle short term liabilities. If a firm's profit is tied up in accounts receivables,

prepayments and inventory, it may not have enough operating cash flow to settle short term debts.

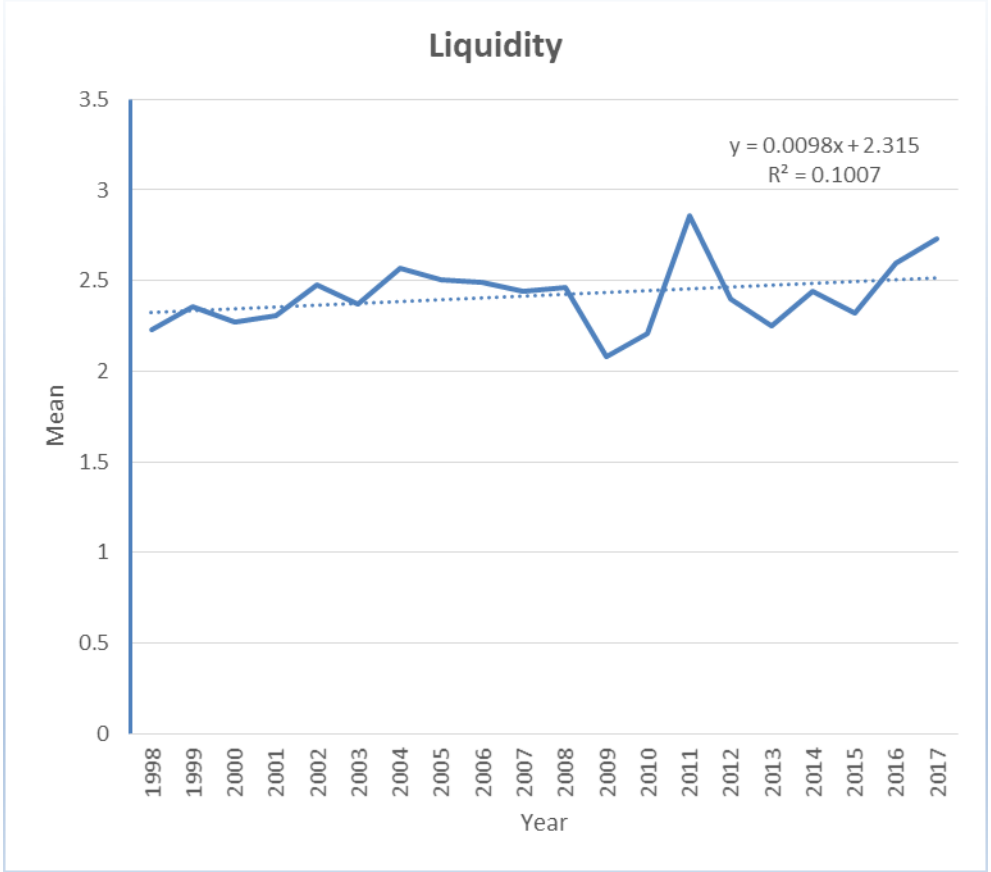

Figure 4.5: Trend of Liquidity for the Year 1998-2017

Figure 4.5 shows the liquidity trend line for the firms listed at NSE from the year 1998 to 2017. The trend line recorded the lowest in the year 2008 with a value of 2 and then had a sharp rise in the year 2011 with a record of 3.8. The trendline indicated a steady incearse from the year 1998 to the yerar 2017. Gachucha (2014) states that the liquidity ratios are a result of dividing cash and other liquid assets by the short term borrowings and current liabilities and show the number of times the short term debt obligations are covered by the cash and liquid assets.

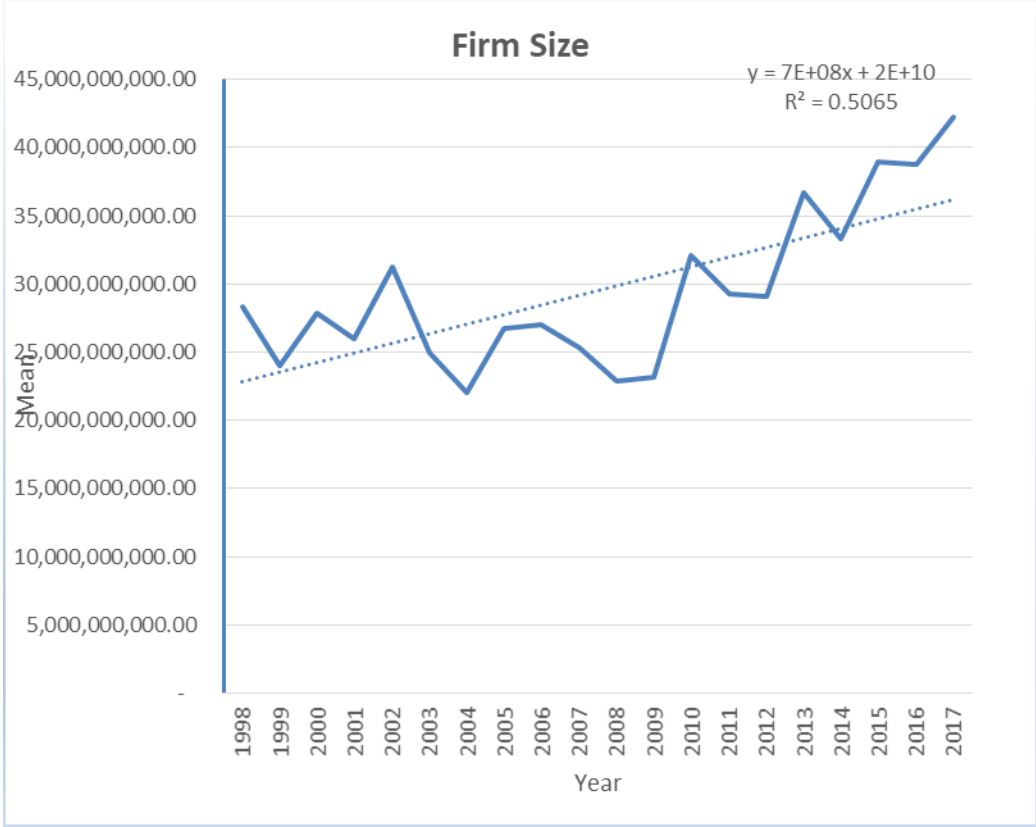

Figure 4.6: Trend of Firm Size for the Year 1998-2017

Figure 4.6 shows the firm size trend line for the firms listed at NSE from the year 1998 to 2017. The trendline shows a steep increase from the year 1998 to the year 2017. The lowest recod was in the year 2003 and the year 2008. The highest record was in the year 2017. This indicates that there has been an general increase in market capitalization in the firms at the nairobi securities exchage. According to Baker (2001) market capitalization is the total market value of all of a company's outstanding shares. The companies uses this figure to determine a company's size, as opposed to sales or total asset figures.

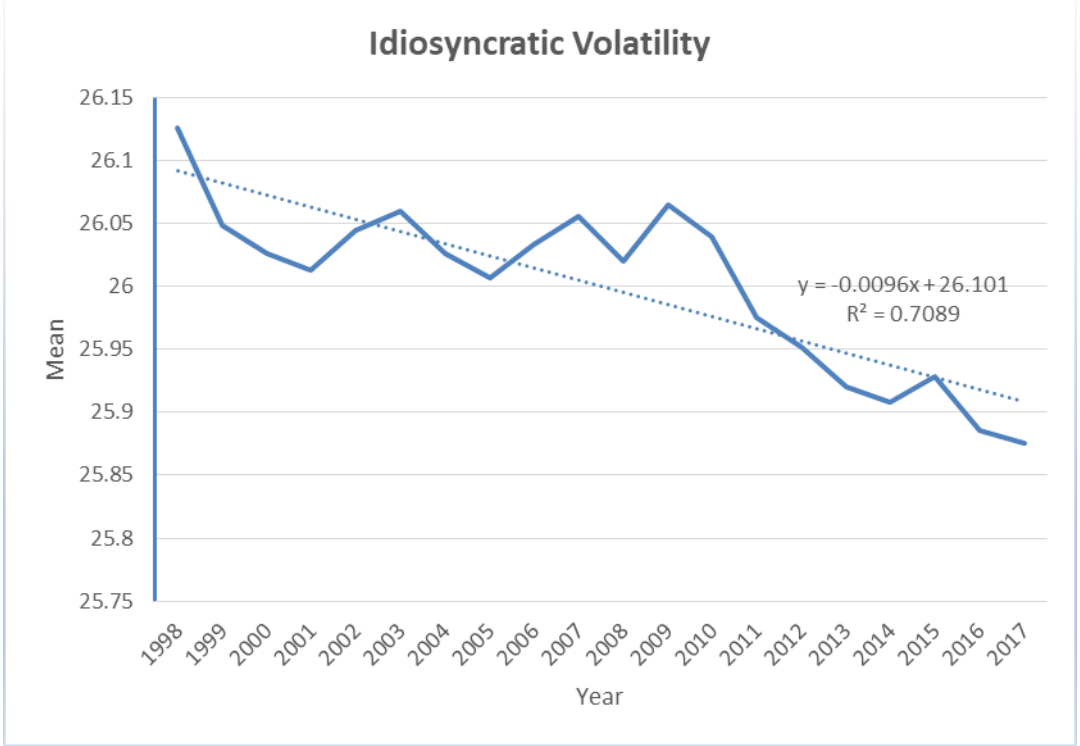

Figure 4.7: Trend of Idiosyncratic Volatility for the Year 1998-2017

Figure 4.7 shows the Idiosyncratic Volatility trend line for the firms listed at NSE from the year 1998 to 2017. The trendline indicated a steep decrese from the year 1998 to the year 2017. However there was some increse in the year 2003, 2006 and 2009.The lowest recod for Idiosyncratic Volatility was in 2017 with a record of 25.88. According to Tran and Nguyen (2015) idiosyncratic volatility represents firm-specific risk that is not associated with the market. Standard asset pricing theory suggests that it should not be priced, because firm-specific risk can be diversified away. Under the assumption of capital asset pricing model (CAPM) investors should be compensated only for bearing systematic risk. However, Research has also shown that due to some reasons, investors do not always hold diversified portfolio which eliminate idiosyncratic volatility as advocated by capital asset pricing model (CAPM) (Fazil, 2013). Other accounting studies document that investors appear to under-react to firms accounting information even when it leads to a drift in stock prices (Bushee and Noe (2000); Gleason and Lee (2003).

4.5 Correlation Analysis

The study conducted correlation analysis for the various variables that are earning per share dividend per share, book value per share, cash flow, liquidity on Idiosyncratic Volatility in order to examine the nature of the statistical relationships between each pair of variables. Table 4.3 shows the correlation matrix of all the variables included in the study.

Table 4.3: Correlation Matrix Results

Variables	Idiosyncratic Volatility	Earnings Per share	Dividends Per share	Book value Per share	Cash flow	Liquidity
Idiosyncratic Volatility	1.000					
Earnings Per share	0.3950** 0.000	1.000				
Dividends Per share	0.3968** 0.000	0.5043** 0.000	1.000			
Book value Per share	-0.8837** 0.000	-0.1709** 0.000	-0.1548** 0.000	1.000		
Cash flow	0.3931** 0.000	0.5546** 0.000	0.5195** 0.000	-0.1785** 0.000	1.000	
Liquidity	-0.4691** 0.000	-0.5987** 0.000	-0.5899** 0.000	0.2214** 0.000	-0.5958* 0.000	1.000

The results in Table 4.3 show that earning per share (0.395, 0.000) had a positive and significance relationship with Idiosyncratic Volatility of stock returns among listed firms in Kenya. The results show that Dividends Per share (0.3968, 0.000) had a positive and significance relationship with Idiosyncratic Volatility of stock returns among listed firms in Kenya. Further, the results showed that Book value per share (-0.8837, 0.000) had a negative and significance relationship with Idiosyncratic Volatility of stock returns among listed firms in Kenya. The results show that cash flow (0.3931, 0.000) had a positive and significance relationship with Idiosyncratic Volatility of stock returns among listed firms in Kenya. Finally, the results showed that liquidity (-0.4691, 0.000) had a negative and significance relationship with Idiosyncratic Volatility of stock returns among listed firms in Kenya.

This results agree with Ghosh and Ghosh (2015) conducted a study on whether corporate accounting disclosures through annual report influence stock price volatility in Dhaka Stock Exchange revealed that Earning per share and Return on equity significantly and positively influenced stock price volatility during the study period and earning per share and net asset value per share jointly can explain highest variation in stock price movement in Dhaka Stock Exchange, but the results contradicted with Ghosh and Ghosh, 2015 findings that net asset value per share (book value) significantly and positively influenced stock price volatility. Mgbame and Ikhatua (2013) found that earnings per share significantly influence stock price volatility at the Nagerian stock market. The results also contradicted with Gachucha (2014) who showed that there was an important strong positive correlation between current ratio and volatility in stock returns.

4.6 Diagnostic Tests

The study conducted out different diagnostic tests to make sure that the postulations of Classical Linear Regression Model (CLRM) are not contravened and to select the appropriate models for investigation in the event that the CLRM postulations are violated. Thus, prior to running a regression model pre-estimation and post estimation tests have been conducted. The pre-estimation tests conducted in this case

are the multicollinearity test and unit root tests while the post estimation tests are normality test, test for heteroscedasticity, test for autocorrelation, and Hausman specification test. The study performed these tests to avoid spurious regression results.

4.6.1 Test for Multicollinearity

According to William *et al.* (2013), multicollinearity refers to the presence of correlations between the predictor variables. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed (Field, 2009). Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors (Belsley *et al*., 1980). Multicollinearity was assessed in this study using the variance inflation factors (VIF). According to Field (2009) VIF values in excess of 10 is an indication of the presence of Multicollinearity. As shown in Table 4.4, the results of liquidity (2.10), cash flow (1.79) earnings per share (1.77), dividend per share (1.69), book value per share (1.06) revealed that there was no multicollinearity since all the values for VIF were less than 10.

Table 4.4: Multicollinearity Results

Variable	**VIF**
Liquidity	2.10
Cash flow	1.79
Earnings Per share	1.77
Dividends Per share	1.69
Book value Per share	1.06
Mean VIF	**1.68**

4.6.2 Panel Unit Root Tests

Unit root tests was conducted using the LLC test to establish whether the variables were stationary or non-stationary. The purpose of this is to avoid spurious regression results being obtained by using non-stationary series. Results in Table 4.5 indicated that all variables are stationary (i.e. absence of unit roots) at 5% level of significance.

Table 4.5: Unit root

Variable name	Statistic(adjusted)	P-value	Comment
Idiosyncratic Volatility	6.0376	0.010	Stationary
Earnings Per share	7.5091	0.000	Stationary
Dividends Per share	8.7683	0.000	Stationary
Book value Per share	3.1016	0.009	Stationary
Cash flow	7.5542	0.020	Stationary
Liquidity	3.9380	0.003	Stationary

The study therefore concludes that all the variables under consideration do not have unit root and are therefore used in levels. This means that the results obtained are not spurious (Gujarati, 2003).

4.6.3 Test for Normality

To test for normality the study employed one approache; the graphical method and the Jarque-Bera test. The results from the graphical method are presented in the figure 4.8 below, indicating that the residuals are normally distributed

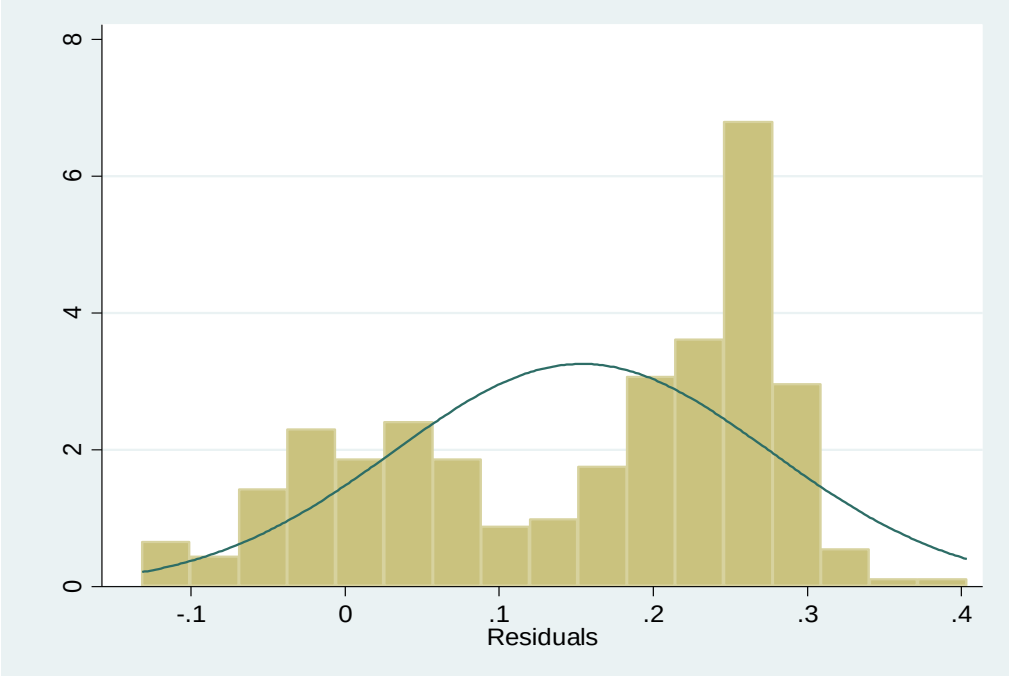

Figure 4.8: Histograms of residuals

The results in Figure 4.8, indicates that the residuals are normally distributed. According to Brooks (2008), a normal distribution is symmetric about its mean, while a skewed distribution will not be, but will have one tail longer than the other tail. If the residuals are normally distributed, the histogram should be bell-shaped. Thus, the results in figure 4.8 show that data is normally distributed since the histogram should be bell-shaped and the tails have the same length.

4.6.4 Heteroskedasticity Test

Heteroscedasticity test was run in order to test whether the error terms are correlated across observation in the time series data. The error terms from a regression model must have a constant variance called Homoscedastic and to ensure whether the residuals meet this criterion of the study used the Breusch-Pagan test for Heteroscedasticity where the null hypothesis under this test is that residuals are Homoscedastic. If the p-value is >0.05, there is constant variance. The null hypothesis was therefore not rejected at a critical p value of 0.05 since the reported value was 0.889. Thus, the data did not suffer from statistically significant heteroscedasticity as shown in Table 4.6.

Table 4.6: Heteroskedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
Ho: Constant variance		
Variable: fitted values		**Idiosyncratic Volatility**
chi2(39)	=	59528.65
Prob > chi2	=	0.889

4.6.5 Test for autocorrelation

The study employed the Wooldridge test for autocorrelation to detect the existence of autocorrelation in the data, that is, whether or not the residual is serially correlated over time and the results are shown in Table 4.7. The null hypothesis of this test was that there is no first order serial/autocorrelation existed in the data. The test statistic reported is F-test with one and 38 degrees of freedom and a value of 438.94. The P-value of the F-test is 0.260 indicating that the F-test is not statistically significant at 5% level. Hence, the null hypothesis of no autocorrelation is supported and the study concludes that residuals are not auto correlated.

Table 4.7: Serial Correlation Tests

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F(1, 38) = 438.94
Prob > F = 0.260

4.6.6 Hausman Test

When performing panel data analysis, one has to determine whether to run a random effects model or a fixed effects model (Baltagi, 2005). In order to make a decision on the most suitable model to use, both random and fixed effects estimate coefficients. The study used the Hausman's specification test (1978) to choose between fixed and random effect models. Table 4.8 shows the results of Hausman test.

Table 4.8: Hausman Test for Idiosyncratic Volatility

	(b) fixed	(B) random	(b-B) Difference	Sqrt (diag(V_b-V_B)) S.E.
Earnings Per share	0.00205	0.00222	-0.00018	0.00029
Dividends Per share	0.01016	0.01028	-0.00013	0.00065
Book value Per share	0.01344	0.01235	0.00109	0.00177
Cash flow	0.00000	0.00000	0.00000	0.00000
Liquidity	0.00235	0.00248	-0.00014	0.00062
chi2(4)	0.77			
Prob>chi2	0.942			

The null hypothesis of the Hausman test is that the random effects model is preferred to the fixed effects model. Hausman test reveals a chi-square of 0.77 with a p-value of 0.942 indicating that at 5 percent level, the chi-square value obtained is statistically insignificant. Thus, the researcher did not reject the null hypothesis that random effects model is preferred to fixed effect model for Idiosyncratic Volatility. Therefore, random effects model for Idiosyncratic Volatility was therefore adopted.

4.7 Panel Regression Analysis

The study sought to carry out panel regression analysis to establish the statistical significance relationship between the independents variables that is earning per

share, dividend per share, book value per share, cash flow and liquidity on Idiosyncratic Volatility According to Rencher and Schaalje (2009), regression analysis is a statistical process of estimating the relationship among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent and one or more independent.

Regression analysis helps one to understand how the typical value of the dependent variable changes when any one of the independent variable is varied, while the other independent variables are held fixed (Mugenda & Mugenda, 2010). On the same note, Wan (2013) contends that regression analysis helps in generating an equation that describes the statistical relationship between one or more predictor variables and the response variable

4.7.1 Effect of Earning Per Share on Idiosyncratic Volatility

Regression analysis was conducted to determine whether there was a significant relationship between. As presented in the Table 4.9, the coefficient of determination R Square is 0.3133. The model indicates that Earning per Share explains 31.33% of the variation in Idiosyncratic Volatility. This means 31.33% of the Idiosyncratic Volatility is influenced by Earning per Share.

Table 4.9: Earnings per Share on Idiosyncratic Volatility

Idiosyncratic Volatility	**Coef.**	**Std. Err.**	**T**	**P>|t|**	**95% Conf.**	**Interval**
Earnings Per share	0.001	0.001	2.210	0.027	0.000	0.003
Cons	25.948	0.027	944.64	0.000	25.894	26.002
R-sq:	0.3133					
F(1,779)	4.89					
Prob	0.027					

The fitted model from the result is

$Y = 25.948 + 0.001X$

Where: Y = Idiosyncratic Volatility

X = Earnings per Share

The findings further confirm that the regression model of Idiosyncratic Volatility on Earnings per Share index is positive and significant with a coefficient of (r= 0.001, p=0.027) supported by F=4.89. This is also confirmed by the t-statistic value of 2.210 which was greater than the t-critical of 1.96. This implies that there exist a positive and significant relationship between Earnings per Share and Idiosyncratic Volatility since the coefficient value was positive and the p-values was 0.027 that is less than 0.05. This means that a unitary increase in Earnings per Share leads to an increase in Idiosyncratic Volatility by 0.001units holding other factors constant.

This is consistent with Wang and Chang (2008) who found a positively significant relationship between earnings per share and stock price volatility at the Taiwan Stock Exchange. Seetharaman and Rudolph (2011) also found a positive link between earning per share and market value of stock and was also disclosed showing that earning per share had greater impact on retail investors in determining the value of a particular stock and Shehzad and Ismail (2014) findings showed that earning per share is more value relevant than book values, while accounting data explains a high proportion of the stock price.

4.7.2 Effect of Dividend per Share on Idiosyncratic Volatility

Regression analysis was conducted to determine whether there was a significant relationship between Dividend per Share and Idiosyncratic Volatility of stock returns among listed firms in Kenya. As presented in the Table 4.10, the coefficient of determination R Square is 0.3295. The model indicates that Dividend per Share explains 32.95% of the variation in Idiosyncratic Volatility. This means 32.95% of the Idiosyncratic Volatility is influenced by Dividend per Share.

Table 4.10: Dividend per Share on Idiosyncratic Volatility

Idiosyncratic Volatility	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Dividends Per share	0.0035	0.0013	2.72	0.007	0.0010	0.0059
Cons	25.940	0.026	993.5	0.000	25.889	25.990
R-sq:	0.3295					
F(1,779)	7.37					
Prob	0.007					

The fitted model from the result is

$Y = 25.94 + 0.000035X$

Where: Y = Idiosyncratic Volatility

X = Dividend per Share

The findings further confirm that the regression model of Idiosyncratic Volatility on Dividend per Share index is positive and significant with a coefficient of (r= 0.0035, p=0.007) supported by F=7.37. This is also confirmed by the t-statistic value of 2.72 which was greater than the t-critical of 1.96. This implies that there exist a positive and significant relationship between Dividend per Share and Idiosyncratic Volatility since the coefficient value was positive and the p-values was 0.007 that is less than 0.05. This means that a unitary increase in Dividend per Share leads to an increase in Idiosyncratic Volatility by 0.0035 units holding other factors constant.

These findings agree with Abo Osba (2007) who found that there was a statistically significant and strong relationship between cash dividend in one hand and the banks share price movement on the other hand at Amman Stock Exchange. Further, they agree with Menike and Prabath (2014) who examined the impact of dividend per share, earnings per share and book value per share of stock price on companies listed

in the Colombo Stock Exchange (CSE) and the results reveals that all variables were positive and had a significant impact on the stock price volatility in the CSE. But the results contradicted with Hussainey and Mgbame (2011) who examined the relationship between dividend payout and the volatility of stock price and the empirical findings suggest that there is a significant negative relationship between the payout per share of a firm and the volatility of its stock price.

4.7.3 Effect of Book Value per Share on Idiosyncratic Volatility

Regression analysis was conducted to determine whether there was a significant relationship between Book Value per Share and Idiosyncratic Volatility of stock returns among listed firms in Kenya. As presented in the Table 4.11, the coefficient of determination R Square is 0.781. The model indicates that Book Value per Share explains 78.1 % of the variation in Idiosyncratic Volatility. This means 78.1% of the Idiosyncratic Volatility is influenced by Book Value per Share.

Table 4.11: Book Value per Share on Idiosyncratic Volatility

Idiosyncratic Volatility	**Coef.**	**Std. Err.**	**T**	**P>|t|**	**[95% Conf.**	**Interval]**
Book Value Per share	-0.0295	0.1012	-3.43	0.0054	-0.0937	0.004
Cons	26.06	0.0341	764.09	0.000	25.993	26.127
R-sq:	0.781					
F(1,779)	3.71					
Prob	0.0054					

Y = 26.06 - 0.0295X

Where: Y = Idiosyncratic Volatility

X = Book Value per Share

The findings showed that the regression model of Idiosyncratic Volatility on Book Value per Share index is negative and significant with a coefficient of (r= -0.0295, p=0.0054) supported by F=3.71. This is also confirmed by the t-statistic value of 3.43 which was greater than the t-critical of 1.96. This implies that there exist a negative and significant relationship between Book Value per Share and Idiosyncratic Volatility since the coefficient value was negative and the p-values was 0.0054 that is less than 0.05. This means that a unitary increase in Book Value per Share leads to a decrease in Idiosyncratic Volatility by 0.0295 units holding other factors constant.

This findings agree with Mgbame and Ikhatua (2013) who established that Book value per share has a significant influence stock volatility Nigerian Capital Market, and Francis &Schipper (1999) also indicated that book value of equity is highly associated with stock prices movement. Collins. Maydew. and Weiss (1997) suggest that a decline in the effect of earnings on stock movements and an increase in effect of book values. In other studies Ayers (1998), Radhakrishnan and Ronen (2004) documents that book values of equity are highly associated with stock prices volatility, these studies also show that the statistical association between stock prices and book equity is typically stronger than the association between stock returns and earnings.

4.7.4 Effect of Cash flow on Idiosyncratic Volatility

Regression analysis was conducted to determine whether there was a significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya. As presented in the Table 4.12, the coefficient of determination R Square is 0.3253. The model indicates that Cash flow explains 32.53% of the variation in Idiosyncratic Volatility. This means 32.53% of the Idiosyncratic Volatility is influenced by Cash flow.

Table 4.12: Cash flow on Idiosyncratic Volatility

Idiosyncratic Volatility	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Cash flow	0.018	0. 0447	4.07	0.000	0. 009	0. 0027
Cons	25.91	0.026	994.45	0.000	25.858	25.96
R-sq:	0.3253					
F(1,779)	16.6					
Prob	0.0001					

$Y = 25.91 + 0.018X$

Where: Y = Idiosyncratic Volatility

X = Cash flow

The findings showed that the regression model of Idiosyncratic Volatility on Cash flow is positive and significant with a coefficient of (r=0.018, p=0.0001) supported by F=16.6. This is also confirmed by the t-statistic value of 4.07 which was greater than the t-critical of 1.96. This implies that there exist a positive and significant relationship between Cash flow and Idiosyncratic Volatility since the coefficient value was positive and the p-values was 0.001 that is less than 0.05. This means that a unitary increase in Cash flow leads to a increase in Idiosyncratic Volatility by 0.018 units holding other factors constant.

This is consistent with Omokhudu and Ibadin (2015) who investigated the value relevance of accounting information in Nigeria Securities Exchange and found a strong evidence that cash flow from operations is positively and significantly related to share prices movement of stocks listed at the Nigerian Exchange. Cash flow statement indicates whether a company's cash flow position is sustainable in the long term, a company may be profitable but can still declared insolvent if they do

not have cash or cash equivalent to settle short-term liabilities. If a firm's profit is tied up in accounts receivables, prepayments and inventory, it may not have enough operating cash flow to settle short-term debts.

4.7.5 Effect of Liquidity on Idiosyncratic Volatility

Regression analysis was conducted to determine whether there was a significant relationship between Liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya. As presented in the Table 4.13, the coefficient of determination R Square is 0.3418. The model indicates that Liquidity explains 34.18% of the variation in Idiosyncratic Volatility. This means 34.18% of the Idiosyncratic Volatility is influenced by Liquidity.

Table 4.13: Liquidity on Idiosyncratic Volatility

Idiosyncratic Volatility	**Coef.**	**Std. Err.**	**T**	**P>|t|**	**[95% Conf.**	**Interval]**
Liquidity	-0.022	0.004	-5.440	0.000	-0.031	-0.014
Cons	26.100	0.023	1147.810	0.000	26.055	26.144
R-sq:	0.3418					
F(1,779)	29.59					
Prob	0.000					

$Y = 26.1 – 0.022X$

Where: Y = Idiosyncratic Volatility

X = Liquidity

The findings further confirm that the regression model of Idiosyncratic Volatility on Liquidity is negatively and significant with a coefficient of (r= -0.022, p=0.000) supported by F=29.59. This is also confirmed by the t-statistic value of 5.440 which was greater than the t-critical of 1.96. This implies that there exist a negative and significant relationship between Liquidity and Idiosyncratic Volatility since the

coefficient value was negative and the p-values was 0.000 that is less than 0.05. This means that a unitary increase in liquidity leads to a decrease in Idiosyncratic Volatility by 0.022 units holding other factors constant.

The results are consistent with Spiegel and Wang (2005) who found that idiosyncratic volatility and liquidity are inversely related and conclude that the relationship between idiosyncratic volatility and returns could be capturing both the relationship between liquidity and returns and the relationship between size and returns. Using the inventory control models Brunnermeier and Pedersen (2006) also found a negative relationship between liquidity and idiosyncratic volatility. The results contradicts Nyamai (2012) who studied the effects of cash management and firm's liquidity on share prices of companies listed at the NSE concluded that liquidity has a positive influence on Idiosyncratic Volatility and stock performance and Odongo (2008) who investigated the effects of liquidity level on stock returns at the NSE found no evidence to link share prices to liquidity of the listed firms.

4.7.6 Multiple Regression of Financial Statement Information on Idiosyncratic Volatility

An overall regression analysis was conducted between Financial Statement Information that included earning per share dividend per share, book value per share, cash flow and liquidity on the dependent variable that was Idiosyncratic Volatility. According to Rencher and Schaalje (2009), regression analysis is a statistical process of estimating the relationship among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent and one or more independent variables.

More specifically, regression analysis helps one to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed (Mugenda & Mugenda, 2010). In addition, Wan (2013) contends that regression analysis helps in generating an equation that describes the statistical relationship between one or more predictor variables and the response variable.

Table 4.14: Multiple Regression on Idiosyncratic Volatility

Idiosyncratic Volatility	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Earnings Per share	0.002	0.0007	2.903	0.012	0.000	0.003
Dividends Per share	0.004	0.0016	2.295	0.022	0.000	0.000
Book value Per share	-0.001	0.0001	-8.786	0.000	-0.001	-0.001
Cash flow	0.0138	0.0056	2.460	0.014	0.028	0.025
Liquidity	-0.020	0.0052	-3.777	0.000	-0.030	-0.009
Cons	26.21	0.230	116.35	0.000	25.77	26.65
R-sq:	0.8698					
F(5,775)	122.97					
Prob	0.000					

Multiple regressions were done since the study had five independent variables as shown in Table 4.14. The R squared was used to check how well the model fitted the data. The study was supported by coefficient of determination R square of 0.8698. This means that earning per share, dividend per share, book value per share, cash flow and liquidity explain 86.98% of the variations in the dependent variable that is Idiosyncratic Volatility of stock returns among listed firms in Kenya.

The results revealed that there was a positive and significant relationship between Earnings Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r= 0.002, p=0.012). This was supported by a calculated t-statistic of 2.903 that is larger than the critical t-statistic of 1.96. There was a positive and significant relationship between Dividends Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=0.004, p=0.022). This was supported by a calculated t-statistic of 2.295 that is larger than the critical t-statistic of 1.96.

Further, the results revealed that there was a negative and significant relationship between Book value per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.001, p=0.000). This was supported by a calculated t-statistic of 8.786 that is larger than the critical t-statistic of 1.96. The results revealed that there was a positive and significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r= 0.0138, p=0.014). This was supported by a calculated t-statistic of 2.46 that is larger than the critical t-statistic of 1.96.

Lastly, the results revealed that there was a negative and significant relationship between liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.020, p=0.000). This was supported by a calculated t-statistic of 3.777 that is larger than the critical t-statistic of 1.96.

The regression modes was;

$$Y = 26.21 + 0.002X_1 + 0.004X_2 - 0.001X_3 + 0.0138X_4 - 0.020X_5$$

Where: Y = Idiosyncratic Volatility

X_1 = Dividends Per share

X_2 = Liquidity

X_3 = Book value per share

X_4 = Cash flow

X_5 = Liquidity

4.7.7 Moderation Effect of Firm Size on Idiosyncratic Volatility

The objective was to establish the moderating effect of firm size on the relationship between Financial Statement Information Factors and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. Each of the independent variables was moderated by the variable firm size. Results are presented in Table 4.15.

Table 4.15: Moderation Effect of Firm Size Results on Idiosyncratic Volatility

Idiosyncratic Volatility	Coef.	Std. Err.	Z	P>|z|	[95% Conf.	Interval]
Earnings Per share*Firm Size	0.0119	0.0078	1.540	0.1250	0.0000	0.0003
Dividends Per share*Firm Size	0.0357	0.0162	2.210	0.0270	0.0000	0.0000
Book value Per share*Firm Size	-0.0945	0.0131	-7.190	0.0000	-0.0001	-0.0001
Cash flow*Firm Size	0.0149	0.0058	2.570	0.0100	0.0000	0.0000
Liquidity*Firm Size	-0.0019	0.0005	-3.620	0.0000	-0.0029	-0.0009
Cons	26.15	0.243	107.65	0.0000	25.68	26.63
R-sq:	0.9001					
F(5,775)	8.3200					
Prob	0.0000					

The R^2 for firm Financial Statement Information Factors before moderation was 86.98% but after moderation, the R^2 increased significantly to 90.01%. This implies that firm size moderates earning per share, dividend per share, book value per share, cash flow and liquidity on the dependent variable that was Idiosyncratic Volatility. The moderated effect of firm size revealed that there was a positive relationship between Earnings Per share and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=0.0119, p=0.125). This was supported by a calculated t-statistic of 1.54 that is smaller than the critical t-statistic of 1.96. This means that firm size did not have a significant moderating effect on the relationship between earnings per share and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange.

The moderating effect of firm size had a positive and significant on the relationship between Dividends Per share and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=0.0357, p=0.0270). This was supported by a calculated t-statistic of 2.21 that is larger than the critical t-statistic of 1.96. Further, the moderating effect of firm size had a negative and significant on the relationship between Book value per share and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=-0.0945, p=0.000). This was supported by a calculated t-statistic of 7.19 that is larger than the critical t-statistic of 1.96.

The moderating effect of cashflow had a positive and significant on the relationship between cash flow and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=0.0149, p=0.010). This was supported by a calculated t-statistic of 2.57 that is larger than the critical t-statistic of 1.96. Lastly, The moderating effect of firm size had a negative and significant on the relationship between liquidity and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=-0.0019, p=0.000). This was supported by a calculated t-statistic of 3.62 that is larger than the critical t-statistic of 1.96.

This is in agreement with Chordia, Tarun, Sarkar and Avanidhar (2005) who examined the dynamics of the cross-sectional relationships in liquidity, volatility and returns between small and large capitalization stocks in the United States. The responses showed that large capitalization bid-ask spreads respond to shocks in spreads, volatility and returns in the small capitalization sector, with the response to volatility and returns persisting for more than 10 days.

4.8 Hypotheses Testing

Hypotheses were tested using multiple linear regression analysis as represented in Table 4.16.

4.8.1 Hypothesis Testing for Earnings per share

The first hypothesis to be tested was:

H_{01}: Earning per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{01} but if it is more than 0.05, the Ho_1 is not rejected. The results in Table 4.13 indicate that there was a positive and significant relationship between Earnings Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r= 0.002, p=0.012). This was supported by a calculated t-statistic of 2.903 that is larger than the critical t-statistic of 1.96. The null hypothesis was therefore rejected. The study therefore adopted the alternative hypothesis that Earnings Per share has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

4.8.2 Hypothesis Testing for Dividend per share

The second hypothesis to be tested was:

H_{02}: Dividend per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{02} but if it is more than 0.05, the Ho_2 is not rejected. There was a positive and significant relationship between Dividends Per share and Idiosyncratic

Volatility of stock returns among listed firms in Kenya (r=0.004, p=0.022). This was supported by a calculated t-statistic of 2.295 that is larger than the critical t-statistic of 1.96. The null hypothesis was therefore rejected. The study therefore adopted the alternative hypothesis that Dividend Per share has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

4.8.3 Hypothesis Testing for Book Value per share

The third hypothesis to be tested was:

H_{03}: Book Value per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{03} but if it is more than 0.05, the Ho_3 is not rejected. Regression results revealed that there was a negative and significant relationship between Book value per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.001, p=0.000). This was supported by a calculated t-statistic of 8.786 that is larger than the critical t-statistic of 1.96. The study therefore adopted the alternative hypothesis that book value per share has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

4.8.4 Hypothesis Testing for Cash Flow

The fourth hypothesis to be tested was:

H_{04}: Cash Flow has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{04} but if it is more than 0.05, the Ho_4 is not rejected. The results revealed that there was a positive and significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r= 0.0138,

p=0.014). This was supported by a calculated t-statistic of 2.46 that is larger than the critical t-statistic of 1.96. The study therefore adopted the alternative hypothesis that cash flow has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

4.8.5 Hypothesis Testing for Liquidity

The fifth hypothesis to be tested was:

H_{05}: Liquidity has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{05} but if it is more than 0.05, the H_{05} is not rejected. Regression results revealed that there was a negative and significant relationship between liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.020, p=0.000). This was supported by a calculated t-statistic of 3.777 that is larger than the critical t-statistic of 1.96. The study therefore adopted the alternative hypothesis that liquidity has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

4.8.6 Hypothesis Testing for Firm Size as a Moderator

The sixth hypothesis to be tested was:

H_{05}: Firm size does not significantly moderate the relationship between the financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya.

The hypothesis was tested by using multiple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{05} but if it is more than 0.05, the H_{05} is not rejected.

The moderating effect of firm size had an insignificant relationship between Earnings Per share and Idiosyncratic Volatility (r=0.0119, p=0.125). In addition, the moderating effect of firm size had a significant relationship between Dividends Per share and Idiosyncratic Volatility (r=0.0357, p=0.0270). Further, the moderating effect of firm size had a significant relationship with book value per share and Idiosyncratic Volatility (r=-0.0945, p=0.000). The moderating effect of firm size had a significant relationship between cash flow and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=0.0149, p=0.010). Lastly, the moderating effect of firm size had a significant relationship between cash flow and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=-0.0019, p=0.000).

4.8.7 GARCH Model

To check on volatility of stocks listed at the Nairobi securities exchange, a GARCH (1, 1) model was used. GARCH-type models are the most prevalent among empirical studies on stock market volatility (Shin, 2005; Nikkinen, Omran, Sahlström and Äijö, 2008; Karunanayake, 2011; Er and Fidan, 2013). Under the $\mathrm{GARCH}\ (1,1)$ process, conditional volatility is modelled as:

$$\sigma^2_{t|t-1} = \omega + \alpha\vartheta^2_{t-1} + \beta\sigma^2_{t-1|t-2}$$

Where;

σ^2_t = time-dependent standard deviation

ω =constant

ϑ^2_t =Residual

The residual (r) was first predicted after estimating the panel regression model. The command used for estimating GARCH (1,1) was arch r, arch(1) garch(1)

Results are presented in Table 4.16.

Table 4.16: GARCH Model

ARCH family regression						
R	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95%**	**Conf. Interval]**
r_cons	26.35287	0.0050868	5180.59	0.000	26.3429	26.36284
Arch						
L1.	0.8612	0.0630	13.6700	0.000	0.7378	0.9847
Garch						
L1.	0.0759	0.0195	3.8900	0.000	0.0377	0.1141
_cons	0.0089	0.0010	9.0300	0.000	0.0070	0.0108

From Table 4.16, the ARCH'S p-value is statistically significant (β=0.8612, p=0.000). In addition, the GARCH'S p-value is statistically significant (β=0.0759, p=0.000). This means that the variance is auto regressive conditionally heteroskedastic and auto generalized regressive conditionally heteroskedastic. This imply that there is volatility of stocks listed at the Nairobi securities exchange.

4.9 Discussion of Key Findings

4.9.1 Effects of Earning Per Share on Idiosyncratic Volatility

The first objective of the study was to establish the effect of earning per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Regression coefficients revealed that there was a positive and significant relationship between Earnings Per share and Idiosyncratic Volatility of stock returns among listed firms in

Kenya (r= 0.002, p=0.012). This was supported by a calculated t-statistic of 2.903 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in earnings per share leads to an increase in Idiosyncratic Volatility by 0.002 units holding other factors constant.

This is consistent with Wang and Chang (2008) who found a positively significant relationship between earnings per share and stock price volatility at the Taiwan Stock Exchange. Seetharaman and Rudolph (2011) also found a positive link between earning per share and market value of stock and was also disclosed showing that earning per share had greater impact on retail investors in determining the value of a particular stock and Wang and Luo (2013) analyzed the relationship between accounting information and stock price reactions in Shanghai stock exchange, the results showed a positive relationship between accounting information and stock price, but the significant degree varies; earnings per share and return on equity have the most significant correlation.

The positive and significant relationship between earnings per share and Idiosyncratic Volatility and an increase in volatility due to increase in EPS, means therefore that implication of this finding is that stake holders use financial accounting information especially EPS in decision making relating to a specific firm. Therefore, the cost of publishing information should not prevent the users to access the information that is relevant to their decision-making process.

4.9.2 Effects of Dividend Per Share on Idiosyncratic Volatility

The second objective of the study was to establish the effect of dividend per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Regression coefficients revealed there was a positive and significant relationship between Dividends Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=0.004, p=0.022). This was supported by a calculated t-statistic of 2.295 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in dividend per Share leads to an increase in Idiosyncratic Volatility by 0.004 units holding other factors constant.

These findings agree with Abo Osba (2007) who found that there was a statistically significant and strong relationship between cash dividend in one hand and the banks share price movement on the other hand at Amman Stock Exchange. Further, they agree with Menike and Prabath (2014) who examined the impact of dividend per share, earnings per share and book value per share of stock price on companies listed in the Colombo Stock Exchange (CSE) and the results reveals that all variables were positive and had a significant impact on the stock price volatility in the CSE. But the results contradicted with Hussainey and Mgbame (2011) who examined the relationship between dividend payout and the volatility of stock price and the empirical findings suggest that there is a significant negative relationship between the payout per share of a firm and the volatility of its stock price.

The implication of this finding is that, the disclosure of dividend per share in published financial statement is extreamly necessary and important information that is used by stakeholders in making investment deceion. The difficulty of understanding by some investors is not a reasonable justification for not disclosing since there are professional analysts and portfolio managers specialized in assessing firms and subsidize investors.

4.9.3 Effects of Book Value Per Share on Idiosyncratic Volatility

The third objective of the study was to establish the effect of book value per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Regression coefficients revealed that there was a negative and significant relationship between book value per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.001, p=0.000). This was supported by a calculated t-statistic of 8.786 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in book value per share leads to a decrease in Idiosyncratic Volatility by 0.001 units holding other factors constant. Ghosh and Ghosh (2015) found that book value per share positively influenced stock price movement at the Dhaka Stock Exchange.

Carroll, Linsmeier, and Petroni (2003) in their study conclude that fair value estimates are more pervasive in affecting stock price movements. The results contradict Abo Osba (2007) who found that there was a statistically significant strong and positive relationship between share's book value and market price movement at Amman securities exchange.

The findings therefore indicate that the users of financial statement information make investment decision based on book value information disclosed in the published financial report. It is therefore important for book value per share to be to expressly disclosed in the statement.

4.9.4 Effects of Cash flow on Idiosyncratic Volatility

The fourth objective of the study was to establish the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya. Regression coefficients revealed that there was a positive and significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya ($r= 0.0138$, $p=0.014$). This was supported by a calculated t-statistic of 2.46 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in cash flow leads to an increase in Idiosyncratic Volatility by 0.0138 units holding other factors constant.

This is consistent with Omokhudu and Ibadin (2015) who investigated the value relevance of accounting information in Nigeria Securities Exchange and found a strong evidence that cash flow from operations is positively and significantly related to share prices movement of stocks listed at the Nigerian Exchange. Cash flow statement indicates whether a company’s cash flow position is sustainable in the long term, a company may be profitable but can still declared insolvent if they do not have cash or cash equivalent to settle short-term liabilities. If a firm’s profit is tied up in accounts receivables, prepayments and inventory, it may not have enough operating cash flow to settle short-term debts.

4.9.5 Effects of liquidity on Idiosyncratic Volatility

The fifth objective of the study was to establish the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya. Regression coefficients revealed that there was a negative and significant relationship between liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.020, p=0.000). This was supported by a calculated t-statistic of 3.777 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in liquidity leads to a decrease in Idiosyncratic Volatility by 0.020 units holding other factors constant.

The results are consistent with Spiegel and Wang (2005) who found that idiosyncratic volatility and liquidity are inversely related and conclude that the relationship between idiosyncratic volatility and returns could be capturing both the relationship between liquidity and returns and the relationship between size and returns. Using the inventory control models Brunnermeier and Pedersen (2006) also found a negative relationship between liquidity and idiosyncratic volatility.

The results contradict Nyamai (2012) who studied the effects of cash management and firm's liquidity on share prices of companies listed at the NSE concluded that liquidity has a positive influence on Idiosyncratic Volatility and stock performance and Odongo (2008) who investigated the effects of liquidity level on stock returns at the NSE found no evidence to link share prices to liquidity of the listed firms.

The implication of this finding is that users of financial statement are keen in looking at the firm's liquidity position before making any investment decision, therefore liquidity position plays a key role any investment decision making and therefore affect volatility of specific targeted firms.

4.9.6 Effects of Firm Size as a Moderator of Financial Statement Information on Idiosyncratic Volatility

The sixth objective of the study was to establish the moderating effect of firm size on the relationship between financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya. The moderating effect of firm size had an insignificant relationship between Earnings Per share and Idiosyncratic Volatility (r=0.0119, p=0.125). In addition, the moderating effect of firm size had a significant relationship Dividends Per share and Idiosyncratic Volatility (r=0.0357, p=0.0270). Further, the moderating effect of firm size had a significant relationship with book value per share and Idiosyncratic Volatility (r=-0.0945, p=0.000). The moderating effect of firm size was significant on the relationship between cash flow and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=0.0149, p=0.010). Lastly, the moderating effect of firm size had a significant on the relationship between liquidity and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange (r=-0.0019, p=0.000).

This is in agreement with Chordia, Tarun, Sarkar and Avanidhar (2005) who examined the dynamics of the cross-sectional relationships in liquidity, volatility and returns between small and large capitalization stocks in the United States. The responses showed that large capitalization bid-ask spreads respond to shocks in spreads, volatility and returns in the small capitalization sector, with the response to volatility and returns persisting for more longer periods.

4.10 Summary of Hypotheses

The summary results of the hypotheses are presented in Table 4.17.

Table 4.17: Summary of Hypotheses

Objective No	Objective	Hypothesis	Rule	p-value	Comment
Objective 1	To establish the effect of earning per share on idiosyncratic volatility of stock returns among listed firms in Kenya.	H**o** Earning per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, Earning per share has a significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya
Objective 2	To determine the influence of dividend per share on idiosyncratic volatility of stock returns among listed firms in Kenya	Ho: Dividend per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, Dividend per share has a significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya
Objective 3	To find out the effect of book value per share on idiosyncratic volatility of stock returns among listed firms in Kenya	Ho: Book Value per share has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya.	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, Book value per share has a significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya
Objective 4	To establish the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya	Ho: Cash flow has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, Cash flow has a significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya
Objective 5	To establish the effect of firm liquidity on idiosyncratic volatility of stock returns among listed firms in Kenya	Ho: Liquidity has no significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, liquidity has a significant effect on idiosyncratic volatility of stock returns among listed firms in Kenya
Objective 6	To establish the moderating effect of firm size on the relationship between financial statement information and idiosyncratic volatility of stock	Ho: Firm size does not significantly moderate the relationship between the financial statement information and idiosyncratic volatility of stock returns among listed	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore, Firm size has a significantly moderating effect on the relationship between the financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya.

Objective No	Objective	Hypothesis	Rule	p-value	Comment
	returns among listed firms in Kenya	firms in Kenya.			

4.11 Summary of the Chapter

This chapter presented the analysis of the data collected and discussion of the findings. The study utilized descriptive statistics, correlation analysis and regression analysis. The regression analysis results. Earnings per share, dividend per share and cash flow had a positive and significant relationship with Idiosyncratic Volatility of listed firms in the Nairobi securities exchange whereas book value per share value and liquidity had a negative and significant relationship with Idiosyncratic Volatility of listed firms in the Nairobi securities exchange.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of major findings of this study, sets out the relevant conclusions and makes recommendations for practice while suggestions for further studies are highlighted as a way of bridging the gaps identified in the study. The study sought to establish the effect of financial statement information on idiosyncratic volatility of stock returns among listed firms in Kenya. It established the relationship between earning per share, dividend per share, book value per share, cash flow and liquidity on the dependent variable that was Idiosyncratic Volatility. Conclusions of the study are well aligned against the six objectives and the respective hypotheses outlined in chapter one.

5.2 Summary of Major Findings

This section contained the summary of the findings.

5.2.1 Earnings per share and Idiosyncratic Volatility

The first objective of the study was to establish the effect of earning per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Earnings per share was found to be satisfactory in explaining idiosyncratic volatility of stock returns among listed firms in Kenya. Further, results showed that Earnings per share is a good predictor of idiosyncratic volatility. Correlation analysis revealed that Earnings per share was positively and significantly associated to idiosyncratic volatility. Regression coefficients revealed that there was a positive and significant relationship between Earnings Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya ($r= 0.002$, $p=0.012$). This was supported by a calculated t-statistic of 2.903 that is larger than the critical t-statistic of 1.96. The p value of EPS equal to .012 was significant being less than 0.05 confidence level.

This means that a unitary increase in Earnings per Share leads to an increase in Idiosyncratic Volatility by 0.002 units holding other factors constant.

The coefficient of determination R Square of 0.3133 indicates that Earning per Share explains 31.33% of the variation in Idiosyncratic Volatility among listed firms in Kenya. This means 31.33% of the Idiosyncratic Volatility is influenced by Earning per Share. The regression model fitted, statistically, predicted the dependent variable significantly well and hence the study failed to accept the null hypothesis $H0_1$ at 95% confidence interval, meaning there was significant relationship between Earning per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya.

5.2.2 Dividend per share and Idiosyncratic Volatility

The second objective of the study was to establish the effect of dividend per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Dividend per share was found to be satisfactory in explaining idiosyncratic volatility of stock returns among listed firms in Kenya. Further, results showed that dividend per share is a good predictor of idiosyncratic volatility. Correlation analysis revealed that dividend per share was positively and significantly associated to idiosyncratic volatility. Regression coefficients revealed there was a positive and significant relationship between Dividends Per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya ($r=0.004$, $p=0.022$). This was supported by a calculated t-statistic of 2.295 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in dividend per Share leads to an increase in Idiosyncratic Volatility by 0.004 units holding other factors constant. The R Square of 0.3295 indicates that Dividend per Share explains 32.95% of the variation in Idiosyncratic Volatility. This means 32.95% of the Idiosyncratic Volatility is influenced by Dividend per Share. The study hence failed to accept the null hypothesis H02 at 95% confidence interval, meaning there was significant relationship between dividend per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya.

5.2.3 Book Value per Share and Idiosyncratic Volatility

The third objective of the study was to establish the effect of book value per share on idiosyncratic volatility of stock returns among listed firms in Kenya. Book value per share was found to be satisfactory in explaining idiosyncratic volatility of stock returns among listed firms in Kenya. Further, results showed that book value per share is a good predictor of idiosyncratic volatility. Correlation analysis revealed that book value per share was negatively and significantly associated to idiosyncratic volatility. Regression coefficients revealed that there was a negative and significant relationship between Book value per share and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.001, p=0.000). This was supported by a calculated t-statistic of 8.786 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in book value per Share leads to a decrease in Idiosyncratic Volatility by 0.001 units holding other factors constant.

The R Square of 0.781 indicates that Book Value per Share explains 78.1 % of the variation in Idiosyncratic Volatility. This means 78.1% of the Idiosyncratic Volatility is influenced by Book Value per Share. The study therefore adopted the alternative hypothesis that book value per share has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya

5.2.4 Cash flow and Idiosyncratic Volatility

The fourth objective of the study was to establish the effect of cash flow on idiosyncratic volatility of stock returns among listed firms in Kenya. Cash flow was found to be satisfactory in explaining idiosyncratic volatility of stock returns among listed firms in Kenya. Further, results showed that cash flow is a good predictor of idiosyncratic volatility. Correlation analysis revealed that cash flow was positively and significantly associated to idiosyncratic volatility. Regression coefficients revealed that there was a positive and significant relationship between Cash flow and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r= 0.0138, p=0.014). This was supported by a calculated t-statistic of 2.46 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in cash flow leads to an increase in Idiosyncratic Volatility by 0.0138 units holding other factors constant.

The coefficient of determination R Square is 0.3253. The model indicates that Cash flow explains 32.53% of the variation in Idiosyncratic Volatility. This means 32.53% of the Idiosyncratic Volatility is influenced by Cash flow. The study hence failed to accept the null hypothesis $H0_4$ at 95% confidence interval, meaning there was significant relationship between cashflow and Idiosyncratic Volatility of stock returns among listed firms in Kenya.

5.2.5 Liquidity and Idiosyncratic Volatility

The third objective of the study was to establish the effect of liquidity on idiosyncratic volatility of stock returns among listed firms in Kenya. Liquidity was found to be satisfactory in explaining idiosyncratic volatility of stock returns among listed firms in Kenya. Further, results showed that liquidity is a good predictor of idiosyncratic volatility. Correlation analysis revealed that liquidity was negatively and significantly associated to idiosyncratic volatility. Regression coefficients revealed that there was a negative and significant relationship between liquidity and Idiosyncratic Volatility of stock returns among listed firms in Kenya (r=-0.020, p=0.000). This was supported by a calculated t-statistic of 3.777 that is larger than the critical t-statistic of 1.96. This means that a unitary increase in liquidity leads to a decrease in Idiosyncratic Volatility by 0.020 units holding other factors constant.

The R Square of 0.3418 indicates that Liquidity explains 34.18% of the variation in Idiosyncratic Volatility, meaning that 34.18% of the Idiosyncratic Volatility is influenced by Liquidity. The study therefore adopted the alternative hypothesis that liquidity has a significant effect on Idiosyncratic Volatility of stock returns among listed firms in Kenya.

5.2.6 Firm Size as a Moderator of Financial Statement Information on Idiosyncratic Volatility

The sixth objective of the study was to establish the moderating effect of firm size on the relationship between financial statement information and idiosyncratic volatility of stock returns among listed firms in Kenya. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_{05} but if it is more

than 0.05, the H_{05} is not rejected. The moderating effect of firm size had a significant effect on the relationship between Dividends Per share (r=0.0357, p=0.0270), book value per share (r=-0.0945, p=0.000), cash flow, liquidity (r=-0.0019, p=0.000) and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. However, the moderating effect of firm size had an insignificant effect on the relationship between earnings per share and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange.

5.3 Conclusion

Based on the findings, this study concludes the following;

5.3.1 Idiosyncratic Volatility

Based on the findings, the study concluded that financial statement information significantly influences Idiosyncratic Volatility of stock returns among listed firms in Kenya, more specifically, from the regression analysis results, Earnings per share, dividend per share and cash flow had a positive and significant relationship with Idiosyncratic Volatility of listed firms in the Nairobi securities exchange whereas book value per share and liquidity had a negative and significant relationship with Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. The moderating variable has strengthened the influence more than when the moderating variable was held constant implying that firm size which is the moderating variable in this study has a positive and significant effect on the overall change in all the independent variables.

The study also concludes that published financial statement information is key in determining firms' specific risk and should be considered by all investors in their investment decision making. Due to the importance of financial statement information in investment decisions and risk analysis of specific firms at the securities exchange, it is essential that financial information be released to the public and the same be also made available in a simplified manner to enable investors including retail investors to make prudent investment decision based on fundamental information.

5.3.2 Earning per Share

Based on the findings, the study concluded that Earnings per Share has a positive and significant effect on Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. The earning per share is therefore a useful determinant of Idiosyncratic Volatility, and when compared with earning per share of other similar companies, it gives a view of the comparative earning power of the companies.

Earning per share when calculated over a number of years indicates whether the earning power of the company has improved or deteriorated. Growth in earning per share is therefore an important measure of management performance and Idiosyncratic risk because it shows how much money the company is making for it's shareholders, not only due to changes in profit, but also after all the effects of issuance of new shares.

5.3.3 Dividend Per Share

Based on the findings, the study concluded that dividend per Share has a positive and significant effect on Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. Dividend per Share therefore affects the Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. A company's dividend policy signals the company's future prospects as investors interpret changes in dividend policy in management's expectations about the company's future prospects. An increase in dividend yield may indicate management's optimism expectations on future earnings of the company.

It is concluded that dividend policy affects firms specific risk and that management should carefully prepare a dividend policy that is stable and predictable in order to avoid Idiosyncratic volatility and their firms being perceived as risky by current or potential investors. Fund managers and other investors also should carefully analyses and take into consideration company's dividend payment practices in deciding the risk profile of a specific target firm before they invest into it.

(It is concluded that the dividend policy has a notable effect on changes in stock price and that the payment of dividend increases stock price.. The findings lead to the recommendation that the companies should take into consideration all the factors that affect stock price – in order to ensure the best policy which satisfies the various stakeholders. In addition, companies should increase their dividend payout, so as to increase the price of its stocks) recommendations

5.3.4 Book Value Per Share

Based on the findings, the study concluded that book value per share has a negative and significant effect on Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. Book value per share is therefore crucial as it relate shareholders' equity to the number of shares of common stock outstanding. When the market value of a company is trading for less than its stated value or book value, it could be an indication that the market has lost confidence in the company. The market does not consider that the company is worth the value on its books or that are enough assets to generate future profits and cash flows. When the market value exceeds the book value, the stock market is assigning a higher value to the company due to the earnings power of the company's assets.

It is also concluded that, in order to minimise firms Idiosyncratic risk, the management needs to increase the book value through various means like retain earnings, Acquisition more financial assets, reduction of liabilities or merger with another company with many tangible assets and reviewing the company’s capital structure. Consistently profitable companies typically should have market values greater than book values. If a share’s market value is significantly higher than its book value per common share, this will indicate investors consider the company has excellent future prospects for growth, expansion and increased profits that eventually raise the book value of the company.

5.3.5 Cash Flow

Based on the findings, the study concluded that cash flow has a positive and significant effect on Idiosyncratic Volatility of listed firms in the Nairobi securities

exchange. Strong cash flow is crucial and provides the comfort and capabilities companies needs to invest in growth. A positive cash flow is important as it aids in Investing in research and development, improving technology, providing more training and purchasing more assets and inventory help grow and improve. Getting to a position of excess cash flow helps the company operate in a strategic, proactive way, rather than a reactive, defensive way.

Cash flow also gives the company greater flexibility in responding to emerging dilemmas or making critical decisions. Confidence in cash flow makes it easier to make critical purchases in the near term rather than waiting. It allows the firm to disperse cash in the form of dividends to shareholders or owners. This strengthens the bond between the company and its owners. Strong cash flow also makes the firm more appealing to a lender if it desires to take on new debt at some point. It also has the ability to offer favorable credit terms to attract new buyers if it is less desperate for cash.

5.3.6 Liquidity

Based on the findings, the study concluded that liquidity has a negative and significant effect on Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. Liquidity plays a crucial role in the successful functioning of a business firm. Liquidity not only helps to ensure that a business always has a reliable supply of cash close at hand, but it is a powerful tool when it comes to determining the financial health of future investments as well. It principally has an effect on financial costs reduction or growth, changes in the sales dynamic, as well as it influences on company risk level. The decisive significance of liquidity means that it is important for company development and at the same is one of the fundamental endogenous factors that are responsible for company market position.

The significance of liquidity to company performance might lead to the conclusion that it determines the profitability level of company. The current ratio is used to test a firm’s liquidity, that is, its current or working capital position by deriving the proportion of the firm’s current assets available to cover its current liability. A higher current ratio indicates a larger investment in current assets which means, a

low rate of return on investment for the firm, as excess investment in current assets will not yield enough returns. A low current ratio means smaller investment in current assets which means a high rate of return on investment for the firm, as no unused investment is tied up in current assets. The study therefore concludes that in order to minimise Idiosyncratic risk, a firm need to balance its liquidity position so as to avoid holding too much liquid asset at the expense of investment that yields returns or having a low Liquidity position and risk defaulting on its short-term obligations.

5.3.7 Moderating effect of Firm Size

Based on the findings, the study concluded that firm size moderates the relationship between financial statement information that are dividend per share, book value per share, cash flow and liquidity and Idiosyncratic Volatility of listed firms in the Nairobi securities exchange. The size influences Idiosyncratic Volatility and firm performance because large firm can increase their current size very fast by accumulating earnings from past performance and this enhances their value. In terms of structure, that is firm's characteristics, institutional shareholders can influence any decision by management of firms. The accumulation of funds assists in putting up effective risk management structures. Firm size is a basis of competitive advantage in the sense that larger companies tend to be more efficient than their smaller counterparts and have better resources to survive economic downturns.

5.4 Recommendations

5.4.1 Recommendations for Management

The study recommends that management of listed firms listed should focus on developing financial accounting systems and processes that will result in realization of financial statements that reflect true and fair representation of the listed companies' financial position, they should also disclose all material information that is relevant for stakeholder's decision making. The study also recommends the management to focus on earning per share, dividend per share, book value per share,

cash flow, liquidity and firm size since they were found to have a significant effect on the Idiosyncratic Volatility.

The cost of publishing information, generally on firm's website and newspapers with large circulation, tends to be high. On the other hand, this should not prevent the user access to information that is relevant to the decision-making process. Management should also seek more information on users' needs so that they are able to tailor made information towards that end.

The growth in earning per share is an important measure of management performance and Idiosyncratic risk, this is because it shows how much money the company is making for its shareholders, not only due to changes in profit but also effects of issuance of new shares. Earnings per Share of listed firms should always be considered in relation to other companies in order to make a more informed and prudent investment decision. The managent should also formulate a dividend policy as the dividend ratio signals the company's future prospects as investors interpret changes in dividend policy in management's expectations about the company's future prospects. An increase in dividend yield may indicate management's optimism expectations on future earnings of the company.

Additionally, the managemnt should regulate the cash flow as it strengthens the bond between the company and its owners. Strong cash flow also makes the firm more appealing to a lender if it desires to take on new debt at some point. It also has the ability to offer favorable credit terms to attract new buyers if it is less desperate for cash. Further the study recommends that the management should regularly monitor the company's liquidity ratio as this ensures sound and informed decisions that will increase the company's profits, drive growth and reduce Idiosyncratic risk.

5.4.2 Recommendation to Investors and market analyst

Market investors and analyst needs to review their investment strategies and take into consideration financial statement information in pricing firm specific risk. They need to remain innovative in technology front in order to deliver efficient as well as highly customized asset pricing tools that consider idiosyncratic volatility, this will

enable them make a sound investment decision that suit customers investment preference.

Finally, when facilitating prudent investment advisory services, market analysts, investment advisors and other financial market practitioners should consider other non-financial information factors affecting idiosyncratic volatility not considered in this study. The financial statement information when moderated by firm size explain 90 % of the variations in idiosyncratic volatility, this implies that other factors like politics, government policy, ownership, economic performance etc may have a hand in explaining the other variations in idiosyncratic volatility and reliance on financial statement information alone is thus a necessary but not sufficient condition and may be misleading to a certain extent.

5.4.3 Policy Recommendations

The study found that financial statement information have a significant effect on Idiosyncratic Volatility of firms listed at the Nairobi Securities Exchange. Therefore, the researcher recommends that the policy makers should embrace indicators such earning per share, dividend per share, book value per share, cash flow, liquidity and firm size on their strategic decision-making. These indicators will further guide in expanding the interpretation of the financial dynamics in the listed firms at the Nairobi securities exchange and other related firms. The study further recommends that government policy makers should enhance disclosure requement in published financial statement to include all financial statement variables that affects Idiosyncratic Volatility of firms, and presentation of simplified financial statements that can be understood by all investors in the securities exchange. The government policy makers will also find the findings beneficial in interpreting of idiosyncratic volatility trend thus performance of the listed companies based on the financial statement information.

5.4.4 Contribution of the Study to the Body of Knowledge

There has been a great interest in studies relating volatility by scholars around the world, the study therefore will contributed knowledge on financial statement

information and its effect on idiosyncratic volatility of listed firms stock returns in Kenya. The study recommends that the academicians and scholars should team up to develop theories on financial information that will enhance the knowledge of finance in the developing world instead of relying more on theories from the western world. It is further recommended that the scholars should came up with theories on idiosyncratic risk pricing so as to facilitate compensation of investors who are unable to hold diversified portfolio.

The study further contributes to the body of knowledge in the following ways; the findings of the study will assist the scholars and firm management to evaluate earning per share, dividend per share, book value per share, cash flow and liquidity as the study concluded that the stated factors contribute to idiosyncratic volatility of stock returns.

By undertaking the study, the financial statement information and idiosyncratic volatility of stock returns was explored. This went a long way in adding value to the past findings and enabled users have information and a deeper understanding of the need for enhancing earning per share, dividend per share, book value per share, cash flow and liquidity to improve on idiosyncratic volatility of stock returns. The study also offered a logical ground on which empirical indicators and hypotheses could be identified and tested to verify the theories. It contributed to the body of knowledge and to other researchers, as they will be able to appreciate the effects of the stated factors, inspire similar and further research in other areas, and contribute to the existing literature on financials information and firms specific risk.

5.5 Areas for further research

This study sought to determine the effect of the financial statement information on idiosyncratic volatility of stock returns of Listed Firms in the Nairobi Securities Exchange only, thus area for further studies could consider other companies in Kenya for purpose of making a comparison of the findings with those of the current study.

This study used only six variables that is earning per share, dividend per share, book value per share, cash flow, liquidity and the moderating effect of firm size as the only variables that influence idiosyncratic volatility. Future studies can incorporate other variables like leverage, liabilities and equity since they can influence idiosyncratic volatility.

The study recommends further research to establish the effect of macroeconomic factors on the idiosyncratic volatility of stock returns among listed firms in Kenya, most specifically the effect of inflation, interest rate and foreign direct investment.

Firms listed at the NSE are categorized into 12 sectors, therefore the study recommend further studies on the effect of financial statement information on idiosyncratic volatility of firms in various sectors independently and also the effect of the same information if the study period is reduced from twenty years to five years.

There has been as significant increase in retail investors at the NSE, this study recommends a study on the effect retail investors participation on idiosyncratic volatility of stocks listed at the Nairobi securities exchange.

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APPENDICES

Appendix I: Target Population

NO	Name of Listed Company	Sector	Year of listing
1	Kakuzi	Agricultural	1951
2	Sasini	Agricultural	1965
3	Limuru Tea Co	Agricultural	1967
4	Eaagads	Agricultural	1972
5	Kapchorua Tea Company	Agricultural	1972
6	Williamson Tea Kenya	Agricultural	1972
7	Car & General (K)	Automobiles and accessories	1940
8	Marshalls East Africa	Automobiles and accessories	1969
9	Sameer Africa	Automobiles and accessories	1994
10	CFC Stanbic of Kenya Holdings	Banking	1970
11	NIC Bank	Banking	1971
12	Diamond Trust Bank Kenya	Banking	1972
13	Barclays Bank of Kenya	Banking	1986
14	Standard Chartered Bank Kenya	Banking	1988
15	KCB Group	Banking	1989
16	Housing Finance Co Kenya	Banking	1992
17	National Bank of Kenya	Banking	1994
18	Standard Group	Commercial and services	1954
19	Nation Media Group	Commercial and services	1973
20	Express Kenya	Commercial and services	1978
21	Longhorn Publishers	Commercial and services	1993
22	TPS Eastern Africa	Commercial and services	1997
23	Bamburi Cement	Construction and Allied	1970
24	East African Cables	Construction and Allied	1973
25	Crown Paints Kenya	Construction and Allied	1992
26	Kenya Power & Lighting Co	Energy and Petroleum	1972
27	Total Kenya	Energy and Petroleum	1988
28	KenolKobil	Energy and Petroleum	1959
29	Pan Africa Insurance Holdings	Insurance	1963
30	Jubilee Holdings	Insurance	1984
31	Centum Investment Co	Investment	1967
32	Olympia Capital Holdings	Investment	1974
33	A Baumann & Co	Manufacturing and Allied	1948
34	Kenya Orchards	Manufacturing and Allied	1959
35	British American Tobacco	Manufacturing and Allied	1969
36	B O C Kenya	Manufacturing and Allied	1969
37	Unga Group	Manufacturing and Allied	1971
38	Carbacid Investments	Manufacturing and Allied	1972
39	East African Breweries	Manufacturing and Allied	1972

Appendix II: Operationalization of terms

NO	Variable Name	Nature of Variable	Variable Indicator	Unit of Measurement	Data Collection Method	Type of Scale	Type of Analysis	Level of Analysis
1	Earnings per share	Independent	Profit after tax/ No. of ordinary shares	Kenya shilling Percentage	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
2	Dividend per share	Independent	Dividends declared / Number of ordinary shares	Kenya shilling Percentage	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
3	Book Value per Share	Independent	Net asset value/No. of ordinary shares	Kenya shilling Percentage	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
4	Liquidity	Independent	Current ratio: current asset/current liabilities	Kenya shilling Percentage	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
5	Cash flow	Independent	Cash flow from operating activities	Kenya shilling	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
6	Firm size	Moderating variable	Market capitalization: Market price per share multiply by total number of shares	Kenya shilling	Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis
7	Idiosyncratic volatility	Dependent	Standard deviation of the residual (ε_{it}) from Single Index Model		Secondary data collection sheet	Nominal	Quantitative	Frequencies Descriptive analysis Inferential analysis

Appendix III: Data Output

1. Descriptive Statistics

Variable	Year	Mean
Earnings_PerShare	1998	8.421
	1999	8.95626
	2000	8.51872
	2001	8.48741
	2002	8.54013
	2003	8.10236
	2004	8.98746
	2005	7.77969
	2006	8.89049
	2007	7.63003
	2008	6.96985
	2009	7.1949
	2010	8.7259
	2011	8.89772
	2012	10.37677
	2013	8.46128
	2014	8.34672
	2015	8.86782
	2016	9.15987
	2017	8.94515
	Average	8.51298
Dividends_PerShare	1998	2.65441
	1999	2.55367
	2000	2.44767
	2001	2.86236
	2002	2.268
	2003	2.31318
	2004	2.74833
	2005	2.76246
	2006	2.79923
	2007	2.51546
	2008	2.0259
	2009	2.28726
	2010	2.3921
	2011	2.86841
	2012	3.11013
	2013	3.02841

	2014	3.03862
	2015	3.07562
	2016	3.14405
	2017	3.25177
	Average	2.70735
BookValue_PerShare	1998	2.0521
	1999	1.62046
	2000	1.59879
	2001	1.99008
	2002	1.92954
	2003	1.76015
	2004	1.47692
	2005	2.05805
	2006	1.90697
	2007	1.95018
	2008	1.78649
	2009	1.89718
	2010	1.69241
	2011	2.10821
	2012	2.03251
	2013	1.96723
	2014	2.01077
	2015	1.57479
	2016	1.54856
	2017	1.69733
	Average	1.83294
Cashflow	1998	7606032.538
	1999	7702740.769
	2000	8835218.179
	2001	8326294.231
	2002	8883798.872
	2003	6834580.231
	2004	8520667.872
	2005	10002209.51
	2006	9145339.487
	2007	8658688.562
	2008	8305677.99
	2009	7139950.556
	2010	8078984.423
	2011	8915386.777
	2012	9203334.726
	2013	8810089.8
	2014	9783589.128
	2015	9526541.718
	2016	10097323.69

	2017	10436827.31
	Average	8740663.818
Liquidity	1998	2.23062
	1999	2.35426
	2000	2.27431
	2001	2.30513
	2002	2.47921
	2003	2.37315
	2004	2.57021
	2005	2.50772
	2006	2.48979
	2007	2.43992
	2008	2.46149
	2009	2.08003
	2010	2.20692
	2011	2.85967
	2012	2.39495
	2013	2.24779
	2014	2.44131
	2015	2.32256
	2016	2.59764
	2017	2.73044
	Average	2.41836
Mkt Cap	1998	28367771055
	1999	24023639481
	2000	27833031571
	2001	25988542558
	2002	31263205840
	2003	24912600948
	2004	22046114939
	2005	26767175366
	2006	27029864154
	2007	25341568418
	2008	22867532565
	2009	23178502140
	2010	32118017290
	2011	29280015400
	2012	29089330050
	2013	36669798983
	2014	33341825415
	2015	38941851990
	2016	38755969841
	2017	42253927248
	Average	29503514263
Liquidity	1998	2.23062

	1999	2.35426
	2000	2.27431
	2001	2.30513
	2002	2.47921
	2003	2.37315
	2004	2.57021
	2005	2.50772
	2006	2.48979
	2007	2.43992
	2008	2.46149
	2009	2.08003
	2010	2.20692
	2011	2.85967
	2012	2.39495
	2013	2.24779
	2014	2.44131
	2015	2.32256
	2016	2.59764
	2017	2.73044
	Average	2.41836
idiosyncratic_volatility	1998	26.12603
	1999	26.04797
	2000	26.0261
	2001	26.01279
	2002	26.04426
	2003	26.05959
	2004	26.02559
	2005	26.00672
	2006	26.03279
	2007	26.05554
	2008	26.02026
	2009	26.06495
	2010	26.03949
	2011	25.97492
	2012	25.95192
	2013	25.92046
	2014	25.90805
	2015	25.928
	2016	25.88515
	2017	25.87582
	Average	26.00032

2. Random Effects Model

```
. xtreg idiosyncratic_volatility Earnings_PerShare Dividends_PerShare100 Liquidity, re

Random-effects GLS regression                   Number of obs     =       780
Group variable: CompanyNSE                      Number of groups  =        39

R-sq:                                           Obs per group:
     within  = 0.0455                                         min =        20
     between = 0.3415                                         avg =      20.0
     overall = 0.2507                                         max =        20

                                                Wald chi2(3)      =     36.34
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =    0.0000
```

idiosyncratic_volat~y	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Earnings_PerShare	.0007928	.0006076	1.30	0.192	-.0003981	.0019837
Dividends_PerShare100	.0000242	.0000128	1.89	0.058	-8.67e-07	.0000492
Liquidity	-.0208591	.0042376	-4.92	0.000	-.0291647	-.0125535
_cons	26.01917	.5862258	44.38	0.000	24.87019	27.16816
sigma_u	3.620449					
sigma_e	.37861814					
rho	.98918182	(fraction of variance due to u_i)				

3. Fixed Effects Model

```
. xtreg idiosyncratic_volatility Earnings_PerShare Dividends_PerShare100 Liquidity, fe

Fixed-effects (within) regression               Number of obs      =       780
Group variable: CompanyNSE                      Number of groups   =        39

R-sq:                                           Obs per group:
     within  = 0.0455                                         min =        20
     between = 0.3415                                         avg =      20.0
     overall = 0.2504                                         max =        20

                                                F(3,738)           =     11.71
corr(u_i, Xb)  = 0.4753                         Prob > F           =    0.0000
```

idiosyncratic_volat~y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Earnings_PerShare	.0007539	.0006025	1.25	0.211	-.000429	.0019368
Dividends_PerShare100	.0000234	.0000127	1.84	0.065	-1.50e-06	.0000483
Liquidity	-.0204449	.0042027	-4.86	0.000	-.0286957	-.0121942
_cons	26.02028	.0415383	626.42	0.000	25.93873	26.10182
sigma_u	4.213571					
sigma_e	.37861814					
rho	.99199042	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(38, 738) = 1907.05                     Prob > F = 0.0000
```