

**RELATIONSHIP BETWEEN FREE CASH FLOWS AND PROFITABILITY OF
FIRMS LISTED IN THE NAIROBI SECURITIES EXCHANGE**

BY

DEBORAH MUTILE SILA

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF THE MASTERS DEGREE OF
BUSINESS ADMINISTRATION (FINANCE OPTION), SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI**

DECEMBER, 2018

DECLARATION

This research project is my original work and has not been submitted to any college, institution or university for any academic award other than the University of Nairobi.

Signed..... Date.....

DEBORAH MUTILE SILA

REG NO: D61/85562/2016

SUPERVISOR

This research project has been presented for examination with my approval as the Supervisor

DR. JOSEPHAT L. LISHENGA (PhD)

LECTURER DEPARTMENT OF FINANCE AND ACCOUNTING

UNIVERSITY OF NAIROBI

Signed..... Date.....

ACKNOWLEDGEMENT

I wish to acknowledge the contribution of my supervisor Dr. Josephat Lishenga, for his professional guidance throughout the study and the school of business for the support accorded throughout the research.

DEDICATION

I dedicate this project to God, My dad, Mr. Cyrus Ezekiel, my siblings Joshua, Eric and Norah, My friends Nancy Kariithi, Winnie Mulia, Samuel Mutiso and Samuel Mbugua for their continued support and encouragement during the study.

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENT	iii
DEDICATION	iv
LIST OF TABLES	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
1.1: Background of the Study.....	1
1.1.1: Free Cash Flow.....	2
1.1.2 Profitability.....	3
1.1.3 Free cash flows and profitability.	4
1.1.4 The Nairobi Securities Exchange	6
1.2 Research Problem.....	7
1.3 Research Objective.....	9
1.4 Value of the Study.....	10
CHAPTER TWO: LITERATURE REVIEW	11
2.1 Introduction	11
2.2 Theoretical Review	11
2.2.1 Free Cash Flow Theory	11
2.2.2 Modern Portfolio Theory.....	13
2.2.3 Pecking Order Theory	14
2.3 Determinants of Firm Profitability.....	16
2.3.1 Dividend Policy	16
2.3.2 Capital Structure	17
2.3.3 Corporate Governance	17
“2.3.4 Working Capital Management.....	17
2.3.5 Firm growth	18

2.4 Empirical Review	18
2.5 Summary of the Literature Review	22
2.6 Conceptual Framework	22
CHAPTER THREE: RESEARCH METHODOLOGY	24
3.1 Introduction	24
3.2 Research Design	24
3.3 Population.....	24
3.4 Sampling.....	24
3.5 Data Collection.....	24
3.6 data Analysis	25
3.7 Analytical Model.....	25
3.8 Diagnostic Tests	26
3.8.1 Normality Test.....	26
3.8.2 Heteroscedasticity Test.....	26
3.8.3 Multicollinearity	26
3.8.4 Serial Correlation.....	27
3.8.5 Unit Root Test	27
CHAPTER FOUR : FINDINGS AND INTERPRETATION.....	28
4.1 Introduction	28
4.2 Descriptive Analysis	28
4.3 Diagnostic test.....	29
4.3.1 Normality.....	29
4.3.2 Multicollinearity	30
4.3.3 Panel Unit root test	31
4.3.4 Heteroscedasticity test	31
4.3.5 Autocorrelation.....	32
4.4 Regression Analysis	34
4.4.1 Coefficient of determination and F test	35

4.4.2 Coefficients of Independent Variables	35
4.5 Interpretation of Results	35
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION	38
5.1 Introduction	38
5.2 Summary	38
5.3 Conclusion.....	38
5.4 Recommendations	39
5.5 Areas for Further Studies	39
5.6 Limitation of the Study	40
REFERENCES.....	41
APPENDICES	45
Appendix I: Data Collection Sheet.....	45
“Appendix II: Non Finance Listed Firms.....	46
Appendix III: Raw Data	48

LIST OF TABLES

Table 4. 1: Summary of Descriptive Analysis	28
Table 4. 2: Shapiro-Wilk test to test.....	30
Table 4. 3: Variance Inflation Factor	30
Table 4. 4: Unit Root Test.....	31
“Table 4. 5: Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	32
Table 4. 6: Wooldridge test for autocorrelation in panel data	33
“Table 4. 7: Hausman test.....	33
“Table 4. 8: Fixed Effect Model	34

ABSTRACT

Cash flows management are crucial issues that are at the heart of any organization. An organization must closely monitor free cash flows to profitability is not affected negatively in anyway. The sought to establish the effect of free cash flows on profitability of listed firms at the Nairobi Securities exchange. The study was based on free cash flows theory, modern portfolio theory and pecking order theory. The study adopted Descriptive survey. The target population was 61 listed companies in Nairobi securities exchange. Operations in investment sector and finance sector have different mechanisms and thus was not be considered because of the strict regulations in their different mechanisms. The remaining companies were 30 companies that formed the sample size. The research used secondary data sources. Secondary data was sourced from audited financial statements of the listed firms for a period of five years (2013 –2017). Data that was used in the study included detailed income statements, cash flow statements and their financial position as a whole as reflected in the annual financial statement. The data collected was examined before analysis commenced for completeness and consistency .The panel data was entered into STATA version 14. Descriptive statistics was be used in the analysis of panel data as well as the correlation and regression analysis. Measures of central tendencies together with dispersions was used in descriptive statistics. Inferential analysis such as the bivariate Pearson correlation multiple regressions. The results were presented in tables with their associated explanations. The study established that that free cash flows had a statistically significant negative effect on profitability of listed non-finance firms. Firm size had a statistically significant positive effect on profitability. The effect of firm size is positive since growth in firm size in terms of asset size can be used for investment purposes that intern improves the level of profitability. Finally, leverage had a statistically significant negative effect on profitability. The inverse relationship can be explained that the reasoning that increased leverage is associated with solvency risk that might impact on a business negatively as well as the high cost of debt finance hence negative relationship. The study recommend to management of listed firms to take issues of free cash flows seriously by practising better free cash flows management. The management should identify investments projects where excess free cash flows can be invested to improve profitability of the listed firms in Kenya. Additionally, execs free cash flows may be embezzled or mismanaged hence management of such firms should have strict rules on management of the free cash flows within the respective businesses. The study also recommend to capital market authority to follow up on issues of free cash flows on a serious note. The officers at capital market authority should come up with strict policies on how free cash flows may be used by listed firms to discourage mass failure of listed firms due to poor management of free cash flows that rode their capital base when mismanaged by the management of such firms.

CHAPTER ONE: INTRODUCTION

1.1: Background of the Study

Investors are mostly attracted by companies with free cash flow in their search for opportunities that are efficient so that they can invest their surplus resources in the market. Creditors and investors have high interest with the companies that have high free cash flows since the strength of the companies' debt kickback and financial flexibility are considered in the assessment of companies. It is therefore not possible to have reduction of debts and cash profits without the possession of cash paying. Since the introduction of free cash flows theories in 1986 by Jensen, it has been evolving gradually as a new financial literature that explains the companies' behaviors that could not be explained by the previously existing economic theories (Griffith & Carrol, 2011).

Business unit's financial performance is best measured using free cash flows where upon the completion of the process, cash in possession of the company is shown for maintenance or development of assets (Habib, 2011). Free cash flows is important in the business unit as it helps the shareholders in evaluating financial soundness. Value of the firms increase when managers invest their owned resources (free cash flows) in the projects with positive net present (NPV). For the investment of the firms, they have the choices of sources such as internal and the external sources. In that case therefore, internal sources can be defined as retaining the earnings and depreciation. On the other hand, external sources is defined as debt and equity (Jensen and Smith, 2015).

The investors monitor companies since their time can be extended in terms of settling their bills by the free cash flow holding their firms and reducing the period covered in the

collection of what they are owed by the outsiders as well as delaying inventory purchase. Maintaining liquidity at high levels in the firms is deemed important by the firms thus high firms' percentage of the assets in the form of cash and cash equivalent are to be kept by the managers for reinvestment on physical assets such as paying the stakeholders and saving some in the firm (Hann, 2013). In addition, the amount generated by the business is determined by the free cash flow after carrying out accounting for the necessary capital expenditures such as building or equipment and also using it for dividends, expansion and minimizing debts and other purposes.

After all development and maintenance expenditures have been allocated, the remaining amount is used for reinvestment upon the fulfillment of key business requirements. Such amount (extra amounts) of cash is referred to as cash flow. Investors should be aware that the companies could have great influence on their free cash flow which can result to the extension of the time for which they may take to settle their bills and as well reducing the time they take to collect what they are owed (Christine, 2014).

1.1.1: Free Cash Flow.

Free cash flow (FCF) was given a meaning as the non-capital expenditure net cash flow, payment of dividends and the cost of invention (Jensen, 1986). Due to lack of accounting in the definition, the definition was largely criticized. A different definition by Dittmar (2010) explained FCF as the net cash flow that can be controlled by the managers for different use but do not affect the corporate activities. Furthermore, free cash flows was defined by Poulsen (2013) as the remaining operating income before the expense depreciation excluding tax expenses and other deductions and rated by net sales. Additionally, free cash flow are the operating cash flows values that have been

discounted for the needs of positive VPV projects. In regards to accounting concept, free cash flows are as well referred to as idle cash flows that are under control of the management. In the hypothesis generated by Jensen (1986), it was stated in the proposal that unnecessary investments could be prompted by the management in case there are too much cash flow under their control. It was further implied in the hypothesis that much of free cash flow would result to administrative waste of cash.

Financial performance of a company is measured using free cash flow and is calculated as operating cash by subtracting capital expenditures. It gives the representation of what can be generated by the company after all the deductions have been made. Free cash flow is vital for it enable the companies to conduct activities that improve the value of shareholders. Theoretically, free cash flow is explicated as the total amount of money a shareholder can receive from the company in case the company realize no growth. Profitability of the business can easily be measured using the free cash flow. It is too difficult to manipulate free cash flow, as a result, it can be used to show the financial stability and growth of the company than the net income (Hann, 2013).

1.1.2 Profitability

Strategies of the business can be used to show the mission and goals of the business. Profitability and growth are classified under business strategies. In business, profitability is explained as the cash gained. Profitability of the business depends on a number of factors such as business exports, business debts, age, and size of the business and the growth of the business expressed in sales increase (Sadaf, 2016). Return on assets (ROA) and return on equity (ROE) are used in measuring the profitability of a business. The measure of how well a business use its assets to make profit is determined by the returns

on asset. Receiving and collecting profits from the investments by shareholders is measured by return on equity. Business' long term performance is measure by both ROA and ROE (Vijayakumar and Devi, 2011). The measure of the business rate of making profit is referred to as profitability. A profit can be defined as the difference of the excess of revenue after all the deduction s have been made.

Lucrative dividend payout was done only if the company receives a good return from their investments. In that sense therefore, profitability can be expressed as the measure of the company's capability to produce enough returns from the invested capital (Wild, Larson and Chiapetta, 2017). Consequently, the companies now look forward to efficiently using assets to generate profits. Evaluation of the returns is done in relation to the financing sources. Creditworthiness of the company is determined by its profitability. Major elements that are considered when looking into the profitability of the company are; return on assets, return on investments and return on used capital. The main of the business is to make profit that benefit its owners and a business that fails to meet its objectives finds it difficult to survive. A highly well performing business makes large profits from their investments and therefore large returns to the owners. One role of the managers in the companies is to ensure that the companies make profits. Different tact are employed by the business managers in order to improve the profitability of their businesses (Refuse, 1996).

1.1.3 Free cash flows and profitability.

Various studies have been conducted on the relationship between business financial performance and free cash flow. According to Freud (2013), negative correlation exists between the assets of the, level of cash flow and market response. Furthermore, from

other studies conducted by Chung, Fith and Kim (2015), free cash flow's cost agency mainly stimulated and motivated the conduction of earnings manipulation where companies that have large free cash flows in their management would perform its activities in a way that would affect earnings manipulation. According to Ng, Solnik, Wu and Zhang (2013), continued thriving of the business was not was unreasonable to high investments and not optimistic. According to Hu and Gan (2009), there was positive relationship between discretionary revenue expenditure and free cash flow and that there was negative relationship between operating results and discretionary revenue expenditures. The higher the free cash flow in the company, the lower the sales growth sensitivity and the larger the shareholders' proportion the higher the sales growth sensitivity (Ding, Song and Zen, 2008).

Fewer growth opportunities in the company result to change in the operating performance before and after MandA with negative correlation with the free cash flow. Negative correlation was not realized with for the companies with higher growth opportunities. Companies experience that sales growth was most important and beneficial to companies as lack of cash flows but the case was not the same for companies with enough FCF hence solidly stood behind FCF hypothesis (Brush et al, 2012). Agency cost might be incurred by free cash flows to have negative influence on cash flows operating in short-terms hence destabilizing value of long term (Chung et al, 2015). In addition, a study was carried out that provided the evidence that supported the significance of inverse relationship that was found to be existing between stock returns and free cash flow.

1.1.4 The Nairobi Securities Exchange

In the year 1954, Nairobi security exchange (NSE) was founded and formed the voluntary association of stakeholders among the registered European communities under society act (NSE, 2014). Need for implementation and design of policy reforms arose and was brought about by the Kenyan government to adopt economic development with an efficient and stable financial system. Role of private sector is well defined and enhanced in the economy. Demands of public enterprises are also reduced on the exchequer in order to rationalize operation of the public enterprise sector with the aim of widening the ownership as well as capital market development. Money and capital markets in Kenya became do lucrative to push for the structural reforms in in the financial market sector ending the formation of the controlling body such as the capital markets authority (CMA) in 1989 which helped in creation of ambient environment for the country's capital market growth (NSE, 2012).

Later in 1991, NSE was ready for operation after its registration under the companies' act and carried on the need for trading system that favored floor-based open outcry system. Modernization exercise such as moving to moving to the spacious premises by July 1994 at the nation center was embarked on by the stock exchange. Some of the referred facilities include modern information Centre. By this time, computerization of activities was also available thus forming grounds for electronic trading. Investments in the Nairobi stock exchange are encouraged and enhanced by series of incentives (NSE, 2016). Very vital roles are played by Nairobi stock exchange in the Kenyan economy more so in the matters of privatization of the enterprises owned by the state. NSE have performed its

duty of privatization of the parastatals actively in the past 10 years resulting to collection of about over 5 billion shillings.

Nairobi security exchange is a body that fully supports trading and all its involved services including clearing of equities and their settlements debt derivatives and all the concerned instruments. Investors benefit from it that they are provided with information and accurately indicate the performance of the Kenyan equity markets from the listed companies in the bourse. Profitability of the companies is highly supported by the company's financial structure since the exhausted finances are all reflected in the acquired results. Investment limited such as Uchumi and Carbacid are in heavy debts that could result to their liquidity. Additionally, Kenya's economic atmosphere are unpredictable thus resulting losses in their operations and also suspension from NSE (NSE, 2018).

1.2 Research Problem

Amount of money generated by a company after all the expenditures necessary for the asset base or maintenance have been made is referred to as free cash flow. The availability of free cash flows helped the firm run its day to day operations. Day to day efficiency in free cash flow management leads to efficiency in day-to-day expenses, cutting on costs and wastage as well as attaining efficiency in operations. This helps a firm break-even and eventually profitability. Investors value most the profitability of the company than its cash flow for the measure of the financial strength (Thangjam, 2015). Serious problems might be faced by the firms in case they tend to increase their profits to survive liquidity since it can lead to solvency. Thus effective free cash flow management would be needed to strike a balance between two core objectives of the firm. Chung,

Firth and Kim (2015), found that a balance between both goals is very important for firms to survive. This is called a trade-off. Firms focusing on maximizing profitability may most likely reduce the free cash flows of the firm and conversely firms focusing on maximizing free cash flows may most likely reduce the profitability of a firm (Scatizzi, 2009).

Firms in the Nairobi securities exchange have shifted focus to diversification in order to mitigate losses to increase profitability. The existence of an efficient market in Kenya has enabled most investors to take advantage of available information to invest in profitable investment and projects that are profitable. Listed firms are also focusing on ways of managing the working capital components in order to mitigate costs of running the firm (Ngugi, 2005). Listed firms in Kenya have been managing cash flow component of working capital to eliminate excess cash flows that may be miss used by management for unproductive investment opportunities.

Various studies exist locally and internationally that compare the association between free cash flows and performance of firms especially profitability. Globally, Chung, Firth and Kim (2015) argued that managers can be stimulated to carry out earnings manipulation by the agency costs of free cash flow with a possibility that companies with much free cash flow could damage their enterprises' values through earnings manipulation. Further, it was explained that there existed positive relationship between the discretionary revenue and free cash flow and negative association with operating results; this is according (Hu and Wang, 2009). It was further reiterated that companies with more free cash flow recorded lower sensitivity of sales growth whereas larger proportion of shareholders result to increased sensitivity sales growth (Wang, 2010). The

companies with enough free cash flow and the sales growth important to companies that lacked cash flows Brush et al (2012) mostly support FCF hypothesis. Global results on the relationship between free cash Flows and performance are therefore mixed and more needs to be done to understand what the relationship is for countries like Kenya and for specific economic sectors.

Locally, studies on free cash flow are scanty. In a study by Muthusi (2014) examined the effect of free cash flow on the profitability of five-star hotels in Kenya finding that free cash flow had positive and significant effect on profitability of hotels in Kenya. Study carried out by Akumu (2014) investigated the profitability effect on the firms by free cash flow on the listed firms in Nairobi Security Exchange where inverse association was revealed between the tested variables. Wambua (2013) examined the effect of agency cost on financial performance of listed firms noting that free cash flow highly influenced performance. The current studies done locally have also unearthed mixed findings hence need for additional study to establish conclusively on the relationship between free cash flows and profitability of listed firms in Kenya. In that regards therefore, the study was guided by the question; what is the effect of free cash flow on the profitability of the listed firms at Nairobi securities exchange?

1.3 Research Objective

To determine effects of free cash flows on the profitability of the firms listed at the Nairobi Securities Exchange.

1.4 Value of the Study

The study is timely and will generate information that will be useful theory of finance, practice and policy purposes. Concerning practice of finance, the study will provide insight to Finance managers of listed firms in Kenya on how free cash flows strategies affect the profitability of a firm and measures they can use to achieve a trade off in order to increase profitability. Results of the study will give more perceptions to the local and foreign investors on the free cash flow effect on the company's investment when treating decisions of investment and portfolio diversification to raise profitability.

Concerning policy, the study will generate information that will be useful for government policy insights. The study findings will aid Government Policy makers implementing and coming up with new policies regarding free cash flow management thus ensuring growth in our economy. The regulator of listed firms that is Capital Market Authority will be in a position to suggest strategies for listed companies to balance the free cash flows and profitability.

Finally, the study will be insightful for theory of finance. The study will go a step further in modelling link of free cash flow and raised ability of the firm to make profits by the Kenyan firms. The model generated can be used by practitioners of finance and policy makers in decision-making. Additionally, Academicians and researchers will employ the current study to boost their knowledge as far as free cash flow and firm's profitability is concerned and the association between them.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter discusses theoretical review, determinants of profitability and empirical review

2.2 Theoretical Review

In this study, free cash flow, modern portfolio and the pecking order theories were employed. Theoretical support and evidences involving various wide coverage on the topic of free cash flow and profitability was covered. This added unto the relevance of this study.

2.2.1 Free Cash Flow Theory

Behavior of the managers do not conform to the optimization of the profit, this is as stated in the cash flow theory by (Jensen and Michael, 1996). Manager instead use the excess cash flow to better their lives other than investing on what may help increase generation of profits. From the agency cost, having a close look on the management's behavior in terms of their expenditures may assist to improve the management as well as internal expenditures that would be important to the growth and development of the company thus generation of the cash flows which in the same sense may be perceived by the shareholders to be expensive.

Investments are used by the managers in the companies to reduce the cash flow and also using them for personal benefits and suboptimal investments. Managers managing companies with excess free cash flows gained from the companies' profitable investments may be prompted to waste cash through unprofitable investments. The companies' managers use free cash flows on the investments aimed at increasing the size

of the companies instead of having the shareholders paid dividends (Davis, Schoorman and Donaldson, 1997). It is posited in the agency hypothesis that firms with excess free cash flow have higher chances of developing beyond the shareholders' expectations and wealth maximization. Any managerial decision that reduce waste of expenditures suits shareholders of such firms. Repurchase of shares can be introduced as a way of prohibiting waste of surplus cash flows (Jensen and Smith, 1995).

Consistent large stock price reduction are used to punish dividend cuts by the capital markets with the agency costs of free cash flow. Creation of debts by not holding the development of the issue was capacitate the managers for future effective bond payment on the cash flows. Even though not so open in the corporate finance literature, debt is a good substitute for dividends. Stocks are exchanged with debts making it easy for the managers to have bonded their promise in the payment of cash flows in a better manner that could not have been done by dividends. Shareholders are now issued with debts receipts which serve as the right the firm to the court of bankruptcy should the principal and interest payment failed to be paid as agreed (Jensen and Michael, 1996).

The free cash flows theory is a key theory that explains the causal effect relationship between free cash flows and profitability of firms. A Manager may use the excess cash flow to better their lives other than investing on what wouldhelp increase generation of profits. From the agency cost, having a close look on the management's behavior in terms of their expenditures would assist to improve the management as well as internal expenditures that would be important to the growth and development of the company thus generation of the cash flows that in the same sense may be perceived by the shareholders to be expensive.

2.2.2 Modern Portfolio Theory

Praises are given to modern portfolio theory (MPT) for its powerfulness of all the economic theories in the financial investment. MPT measures benefits of diversification that is referred to as putting the eggs into different baskets. In the theory (MPT), it explains how returns could be increased to the maximum and on the other hand reducing risks to the minimum for the investors through diversification. The theory intends to increase the portfolio expected return for a given amount of risk or further reduce the risk to the minimum level possible by making better choice of various assets. Expansion offered on Markowitz (1952) theory by introducing risk free assets analysis that makes it easy to influence portfolios on efficient frontier.

Capital asset pricing model (CAPM) is the most important part of this theory introduced by (Markowitz, 1952). Apart from the critics regarding the stability and validity of the theory, all its involved concepts including security market lines, efficient frontier have relevant importance when employed in management of portfolios of assets. The theory is operated under an assumption that asset returns are normally distributed and investors facing a risk return trade off. Majority of the asset returns are not normally distributed which is evident on the extreme tail risks in current crisis for a long period of time in the management crisis of capital by 1998. The developed normal distribution function do not fully cover such events.

Real financial world were insufficiently represented in the available single period models that keeps on changing with time leading emergence of different approaches to curb the multi-period portfolio selection problems. Modelling of multi-period portfolio optimization problem is reduced as in the stochastic control theory and applying

continuous time dynamics (Melton, 1969). Several literatures have come to being that tend to extend the model incorporation with stochastic control theory in the finance. Merton (1990) summarized all the included work in this field. Different problems in finance are as well solved using stochastic calculus theories; this was according to Harrison and Pliska (1981). Asset pricing theory was later developed and engaged in portfolio optimization world (Karatzas, Lehoczky and shreve, 1987). Attention is diverted in addition of different constraints to the model in the transaction cost for it to balance. This can be best referred using the models not based on maximization of utility (Kon,1997).

The modern portfolio theory underpins the current study on the relationship between free cash flows and profitability of listed firms at the NSE. The theory intends to increase the portfolio expected return for a given amount of risk or further reduce the risk to the minimum level possible by making better choice of various assets. The theory exemplifies how a firm can reduce risk such as liquidity by diversifying the use of cash generated by the firm.

2.2.3 Pecking Order Theory

Ross (1996) developed information asymmetry theory. The theory is as well referred to as Pecking order theory. Further, it was proposed that new investments are preferred by firms where retained earnings are used internally, then the debts and lastly to address equity. Assumptions under the operation of the pecking order theory are; adequately informing the managers regarding theory firms' predictions instead of the outside investors as outlined in information asymmetry making it easy for them to bar outside investors when it comes to financing new projects in the issuance of new equity showing

the prospects of the firm from the management are never good enough thus resulting to firm's share price fall (Ross, 1996). In the second assumption, it assumes that shareholders' interests are acted upon by the managers by maximizing existing shares values to forgo NPV projects in case their acceptance result to issuance of undervalued equity at high costs to new investors that would affect the shareholders negatively (Agca and Mozumdar, 2003).

Pecking order theory is distinguished by the selection costs from other capital structure theories where empirical studies fail as the major characteristics of theory. Arguments further arise that as a result of lack of full control of the key features, there is a mix up in pecking order theory. Support to that context is further supported for firms Shyam-Sunder and Myers (1999). Between 1970s and 1980s, debt financing emerged and relied on by the large firms. The number of firms increased significantly as confirmed by (Frank and Goyal, 2003). In the 1990s, reliance was extended to equity financing. Debt capacity is used to explain the conflicting results (Lemmon and Zender, 2010). Issuance of equity is forced on firms that are nearing debt capacity. In support to this, firms are seen to prefer debt to equity when they are still not to their debt capacity (Krishnaswami and Subramaniam, 1999).

Results of Fama and French (2004) cannot be explained by debt capacity even though they prove to be important since issues of equity even for the large unstable firms. In that sense therefore, equity issues are not fully explained by the debt capacity argument in the pecking order theory. There can be optimal equity issuance in the multi-period pecking order though firms might be having enough debt capacity. Reconciliation of the conflicting empirical results can be done favoring pecking order theory from the evidence

even when it is explicitly allowed in the empirical specification for the time variation as in the adverse selection costs.

The pecking order theory is relevant for the current study on the effect of free cash flows on profitability of the listed firm in that the theory states that investments are evaluated in terms of their returns. The theory further explains that for every new investment opportunity by firms. The firm first utilizes retained earnings which are used internally especially the free cash flows of the firm, this finance source is then followed by debts which is raised outside the business and lastly use of equity especially for expansion of projects.

2.3 Determinants of Firm Profitability

The determinants represents factors affecting firm profitability apart from free cash flows. The factors are examine in the following sub section.

2.3.1 Dividend Policy

Dividend policy is explained as strategies employed by the companies in their decision to make payments to the shareholders. They form the primary elements in the corporate policy. There are various different factors in a company that determine dividends that are always beneficial to the shareholders in return of their risks and investments. A number of factors that affect dividends are choices and investment chances, financial limitations, size of the firms and pressure from the shareholders. (Nassim and Ziv, 2011). The payment of dividends done by the firms is the major cash flow source to the shareholders and also gives information concerning the current and the future performance of the

firms. So dividend policy is one of factors that affect the performance of corporate organizations.

2.3.2 Capital Structure

Capital structure includes equity capital and debt capital generally equity capital includes shareholder's fund and reserve of the firm on the other hand debt capital interest or other compensation for their debt capital whether the firm has earned profit or not but in the case of equity capital the firm may pay the dividend to the equity share holders only if the firm has earned profit. Capital structure generally long term decision and the liquidity position are related with every day operation. The deciding the capital structure is related with board of director and top finance people decision of the firm however liquidity position is depending on the management of the firm (According to Goyal, 2013).

2.3.3 Corporate Governance

Corporate governance has its history well recorded. In the previous decade, corporate transformations was significant governance structure sparking the interests of the scholars in the corporate performance in the function of role of board of directors. The corporate governance structure is put to question globally due to failure of high profile corporate and also low generation of profits (Jensen, 2015). As a result of that, existing corporate governance structures are closely monitored on their accountabilities and responsibilities.

2.3.4 Working Capital Management

It is explained in the working capital management as being association between the short term liabilities and the short term assets of the firms. Working capital is used in the balance of ensuring that the firm is capable of continuing with its operation and can satisfy both short term debt and the future operational expenses. Different scholars try to

research in the relationship between profitability and working capital and showing mixed results Afrifa and Padachi (2016) showing the working capital management patterns and the effects of the performance of the firms. The results showed that high investments in the inventories and receivables attached to lower profitability.

2.3.5 Firm growth

Firm Growth Delmar and Wiklund (2008) reviewed firm growth empirical and theoretical reviews. Positive relationship or no relationship at all was found existing from the conducted studies in relation to the rates of growth of the firms and their sizes. Spontaneous growth of the firms recorded show higher profitability since new firms could record more profits immediately they enter into the market especially when operating on large scale Macmillan and Day (1987) whereas quest for high growth of the firms may have small effect or being negatively correlated with the rate of making profits by the firms (Ayaydin, 2014). Further investigations were conducted on the company's behaviors' relationship with its profitability showing size, age, location and the industry have the limited value that could not be relied on in the explanation of the profitability of the firm.

2.4 Empirical Review

Dividend payout ratio and their effects on the Tehran Stock Exchange (TSE) listed companies had their effects examined. In order to test the hypothesis that is used in the study, time series regression (panel data) was used. Empirical evidence is provided in the study from a sample size of 102 companies in the period between 2005 and 2010. It was shown and reported in the results that dividend payout ratio had negative significant effect from the independent variables of cash flows and profitability. On the same note,

leverage's ratio independent variable had positive and important effect on the dividend payout ratio.

Free cash flow effects on profitability was investigated for the listed firms at Nairobi Security Exchange (Akumu, 2014). Descriptive survey was used in the study in analyzing and showing the effects firm's profitability on the free cash flow at the NSE. By June 2014, the listed companies at NSE had reached a population of 61 companies. Used data in the study were secondary and were collated from the annual reports audited and the firms' financial statements as recorded in the NSE in a period of five years (2009-2013). The correlation between the variables was strong and positive in that regards it was concluded in the study that inverse association existed between profitability of the listed firms and the free cash flows at NSE.

Further research was conducted on the listed in Germany's automotive sector on the free cash flow effects on the firm's profitability (Parsian and Amir, 2013). Descriptive survey was adopted in the analysis part and data leverage. Being that the simple random sampling was applied in the selection of all the automotive firms in the industry, large dominant firms were used and thus had equal chances of being included in the study but instead, only sample of five firms were used for the effectiveness of the study from the entire population. Data that was used was entirely secondary data obtained from annual reports from Germany's automotive industry within a period of ten year i.e. (2007-2016). From this study too, it confirmed that there was a positive correlation between free cash flows and profitability of the listed firms using regression analysis.

Study by Vakilifard and Shahmoradi (2014) carried out a study with the purpose of investigating association of free cash flow, return on equity and some of the factors that could be affecting it. Sample size of 84 companies as listed in Tehran stock exchange was used and was selected by applying classified random sampling in the period of 8 years. Used statistical methods were tested using Chow and Hausman. Lastly, results obtained from regression models showed a strong relationship existing between free cash flow and equity. Efficiency is adversely influenced by the profitability of the company.

Descriptive survey was used to investigate the association existing between economic growth in Kenya and investment by using GDP collected for the period 1993-2012 (Onsare, 2013). The data that was used in the study was obtained from Kenya National Bureau of Statistics. Stable profitability, current cash flow and opportunities of growth of the companies on the stock returns was studied where multiple regression analysis method was applied to test for the hypothesis. Value price of the firms was found to be higher in the firms that had free cash flow and growth opportunities determined using multiple regression model. Also, profitability of the firm in the short-term was found to be positively related to free cash flow.

The working capital management and its relationship with determinants was conducted by Wanja (2011). The research by Wanja was carried out by applying survey study covering a targeted population of 205 SMEs. In the analysis of data, regression models was used where the results confirmed that firms whose cash flow was greater hold more cash so that they can have smooth operations. Impact of cash flow was analyzed regarding profitability among the Kenyan commercial banks that covered a period of four years from 2005-2009. The aim of conducting the study was to specifically elaborate the

influence various components have on the cash flow and profitability growth. Profits from various banks was analyzed in the study where the profit used taken after the tax deduction where tax formed the dependent variable whereas cash flows components such as financing and investing formed independent variables.

Descriptive survey was carried out on listed firms from the capital markets for the period covered of 2000-2008 (Kemboi, 2010). Fundamental investment equations was used where cash flow and were added and treated as explanatory variables. Investment levels and debt exhibited positive relationship in the studies for all types of firms. Multiple regression was as well used in the analysis of data where the firms' records were done in the period between 2001 and 2006 on dividend payout where 320 non-financial firms that were listed in Karachi stock exchange for their effects on free cash flow concluded that larger dividends are paid by firms that have large free cash flows (Ahmed and Javid, 2009).

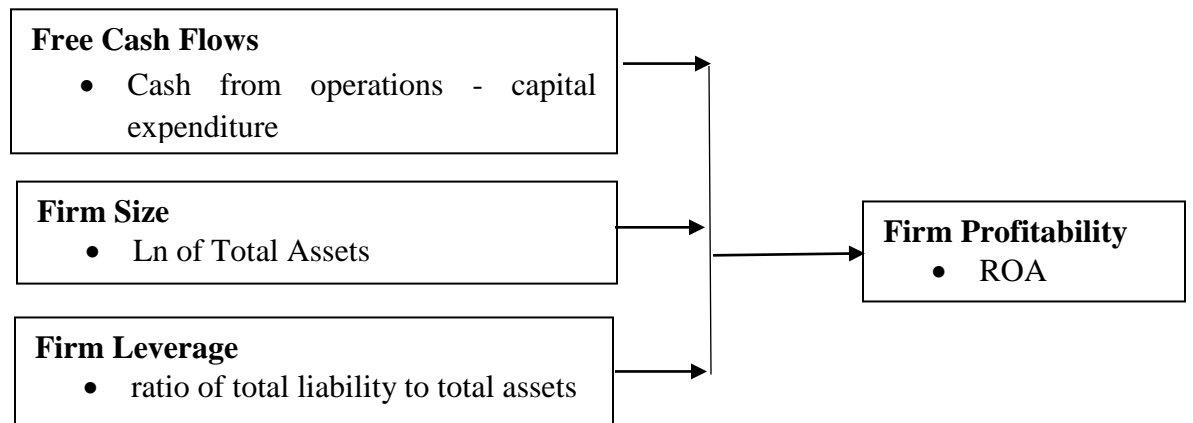
Descriptive survey was as well used in the investigation of the investment expenditure and the cash flow where 55 banks were sampled in china and secondary data used to validate the results in a period of 8 years, regression analysis was used to analyze the data where the findings showed that investment expenditure and cash flow relationships among china banks are inversely proportional (Zhi, 2009). Additionally, cross-sectional survey was conducted out of which the listed UK local companies over the 8 years period pattern, pattern performance was conducted on 67 firms on listed takeovers and free cash flow with the results showing that there existed inverse relationship between the UK takeovers performance and cash flow in the domestic firms.

2.5 Summary of the Literature Review

The chapter has examined the theoretical review, Determinants of the profitability and empirical review. In the theoretical review, considered theories are; free cash flow theory, modern portfolio theory and the pecking order theory. Various research conducted by different researchers come up with evidences regarding the profitability and free cash flow. The results from all those studies were in relation to profitability and free cash flow. Firms that have more free cash flow have the capability of investing in projects that are profitable. It is advantageous for the companies with more free cash flow and the conclusion arrived at that they have promising future returns.

2.6 Conceptual Framework

The figure 2.1 shows the conceptual framework of the study demonstrating the diagrammatical relationship between the study variables.



Independent variables

Dependent Variables

Figure 2. 1: conceptual framework

The independent variable is free cash flows and dependent variable is profitability. The control variables are firm size and firm leverage.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, methods of data collection was discussed in details and how the collected data was analyzed through various sub topics such as research design, population etc. -

3.2 Research Design

Descriptive survey was adopted in this study in the case study chosen. The chosen design (descriptive survey) allowed for the relationship examination that exist between profitability of the listed firms in Nairobi security exchange and free cash flows. The study adopted quantitative research approach based on statistical method preferred and employed in the study that gives the reflection of existing relationship between variables

3.3 Population

Target population is defined as the number of elements or objects under focus by the topic under study (Kothari (2004). The target population was 61 listed companies in Nairobi securities exchange.

3.4 Sampling

Operations in investment sector and finance sector have different mechanisms and thus was not be considered as a result of the strict regulations in their different mechanisms. The remaining companies was 30 companies forming the sample size.

3.5 Data Collection

Due to the nature of finance studies, the researcher used secondary data sources. Secondary data was sourced from audited financial statements of the listed firms, NSE

and CMA for a period of five years (2013 –2017). Data that was used in the study included detailed income statements, cash flow statements and their financial position as a whole as reflected in the annual financial statement.

3.6 data Analysis

The data collected was examined before analysis commenced for completeness and consistency .The panel data was entered into STATA version 14. Descriptive statistics was be used in the analysis of panel data as well as the correlation and regression analysis. Measures of central tendencies together with dispersions was used in descriptive statistics. Inferential analysis such as the bivariate Pearson correlation multiple regressions. The results were presented in tables with their associated explanations.

3.7 Analytical Model

$$Y = \beta_0 + \beta_1X_1+\beta_2X_2+\beta_3X_3 +e$$

Y= is firm Profitability which is measured by Return on Asset (ROA) where it is calculated as operating income before interest and tax divided by Total Assets.

X₁= is free cash flows measured by adopting the following formula: Cash from operations less capital expenditure.

X₂= is the size of the firm measured by Ln of Total Assets of firm size.

X₃= is the firms Leverage, which is measured as the ratio of Total liability to Total equity

β_0 = is the intercept term capturing profitability when independent variables are held constant.

β_1 , β_2 and β_3 are the coefficients of the independent variables

e= Error term

3.8 Diagnostic Tests

The data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This would ensure validity of the results. The study employed normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests.

3.8.1 Normality Test

The test is conducted to test whether data exhibits a normal distribution. Non-normal distributed data may not display the correct relationship between variables studied (Garson, 2012). The study employed Shapiro-Wilk test to test normality. Fifty or less sample size are not suitable for the test. The choice of this test is informed by the small number of sample to be studied. Normal data have p-value greater than the Shapiro Wilk significance value in the statistical test (0.05). On the other hand, data with significance value less than 0.05 are not normally distributed.

3.8.2 Heteroscedasticity Test

Gujarati (2003) described heteroscedasticity as lack constant error variance. The study used Breusch-Pagan / Cook-Weisberg test by using the regression residual value of the independent variables. There is no heteroskedasticity if the significance values are greater than the P-value statistics test of 0.05.

3.8.3 Multicollinearity

Kothari (2004) postulates that multicollinearity exists if there is an association of independent variables. Therefore, independent variables ought to be linearly independent of each other. Cooper and Schindler (2006) asserts the existence of multicollinearity leads to invalid significance tests due to the distorted regression coefficients. The study employed Variance Inflation Factor (VIF) to test the existence of multicollinearity. If VIF is less than 5, then there is no existence of multicollinearity (Gujarati, 2003).

3.8.4 Serial Correlation

Gujarati (2003) posit that serial correlation exists if an error term of one period is correlated with that of subsequent periods. The study useb Wooldridge Drukker test to test existence of autocorrelation. Data has no serial correlation if P value is greater than the 5% level of significance.

3.8.5 Unit Root Test

Unit root test is conducted to ensure that the variables are stationary. Gujarati (2003) posit that a data has no unit roots if the variance, autocorrelation and mean of the data structure do not vary with different time periods. Wooldridge (2012) asserted that stationarity ensures that the regression results are not spurious thereby guaranteeing robust regression results. The study employed Augmented Dickey Fuller (ADF) unit root test to evaluate the availability of unit roots in the data. If P-Value is greater than 5% level of significance, it implies the data is not stationary i.e. availability of unit roots.

CHAPTER FOUR : FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the findings of the study. The study sought to analyse the effect of free cash flows on profitability of listed non-finance firms in Nairobi securities exchange. The analysis proceeded from descriptive to inferential analysis.

4.2 Descriptive Analysis

Results in table 4.1 below indicate the summary descriptive statistics of free cash flows and profitability of listed firms in Kenya. The descriptive analysis analyzed the data using measures of central tendency and dispersal as shown in table 4.1.

Table 4. 1: Summary of Descriptive Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
LEVERAGE	150	.5282353	.175915	0.13	0.86
ROA	150	.0249676	.0268829	-0.075	0.0656
FIRMSIZE	150	16.21294	1.534861	13.08	19.06
FCF	150	13.55247	1.863805	8.308692	16.51875

The research sought to establish the central tendency and distribution of board diversity among the listed firms in Kenya. Leverage was measured a ratio of debt to total assets ratio. The results are presented in table 4.1. The mean Leverage was .5282353 suggesting that the average leverage for the listed firms at the NSE was about .52 meaning generally about 52% of the assets is financed through borrowing. The standard deviation was .175915 demonstrating that out of the listed firms listed in NSE Kenya, Leverage was spread around the mean with about .175. The minimum leverage was 0.13 and the maximum leverage was 0.86.

Free cash flows was measured as the natural logarithm of the difference between cash flows from operating activities and capital expenditure. The mean free cash flows was 13.55247 suggesting that the average free cash flows for the 30 listed firms studied was about 13.55. The standard deviation for the free cash flows was 1.863805 demonstrating that the listed firms studied, free cash flows was spreads around the mean with about 1.86. The minimum free cash flows was 8.3 and the maximum free cash flows was 16.51.

Firm size was measured as a natural logarithm of total assets of the firm. The mean firm size was 16.21294 suggesting that the average firm size for the firms studied was about 16.21 .The standard deviation for the firm size was 1.534861 demonstrating that out of the listed firms in Kenya , firm size was spreads around the mean with about 1.53. The minimum and maximum firm size was 13.08 and 19.06 respectively.

Finally, profitability was measured as a ration EBIT to total assets of the firm. The mean profitability was .0249676 suggesting that the average profitability for the listed firms studied was about 2.5% of the total assets .The standard deviation for profitability was .0268829 demonstrating that out of the listed non-finance firms in Kenya, profitability was spread around the mean with about .026. The minimum return on Assets was -0.075 and the maximum return on Assets was 0.0656.

4.3 Diagnostic test

Panel data was subjected to diagnostic tests to evaluate conformity with assumptions regression model and ensure the model is robust.The study employed normality, heteroscedasticity, multicollinearity, serial correlation, random or fixed effects and panel unit root diagnostic tests.

4.3.1 Normality

The study employed Shapiro-Wilk test to test normality. The choice of this test was informed by the small number of sample to be studied. Normal data have p-value greater than the Shapiro Wilk significance value in the statistical test (0.05). On the other hand, data with significance

value less than 0.05 are not normally distributed. The results of the normality test analysis is presented in table 4.2

Table 4. 2: Shapiro-Wilk test to test

Variable	Obs	W	V	Z	Prob>z
LEVERAGE	68	0.97039	1.78	1.252	0.10532
ROA	68	0.88292	7.039	4.237	0.00001
FIRMSIZE	68	0.977	1.383	0.703	0.2409
FCF	68	0.9715	1.714	1.169	0.12115

From table 4.3, all the variables were normal except ROA. This owes to p-values being greater than 0.05.

4.3.2 Multicollinearity

The study employed Variance Inflation Factor (VIF) to test the existence of multicollinearity. If VIF is less than 5, then there is no existence of multicollinearity (Gujarati, 2003). The results are shown in table 4.3.

Table 4. 3: Variance Inflation Factor

Variable	VIF	1/VIF
FIRM SIZE	1.9	0.526057
FCF	1.58	0.632091
LEVERAGE	1.27	0.785437
Mean VIF	1.59	

Results in table 4.3 show that all the variables had a variance inflation factors (VIF) of less than 5 and overall VIF of 1.59. These results show that multicollinearity problem was very low.

4.3.3 Panel Unit root test

Unit root test is conducted to ensure that the variables are stationary. Gujarati (2003) posits that a data has no unit roots if the variance, autocorrelation and mean of the data structure do not vary with different periods. Wooldridge (2012) asserted that stationarity ensures that the regression results are not spurious thereby guaranteeing robust regression results. The study employed Augmented Dickey Fuller (ADF) unit root test to evaluate the availability of unit roots in the data. If P-Value is greater than 5% level of significance, it implies the data is not stationary i.e. availability of unit roots. Significance. Results in Table 4.4 indicated that all variables were non-stationary at 5% level of significance meaning that variance, autocorrelation and mean of the data structure do not vary with different periods.

Table 4. 4: Unit Root Test

Variable Name	Statistic(Adjusted)	P-Value	Comment
Leverage	-9.1936	0.000	Stationary
Firm size	-25.2806	0.000	Stationary
FCF	-14.6408	0.000	Stationary
ROA	-18.2333	0.000	Stationary

4.3.4 Heteroscedasticity test

Gujarati (2003) described heteroscedasticity as lack constant error variance. The study used Breusch-Pagan / Cook-Weisberg test by using the regression residual value of the independent variables.

Table 4. 5: Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Ho: Constant variance

Variables: LEVERAGE FIRMSIZE FCF

chi2(3) = 30.20

Prob > chi2 = 0.0000

The results in table 4.4 show that p value was less than chi2 hence the null hypothesis that data has homoscedasticity is not rejected and the alternative hypothesis that the data has heteroscedasticity is not accepted.

4.3.5 Autocorrelation

To establish whether the residual is serially correlated over time, Wooldridge test for autocorrelation was conducted. The null hypothesis is that no first order serial /auto correlation exists. Gujarati (2003) posits that serial correlation exists if an error term of one period is correlated with that of subsequent periods. The study used Wooldridge Drukker test to test existence of autocorrelation. Data has no serial correlation if P value is greater than the 5% level of significance. The null hypothesis is that no first order serial /auto correlation exists. The results are presented in Table 4.6 and that the study fails to reject null hypothesis of no autocorrelation and therefore residuals are not auto correlated (p-value=0.0941).

Table 4. 6: Wooldridge test for autocorrelation in panel data

Wooldridge test for autocorrelation in panel data

H0: no first order autocorrelation

F(1, 10) = 0.332

Prob > F = 0.5770

The results are as indicated in Table 4.5 below and therefore the null hypothesis of no autocorrelation is accepted and therefore residuals are not auto correlated (p-value=0.1010).

4.3.6 Random or fixed effect model

The Hausman test was employed to determine the most suitable model for this study. The null hypothesis is that the fixed effect model is appropriate and the alternative hypothesis is that Random effect estimation models is suitable tested at 5% significance level.

Table 4. 7: Hausman test

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	FEM	REM	Difference	S.E.
LEVERAGE	-.1695549	-.061566	-.1079889	.0462447
FIRMSIZE	.0149693	.0067072	.008262	.0033358
FCF	-.0114176	.0039597	0.079597	0.054535
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg				
Test: Ho:	difference in coefficients not systematic			
	$\text{chi2}(3) = (b-B)'[(V_b-V_B)^{-1}](b-B)$			
	20.43			
	Prob>chi2 = 0.0001			

The Chi-square test statistic is 20.43 with an significant probability of 0.0001 which means that the null hypothesis is not rejected in favor of the alternative hypothesis. Fixed effects model. Therefore was suitable for this study. The Hausman test result was presented in table 4.6.

4.4 Regression Analysis

The regression model helps to explain the magnitude and direction of relationship between the variables of the study through the use of coefficients like the beta coefficient and the level of significance. Based on the diagnostic tests carried out the study adopted a fixed effect model and the result presented was to show the fitness of model used of the regression model in explaining the study phenomena.

Table 4. 8: Fixed Effect Model

treg ROA LEVERAGE FIRMSIZE FCF, fe						
Fixed-effects (within) regression		Number of obs =		150		
Group variable: ID		Number of groups =		30		
R-sq:		Obs per group:				
within = 0.3650		min =		5		
between = 0.0088		avg =		5		
overall = 0.137		max =		5		
		F(3,42) =		8.05		
corr(u_i, Xb) = -0.7541		Prob > F =		0.0002		
ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LEVERAGE	-.1695549	.0529681	-3.20	0.003	-.2764488	-0.06266
FIRMSIZE	.0149693	.0046075	3.25	0.002	.0056709	0.024268
FCF	-.0114176	.0039597	-2.88	0.012	-.0094085	0.006573
_cons	-.1089515	.1057171	-1.03	0.309	-.3222972	0.104394

4.4.1 Coefficient of determination and F test

Tables 4.8 indicate that the model explains only 13.7% of the variations in profitability (ROA) as shown by the coefficient of determination (R^2) value of 0.0137 hence 86.3% variations in profitability (ROA) is explained by other factors not included in the model. It is therefore clear that working capital explains only 38.47% variations in profitability.

Additionally, according to table 4.8 the overall significance of the model was 0.002 with an F value of 8.05. The level of significance was lower than 0.05 and this means that model do show statistically significant effect on profitability (ROA).

4.4.2 Coefficients of Independent Variables

Table 4.8 further shows the coefficients of independent variables. The model was thus estimated as;

$$Y = -.1089515 - .0114176 X_1 + .0149693 X_2 - .1695549 X_3 \dots\dots\dots(2)$$

The estimated intercept term $-.1089515$ shows the level of profitability in terms of ROA when the independent variables are held constant. The researcher established that free cash flows had a statistically significant negative effect on profitability of listed non-finance firms ($\beta_1 = -.0114176$, $p = 0.012 < \alpha = 0.05$). Firm size had a statistically significant positive effect on profitability ($\beta_2 = .0149693$, $p = 0.002 < \alpha = 0.05$). Finally, leverage had a statistically significant negative effect on profitability ($\beta_3 = -.1695549$, $p = 0.003 < \alpha = 0.05$).

4.5 Interpretation of Results

The study examined the effect of free cash flows on profitability of listed non finance companies in Kenya using regression analysis, it was established that that free cash flows had a statistically significant negative effect on profitability of listed non-finance firms ($\beta_1 = -.0114176$, $p = 0.012 < \alpha = 0.05$). The value β_1 was negative showing that amount of fee cash flows has a negative

effect on profitability of listed non finance firms in Kenya hence a unit increase in free cash flows would lead to a -.0114176 reduction in profitability. The negative relationship could be explained by the fact that free cash flows is amount of residual cash remaining that ought to be invested in profitable ventures otherwise increased accumulation of cash that is not invested does not translate to increased profitability. The study has been supported by other studies. Parsian and Amir (2013) confirmed that there was a positive correlation between free cash flows and profitability of the listed firms using regression analysis. Vakilifard and Shahmoradi (2014) showed a strong relationship existing between free cash flow and equity. Efficiency is adversely influenced by the profitability of the company. Onsare, (2013) profitability of the firm in the short-term was found to be positively related to free cash flow. Wanja (2011) results confirmed that firms whose cash flow was greater hold more cash so that they can have smooth operations. Kemboi, (2010) concluded that larger dividends are paid by firms that have large free cash flows (Ahmed and Javid, 2009). (Zhi, 2009). Additionally, cross-sectional survey was conducted out of which the listed UK local companies over the 8 years period pattern, pattern performance was conducted on 67 firms on listed takeovers and free cash flow with the results showing that there existed inverse relationship between the UK takeovers performance and cash flow in the domestic firms.

Firm size had a statistically significant positive effect on profitability ($\beta_2 = .0149693$, $p = 0.002 < \alpha = 0.05$). The value β_2 was positive showing that firm size had a positive effect on profitability of listed non finance companies in Kenya hence a unit increase in firm size in terms of assets would lead to a increase in profitability of studied firms by .0149693 units. The effect of firm size is positive since growth in firm size in terms of asset size can be used for investment purposes that intern improves the level of profitability. The study findings are in agreement by study

by Delmar and Wiklund (2008) reviewed firm growth empirical and theoretical reviews. Positive relationship or no relationship at all was found existing from the conducted studies in relation to the rates of growth of the firms and their sizes. Spontaneous growth of the firms recorded show higher profitability since new firms could record more profits immediately they enter into the market especially when operating on large scale Macmillan and Day (1987) whereas quest for high growth of the firms may have small effect or being negatively correlated with the rate of making profits by the firms (Ayaydin, 2014). Further investigations were conducted on the company's behaviors' relationship with its profitability showing size, age, location and the industry have the limited value that could not be relied on in the explanation of the profitability of the firm.

Finally, leverage had a statistically significant negative effect on profitability ($\beta_3 = -.1695549$, $p = 0.003 < \alpha = 0.05$). The value β_3 was negative showing that leverage has a negative effect on profitability of listed non finance firms in Kenya hence a unit increase in leverage would lead to a $-.1695549$ decrease in profitability of firms. The inverse relationship can be explained that the reasoning that increased leverage is associated with solvency risk that might impact on a business negatively as well as the high cost of debt finance hence negative relationship. leverage includes equity capital and debt capital generally equity capital includes shareholder's fund and reserve of the firm on the other hand debt capital interest or other compensation for their debt capital whether the firm has earned profit or not but in the case of equity capital the firm may pay the dividend to the equity share holders only if the firm has earned profit. Capital structure generally long term decision and the liquidity position are related with every day operation. The deciding the capital structure is related with board of director and top finance people decision of the firm however liquidity position is depending on the management of the firm (According to Goyal, 2013).

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The chapter presents summary, conclusion and recommendations of the study. The study examined the effect of free cash flows on the profitability of listed non-finance firms in Kenya.

5.2 Summary

The study examined the effect of free cash flows on profitability of listed non finance companies in Kenya using regression analysis, it was established that that free cash flows had a statistically significant negative effect on profitability of listed non-finance firms ($\beta_1 = -.0114176$, $p = 0.012 < \alpha = 0.05$). The value β_1 was negative showing that amount of free cash flows has a negative effect on profitability of listed non finance firms in Kenya hence a unit increase in free cash flows would lead to a $-.0114176$ reduction in profitability. Firm size had a statistically significant positive effect on profitability ($\beta_2 = .0149693$, $p = 0.002 < \alpha = 0.05$). The value β_2 was positive showing that firm size had a positive effect on profitability of listed non finance companies in Kenya hence a unit increase in firm size in terms of assets would lead to a increase in profitability of studied firms by $.0149693$ units. Finally, leverage had a statistically significant negative effect on profitability ($\beta_3 = -.1695549$, $p = 0.003 < \alpha = 0.05$). The value β_3 was negative showing that leverage has a negative effect on profitability of listed non finance firms in Kenya hence a unit increase in leverage would lead to a $-.1695549$ decrease in profitability of firms.

5.3 Conclusion

The study established that that free cash flows had a statistically significant negative effect on profitability of listed non-finance firms. The negative relationship could be explained by the fact that free cash flows is amount of residual cash remaining that ought to be invested in profitable ventures otherwise increased accumulation of cash that is not invested does not translate to increased profitability. Firm size had a statistically significant positive effect on profitability. The effect of firm size is positive since growth in firm size in terms of asset size can be used for

investment purposes that intern improves the level of profitability. Finally, leverage had a statistically significant negative effect on profitability. The inverse relationship can be explained that the reasoning that increased leverage is associated with solvency risk that might impact on a business negatively as well as the high cost of debt finance hence negative relationship.

5.4 Recommendations

The study information may be useful to a number of groups in the society. First, the study recommend to management of listed firms to take issues of free cash flows seriously by practising better free cash flows management. The management should identify investments projects where excess free cash flows can be invested to improve profitability of the listed firms in Kenya. Additionally, execs free cash flows may be embezzled or mismanaged hence management of such firms should have strict rules on management of the free cash flows within the respective businesses. Secondly, the study wishes to recommend to capital market authority to follow up on issues of free cash flows on a serious note. The officers at capital market authority should come up with strict policies on how free cash flows may be used by listed firms to discourage mass failure of listed firms due to poor management of free cash flows that rode their capital base when mismanaged by the management of such firms.

5.5 Areas for Further Studies

The current study examined the effect of free cash flows on profitability of listed firms in Kenya. The study was successfully carried out however, a number of weakness were identified. The study was exhaustively based on secondary data and may not capture all aspects of free cash flows. The study therefore recommend that another study should be carried out that examines the effect of free cash flows that employs both secondary and primary data. Additionally, another study can still be carried out in the area of free cash flows especially in non listed firms in Kenya.

5.6 Limitation of the Study

The study was successfully carried out however a few challenges is associated with it. First, listed firms do not apply similar accounting policies as policies vary slightly from one firm to another hence the cash flow figures may not have been arrived at accurately as some variances is expected based on the accounting policy including accrual policy of a firm. In addition, profitability of a firm is affected by numerous factors that were not part of this study. Although the study examined the effect of free cash flows on earnings management of listed firms in Kenya, other factors also affect profitability. To capture the effect of other variables apart from free cash flows, the study introduced two control variables to capture the effect of the other variables in the name of firm size and leverage that also affect profitability.

REFERENCES

- Afrifa, G. A., & Padachi, K. (2016). Working capital level influence on SME profitability. *Journal of Small Business and Enterprise Development*, 23(1), 44-63.
- Ağca, Ş., & Mozumdar, A. (2008). The impact of capital market imperfections on investment cash flow sensitivity. *Journal of Banking & Finance*, 32(2), 207-216.
- Akumu, O. C.(2015). Effect Of Free Cash Flow On Profitability Of Firms Listed On The Nairobi Securities Exchange (MBA,UON)
- Ali, M. U., Ormal, M. L., & Ahmad, M. F.(2016) Impact of Free Cash Flow on Profitability of the Firms in Automobile Sector of Germany. *Journal of Economics and Management Sciences* (Thesis, Kardan University)
- Ayaydin, H. (2014). Profitability, Growth And Size: The Case Of Turkish Industrial Companies. *Interdisciplinary Perspectives On Social Sciences*, 11.
- Brush, T. H., Bromiley, P., & Hendrickx, M. (2012). The free cash flow hypothesis for sales growth and firm performance. *Strategic Management Journal*, 21(4), 455-472.
- Christine, O. (2014). Effect of free cash flow on profitability of the firms listed on the Nairobi securities exchange (MBA Project, UON)
- Chung, K., Pruitt, S. (1994), A simple approximation of Tobin's Q, *Financial Management*, 23(3),70-85
- Chung, R., Firth, M., & Kim, J. B. (2015). Institutional monitoring and opportunistic earnings management. *Journal of corporate finance*, 8(1), 29-48.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management review*, 22(1), 20-47.
- Delmar, F., & Wiklund, J. (2008). The effect of small business managers' growth motivation on firm growth: A longitudinal study. *Entrepreneurship Theory and Practice*, 32(3), 437-457.
- Ding, Y., Song, X., & Zen, Y. (2008). Forecasting financial condition of Chinese listed companies based on support vector machine. *Expert Systems with Applications*, 34(4), 3081-3089.

- Fama, E. F., & French, K. R. (2004). The capital asset pricing model: Theory and evidence. *Journal of economic perspectives*, 18(3), 25-46.
- Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of financial economics*, 67(2), 217-248.
- Gathu, S. (2018). *Influence Of Cash Flow Trends On Shareholders Returns Among Manufacturing And Allied Companies Listed In The Nairobi Securities Exchange* (Doctoral Dissertation, Jkuat).
- Gomez, P. Y., & Korine, H. (2005). Democracy and the evolution of corporate governance. *Corporate Governance: An International Review*, 13(6), 739-752.
- Goyal, A. M. (2013). Impact of capital structure on performance of listed public sector banks in India. *International Journal of Business and Management Invention*, 2(10), 35-43.
- Griffith, J. M. & Carroll. C. (2011). Free Cash Flow, Leverage and Investment Opportunities. *Journal of Business and Economics*, 1(2),1-5
- Habib, A. (2011). Growth Opportunities, Earnings Permanence and the Valuation of Free Cash Flow. *Australasian Accounting Business and Finance Journal*, 5(4), 101-122.
- Hann, R. N., Ogneva, M., & Ozbas, O. (2013). Corporate diversification and the cost of capital. *The journal of finance*, 68(5), 1961-1999.
- Harrison, J. M., & Kreps, D. M. (1979). Martingales and arbitrage in multiperiod securities markets. *Journal of Economic theory*, 20(3), 381-408.
- HU, J. P., & GAN, S. D. (2009). On the Agency Costs of Free Cash Flow: Theory and Evidence. *Contemporary Finance & Economics*, 12, 018.
- Jensen, C. & Smith, C. (2015). Stockholder, Manager and Creditor Interests: Applications of Agency Theory. *Recent Advances in Corporate Finance*. E. I. Homewood, Illinois, Irwin: 93-131
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review* 76, 323-329.

- Karatzas, I., Lehoczky, J. P., & Shreve, S. E. (1987). Optimal portfolio and consumption decisions for a “small investor” on a finite horizon. *SIAM journal on control and optimization*, 25(6), 1557-1586.
- Lemmon, M. L., & Zender, J. F. (2010). Debt capacity and tests of capital structure theories. *Journal of Financial and Quantitative Analysis*, 45(5), 1161-1187.
- Markowitz, H. (1952). Portfolio selection. *The journal of finance*, 7(1), 77-91.
- Merton, R. C. (1969). Lifetime portfolio selection under uncertainty: The continuous time case. *The review of Economics and Statistics*, 247-257.
- Neumann, J. V. (1944). von, Morgenstern O. *Theory of games and economic behavior*, 1.
- Ng, L., Solnik, B., Wu, E., & Zhang, B. (2013). Characterizing global financial and economic integration using cash flow expectations. In *Working paper of University of Wisconsin Milwaukee F*.
- Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *Journal of Finance*, 56, 2111–2133
- Onsare, K. (2013). The relationship between investment rate and economic growth rate in Kenya, (Unpublished MBA Project, University of Nairobi)
- Sadaf Ambreen, J. A. (2016). Impact of free cash flow on profitability of the firms listed in karachi stock exchange. *Euro-Asian Journal of Economics and Finance*, 4(4).
- Scatizzi, C. (2009). Measuring a company’s free cash flow. *Fundamental Focus*, 20-21.
- Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure1. *Journal of financial economics*, 51(2), 219-244.
- Thangjam R, M. G. (2015, August). Analysis of relationship between profitability and free cash flow to firms. *International Journal in management and social science*, 03(08).
- Torghabeh, M., Parsian, H., & Kolookhi, A. (2014). A study on relationship between earnings before tax, interest and operational cash flows with stockholders’ equity. *Management Science Letters*, 4(8), 1699-1706.
- Vijayakumar, A., & Devi, S. S. (2011). Growth and profitability in Indian automobile an analysis. *Journal for Bloomers of Research*, 3(2), 168-177.

- Vakilifard, H. R., & Shahmoradi, N. (2014). Investigating the Effects of Stable Profitability and Free Cash Flow on Stock Returns of Companies Listed in Tehran Stock Exchange. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(3), 21-27.
- Wang, G. Y. (2010). The Impacts of Free Cash Flows and Agency Costs on Firm Performance. *J. Service Science & Management*, 1(2):1-5
- Xiaoqiang, Z., & Pan, T. (2007). Management Team Pay-performance Sensitivity, Internal Cash Flow and Investment Behavior: a Test of Free Cash Flow and Asymmetric Information Theory [J]. *Accounting research*, 10, 012.

APPENDICES

Appendix I: Data Collection Sheet

	2017	2016	2015	2014	2013
Total Assets					
Equity					
earnings before interest and tax					
Profit after tax					
Depreciations and Amortization					
changes in working capital					
Changes in capital expenditure					

Appendix II: Non Finance Listed Firms

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi Ord.
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd
8. Car and General (K) Ltd
9. Express Ltd
10. Sameer Africa PLC
11. Kenya Airways Ltd
12. Nation Media Group
13. Standard Group Ltd
14. TPS Eastern Africa (Serena) Ltd
15. Scangroup Ltd
16. Uchumi Supermarket Ltd
17. Longhorn Publishers Ltd
18. Atlas Development and Support Services
19. Deacons (East Africa) Plc

20. Nairobi Business Ventures Ltd
21. Athi River Mining
22. Bamburi Cement Ltd
23. Crown Paints Kenya PLC
24. E.A.Cables Ltd
25. E.A.Portland Cement Ltd
26. KenolKobil Ltd
27. Total Kenya Ltd
28. KenGen Ltd
29. Kenya Power & Lighting Co Ltd
30. Umeme Ltd

Appendix III: Raw Data

Firm ID	Time	Leverage		Firm size	FCF
		effect(TL/TA)	ROA		
1	2017	0.31	0.036	14.16	579448.8
1	2016	0.42	0.046	14.35	399189.6
1	2015	0.36	0.064	14.64	482,874.00
1	2014	0.28	0.031	14.68	332,658.00
1	2013	0.25	0.042	14.84	269,615.00
2	2017	0.29	0.023	15.89	207527.1
2	2016	0.28	0.014	16.02	362623.8
2	2015	0.29	0.02	16.06	188,661.00
2	2014	0.28	0.012	16	329,658.00
2	2013	0.3	0.028	16.02	497,029.00
3	2017	0.59	0.028	14.98	104659.5
3	2016	0.6	0.029	15.17	308567.6
3	2015	0.65	0.016	15.53	95,145.00
3	2014	0.62	0.038	15.56	280,516.00
3	2013	0.64	0.019	15.75	76,574.00
4	2017	0.6	0.014	16.4	33278.4
4	2016	0.63	0.012	16.5	692774.4
4	2015	0.65	0.005	16.5	27,732.00
4	2014	0.56	0.024	16.38	577,312.00
4	2013	0.33	0.0367	14.91	280380
5	2017	0.37	0.0411	14.98	137302.8
5	2016	0.44	0.0472	15.01	233,650.00
5	2015	0.38	0.0233	14.97	114,419.00
5	2014	0.31	0.0286	14.94	78,239.00
5	2013	0.68	0.0263	14.08	20059.2
6	2017	0.71	0.0325	14.11	
6	2016	0.46	0.0367	13.55	16,716.00
6	2015	0.6	0.0636	13.11	-4,059.00
6	2014	0.59	0.0109	13.08	-42,388.00
6	2013	0.77	0.0184	18.13	-698100
7	2017	0.73	0.0097	18.11	5691400
7	2016	0.71	0.0298	18.18	-537,000.00
7	2015	0.7	0.022	18.16	4,378,000.00
7	2014	0.75	0.0169	18.63	9,214,000.00
7	2013	0.29	0.0406	15.21	97604.34783
8	2017	0.32	-0.033	15.89	142460.8696
8	2016	0.31	0.0175	15.99	2,244,900.00
8	2015	0.31	0.0236	16.18	3,276,600.00
8	2014	0.28	0.0222	16.25	1,713,900.00

8	2013	0.42	0.0258	15.76	1271623.82
9	2017	0.37	0.0205	16.29	1580867.68
9	2016	0.39	0.0242	16.39	948,973.00
9	2015	0.39	0.0152	16.42	1,179,752.00
9	2014	0.32	0.0408	16.6	188,671.00
9	2013	0.66	-0.009	16.31	1997403.6
10	2017	0.7	0.077	16.62	2118234
10	2016	0.7	0.055	16.84	1,664,503.00
10	2015	0.74	0.06	17.11	1,765,195.00
10	2014	0.72	0.058	17.21	2,215,001.00
10	2013	0.44	0.047	13.91	6972840
11	2017	0.54	0.041	14.49	1399860
11	2016	0.52	0.055	14.61	5,534,000.00
11	2015	0.48	0.049	14.63	1,111,000.00
11	2014	0.54	0.046	14.9	14,928,000.00
11	2013	0.55	0.07	14.44	-91861.2
12	2017	0.54	0.036	14.49	340362
12	2016	0.52	0.048	14.61	-76,551.00
12	2015	0.48	0.058	14.63	283,635.00
12	2014	0.54	0.029	14.9	122,504.00
12	2013	0.53	0.038	15.08	-465247
13	2017	0.5	0.019	15.32	709154.28
13	2016	0.54	0.04	15.42	-381,350.00
13	2015	0.53	0.041	15.65	581,274.00
13	2014	0.55	0.02	15.73	299,916.00
13	2013	0.49	0.043	16.3	597240.03
14	2017	0.53	0.029	16.3	-257329.53
14	2016	0.58	0.042	16.41	485,561.00
14	2015	0.67	0.062	16.45	-209,211.00
14	2014	0.56	0.043	16.6	603,628.00
14	2013	0.41	0.027	18.54	3965397.8
15	2017	0.53	0.016	18.83	5863985.4
15	2016	0.57	0.03	18.9	4611461.4
15	2015	0.57	0.028	18.91	3,050,306.00
15	2014	0.61	0.025	19.06	4,510,758.00
15	2013	0.67	0.018	17.2	3547278
16	2017	0.63	0.023	17.23	-1021825.2
16	2016	0.75	0.018	17.64	19445069.02
16	2015	0.8	0.025	17.3	2,956,065.00
16	2014	0.76	0.01	17.15	-851,521.00
16	2013	0.62	0.012	18.09	16204224.18
17	2017	0.64	0.013	18.2	17998897.5
17	2016	0.67	0.014	18.6	5565785.055

17	2015	0.68	0.01	18.71	13,174,166.00
17	2014	0.73	0.005	18.99	14,633,250.00
17	2013	0.72	0	17.27	4525028.5
18	2017	0.68	-0.008	17.23	4371764.34
18	2016	0.74	-0.075	17.38	7,857,234.00
18	2015	0.57	-0.033	17.31	6,700,983.00
18	2014	0.62	0.0593	17.5	-2,005,741.00
18	2013	0.56	0.0368	16.17	4925473.5
19	2017	0.54	0.0311	16.22	4758646.14
19	2016	0.53	0.0563	16.44	691271.2422
19	2015	0.53	0.0313	16.54	4,004,450.00
19	2014	0.55	0.0259	16.65	3,868,818.00
19	2013	0.15	0.0149	14.13	562009.14
20	2017	0.14	0.0188	14.23	703835.52
20	2016	0.16	0.018	14.37	456,918.00
20	2015	0.18	0.0033	14.52	572,224.00
20	2014	0.13	0.0186	14.61	295,753.00
20	2013	0.35	0.0132	17.39	9324117.395
21	2017	0.38	0.0067	17.46	7675205.265
21	2016	0.46	0.0073	17.72	8,302,865.00
21	2015	0.84	0.0107	17.82	6,834,555.00
21	2014	0.86	0.0128	17.89	8,877,695.00
21	2013	0.66	0.0021	13.61	-45767.8
22	2017	0.66	-0.0102	13.97	72165.6
22	2016	0.73	-0.0182	13.83	1697048.08
22	2015	0.7	-0.0697	13.96	-35206
22	2014	0.58	-0.0278	13.76	55512
23	2013	0.43	-0.0109	16.68	1305421.6
23	2017	0.41	0.0501	16.71	2960372.8
23	2016	0.38	0.0656	16.95	932,444.00
23	2015	0.43	0.0414	17.13	2,114,552.00
23	2014	0.51	0.0501	17.12	2,300,182.00
24	2013	0.43	0.0383	15.53	579448.8
24	2017	0.34	0.0566	15.44	399189.6
24	2016	0.34	0.0356	15.56	482874
24	2015	0.38	0.0369	15.67	332658
24	2014	0.47	0.0399	15.91	269615
25	2013	0.25	0.04	12.47	562009.14
25	2017	0.3	0.068	12.53	703835.52
25	2016	0.25	0.072	12.78	456918
25	2015	0.16	0.05	13.26	572224
25	2014	0.2	0.037	13.12	295753
26	2013	0.41	0.064	13.97	362623.8

26	2017	0.45	0.058	14.22	188661
26	2016	0.38	0.046	14.27	329658
26	2015	0.42	0.042	14.49	497029
26	2014	0.38	0.022	14.55	562009.14
27	2013	0.34	0.036	11.35	703835.52
27	2017	0.25	0.046	11.97	456918
27	2016	0.22	0.042	12.16	572224
27	2015	0.24	0.022	12.68	295753
27	2014	0.16	0.036	13.26	-253625
28	2013	1.07	0.0109	14.71	-23345736
28	2017	0.51	0.0152	14.96	-22178449.2
28	2016	0.43	0.0076	15.2	-21069526.74
28	2015	0.46	0.015	15.41	-20016050.4
28	2014	0.48	-0.098	15.53	-19015247.88
29	2013	0.4	0.0077	15.18	6972840
29	2017	0.55	0.0165	15.9	1399860
29	2016	0.49	-0.034	15.95	5534000
29	2015	0.43	0.0179	15.94	1111000
29	2014	0.36	0.0054	16.36	14928000
30	2013	0.58	0.0184	14.92	188671
30	2017	0.54	0.0076	15.01	1997403.6
30	2016	0.53	0.0131	15.07	1937481.492
30	2015	0.47	0.034	15.07	1879357.047
30	2014	0.51	0.0242	15.24	1822976.336
31	2013	0.67	0.02	14.18	456918
31	2017	0.88	0.006	13.93	452348.82
31	2016	0.63	0.01	13.89	447825.3318
31	2015	0.31	0.0365	13.25	443347.0785
31	2014	0.45	0.051	13.15	438913.6077