EFFECT OF FIRM CHARACTERISTICS ON THE PROFITABILITY OF LISTEDINVESTMENT COMPANIES IN KENYA

VYRONE OTIENO OCHOLA

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DECLARATION

I declare that this project is my original work and has not been previously published or submitted elsewhere for award of degree. I also declare that this contains no materials written or published by other people except where due reference is made and author duly acknowledged.

Student name: _____ Reg. No. _____

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I do hereby confirm that I have examined the master's project of

VYRONE OTIENO OCHOLA

And have approved it for examination

Sign: _____ Date: _____

DR. IBRAHIM TIRIMBA

Proposal Supervisor

ABSTRACT

Financial statements are very useful for reporting and analysis of financial performance to determine the profitability of the company. Financial ratios which are derived from firm characteristics are used by the interested parties such as management, investors, government among other parties to make investment decisions. As such, the purpose of this research project was to assess the effect of firm characteristics on the profitability of investment companies in Kenya as listed at the NSE. The specific objectives of the study were to establish the effect of liquidity on the profitability of listed investment companies in Kenya, to determine the effect of asset management on the profitability of listed investment companies in Kenya and to investigate the effect of firm leverage on the profitability of listed investment companies in Kenya. The market timing theory, pecking order theory and trade-off theory helped in developing the study. Census survey method was used with a target population of 4 investment companies as currently listed under investments at NSE. Secondary data from financial statements and journals for a period of 8 (2010 – 2017) years were used and data collection forms were developed to help in gathering information efficiently. Regression models and STATA software were used for data analysis where diagnostic tests were done using Hausman test, multicollinearity, heteroscedasticity and normality test to determine appropriate model. Panel data analysis plan was also undertaken. The study findings indicated that there was a strong positive correlation between liquidity and profitability of listed investment companies in Kenya. On the effect of asset management and leverage on profitability of listed investment companies in Kenya, the study results indicated a negative correlation of -03466 and -1.133987 respectively. The study recommended that investment companies should redesign their ability to utilize fixed assets to generate sales efficiently. Further, the study recommended that the companies should check their leverage use in terms of asset funding as well as reconsider their approach in debt financing in order to develop a strong positive correlation between them. The study recommends that another study be carried on asset management and leverage to determine their effect on profitability of investment companies since the findings of this study found out a negative relationship. Other firm characteristics should also be incorporate in the future research so as to estimate their relationship with profitability of listed investment companies in Kenya.

Key Words: Firm characteristics, liquidity, asset management, leverage and profitability.

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DEDICATION

I dedicate this research project to my beloved family and friends for their support towards my education. To my brother Edwin, thank you for ensuring that my masters' study is successful. God bless you all.

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ACRONYMS AND ABBREVIATIONS

BPLM	Breusch-Pagan Lagrangian Model
CA	Current Asset
CL	Current Liability
CMA	Capital Market Authority
CR	Current Ratio
D/E	Debt-Equity Ratio
FV	Firm Value
Ltd	Limited
LTD	Long-Term Debt
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Square model
ROA	Return on Asset
ROCE	Return on Capital Employed
ROE	Return on Equity
ROI	Return on Investments
SMEs	Small and Medium Enterprises
STD	Short-Term Debt
TD	Total Debt
TQR	Tobin's Q Ratio
VIF	Variance Inflation Factors

OPERATIONAL DEFINTION OF TERMS

Asset Management -Measures a company's ability to efficiently convert its assets to generate sales or revenue (Kakaruz & Bozkurt, 2017).

Firm Characteristics -Refers to company's ability in relation to its operation and revenue to meet its obligation or goals and often determined using various ratio computation and analysis (Kakaruz & Bozkurt, 2017).

Profitability -The ability of the Investment Company to generate revenue from its assets effectively and efficiently (Precha, 2004).

Investment Company -Are companies involved in trading of financial securities during initial public offering and basically help individual investors and institutional investors in mergers and acquisition (Chandra, 2017).

Leverage -Measures the value of debt and equity in the company (Bui, 2017).

Liquidity -A measure used to assess the company's ability to meet its financial obligations when they fall due or on short term basis as well as long term (Ibrahim, 2017).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Financing decision still remains a huge area of interest in finance when it comes to investment and capital budgeting. Finance managers must make decisions that involves maximizing shareholders' values and at the same time enhancing organization profit. One of the decision that managers must consider effectively is the level of financing using both debt and equity in the company. Successful financing sources will determine the level of firm leverage in the market as it have a great impact on the profitability of the company. As a result, asset financing in investment companies is considered as capital intensive hence the need for proper asset management technique. Investment companies with high level of asset management are able to generate revenue or sales which promotes the growth of the company in relation to its value in the market (Lodhi, 2017).

According to Mwaura (2017), investment has been seen as the way to create value and increase profit. For this reason, the level of competition among investment companies in Kenya is on the rise. Many companies and other banks are currently dropping some of their commercial functions to form or concentrate majorly on investment services. This is because investment companies across the globe play an important role that require deep knowledge and skills of understanding and analysing financial securities in the financial market. Establishing the measures of value of investment companies has gained the importance in finance and investment literature because as the major players in security market, investment companies provide a detailed analysis of each security in the market hence creating additional market to attract numerous investors.

The profitability of investment companies are attributed to several firm characteristics that it has (Omar, 2013). Previous studies has been conducted to establish how firm characteristics affect the profitability of the company (Nan, Nusair & Arun, 2013; Meric, Lentz, Li & Meric, 2014). These studies have attempted to establish how firm characteristics such as leverage, profitability, liquidity and firm size affect the profitability of the company in international market with less attention given to the study in investment companies (Kaguri, 2013). Therefore, financial reporting tools (income statement, statement of financial position and statement of cash flow) assist investors to assess whether the company is financially stable or vulnerable as it become part of their judgement (Dyck *et al*., 2017).

Investment companies stimulates economic growth through issuing of government securities and other financial securities such as shares of other companies and corporate bonds. They promote primary market through initial public offerings as well as secondary market where investors can access liquid securities. The challenge thus facing both investors and investment companies is the need for diversification of investment securities. The concept of firm characteristics therefore should lead to higher profitability of the business as the study seek to establish (Simon & Shepherd, 2014).

1.1.1 Firm Characteristics

According to Sodeyfi (2016), firm characteristics are useful in understanding the current and previous or past performance of a company using financial ratios and other analysis as a measure. Financial ratio as a tool is used for estimating or predicting future performance of the company against current performance based on a predicted indicator in the market. Investors and shareholders are majorly interested in firm characteristics as it has been identified as one aspect that indicate the value of the company (Kakaruz and Bozkurt (2017).

Firm characteristics therefore comprise of ratio computation and interpretation analysis which is used in investment financial analysis.

Several firm characteristics such as leverage, firm size, age, liquidity and profitability have been adopted in different studies like Lusardi and Tufano (2015). Further, Asiri and Hameed (2014) noted that firm characteristics may be used as a technique for planning and controlling the activities of the company. In their studies they adopted ROA, Quick ratio and acid test ratio in determining firm value and profitability. Companies are able to determine their weaknesses and strengths based on firm characteristics. In relation to this, users of financial statements who pay close attention to firm characteristics as a determinant of investment may be debtors, investors or shareholders among others. For investors, they pay close attention to profitability ratios such as return on equity (ROE) because it is an indicative of their investment returns. Debtors pay attention to debt-equity ratio (DE) in the company.

Leverage is very essential as it gives the investors the ability to determine the extent of debt or equity financing in the company. Since that investors are irrational, many would not go for a company that is purely financed by either debt or equity. Additionally, liquidity provide companies with ability to meet their short term financial obligations using short term assets without facing or incurring losses in the market. Akenga (2017) together with Omesa (2015) adopted current ratio and quick ratio in their study to determine extent of how liquidity influence performance of firms. Asset management as a firm characteristic explains the level of efficiency in the company. It measures how efficiently the companies use their assets to generate sales or revenue.

Therefore, this study adopted liquidity, leverage and asset management as firm characteristics in assessing the profitability of investment companies. This is because liquidity and leverage have been widely used and accepted as firm characteristics both by international and local

studies in establishing firm performance. However, asset management have been given little consideration hence the need by researcher to adopt all the three in the study. Further, the justification for this firm characteristics is to allow easy understanding of the ability of the company to pay its debts when due, to understand the level of efficiency in the business and to identify the leverage position of the firm (Pais & Gama, 2015).

Under liquidity, cash ratio was selected for the study. Cash ratio (CR) is given by cash and cash equivalents plus other marketable securities divided by current liability (CL). As for asset management, the study adopted fixed assetratiowhich is given by net sales divided by fixed assets. Lastly, on the leverage characteristics, the study used debt ratio which is given by total liability divided by total assets (Chesang, 2017).

1.1.2 Profitability

Though investment companies have the responsibility of maximizing shareholder wealth as their main goal in the business, attaining profitability of the organization is of a great concern as well. The ability of investment companies to continuously generate sales or revenue is consistently determined by its level of profitability in the business. Managers have to make effective and sound financing decisions that enhance profitability of their companies as explained by Precha (2004). To have remain competitive in the market, managers concentrate in investing in financial assets that have value to the company and to the shareholders.

According to Maina and Kodongo (2013), firm characteristics such as leverage, liquidity and its asset have influence on the ability to increases or decrease profitability of the company. A result of poor management of the three firm characteristics (leverage, liquidity and asset) can kick investors out of the business making the company to lose its competitive nature in the market. Profitability of a company therefore is the company's ability to generate more revenue in growth of its lifetime. Several ratios have been derived to determine the

profitability of the company such as return on assets, return on equity and return on capital employed as well as return on investment.

Return on asset looks at how well finance managers are able to generate enough revenue from the existing assets of the company. Investment companies with a well-managed working capital in relation to current asset and current liabilities have ability to utilize its asset efficiently in the market hence attracting many investors in the market. Return on investment and return on equity addresses the ability of shareholders to earn their returns when they fall due. It basically indicates that managers are able to utilize their investments (cash) efficiently and effectively to generate more returns to the business. Return on capital employed also addresses the shareholder wealth maximization (Baba, Abdul & Kamarul, 2016).

Even though these ratios from financial statements form a very good view of measuring investment companies' profitability in the market, comparing company performance across sectors which are not similar in terms of business functions in the market environment may prove worrying and very difficult. Further, data among companies may not be similar as other firms have different structure of establishing their financial statements. However, use of ratios is still important in the financial market for both lenders and borrowers. Therefore, this study adopted profit margin ratio as it is a measurement of profitability in order to estimate the extent to how efficient and effective managers' use or convert sales into net income (Yusuf & Yanik, 2016).

1.1.3 Investment Companies

Investment companies play a very important role in the financial market in Kenya. They are institutions mandated to help organizations and individual investors raise and invest their funds into the profitable financial securities with a potential growth in a year. These companies are specialized in doing research on due diligence for investors and advising them

accordingly. Over the years, individual investors wishing to follow financial market performance have been finding it hard to access market information which limits their chances of determining active securities. To bridge this gap, investment companies which also act as investment banks in the market provide relevant information to interested parties and assist them to invest their funds according to their goals and need in relation to their timeline (Corovei, 2015).

Additionally, investment companies invest their capital in a diversified asset classes (portfolio diversification) to raise or earn profit for their shareholders and investors. These companies have professional fund managers with deep knowledge in security selection and portfolio management. As a result, they attract numerous investors both foreign and local investor who wish to invest in the financial market. However, investors must analyse their financial performance based on ratio analysis and compare them in order to determine which company performs better in the market based on their FV performance (Micheni, 2016).

This study focused on the investment companies in Kenya listed at NSE. From NSE list of investment companies as of 2018, there are 5 investment companies which comprise of Home Africa Limited, Centum Investment Company, Olympia Capital Holdings, Trans-Century Company and Kurwitu Ventures. However, the study only took place in the first four (4) leaving out Kurwitu ventures due to its lack of financial statements dating back from 2010 – 2013. Therefore, investors are interested in the financial ratios of these companies which helps them in making decision in which company to invest in based on their profitability level. The companies formed part of the study due to their ability to invest in various asset securities in the market and generate revenue.

1.2 Statement of the Problem

The investment companies in Kenya has a goal to provide standardized financial securities such as debt and shares that meet investors' willingness and ability to invest in either short term or long term securities in the market (Chandra, 2017). In this regard, the investment companies has encouraged use of financial ratios derived from financial characteristics as part of technical analysis tool in assisting the investors to understand the future value of the company. There are several papers such as Omesa (2015); Akenga (2017); Tangut (2017) and Taslim and Jacob (2017) that contain specific financial ratios to determine value and profitability of the companies.

Even though financial characteristics is becoming a core investment analysis concept in the financial market which investors use to establish which company to invest in based on their profitability, the performance of the 4 investment companies in 2017 was not attractive. According to a report by Financial Sector Regulators Forum (2017), the total net income for investment companies in 2017 was 4.2 billion compared to 8.9 billion in 2016. This was almost 50 per cent decrease in income which can translate that the management were not able to utilise their assets effectively to raise revenue. This was a massive loss to the companies that require a closer look into how effective financial characteristics can assist the companies to enhance their profitability.

As a result, the existing studies on firm characteristics and profitability of the firm have not clearly demonstrated the effect of firm characteristics on the value of investment company by looking at its profitability (Bagheri, 2013), as most of the study tend to focus on other firm characteristics such as firm size (Omar, 2013). According to a study by Nan, Nusair and Arun (2012), investors use firm characteristics to estimate which company has a better firm value so that they can invest their money in it in order to maximize their wealth.

Despite the said investment companies' efforts to increase the level of investment trade in the market, there is slow or little understanding of how firm characteristics can assist investors in determining the profitability of the investment companies (Arkan, 2016). The investment companies has officially acknowledged that there exist a missing tool in attracting mostly local investors who are majorly young people in investing in portfolio of securities in the market due to little attention given to firm characteristics with the help of ratio computation as a tool of investment analysis in establishing profitability of the firm (Chesang, 2016). This clearly indicate that there exist a gap that this study need to fill (Waswa, Mukras & Oima, 2018). These studies therefore do not explain how effective firm characteristics can be in assessing the profitability of the investment companies for investors in the market. It is on this basis that this study aimed to bridge the gap by assessing the effects of firm characteristics on the profitability of listed investment companies in Kenya.

1.3 Research Objectives

1.3.1 General Objective

The general objective of the study was to assess the effect of firm characteristics on the profitability of listed investment companies in Kenya.

1.3.2 Specific Objectives

i) To investigate the effect of liquidity on the profitability of listed investment companies in Kenya.
ii) To analyse the effect of asset management on the profitability of listed investment companies in Kenya.
iii) To establish the effect of leverage on the profitability of listed investment companies in Kenya.

1.4 Research Questions

The study was guided by the following research questions;

i) What is the effect of liquidity on the profitability of listed investment companies in Kenya?
ii) How does asset management affect the profitability of listed investment companies in Kenya?
iii) What is the effect of leverage on the profitability of listed investment companies in Kenya?

1.5 Significance of the Study

The study was significant in the following ways;

1.5.1 Management of Investment Companies

The study provides the management of listed investment companies with the opportunity to understand how firm characteristics are important in determining profitability of the company which investors use as investment tool for choosing which company to invest in.

1.5.2 Government and Investment Analysts

The study emphasizes the relevance of adoption of financial ratios as measures of various firm characteristics in financial statements for the government to understand how investment companies perform in the financial market. Additionally, it provides investment analysts to understand the need of establishing financial ratios as an additional technical analysis tool for investment.

1.5.3 Scholars and Academicians

To scholars, the study draws more criticism on the effect of firm characteristics on the value of investment companies and provide a platform for debate on the current effective firm

characteristics which should be considered for further studies by the academicians. The study also provides additional literature review for academicians.

1.6 Scope of the Study

The study was on firm characteristics and their effect on the profitability of listed investment companies in Kenya. The study targeted 5 listed investment companies at NSE, however since the study period was between 2010 and 2017, one company was eliminated as it got listed in 2014 with no access to its financial statements for those years. Therefore, the study was done on the 4 companies; Olympia Capital, Centum, Home Afrika and Trans-Century Company. The firm characteristics which were assessed and which formed the independent variables were liquidity, asset management and firm leverage which were measured by cash ratio, fixed asset ratio and debt ratio respectively. The profitability of the listed investment companies was measured by profit margin ratio.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter of the study discussed the literature that exists on the firm characteristics and the profitability of the listed investment companies. Relevant theories and empirical review were reviewed to show how they relate to the current topic of study.

2.2 Theoretical Review

This section presented the main theories which guided the study. The section explained the market timing theory, trade-off theory and the pecking order theory.

2.2.1 Market Timing Theory

This theory was brought into the limelight by Wurgler and Baker in 2004. According to this theory, managers of investment companies have irrational behaviour. The irrational behaviour of investment company managers is seen where their outlook regarding their own company is more good or stable than the general investors. In this case, managers may decide (and most likely will) issue equity in terms of new shares when the share price is high or up and raise debt in times when it's low. Managers therefore can develop the ability to time the market when it's somewhat efficient to asymmetric information on their past (Tangut, 2017).

Previous studies such as Maina and Kodongo (2013) suggested that companies in most cases issue more equity when the share price increases. Other evidence such as Hovakimian, Hovakimian and Tehranian (2004) indicated similar assumptions where when managers were asked on the appropriate time to issue equity shares, the response was that they have timed the market when issuing equity.

The relationship of this theory to this study is that it brings out the nature of an investment company manager's behaviour in terms of determining the cheapest source of fund to seek for regardless of the level of the company in the market. Both investors and shareholders want to invest in investment companies with responsible and active attitude towards market participation in order to efficiently utilize their investments to maximize this wealth and profit for the company leading to high firm value.

2.2.2 Trade-off Theory

Trade-off theory looks at the benefits of debt financing to the company such as tax shield as advocated by Modigliani and Miller in 1958, in determining the optimal capital structure of the company. Therefore, since interest is tax deductible, companies tend to focus on trade-off benefits it can explore by selecting how much equity ratio or debt ratio to finance its activities. Though this theory advocates for companies to have reasonable debt financing ratio in their capital structure, it also warns that too much debt or excessive debt financing can be a burden to the company (Frank & Goyal, 2011; Kholdy & Sohrabian, 2001).

Higher leverage level increases higher tax benefit for company income. With increase in debt ratio, the company is also likely to have a higher burden in servicing its debt obligations which will include higher taxation costs as well. This could result to default risks hence putting the company in the limelight having given poor credit rating by the relevance bodies. The relationship between this theory and the study is that it explains the concept of trade-off between debt and equity financing in the company and how investors view the firm values of such companies in the market (Chesang, 2016).

2.2.3 Pecking Order Theory

This theory first came into the light in 1961 by Donaldson and later developed by Myers and Majluf in 1984 in explaining the concept of capital structure in the company. Based on their

work, they argued that companies would prefer financing their projects with the available cheapest source of finance. In this regard, looking at the available sources of finance that a company has between internal source (preferred stock), debt and equity, companies will always go for preferred stock first followed by debt then equity as it is the most expensive source of funding, making it the last resort of financing for companies (Modigliani & Majluf, 1984).

In most cases, internal source of funding may not be sufficient as a source of financing decisions forcing the company to borrow. However, extent of borrowing should be limited. The concept of this theory was supported by the work of Frank and Goyal (2003) who argued that companies prefer internal source of financing if there exist in the company and issue debt then equity last. Further, companies prefer internal funding over debt which is considered external funding together with equity due to asymmetric information. Utilization of internal funding demonstrates that a company is financially stable hence can finance its projects. However, a slight percentage of debt would be considered over equity due to lower information costs.

Connecting this theory to the study, investors want to invest in companies with sound financial stability and which can pay them their return on time. As such, pecking order theory is still relevant in estimating firm profitability using financial ratios.

2.3 Empirical Review

This section discussed the existing literature on the relationship between the independent variables and dependent variables. It's based on the previous scholarly work.

2.3.1 Liquidity and Profitability

Khan and Ali (2016) did a study to investigate the relationship between liquidity and profitability of commercial banks in Pakistan. Secondary data was used for analysis for a

period of five years (2008-2014) from annual account of Habib Bank Limited. After conducting correlation and regression analysis, the study established that there has a significant positive relationship between liquidity with profitability of the banks.

Ibrahim (2017) examined the influence of liquidity on the profitability of Iraqi Commercial Banks. Five banks were considered for the study and secondary data was used for a period of 2005-2013. The ordinary least square (OLS) model was used for data analysis. The results of the study observed that any increase in liquidity ratio ratios (loan deposit ratio, deposit asset ratio and cash deposit ratio) increases the Return of Asset (ROA)

Lodhi (2015) examined the impact of liquidity on company profitability with special attention to current and quick ratio as measurement of liquidity ratios and quick ratio as measurement of liquidity ratios and ROA as a measurement of profitability. Five companies were considered for the study and secondary data was used. Different tests were used to analyse data. The findings of the study reveal that liquidity ratios have a positive relationship with profitability of these companies.

A study by Waswa, Mukras and Oima (2018) sought to investigate the effect of liquidity management on firm performance using a sample of five sugar firms over the period of 2005-2016. Secondary data was used. Regression model was developed for the study to estimate the random effects on the relationship between liquidity management and firm performance. The study findings reveal that there is a positive relationship between liquidity management and firm performance as supported by the hypothesis of the study.

2.3.2 Asset Management and Profitability

Warrad and Omari (2015) investigated the impact of total asset turnover ratio and fixed asset turnover ratio as working capital management ratios on financial performance of industrial sector in Jordanian with return on asset (ROA) as the performance measure. Secondary data

was used with simple regression model analysis for a period of 2008-2011. The study showed that there is significant input impact of asset turnover ratio on the companies' performance. Also, fixed asset turnover ratio had a significant impact of return on assets.

Mwaura (2017) researched on the effect of inventory turnover on the financial performance medium and large retail supermarkets in Kenya. The study adopted a descriptive cross-sectional research design with secondary data as the source of data collection. The results were analysed using STATA software for a period of 2012-2016. From the results of correlation analysis, there is a strong positive and statistically significant correlation between inventory turnover and financial performance of medium and large retail supermarkets in Kenya.

Awunya (2017) examined the effect of working capital management policy on profitability of commercial and service sector companies listed at NSE. The study adopted quantitative approach and secondary data majorly from financial statements for a five-year period (2012 – 2016) was used with 45 observations. Data was analysed using descriptive and linear regression analysis method. The components of working capital management considered for the study were current asset, current liability and total asset. The findings indicated that there exist insignificant positive relationship between aggressive financing policy and conservative investment policy with profitability.

Agasa (2016) investigated the effect of working capital management on profitability of firms in the soft drinks and beer industry in Kenya. Working capital management were measured by operating cycle, cash conversion cycle and the net trade cycle. The approach was descriptive and quantitative. Secondary data of 15 firms were collected for a period of 2012 – 2015 of both listed and non-listed firms. The findings of the study established that there is

overall significant relationship between dependent variables and dependent variable of the study.

2.3.3Leverageand Profitability

Tangut (2017) researched on the effect of financial leverage on stock returns of non-financial companies listed in the NSE. Secondary and primary data was used for analysis for the period of 2002-2016. STATA statistical software was used to perform the panel regression analysis to establish the relationship between debt ratio, debt equity ratio and firm characteristics in terms of size and growth. The results indicated that variables debt ratio and debt equity ratio are significant determinants of stock returns for the firm under consideration but negatively affect returns.

Chesang (2016) did a study on the effect of financial leverage on profitability of agricultural firms listed at the NSE. The study used descriptive research design with a target population of all seven (7) listed firms and SPSS was used for data analysis as well as regression model using secondary data. The findings established that debt to equity ratio and current ratio have a statistically significant effect on the profitability of these firms.

Ishari and Abeyrathna (2016) did a study in the impact of financial leverage on firm's value where the objective was to compare the value of the firms of the listed manufacturing companies in Srilanka. Secondary data was used for a period of 2015 with target population of 50 companies. Financial ratios were calculated and statistical tools such as Pearson's correlation was used for data analysis. The results indicated that there is a significant relationship between debt equity ratio and return on asset.

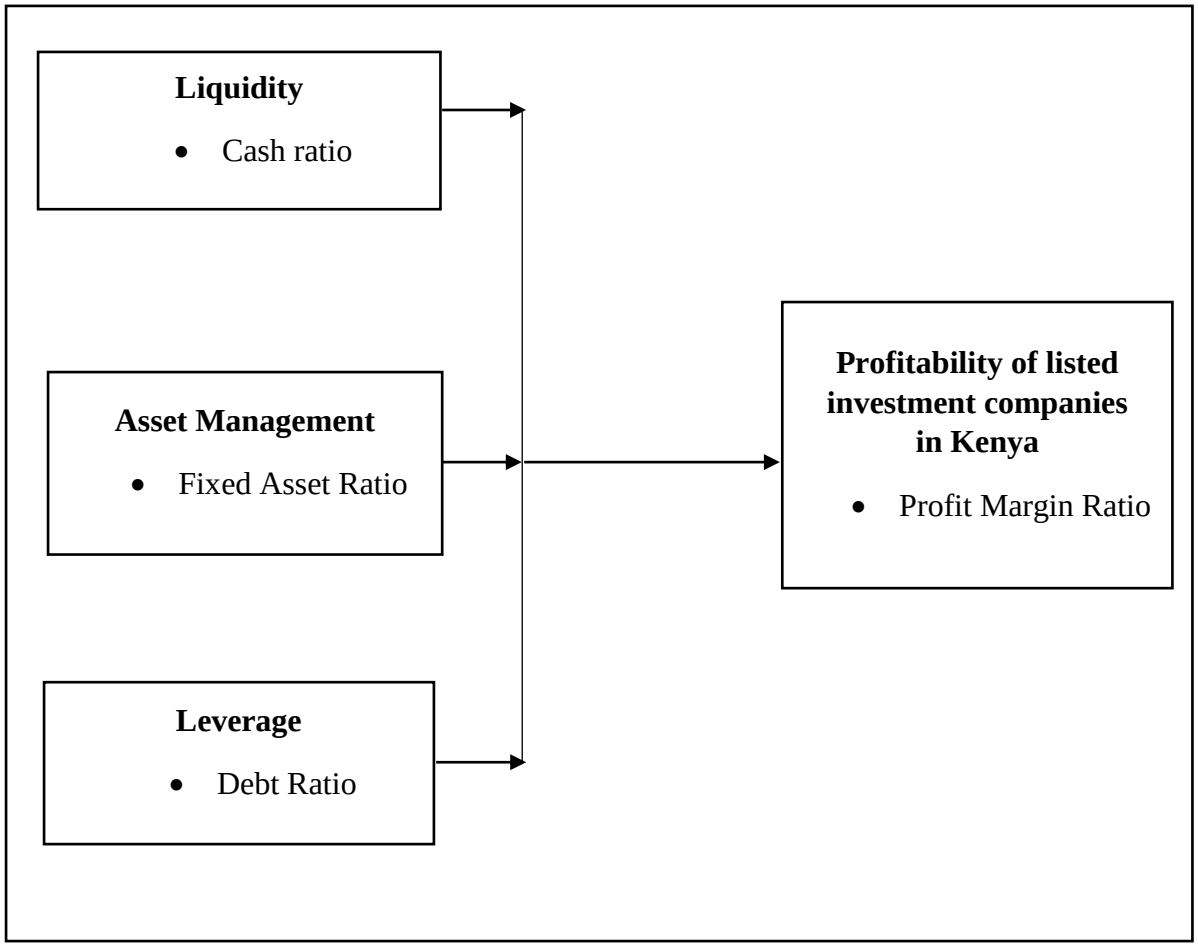
Bui (2017) studied the impact of financial leverage (debt ratios) on the firm performance of listed oil & gas companies in England. Secondary data of 18 companies were used for a period of 2009-2014. Independent variables used were short term debt to total asset (STD),

long term debt to total asset (LTD) and total debt(TD) to total asset (TA) and dependent variables were ROA and ROE. The study established the firms having high level of long term debt and total debt lend to show poorer performance of ROA and ROE.

2.4 Conceptual Framework

According to Smyth (2009), conceptual framework is a structure that illustrates the possible relationship between liquidity, asset management and leverage as independent and profitability of listed investment companies as dependent variables of the research study.

Independent Variables **Dependent Variable**



Source: Author (2018)

Figure 2.1 Conceptual Framework

2.5 Operationalization of Variables

According to Bryman and Bell (2011), operationalization of variables is the idea of converting theoretical concepts into measurable units to enhance empirical determination as explained below.

Table 2.1 Operationalization of Variables

Variables	Indicators	Measurement
Liquidity	Cash Ratio	It measures a company's ability to pay short-term debts in relation to its available cash and cash equivalents. (Ibrahim, 2017). $$Cash\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$
Asset Management	Fixed Asset Ratio	Fixed asset ratio is efficiency ratio that measures a company's ability to generate sales from its fixed assets (Kakaruz & Bozkurt, 2017). $$Fixed\ Asset\ Ratio = \frac{Net\ Sales}{Fixed\ Assets}$$
Leverage	Debt Ratio	Debt ratio measures a company's extent of asset funding. It indicates how much debt a company is using to finance its asset (Bui, 2017). $$Debt\ ratio = \frac{Total\ Liabilities}{Total\ Assets}$$
Profitability	Profit Margin Ratio	Measures how efficiently a company can convert sales into net income (Precha, 2004). $$Profit\ Margin\ Ratio = \left(\frac{Net\ Income}{Sales}\right)$$

Source: Researcher (2018)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter described in detail the research design and methodology that was used to undertake the study. It analysed research design, target population, research instruments, data processes and analysis.

3.2 Research Design

According to Robinson (2002), research design is the structure and plan of investigation so regarded as to obtain answer to research questions. This study used descriptive research design. According to Kothari (2004) research design is beneficial for effect studies in describing the questions about the phenomena under the study.

3.3 Target Population

Target population refers to the entire group of subjects under consideration for the study or that conform to a given specification that will be used as a data source for the research purposes (Mugenda & Mugenda, 2003;2009). Further, Kombo and Tromp (2011) also define target population as a group of individuals, objects or items from which samples of the study will be taken for measurement. The study targeted 4 listed investment companies at NSE in operational during 2010 to 2017 (8 periods for the study). A census of the 4 companies was done.

3.4Research Instruments

Research instruments are tools for data collection and can be questionnaire, survey, interview or observation. The researcher used secondary data. Secondary data was obtained from published financial statements of the 4 listed investment companies in Kenya. The research instrument for the study was data collection forms to obtain any additional information that

may be needed for the study. This is because they are an alternative to questionnaires as they help research to access objectivity of the data (Adedokun, 2003).

3.5Data Processing and Analysis

According to Kombo and Tromp (2011), data analysis refers to the examination of what has been collected, scrutinizing the gathered information and making inferences and deductions. Data was analysed by help of regression model and use of STATA software. Tables and charts were also used for presentation.

Pooled OLS model has no unique characteristics of variables and no effects across time as presented in equation (i)

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (i)$$

Fixed effects model has unique characteristics of variables however they don't vary across time as presented in equation (ii), or time related effects which do not vary over variables explained using equation (iii) or both variables and time effects as indicated in equation (iv) that may be analysed statistically but not accurately predicted. These characteristics will be presented by $\mu\, i$ for variables and λ t for time in regression equations.

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu\, i + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (ii)$$

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \lambda\, \mathrm{t} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (iii)$$

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu\, i + \lambda\, \mathrm{t} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (iv)$$

Random effects model has a unique time constant characteristics of variables or individuals that are not associated with the individual regressors that may be analysed statistically but not accurately predicted such that the error term is assumed to have a random variation over i or t as illustrated in equation (v) and (vi).

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_i + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (v)$$

Or

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \omega_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (vi)$$

Where Y = Dependent variable: Profitability (Profit Margin Ratio)

B_0 = Constant

$B_1 – B_3$ = Coefficient of independent variables

X_1 = Liquidity

X_2 = Asset Management

X_4 = Leverage

μ_i = observable individual dummy

λ_t = observable time dummy

ε_i = decomposed individual error term

ε = random error term

$\omega_{it} = \varepsilon_i + \varepsilon_{it}$, unobserved dummy

i = individual index, 1, 2, 3 ……..n

Ł = time index, 1, 2, 3 …….n

Table 3.1: Diagnostic Tests

Several diagnostic tests were performed to determine which model is appropriate or fit for the study.

Tests	Measure	Result
Hausman test	Will be performed to choose appropriate model between Random effect model (REM) and fixed effect model (FEM) where REM will be null hypothesis (H_0) and FEM as alternative hypothesis (H_1).	If p – value < 0.05, (H_1 is true) then FEM will be appropriate to use while p – value > 0.05 (H_0 is true) REM will be appropriate to use.
Normality test	Will be examined to determine whether the residual data is normally distributed or not.	A p – value > 0.05 will indicate normally distribution while p – value < 0.05 will indicate that data is not significantly normally distributed.
Heteroskedasticity test	Will be conducted to determine whether data is homogeneous where highly dispersion will mean problem of heteroskedasticity exist. Breusch-Pagan test/ Cook-Weisberg test will be used.	A p – value > 0.05 will indicate no presence of heteroskedasticity while a p – value < 0.05 will indicate presence of heteroskedasticity.
Multicollinearity test	Will be tested to establish whether in the regression model there exist correlation its independent variables. A good regression model should not contain correlation between its independent variables. VIF/Collin test will be used.	VIF < 4.0, multicollinearity not a major problem VIF > 4.0, indicates presence of multicollinearity VIF > 10.0, indicates severe multicollinearity

Source: Author (2018)

3.5.1 Panel Data Plan

The analysis involved three plans in penal data which were; exploratory assessment, correlation matrix and diagnostics after fitting the model. On the exploratory assessment, visual plots for money related implementation as a needy variable were determined and was within investment companies' analysis where growth plots through trend plots analysis was derived for each investment company. The results obtained assisted in whether pooled OLS or panel data models such as fixed and random effect models was applied, and the study ensured that a very high correlation does not exist through the use of correlation matrix as a linear regression technique.

The second plan was to test diagnostic in order to establish appropriate model for the study between pooled OLS and panel data models with the help of Hausman test and BPLM. Also, time related effects were checked. The last plan was to determine other existing diagnostic tests after fitting the fixed effect in order to test heteroskedasticity and where the model fitted violates most of the OLS classical assumptions, feasible generalized least squares was used.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter looked at the descriptive statistics, study variables, diagnostics tests and model fitting. Analysis of the data gathered is presented in this chapter and discussion of the findings are done.

4.2 Descriptive Statistics

This section presents the summary of descriptive statistics of the population studied. They summarize the sample and give number of observations for the study. The table below presented descriptive statistics for dependent and independent variables.

Table 4.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
profitabil~y	32	.1642875	.637863	-1.5017	1.4834
liquidity	32	.192775	.207763	.002	.9846
assetmanag~t	32	.5662781	.3180307	.134	1.1702
leverage	32	.5429094	.3030302	.0484	1.0875

Source: Researcher (2018)

The findings in table 4.1 illustrates that profitability had a mean of 0.1642875 with a standard deviation of 0.637863. Liquidity had a mean of 0.192775 with a standard deviation of 0.207763. Asset management had a mean of 0.5662781 with a standard deviation of 0.3180307 while leverage had a mean of 0.54290945with a standard deviation of 0.3030302. This means that asset management was the most centred observation with a high mean of

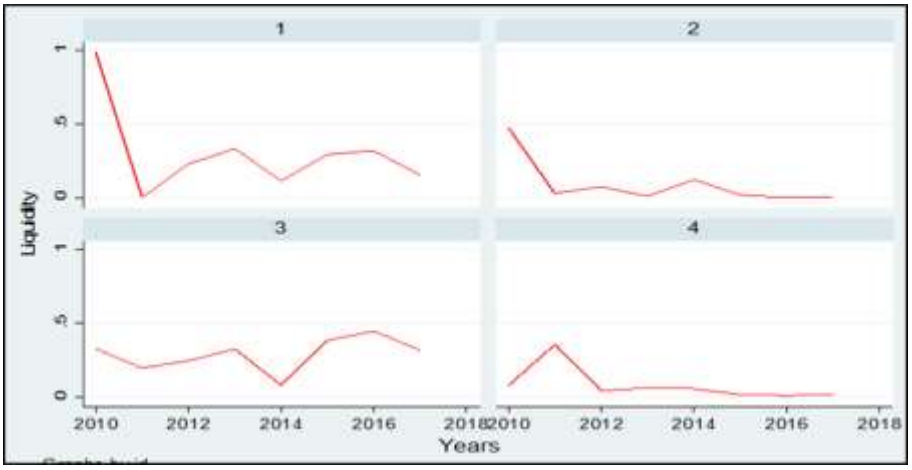
0.5662781 while profitability was the widely dispersed or spread data for observation with a high standard deviation of 0.637863.

4.3 Study Variables

This section explained the data for each study variables and their performance. Trend plot was used to show the performance and skewness of study variables in each investment companies under the period of the study where 1 = Centum Investment Company, 2 = Home Afrika Investment Company, 3 = Olympia Investment Company and 4 = Trans-Century Investment Company. The independent variables for the study were liquidity, asset management and leverage while dependent variable was profitability of investment companies.

4.3.1 Liquidity

The study aimed to determine the effect of liquidity on profitability of listed investment companies and the findings are shown in the figure below.



Key: 1= Centum, 2= Home Afrika, 3= Olympia and 4= Trans-Century

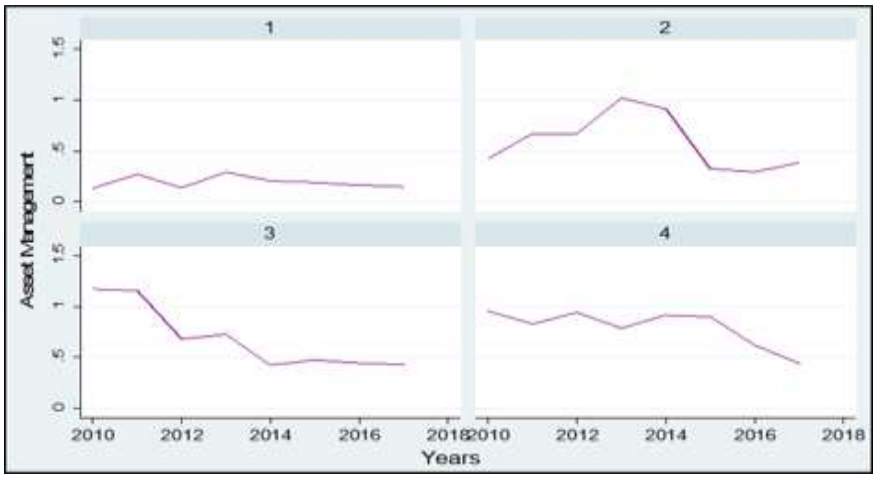
Source: Researcher (2018)

Figure 4.1 Trend plot Analysis of Liquidity Variable

In figure 4.1 above, there was a high firm liquidity in Centum and Home Afrika in 2010 but drastically reduced downward to 2011. From then it has been moving up and down below 0.5. This could mean the companies are balancing there liquidity to offset debts. However, for Olympia and Trans-Century, their liquidity has been on a level of less than 0.5 for the study period hence it could mean that the companies have been monitoring their firm liquidity. Further, the trend plot indicate that the liquidity data for the study was skewed to the left. The findings agree with Waswa, Mukras and Oima (2018) who also found that the balancing of liquidity enhances profitability of the company.

4.3.2 Asset Management

Additionally, the study sought to establish the effect of asset management on profitability of listed investment companies and the findings are illustrated below.



Key: 1= Centum, 2= Home Afrika, 3= Olympia and 4= Trans-Century

Source: Researcher (2018)

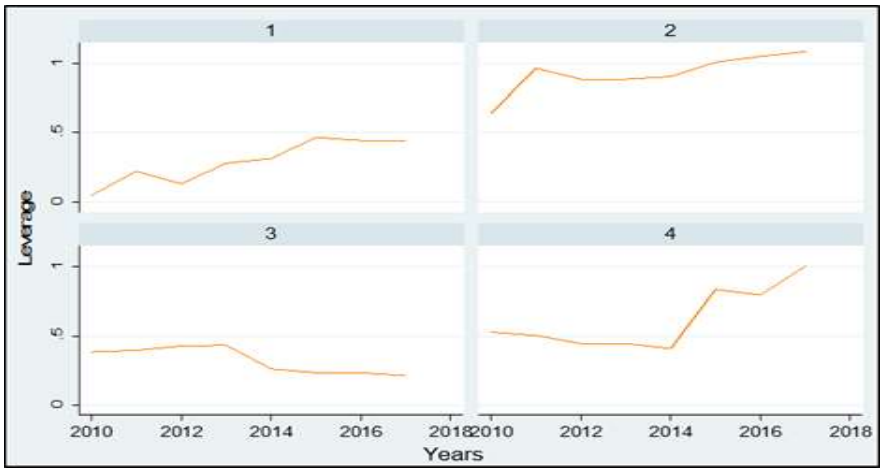
Figure 4.2Trend plot Analysis of Asset Management Variable

Figure 4.2 indicate that Centum has been using its asset on a balanced way from 2010 – 2017. And this has led to increased sales in the company. Home Afrika, Olympia and Trans-

Century has seen a decrease and increase in firm asset which has resulted to losses in the company. This imply that the companies have not been utilizing their fixed assets efficiently to generate more sales, resulting to losses in the company. However, data for the study was almost skewed to the centre. The study's findings disagree with the findings of Agasa (2016) who found that asset management enhance profitability.

4.3.3 Leverage

Here, the study sought to find out the effect of asset management on profitability of listed investment companies and the findings explained in the figure below.



Key: 1= Centum, 2= Home Afrika, 3= Olympia and 4= Trans-Century

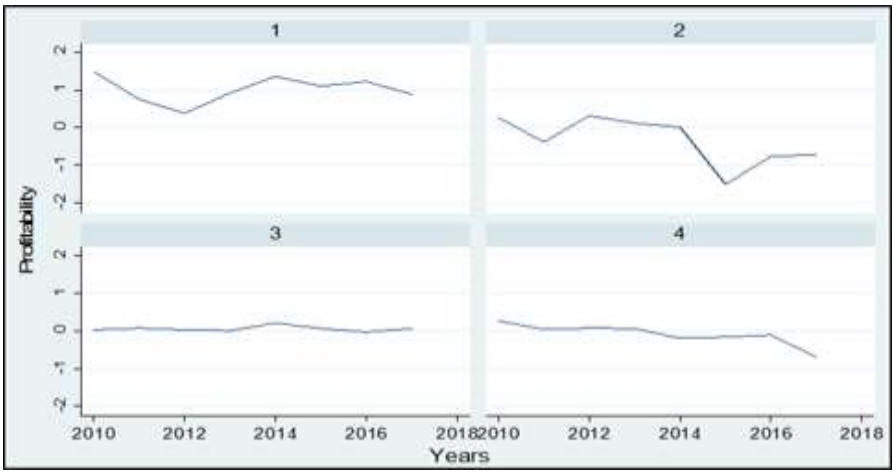
Source: Researcher (2018)

Figure 4.3Trend plot Analysis of Leverage Variable

The trend analysis in figure 4.3 indicate a continuous uptake of leverage both Centum, Home Afrika and Trans-Century companies with a decrease of leverage financing in Olympia Company. This means that both the three companies financed their asset using more debt above 0.5 while Olympia used more equity in financing its assets. These findings agree with the findings of Bui (2017) who also found that high debt leads to declined performance of the company as measured by its profitability.

4.3.3 Profitability

Profitability was the dependent variable of the study. It was measured using the profit margin ratio which measures the amount of net income earned using the available sales generated. The study sought to establish how firm liquidity, firm asset management and firm leverage affect it and the findings were shown below.



Key: 1= Centum, 2= Home Afrika, 3= Olympia and 4= Trans-Century

Source: Researcher (2018)

Figure 4.4Trend plot Analysis of Profitability Variable

From the observation in figure 4.4, only Centum company had a high profitability which was on a constant upward growth and a slight decrease followed by Olympia which had almost a flat on non-growth profitability for the entire period. This could be as a result of high net sales derived from efficient use of asset management. However, Home Afrika and Trans-Century had a downward movement of profitability which could be attributed majorly to high leverage in financing and low use of asset management. Data was almost skewed to the centre

4.4 Diagnostic Tests

In order to achieve the objective of the study, the researcher used the multiple linear regression analysis to identify the relationship between firm characteristics and the profitability. However before using the multiple linear regression analysis, diagnostic tests were carried out to determine the appropriate model for the study. After these tests are passed, only then the research can be continued using multiple linear regression analysis.

4.4.1 Normality Test

This test is examined to find whether the residual data is normally distributed or not, therefore the data is able to be used on the regression model or not.

Table 4.2 Skewness/Kurtosis Test for Normality

Skewness/Kurtosis tests for Normality

				joint	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	32	0.6130	0.7944	0.32	0.8506

Source: Researcher (2018)

Table 4.2 present the findings of normality test based on residual of the variables. The results indicate that the study has a skewness of 0.6230 and kurtosis of 0.7944 with a p-value of 0.8506. Since the p-value was greater than 0.05, we can conclude that the data is normally distributed and is significant for the study.

4.4.2 Heteroskedasticity Test

This test was conducted to determine whether data is homogeneous where highly dispersion indicated problem of heteroskedasticity exist

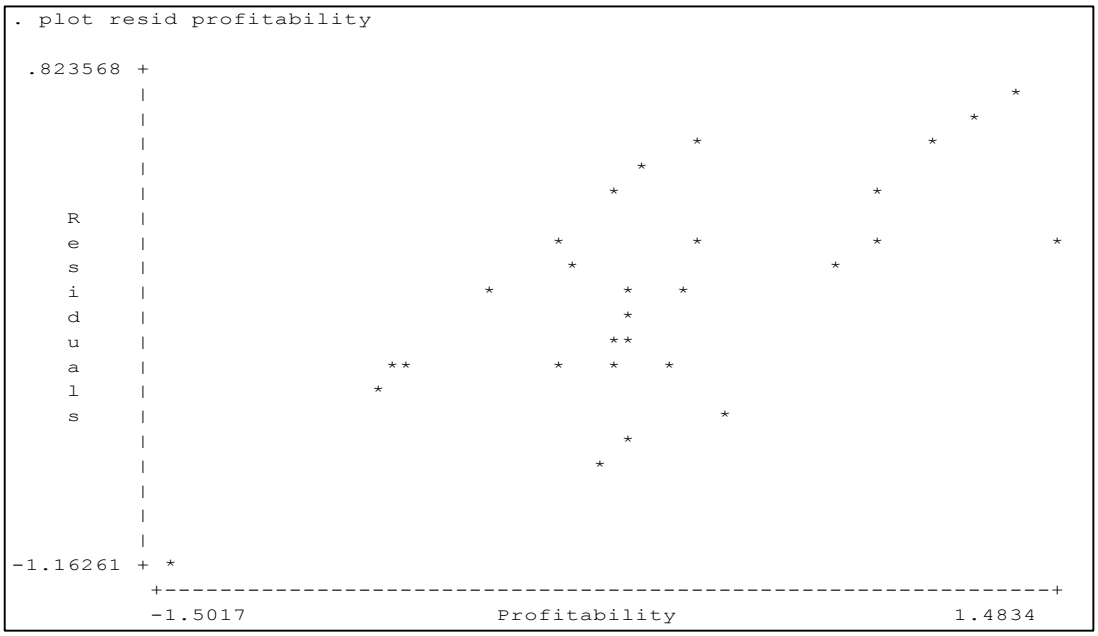
Table 4.3 Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of profitability

         chi2(1)      =     0.00
         Prob > chi2  =   0.9835
```

Source: Researcher (2018)

The results indicate that the p-value is 0.9835 which is greater than 0.05. We can then conclude that there is no presence of heteroscedasticity.



Source: Researcher (2018)

Figure 4.5 Plot Residuals on Heteroskedasticity

From the plot in the figure above, we can conclude that the data is homogenous and does not indicate problem of heteroscedasticity in relation to high dispersion.

4.4.3 Multicollinearity Test

Multicollinearity test is intended to examine whether in the regression model we can get correlation between its independent variables. A good regression model should not contain correlation between its independent variables.

Table 4.4 Variance Inflation Factor Test for Multicollinearity

Variable	VIF	1/VIF
liquidity	1.60	0.624039
leverage	1.55	0.643714
assetmanag~t	1.08	0.923714
Mean VIF	1.41	

Source: Researcher (2018)

The results above indicate that VIF value for each independent variables were far below 4, such as 1.60 for liquidity, 1.55 for leverage, 1.08 for asset management. The VIF mean was 1.41. The findings imply that there was no presence of major problem of multicollinearity between independent variables.

4.4.4 Hausman Test

Before performing the Hausman test to estimate whether fixed effect or random effect model is appropriate for the study, the researcher first tested the significance of Pooled OLS method. If the p-value of the Pooled OLS is < 0.05, Hausman test was tested and explained below.

The hypothesis for Hausman test were as follows;

H_0: REM, if p-value is greater than 0.05, REM we reject alternative hypothesis and accept null.

H_1: FEM, if p-value is less than 0.05, FEM we reject null hypothesis and accept alternative.

Table 4.5 Pooled OLS Model with Dummy Variables (Company)

```
. reg profitability liquidity assetmanagement leverage company2 company3 company4

      Source |       SS       df       MS              Number of obs =      32
-------------+------------------------------           F(  6,    25) =   15.18
       Model |  9.89680438     6  1.6494674             Prob > F      =  0.0000
    Residual |  2.71614105    25  .108645642            R-squared     =  0.7847
-------------+------------------------------           Adj R-squared =  0.7330
       Total |  12.6129454    31  .406869207            Root MSE      =  .32961

------------------------------------------------------------------------------
profitability |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
    liquidity |   .6266623   .3787943     1.65   0.111    -.1534792    1.406804
assetmanagement |   .6670181   .2761453     2.42   0.023     .0982862     1.23575
     leverage |   -.578326   .4442935    -1.30   0.205    -1.493366    .3367136
     company2 |  -1.107123   .3348855    -3.31   0.003    -1.796832   -.4174131
     company3 |  -1.255018   .2153273    -5.83   0.000    -1.698493   -.8115432
     company4 |  -1.170725   .2756793    -4.25   0.000    -1.738497   -.6029528
        _cons |     .86296   .2556155     3.38   0.002     .3365101     1.38941
------------------------------------------------------------------------------
```

Source: Researcher (2018)

The coefficient results are negative except for asset management and liquidity variables. Liquidity, leverage has a high p-value of 0.111 and 0.205 respectively which is > 0.05 which may explain their insignificant effect on profitability of investment companies.

To check the significant of dummy variables and to determine whether the pooled OLS is good for the study, test parameters was carried out and the results were as follows.

Table 4.6 Test Parameters of Dummy Variables in Pooled OLS

```
. testparm company2 company3 company4

 ( 1)  company2 = 0
 ( 2)  company3 = 0
 ( 3)  company4 = 0

       F(  3,    25) =   11.39
            Prob > F =    0.0001
```

Source: Researcher (2018)

Since the p-value of 0.001 is < 0.05, we can conclude that the Pooled OLS regression model is not fit or appropriate for the model.

The researcher then proceeded and performed the Hausman test where FE and RE were estimated and stored before they were run on Hausman test, and the findings were illustrated in the table below.

Table 4.7 Hausman Test for FE and RE

```
. hausman fixed random

                 ---- Coefficients ----
                |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                |     fixed        random       Difference          S.E.
----------------+----------------------------------------------------------------
   liquidity    |     .6266623     .4041615        .2225008               .
assetmanag~t    |     .6670181    -.3986692        1.065687               .
    leverage    |     -.578326    -1.133987        .5556611        .2684611
------------------------------------------------------------------------------
                           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

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =   -50.39    chi2<0 ==> model fitted on these
                                        data fails to meet the asymptotic
                                        assumptions of the Hausman test;
                                        see suest for a generalized test
```

Source: Researcher (2018)

As indicated above, the results on Hausman test for estimating the appropriate model between FE and RE models indicate that the model fitted fails to meet the asymptomatic assumptions of the Hausman test, hence the need to perform feasible generalized squares (GLS).

Table 4.8 Generalized Least Square Model

```
. xtgls profitability liquidity assetmanagement leverage

Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation

Estimated covariances      =         1          Number of obs      =        32
Estimated autocorrelations =         0          Number of groups   =         4
Estimated coefficients     =         4          Time periods       =         8
                                                Wald chi2(3)       =     30.77
Log likelihood             = -19.73032          Prob > chi2        =    0.0000

------------------------------------------------------------------------------
profitability |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
    liquidity |   .4041615   .4905485     0.82   0.410    -.5572959    1.365619
assetmanagement |  -.3986692   .2634014    -1.51   0.130    -.9149265    .1175881
     leverage |  -1.133987   .3311491    -3.42   0.001    -1.783027   -.4849469
        _cons |   .9277852   .3018776     3.07   0.002      .336116    1.519454
------------------------------------------------------------------------------
```

Source: Researcher (2018)

From the table, the coefficient of liquidity is positive while those of asset management leverage are positive. The p-value of the model is 0.000 which < 0.05. Since that this model incorporate variables in order to provide a clear estimate of the missing values, it become the study model.

4.5 Model Fitting

The researcher carried out multiple regression analysis in the study as identified by GLS which could take the form of pooled OLS equation as indicated below;

$$\gamma_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (i)$$

Where Y = Dependent variable: Profitability (profit margin)

B_0 = Constant $B_1 – B_3$ = Coefficient of independent variables

X_1 = Liquidity X_2 = Asset Management

X_3 = Leverage Ɛ = random error term

4.5.1 Regression Analysis

The regression coefficient of the variables were explained as shown below;

Table 4.9 Results for Regression Coefficients

Source	SS	df	MS	Number of obs =	32
				F(3, 28) =	8.97
Model	6.18275831	3	2.06091944	Prob > F =	0.0003
Residual	6.43018712	28	.22964954	R-squared =	0.4902
				Adj R-squared =	0.4356
Total	12.6129454	31	.406869207	Root MSE =	.47922

profitability	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
liquidity	.4041615	.5244184	0.77	0.447	-.6700609	1.478384
assetmanagement	-.3986692	.281588	-1.42	0.168	-.975476	.1781375
leverage	-1.133987	.3540132	-3.20	0.003	-1.85915	-.4088239
_cons	.9277852	.3227207	2.87	0.008	.2667217	1.588849

Source: Researcher (2018)

From the output above, we have acquired the constant value and the regression coefficient so we could build equation as follows;

$$Y = 0.9277852 + 0.4041615X_1 - 0.3986692X_2 - 1.133987X_3$$

The interpretation of the results from the table therefore could mean that if liquidity, asset management and leverage of investment companies remain unchanged or has the value of 0, profitability of the investment company would be valued at 0.9277852. Additionally, if liquidity increase by 1, and the other firm characteristics such as asset management and leverage remain constant, profitability of the company will increase by 0.4041615. Further, if asset management increase by 1, and liquidity and leverage remain constant, profitability of investment companies will decrease by 0.3986692 and lastly, if leverage of a company

increases by 1 when liquidity and asset management characteristics are constant, the profitability of the company will decrease by 1.133987.

4.5.2 Model Summary

The model summary of the study is explained in the table below.

Table 4.10 Model Summary

Model	R	R-Square	Adjusted R-Square
1	0.7001	0.4902	0.43356

Source: Researcher (2018)

The results show that the coefficient of determination, R-Squared is 0.4902. This illustrates that 49.02% of the variation in the profitability of investment companies as dependent variables is explained by liquidity, asset management and leverage as independent variables while 50.98% is explained by other factors and the error term.

4.5.3 Analysis of Variance (ANOVA)

ANOVA was carried to estimate model fitness and the findings were shown in the table below.

Table 4.11 ANOVA for Profitability of Investment Companies

Source	SS	df	MS
Model	6.18275831	3	2.06091944
Residual	6.43018712	28	.22964954
Total	12.6129454	31	.406869207

Number of obs =	32
F(3, 28) =	8.97
Prob > F =	0.0003

Source: Researcher (2018)

From the table, we can note that there is a statistically significant effect of liquidity, asset management and leverage as independent variables on profitability of investment companies as dependent variable. This is because their p-value of 0.003 < 0.05 as the critical value. This show that the model is a good predictor of effects of firm characteristics on profitability of investment companies in Kenya.

4.5.5 Partial Correlation Analysis

Karl Pearson's correlation matrix was used to establish the degree of relationship between variables of the study.

Table 4.12 Karl Pearson's Correlation Matrix

(obs=32)

	profit~y	liquid~y	assetm~t	leverage
profitabil~y	1.0000			
liquidity	0.5057	1.0000		
assetmanag~t	-0.3466	-0.2696	1.0000	
leverage	-0.6585	-0.5948	0.2085	1.0000

Source: Researcher (2018)

From the study findings in table 4.12, the range of the relationship between variables is -1 (perfect negative) to +1 (perfect positive) while zero (0) means there is no relationship. The results indicated that liquidity had a strong positive relationship at 0.5057 (50.57%) while leverage and profitability had a strong negative relationship at -0.6585. Also asset management had a negative correlation with profitability.

CHAPTER FIVE

SUMMARY, DISCUSSION AND CONLUSION

5.1 Introduction

This chapter present a summary where the findings and results in chapter four are compared to the findings in the literature review of the study. Discussion is done and the entire project is concluded in this chapter, where the basis of the conclusion is drawn from the research questions. Recommendations and areas of further research are outline.

5.2 Summary of the Findings

The study sought to establish the effect of firm characteristics on profitability of listed investment companies in Kenya, with a special reference to the 4 listed investment companies at NSE. Three objectives of the study was established which were; to assess the effect of liquidity, to determine the effect of asset management and to investigate the effect of leverage on profitability of listed investment companies in Kenya. Summary of descriptive statistics was established and diagnostic tests were performed.

The study also affirmed that there was no presence of heteroscedasticity and data was homogenous based on the p-value of 0.985 > 0.05. Further, the study established that data was normally distributed with a p-value of 0.8506 > 0.05. There was no problem of multicollinearity in the study between variables as their mean VIF was 1.41,< 4. Additionally, Pooled OLS model was performed in order to estimate whether the model fitted the study. It was rejected and further test was conducted, Hausman test, to choose appropriate model for the study between FE and RE. However, the test results could not meet the basic assumptions. Further test was conducted using GLS.

5.2.1 Liquidity and Profitability of Listed Investment Companies

The study affirmed that the level of liquidity among the four listed investment companies for the study was different. This was based on the results of trend plot analysis. There was low level of liquidity in Centum (1) Investment Company all the study period. Additionally, Olympia (3) and Centum (1) had a least liquidity that kept changing on yearly basis based on increase or decrease. For Home Afrika (2) and Trans-Century (4), their liquidity level kept changing downward. This could mean that the companies had enough cash and cash equivalents to clear their current liabilities when they fall due. The data for the liquidity study was skewed to the right based on the histogram.

The study also established a strong positive correlation between liquidity and profitability of listed investment companies. Based on the findings, effect of liquidity on profitability had a correlation of 0.5057 which could mean that liquidity have effect the profitability of listed investment companies. Further, from the regression output, the results showed that an increase of one unit of liquidity in the company would increase the profitability of the listed investment companies with over 40% hence it can be noted that investment companies with adequate liquidity to pay their current liabilities when they fall due have high chances of doubling their profitability in the market which attracts investors to the company.

Having adequate cash and cash equivalents to pay short term debt is good for the business as the study has identified. The success of the findings of this study is similar to the previous findings on effect of liquidity on profitability of the company such as Khan and Ali (2016) and Ibrahim (2017). Their study indicated that liquidity have a significant effect on profitability hence fund managers as well as investment companies should balance their cash and cash equivalents with their current liabilities when they fall due in the business.

5.2.2 Asset Management and Profitability of Listed Investment Companies

The objective here was to determine the effect of asset management on profitability of listed investment companies in Kenya. Asset management was measured by fixed asset ratio which looked at how much sales a company can generate from its fixed assets. From the trend plot analysis, the findings estimated that only Centum (1) Company had an almost balanced asset management. This could be attributed to efficient management due to its high sales realized each year of business operations compared to other investment companies in the market. Home Afrika (2) had an increase in asset management (efficient utilization) from 2010 – 2014 but started decreasing immediately in year 2015. Olympia (3) had a continuous decrease of utilization of its fixed assets while Trans-Century had efficient utilization of its fixed asset in year 2010 – 2014 but decreased in 2015 – 2017 as a result of decrease in sales which resulted to losses in the company. The data was slightly skewed to the left but was adequate for the study.

Based on the findings of regression coefficients, the results estimated that an increase of use of fixed assets efficiently in the listed investment companies would increase the profitability of these companies by 52.36%. This therefore imply that good utilization of fixed asset in the company have effect on its profitability hence the need for investment companies to put their fixed assets in use to generate sales. However, Karl Pearson's correlation findings had a different results. Based on the correlation findings, there was a negative correlation of -0.3466 between asset management and profitability. This could be attributed to the decrease in sales in both companies in the last few years of the study. Decrease in sales would automatically lower the profitability of listed investment companies leading to losses hence affecting the performance of their fixed assets.

Based on the correlation results as it show the relationship between asset management as independent variable and profitability of listed investment companies as dependent variables, the study can establish that there exist a negative correlation which differs with the previous findings on the study. The findings of the study therefore are not similar to the previous studies such as Warrad and Omari (2015), Mwaura (2017) and Awunya (2017) who in their study, found that there is a positive correlation between asset management and profitability. However this could be attributed to their use of measurement which was turnover ratios and return on assets but not fixed assets.

5.2.3 Leverage and Profitability of Listed Investment Companies

The third objective of the study was to assess the effect of leverage on profitability of listed investment companies in Kenya. Under this objective, the measurement used was debt ratio which looked at the extent asset funding using debt. Since that long term investments are capital intensive, investment companies prefer long term financing than short term financing. The findings of the study estimated that asset financing using debt was very high in both Centum (1), Home Afrika (2) and Trans-Century (4) as illustrated in trend plot analysis. There was a continuous use of debt funding from 2010 – 2017 for Centum and Home Afrika while for trans-Century it started in 2017. For Olympia (3) company, the company was able to finance its assets with a balanced low debt ratio for the entire period with a slight decrease in 2014 – 2017. The leverage data was almost skewed to the right but not that much.

Additionally, in estimating the relationship between leverage and profitability of listed investment companies using correlation, the study find out that there was a strong negative relationship of -0.6585. There was a continuous decrease in performance of fixed assets even after investment companies financed them using debt which therefore brings question on their suitability to increase profitability. This study therefore indicated a negative effect of

leverage on profitability of listed investment companies. Further, the findings of the regression coefficients were negative, -1.133987. This could be concluded that a slight increase of asset funding using debt would lead to a decrease in profitability of the investment companies at 20.62%.

The previous studies on firm leverage and profitability such as Tangut (2017) and Chesang (2016) reported a positive relationship between firm leverage and profitability. However, this study disagree with these findings and conclude that firm leverage does not have effect on profitability of listed investment companies. This could be attributed to many factors based on the observation of the study on company profitability, performance of fixed assets, net sales and net income.

5.3 Conclusions

This section presented conclusions on each variable of the study.

5.3.1 Liquidity

From the analysis of the findings of the study, the study established that the performance of study variables such as liquidity, asset management and leverage varied across the companies. On the effect of liquidity on profitability on listed investment companies in Kenya, the study results found out that there is a strong positive correlation between liquidity and profitability of listed investment companies. This could be as a results of adequate balancing of cash and cash equivalents with current liabilities in the companies.

5.3.2 Asset Management

Additionally, the study established that there exist a negative relationship between asset management and profitability. Under-utilization of fixed asset affects sales in the company which results to reduced profitability in the company. Based on the trend plot analysis, there is under-utilization of fixed asset to generate sales due to continuous reduction of net sales

among the companies. When sales reduce, the net income of the come reduces as well leading to losses as seen in Trans-Century and Home Afrika Companies. This factors could be the reason which affects the relationship between asset management and profitability leading to negative relationship.

5.3.3 Leverage

As for the effect of leverage on profitability of listed investment companies in Kenya, the study concluded that there exist a negative relationship between leverage and profitability. When companies use debt to finance fixed assets that do not increase sales productivity, the effect of debt financing become a loss to the company due to high cost of servicing debt. Because companies such as Trans-Century and Home Afrika used almost 100% debt to finance their asset and the resulting profitability of the companies was a loss in net income, this leads to reduction in profitability of the company hence a negative effect of leverage on profitability of investment companies.

5.4 Recommendations

The study made recommendations to policy makers, government and academicians as well as to the investment companies.

5.4.1 Investment Companies

The study recommends that investment companies should look at their ability of to utilize fixed assets to generate sales efficiently. Further, the companies should check their leverage use in terms of percentage of funding assets using debt. In scenarios where the company is using debt to finance non-performing fixed assets, such assets should not be funded using debt but rather look for another alternative funding. The study therefore recommend that investment companies should reconsider their approach on debt funding in order to develop a

positive relationship between leverage and profitability of listed investment companies in Kenya.

5.4.2 Academicians

The study recommend for more review to be done on the topic so that future scholars and academicians can have more literature review on the topic.

5.4.3 Policy Makers

To the policy makers, the study recommend for a critical look into appropriate ratio accepted for liquidity, asset management and leverage for the study. This will be effective for future study and also beneficial for investment companies.

5.5 Areas for Future Research

The study recommend that another study be carried on asset management and leverage to determine their effect on profitability of investment companies since the findings of this study found out a negative relationship. Other firm characteristics should also be incorporate in the future research so as to estimate their relationship with profitability of listed investment companies in Kenya.

5.6 Limitations of the Study

The study was limited to the 4 investment companies listed at NSE only and did not involve other listed companies. These companies were considered effective for the study due to their role of investing in various investment activities to enhance economic growth.

The study was also limited to 8 period only (2010 – 2017) and therefore did not incorporated data before 2010. These data was considered appropriate for the study due various developments such as growth in technology that has changed the investment environment hence the need to consider recent financial performance.

Additionally, the study was also limited to three study variables which were liquidity, asset management and leverage and did not involve other firm characteristics which may have been considered to effective. The researcher therefore assessed the effects of these independent variables on profitability of listed investment companies.

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APPENDICES

Appendix 1: Data Collection Letter

Appendix 2: Variable Measurements Computation Results

			Profit Margin	Cash ratio	Fixed asset ratio	Debt ratio
id	**Company**	**Years**	**Profitability**	**Liquidity**	**Asset Management**	**Leverage**
1	Centum	2010	1.4834	0.9846	0.1340	0.0484
1	Centum	2011	0.7532	0.0025	0.2719	0.2229
1	Centum	2012	0.3787	0.2319	0.1401	0.1320
1	Centum	2013	0.9221	0.3360	0.2899	0.2805
1	Centum	2014	1.3579	0.1146	0.2071	0.3150
1	Centum	2015	1.1035	0.2956	0.1888	0.4670
1	Centum	2016	1.2220	0.3213	0.1636	0.4458
1	Centum	2017	0.8839	0.1553	0.1502	0.4402
2	Home Afrika	2010	0.2664	0.4762	0.4252	0.6403
2	Home Afrika	2011	-0.3851	0.0322	0.6683	0.9682
2	Home Afrika	2012	0.3101	0.0758	0.6688	0.8877
2	Home Afrika	2013	0.1239	0.0105	1.0200	0.8892
2	Home Afrika	2014	0.0130	0.1233	0.9156	0.9063
2	Home Afrika	2015	-1.5017	0.0212	0.3241	1.0108
2	Home Afrika	2016	-0.7582	0.0020	0.2974	1.0535
2	Home Afrika	2017	-0.7209	0.0041	0.3859	1.0875
3	Olympia	2010	0.0318	0.3285	1.1702	0.3861
3	Olympia	2011	0.0797	0.1984	1.1536	0.3975
3	Olympia	2012	0.0313	0.2474	0.6802	0.4283
3	Olympia	2013	0.0096	0.3255	0.7250	0.4338
3	Olympia	2014	0.2107	0.0829	0.4230	0.2642
3	Olympia	2015	0.0708	0.3853	0.4740	0.2369
3	Olympia	2016	-0.0177	0.4463	0.4450	0.2367

3	Olympia	2017	0.0731	0.3179	0.4271	0.2155
4	Trans-Century	2010	0.2721	0.0805	0.9514	0.5289
4	Trans-Century	2011	0.0431	0.3572	0.8255	0.5057
4	Trans-Century	2012	0.0750	0.0469	0.9408	0.4476
4	Trans-Century	2013	0.0671	0.0611	0.7842	0.4455
4	Trans-Century	2014	-0.1934	0.0568	0.9128	0.4101
4	Trans-Century	2015	-0.1524	0.0176	0.8997	0.8375
4	Trans-Century	2016	-0.1050	0.0109	0.6200	0.7975
4	Trans-Century	2017	-0.6908	0.0185	0.4375	1.0060