THE POWER OF FINANCIAL RATIOS IN DETECTING FRAUDULENT FINANCIAL REPORTING AT THE NAIROBI SECURITIES EXCHANGE

BY

ORIKO DEAN OTIENO

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DECLARATION

I declare that this Project is my original work and has not been submitted for an award of a degree in any other University for examination/academic purposes.

Signed…….. Date ……

DEAN ORIKO

Reg. No: D63/75285/2014

School of Business, University of Nairobi.

This Research Project has been submitted for examination with my approval as University Supervisor.

Signed…….. Date ……

Dr. Cyrus Iraya.

School of Business, University of Nairobi.

DEDICATION

I dedicate this study to my dear family members and friends for all the support they gave me all the time as I prepared and worked on this project.

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LIST OF ABBREVIATIONS

ACFE:	Association of Certified Fraud Examiners
AP:	Analytical Procedures
ATM:	Automated Teller Machine
ATS:	Automated Trading System
CDS:	Central Depository System
CEO:	Chief Executive Officer
CHU:	Complaints Handling Unit
CMA:	Capital Markets Authority
FFR:	fraudulent financial Reporting
FFS:	Fraudulent Financial Statements
FISD:	Financial Information Services Division
ISA:	International Standard on Auditing
MIT:	Millennium Information Technologies
NASI:	NSE All Share Index
NSE:	Nairobi Securities Exchange
SEC:	Securities and Exchange Commission
SIIA:	Software and Information Industry Association
WAN:	Wide Area Network

ABSTRACT

The study aimed at proving that the financial ratios currently computed by listed companies at the Nairobi Securities exchange may not assist users of the financial reports towards detection of fraudulent financial reports; other ratios can bring to light possible fraud. Unpublished related previous studies in Kenya have dealt with both companies and co-operative movements from different perspectives. The results at different levels of this study indicate that the best financial ratios able to bring to light fraudulent financial statements are; Financial Investment/Total Assets Ratio; TO/TA = Total Operating Expenses/Average Total Assets; WC/TA = Working Capital/Total Assets; CF/NP = Cash Flow/Net Profit; NP/TA = Net Profit/Total Assets; and, DIV = Dividend Return Ratio. The results support the general alternative hypothesis that financial ratios can detect fraudulent financial reporting (FFR) by listed companies in Kenya. Specific ratios not currently in use in companies' financial statements have the power to reveal FFR.The study used census method where all the listed companies at the Nairobi securities exchange were looked at. The analysis of ratios was conducted in all the companies' covariates, using the following methods: stepwise logistics regression model, discriminant analysis, and Pearson's correlation- a method used to measure and confirm the possibility of earnings manipulation. According to the regulator, fraud poses a threat to the future existence of companies in Kenya. The limitations to this study include: existence of a possibility of having other unidentified ratios that can detect fraud, some financial reports could not be used due to incomplete reporting structure and information, and the sample of fraudulent financial reports and non-fraudulent financial reports were limited to reported cases only. Further study is suggested to determine the extent of earnings management and the power of ratios in detection of FFR.

CHAPTER ONE
INTRODUCTION

1.1 Background

Financial statement fraud is defined by the Association of Certified Fraud Examiners (ACFE) as "the deliberate misrepresentation of the financial condition of an enterprise, by intentionally or omitting amounts or disclosure in the financial statements so as to deceive their users" (ACFE, 2007). ACFE goes on to point out that financial statement fraud is usually a means to an end rather than an end in itself: when people manipulate accounting books they may be doing it to" buy time" towards quietly fixing problems that prevent the company from achieving its expected earnings or complying with loan contracts: also, to obtain or renew financing that would not be granted or would be smaller if honest financial statements were provided. It can be concluded that the difference between error and fraud is intent; errors are considered to be unintentional, fraud international (IFAC, 2006; Zabihollah, 2002; Wallace 1995).

A public company, publicly traded company, publicly held company or public limited company (in Kenya) is a limited liability company that offers its securities (stock/shares, bonds/loans, etc.) for sale to the general public, typically through a stock exchange, or through market makers operating in over the counter markets. Public companies, including public limited companies, can be either unlisted or listed on a stock exchange depending on their size and local legislation. Public company basically refers to a private company which is deemed to have become public under certain circumstances. However, such deemed public companies were permitted by Section 43A of the Company's Act Cap 486 to retain the three restrictive conditions which are mandatorily required to be present in the Articles of a private company. These conditions, inter alia, restrict the free transferability of shares and prohibit inviting the public to subscribe to the shares of the company (CMA 2008).

Usually, the securities of a publicly traded company are owned by many investors while the shares of a privately held company are owned by relatively few shareholders. A company with many shareholders is not necessarily a publicly traded company. In the United States, in some instances, companies with over 500 shareholders may be required to report under the

Securities Exchange Act of 1934; companies that report under the 1934 Act are generally deemed public companies. It is reported that mismanagement and corruption are the two most significant challenges facing companies in Kenya today, many cases of fraud in companies in Kenya are investigated by the appointed auditors and in cases where corporate governance issues are involved, the capital markets authority takes charge of the investigations. Many investigations have been carried out recently such as the case of CMC Motors, Uchumi retail supermarkets. (CMA 2012)

1.1.1 Financial Ratios

A ratio is simply a mathematical expression of an amount or amounts in terms of others. A ratio may be expressed as a percentage, as a fraction, or a stated comparison between two amounts. The computation of a ratio does not add any information not already existing in the amount or amounts under study. A useful ratio may be computed only when significant relationship exists between two amounts. A ratio of two unrelated amount is meaningless. It should be re-emphasized that a ratio by itself is useless, unless compared with the same ratio over a period of time and or a similar ratio for a different company and industry. Ratios focus attention on relationships which are significant but the full interpret and interpretation and of a ratio usually requires, further investigation of the underlying data. Thus ratios are an aid to analysis and interpretation and not substitute for sound thinking. Financial ratios may be grouped into four basic categories: Liquidity ratios, debt ratios, activity ratios, profitability ratios, and investment ratios (International Conference on Financial Criminology 2013).

Liquidity ratios refer to an enterprises ability to meet its short term obligations as and when they fall due. Liquidity ratios are used to assess the adequacy of a firm's working capital shortfalls in working capital may lead to inability to pay bills and disruptions in operations, which may be the front runner to bankruptcy. The three basic measures of liquidity are: net working capital, current ratio, and quick (Acid test) ratio. As will become clear, for all the three measures, the higher their values the more liquid the firm is. It should however be emphasized that excessive liquidity sacrifices profitability even as inadequate liquidity may lead to insolvency – trade off exist between profitability and liquidity risk.(ICFC 2013)

Activity ratios measure the speed with which accounts are converted into sales or cash. Activity ratios can be categorized into two groups: The first group measures the activity of the most important current accounts, which include inventory, account receivable, and accounts payable. The second group measures the efficiency of utilization of total assets and fixed assets. A firm is said to be financially leveraged whenever it finances a portion of its assets by debts. Debts commit a firm to payment of interest and repayment of capital. Borrowing increases the risk of default and it is only advantageous to shareholders if the returns earned on the funds borrowed is greater than the cost of the funds, there are two classifications of measures of debt (ICFC 2013).

Profitability ratios evaluate the firm's earnings with respect to a given level of sales, certain level of assets, the owner's investment, or share value .Evaluating the future profitability potential of the firm is crucial since in the long run, the firm has to operate profitably in order to survive. The ratios are of importance to long term creditors, shareholders, suppliers, employees and their representative groups. All these parties are interested in the financial soundness of an enterprise the ratios commonly used are, gross profit margin, operating profit margin, net profit margin and return on equity (ICFC 2013).

Investment ratios help equity shareholders and other investors to assess value of an investment in the ordinary shares of accompany. The value of an investment in the ordinary shares in a listed company is its market value, and so investment ratios must have regard not only to information in the company published accounts, but also to the current prices. The following are the common investment ratios: Earning per share, Dividend yield ratio, and Earnings price ratio. Ratios are insufficient in themselves as basis of judgment about the future .They are simply indicators or what to investigate. Therefore, they should not be viewed as an end but as a starting point. They are useless when used in isolation .They have to be compared over time for the same firm across firms with the industry's average. Ratios are based on financial statements, any weakness of the financial statements are also captured within the ratios (ICFC 2013).

1.1.2 Fraudulent Financial Reporting

Fraudulent financial reporting is a deliberate fraud committed by management that injures investors and creditors through misleading financial statements. In addition FFR is described as a scheme designed to deceive, accomplished with fictitious documents and representations. We can conclude that such reports (financial statement reports prepared with the intention to deceive the users) are designed with the intention of fraud. Spathis define FFR as a financial statement that contains falsifications of figures which do not represent the true scenario. The Association of Certified Fraud Examiners (ACFE) Defines FFR as "The intentional, deliberate, misstatement or omission of material facts ,or accounting data to mislead and, when considered with the information made available ,and would cause the reader to alter his or her judgments in making a decision ,usually with regard to investments. This definition is important because it emphasizes on the investor decision making process which relies on the financial statements provided. In practices, financial statement which include manipulating elements which is overstating assets, sales and profit or understanding liabilities, expenses, or losses. The current study defines fraud as firms that breach the Nairobi Securities Exchange which offences include materially misstated information reported in the financial statement. In addition non fraud firms are firms matched with a corresponding fraud firm on the basis of industry, size and also time period .Firms in the same industry are subject to the similar business environment as well as similar accounting and reporting requirements (Journal of Advanced management science march 2014).

The American Institute of certified public accountants defines two types of financial misstatement that arises form FFR, which refers to intentional misstatement or omissions of figures or disclosures in the financial statement with the intent to deceive the reader. The second type of misstatement arises from the misappropriation of assets known as fraud or defalcation. In keeping with this definition, it is crucial to know whether the financial statement reviewed is in good order or contains materially misstated information. In addition, fraudulent financial reporting is in violation of accounting standards regarding the omission of existing figures of the inclusion of fictitious figures.

In order to assess the likelihood of fraud, various tools have been designed to help users analyze financial statements. One of the most common methods for financial analysis is by ratio analysis. A large number of ratios have been proposed in literature such as financial leverage proxies by total debt and total equity ratios, profitability proxies by net profit to revenue, asset composition represent by current asset to total asset, receivables to revenue, inventory to total asset and more .Current assets such as receivables and inventories are more prone to manipulation. These items are considered as soft or liquid assets in the financial statement and are more easily manipulated compared to hard items such as sales and retained earnings.

1.1.3 Financial Ratios and Fraudulent Financial Reporting

An accounting ratio is an index computed from two or more accounting values with close affinity or relationship, which is a percentage or decimal relationship of one figure to another. Fraudulent financial reporting is a deliberate fraud committed by management that injures investors and creditors through misleading financial statements. Analysis of financial ratios is one of the methods to identify fraud. Theoretical surveys revealed that, in scientific literature, financial ratios are analyzed in order to designate which ratios of the financial statements are the most sensitive in relation with the motifs of the executive managers and employees of companies to commit fraud. In studies (Feroz et al.,1991, Pearsons ,1995, Spathis .,200;Leonard & Alam,2009) the analysis of ratios is chosen as one of the methods to determine fraud. Financial difficulties may be motivation for managers to engage fraudulent activities. According to Fanning & Cogger (1998),Kirkos et al.(2007), the higher the levels of debt may increase the probability of the fraudulent financial statements. The following ratios are mostly used in studies in regard to fraud detection: the total debt to total assets ratio, the total debts to equity ratio. Lower liquidity may be an incentive for managers to engage in fraudulent financial reporting. According to Song et al. (2014), another fraud motivation for company managers is to keep growing. Most studies have used profitability, asset composition ratios to detect fraud; the literature references indicate that usage of the financial ratios for determining the FFR is convenient and straight forward.

1.1.4 The Nairobi Securities Exchange (NSE)

The Nairobi Securities Exchange is licensed and regulated by the Capital Markets Authority. It has the mandate of providing a trading platform for listed securities and overseeing its Member Firms. The Nairobi Securities Exchange was constituted in 1954 as a voluntary association of stockbrokers in the European community registered under the Societies Act.

As of March 2012, the Nairobi Securities Exchange became a member of the Financial Information Services Division (FISD) of the Software and Information Industry Association (SIIA). In March 2012 the delayed index values of the FTSE NSE Kenya 15 Index and the FTSE NSE Kenya 25 Index were made available on the NSE website www.nse.co.ke. The new initiative gives investors the opportunity to access current information and provides a reliable indication of the Kenyan equity market's performance during trading hours. According to the report "KPMG Africa Fraud Barometer 2012 " Kenya, Zimbabwe, South Africa and Nigeria make up 74 per cent of all fraud cases reported in Africa. In the East African region, Kenya stands out with 7.75 per cent of reported fraud cases, well ahead of Uganda, 2.98 per cent, and Tanzania, 2.78 per cent. Most fraud cases in Kenya target the government and the financial sector as elsewhere on the continent. However Kenya has the highest number of reported fraud cases compared to her East Africa neighbors.

The capital markets authority enacted corporate governance into law. This was to govern the operations and behavior of directors in the management of listed companies', the amendments to this law, included the establishment of a formal and transparent procedure in the appointment of directors to the board. Anyone offering himself or herself for appointment as director is required to disclose any potential area of conflict. Related-party transactions are required to be at an "arm's length" and have adequate disclosure, with the CMA discouraging insiders from such transactions in order to avoid conflicts of interest. The laws became are prominent after allegations of fraud and over-priced supplies at listed auto mobile dealer CMC Motors. Former chairman of the board , is also the chief executive of Andy Freight Forwarders Services, the largest single service provider to CMC, which was accused of overcharging CMC Motors by between KES300 million (US$2.96m) and KES500m. He is also the largest shareholder with 22.6%. The CMC chairman was dismissed from the board in September 2011 due to alleged "conflict of interest." The CMA chairman said that the CMA

had met with CMC's board to help them resolve the issues. CMA is also investigating the alleged fraud and could prosecute any suspected corrupt practices. A similar case was previously brought against former directors of Uchumi Supermarket, who were accused of irregularly selling the retailer's assets and trading with the company creating a conflict of interest.

1.2 Research Problem

There is evidence that the financial statement of some companies are fraudulent .The question arises as to whether any accounting ratios can be used to identify which financial statements are fraudulent and which are not fraudulent. The capital markets authority through a gazette notice no.3362 set out guidelines on corporate governance practices by listed companies in Kenya. They included the requirement that at least one in three directors be "independent. The guidelines were passed by CMA showing that there is a problem of dishonesty in companies.

According to a circular issued by the CMA 2012: all listed companies must have one third of their directors to be independent to make sure that they observe strict governance." An independent director is one who has not been employed in an executive capacity and or had a business relationship with the appointing company in the last 5 years, including consulting work or being a significant customer or supplier. The circular added that all listed companies should have independent directors but what has been happening is that many of them, because of their history, have nominee directors of the main shareholders. These (the amendments) touch on the appointment of directors, insider transactions and doing business with companies." Mismanagement and corruption practices in companies are a rampant critical problem that impact negatively on companies in Kenya. This problem has recently increased the interest of the regulator to set up the ethics committees for the common good of the companies, investors and other stakeholders who are likely to be affected by company frauds including fraudulent financial reporting.

Leonard Rangala Lari (2009) finds that dividend ratio; financial investments/total assets are useful in detecting FFR, while Spathis (2002) finds that the ratio Net profit/Total assets are

the most important ratio in revealing fraudulent financial reporting. Companies do not include this ration in their yearly financial statements; neither does the NSE require them to do so. Spathis (2002) reveals that companies with low values of this ratio are more likely to engage in fraudulent financial reporting. The institute of certified public accountants of Kenya (ICPAK) recognizes the importance of ratios computed from audited accounts of companies. If the specific causes of the differences pertaining to the account balances are not disclosed under notes to the audited accounts, this is considered irregular (ICPAK, 2007a).

According to Rangala (2009), firms with low returns on investments have the potentials to commit fraud, while Spathis (2002), firms with low profitability are prone to fraudulent financial statements .However because the income possibilities of companies are restricted, if the ratio net income/total assets is above a certain value, it is also likely that companies financial statement is fraudulent Because the profit figure is likely to be manipulated. On the contrary, Kathleen et al (2004) argues that ratios are less useful in detecting FFS: Consensus is lacking over the power of financial ratios towards detecting fraud. The research attempts to answer the following questions: Do specific financial ratios detect fraudulent financial statements of listed companies in Kenya?, Are the financial ratios currently in use the same as the ones identified as potential detectors of fraud?

1.3 Research Objectives

To determine the predictive ability of financial ratios of listed companies on fraudulent financial reporting.

1.4 Value the of study

The results of this study will: Add knowledge towards improving the detection and prevention of financial fraud; Expand existing literature relative to fraud in financial reporting; Exposé weaknesses in the current companies Act and by laws; Aid government in monitoring companies through the capitals markets authority; Provide new insights for policy makers, regulators and academia.

CHAPTER TWO
THE LITERATURE REVIEW

2.1 Introduction

Theoretical development literature on corporate governance theory and occupational fraud theory, the characteristics of fraud in financial statements, the sample characteristics and empirical studies on fraudulent financial reporting.

2.2 Theoretical Review

Corporate governance theory and occupational fraud theory offer a basis for research into the area of listed companies' financial misrepresentation or fraudulent financial reporting, and that of sound management. Failure in corporate governance is a source of various financial misrepresentations. Theoretical motivations are here provided for the study of misrepresentations or lack of thereof. Theories are analyzed as follows:

2.2.1 Agency Theory

Agency economic theory and institution agency theory were originated by Stephen Ross and Barry Mitnick respectively. Mitnick concludes that institutions revolve around the relation employer – employee, whereas Ross believed that this relation revolves around job incentives to the employees. In a thesis defended by the University of Pennsylvania in an economic meeting in December 1972, Ross argued that the agency problem and incentives are identified as macroeconomic problems besides being microeconomic ones. The paper launched the idea of agency theory. Mitnick a doctoral student of political science at the university presented a similar dissertation on agency in 1973. He believed that institutions and social mechanisms guide the agency as well as principal relationships or preferences (Mitnick 2006).

Owners of firms contract agents to manage their firms on their behalf thus becoming principals. The agency accepts this responsibility with the aim of maximizing their personal utility as well as the owners' wealth. When agency utility and shareholders' wealth converge the agency problem is considered to be absent (Davis et al.., 1997a) another related prior study Jensen and Meckling (1976) investigates the agency cost that come into being as a

result of existence of debt and outside equity claims in a company and further more answers the questions as to who bears such agency costs? And what type of agency relationship to the separation of ownership and control functions exists in the firms? The study concludes that agency costs are the total of bonding costs incurred by the agent, residual loss and monitoring costs incurred by the principal. The controversies surrounding agency costs are:-The variables in the relation agent principal are not measurable (Bruton et al., 2000 and Busenitz. 2001)

A partial share ownership by the agent does not motivate the agent to behave as a principal would (pierce et al., 1991) and the explanatory power of agency theory is reduced if and when the principal decides to divest to a new business. Further, an agent must be motivated and monitored to create wealth; this arrangement portrays agents as potentially fraudulent and principals as policemen enforcing the law (Arthus and Busenitz, 2003).Economists label a number of criticisms at company's agency theory being one of them. They argue that shareholders of many companies do not control management, investments are short-term and accumulated investments are below the economic optimum (Nilsson, 2001).

2.2.2 Stewardship Theory

A second theory considered as filling the gaps left by the agency theory is stewardship theory. It suggests that once the principal has invested in a new venture, stewardship theory explains the behavior between the principal and the agent better than agency theory (Davis etal.1997b).

In this section the roles of the board chairperson and managing director are combined. Such combination ensures a better return on assets (ROA) than that ensured by agency theory. In agency theory the board chair is independent of the managing director. Donaldson and Davis (1991) developed the organizational stewardship theory in 1991 and 1993. They considered the principal agent relationship at one point in time, ignoring the learning curve effect that occurs as agent and principal interact over time (Pastoriza and Arino, 2008).Prior studies based on agency theory are Palliam and Shalhoub (2003), who conclude that owners tend to diversify ownership across various firms as they are considered to be risk averse. This

characteristic makes agents misstate the results of financial statements (i.e. earnings management practices).

Reinstein et al. (2001), concludes that's after using the agency theory model international accounting firms divested from consulting engagements in order to restore public confidence in the profession. Thus enhancing auditor's independence. For Example, Arthur Andersen divested from Andersen consulting (changed his name to Accenture) in 2001 and Ernst and Young sold a consulting agency to Cap Gemini in February 2000.

Hemingway (2003) describes how complexities in a corporate agency led to Enron's public financial misstatements and omissions. Robinson and Santore (2008) revealed that the likelihood of fraud is proportional to attractiveness of equity compensations and the value of the firm. Further equity compensations motivate managers to work hard at the same time as to irregularly inflate the firms share price. Finally Matsumura and tucker (1992) conclude that in a client (manager) auditor relationship, the auditor must choose whether to commit a fixed level of fraud or not. The study reveals that increasing the auditors' penalty decreases fraud and increasing the auditor's substantive tests, managers committed fraud less frequently. Matsumura and Tucker developed their theory by mixing the game theory analysis and the experiment. More often managers are allowed to be members of the company they serve which may ensure more disclosures and accountability of their actions, but may bring about conflict of interest.

2.2.3 Occupational Fraud Theory

Wells (2003) set forth various fraud theories: first, Sutherland in 1939 defined white collar clime as criminal acts of companies and administrators in corporate capacity. His theory of differential association indicates that crime is learned from fellow group members; second, Donald R. Cressey (Sutherland's student) undertook a separate research into causes of fraud in the 1940s in the US. From interviewing 200 incarcerated embezzlers, he developed what is now called the "Fraud Triangle" made of perceived no- sharable financial need or pressure, an opportunity to commit fraud, and rationalization mechanism to permit it; third, Steve Albrecht: surveyed 212 actual frauds committed in the early 1980s. He developed fraud-scale

theory made up of three characteristics: Situational pressure (financial oriented), Perceived opportunities (caused by poor controls) and Personal integrity (individual ethics);

Fourth, Hollinger Clark in 1983 studied 10,000 cases of American employees, concluding that fraud is caused by a lack of job inspiration and that the actual cost of dissatisfaction is greatly understated. Clark also portends that the higher the position held in a company the higher the level of fraud. Dissatisfied workers are likely to break rules irrespective of age or position. This theory also emphasizes the contribution of policy development in curtailing theft. Further, Gottfredson and Hirsch in 1990 developed a general theory of crime including murder and shoplifting, arguing that they result from low self-control and desire for gratification. This theory is criticized over its inability to explain those forms of corporate fraud where the entity benefits instead of the offender and thus most frauds are committed by individuals and not by corporate bodies. Another shortcoming is its explanation of much of street crime besides a smaller portion of white collar crimes.

In companies prior studies, Lewis (1937) concluded that difficulties that lead to company's failure are: Faults' due to poor management in the application of key company's principles and Faults' due to lack of team spirits among shareholders. Paradis (2001) concludes that the failures of listed companies are indirectly determined by corporate governance. It further concludes that with a multiple ownership and no secondary market of equity exists (as in Kenya) the conflict between members and manager's cause's failures of companies.

2.3 Determinants of Fraudulent Financial Reporting

These will examine the factors that are involved with fraudulent financial reporting, i.e. financially distressed firms, ownership factors and lack of independent directors.

2.3.1 Financially distressed firms

Poor financial condition may indicate a weak control environment allowing the perpetration of fraud (AICPA), managers of firms with weak financial condition are more likely to window dress to disguise temporary difficulties (Rosner, 2003). According to Rosplock (2001), intent to conceal or take advantage by suppressing the truth of assets, liabilities, cash

flows, sales and profitability is creating a new level of risk for organizations. It further reveals that companies in high risk categories of fraud in financial reporting are affected by weak solvency (liquidity ratios), highly leveraged conditions, and overcapitalization, weak efficiency shows in slow turnover of trade debtors, trade creditors, and stocks, or in a substantially inadequate cash flow or working capital to sustain growth and or reinvestments, and minimal or nil profitability

2.3.2 Ownership Factors

A firm has a stronger motivation to commit FFR when it is non-family managed (Shleifer & Vishny, 1997),with lower foreign ownership interest(Khanna & Palepu 2000a).Family ownership could affect the demand and supply of quality financial reporting ,i.e. the entrenchment and alignment effects. The presence of family members holding important positions may result in inferior corporate governance. Another source of entrenchment is potentially greater information asymmetry between families and other shareholders resulting in family members having both the incentive and the opportunity to manipulate accounting earnings for private rents. A competing view is the alignment effect, that firms with high family ownership have incentives to report earnings in good faith and thus financial reporting is of higher quality .Family firms are less likely to engage in opportunistic behavior in reporting accounting earnings because it potentially could damage the family's reputation wealth and long term firm performance.

Foreign ownership, according to Khanna & palepu (2000a), foreign investors are likely to insist on higher standards of governance and protection of minority rights, hence we expect that firms with foreign investors will be less likely to engage in FFR.

2.3.3 Lack of independent board of directors;

The Kenyan capital markets authority recommends that listed firms adopt good governance practice by having a balanced board composed of at least one third non-executive directors. Abdul Rahman and Mohamed Ali (2006) revealed that non-executive dominated boards do not affect company performance ,because most non-executive board of directors are not selected not for their expertise and experience but for their networking contacts and

contracts. Audit quality; the positive association between audit fee and earnings manipulation is relatively well established. It is argued that fraud firms would have higher audit fee than no fraud firms since; fraud firms present greater audit risk and auditors are likely to extend the scope and rigor of their audits and from risk based perspective auditors may increase audit effort and therefore, audit fee for firms with poor governance .We therefore predict a positive association between audit fees and the occurrence of FFR.

2.4 Empirical Review

Various studies have been carried out in the past giving specific arguments based on evidence i.e. what others have done and their findings; the main purpose of doing so is to bring out judgments and justification of fraud on financial statements.

A study by Nikki Bourke and Karen Van Peursem(2004) from the University of Waikato, "Detecting fraudulent financial reporting: Teaching the 'watchdog' New tricks" The purpose of the study was to identify the approaches and techniques from the literature which auditors could usefully employ to detect fraudulently compiled financial statements. Overall they concluded that the use of several fraud detection techniques is probably best for any audit firm. They suggested firms should consider reviewing and modifying their audit procedures on a fairly regular basis as to best incorporate new techniques or findings so as best to respond to the changing environment of client fraud.

Spathis (2002) studied "Detecting false financial statements using published data: some evidence from Greece" the study examines published data to develop a model for detecting factors associated with false financial statements (FFS). Most false financial statements in Greece can be identified on the basis of the quantity and content of the qualifications in the reports filed by the auditors on the accounts. A sample of a total of 76 firms includes 38 with FFS and 38 non-FFS. Ten financial variables were selected for examination as potential predictors of FFS. Univariate and multivariate statistical techniques such as logistic regression were used to develop a model to identify factors associated with FFS. The model is accurate in classifying the total sample correctly with accuracy rates exceeding 84 per cent. The results therefore demonstrate that the models function effectively in detecting FFS and

could be of assistance to auditors, both internal and external, to taxation and other state authorities and to the banking system. In this study writers view company directors wishing to ingratiate themselves with shareholders and ensure reelection at the annual general meeting, Firms with low profitability are prone to Fraudulent Financial Statements (FFS).However, because the income possibilities of companies are restricted, if ratio net income/total assets is above a certain value, it is also likely that the company's financial statements are fraudulent, because the profit figure is likely to be manipulated.

Adewunmi (2007) studied bank fraud. The paper investigated Banks that were operating in Nigeria. The data was obtained from 30 sampled banks which had fraud and those that never had any fraudulent activities. Logistics regression was used to analyze the data. The study identified socio-economic lapse in society such as misplacement of societal values, the unquestioning attitude of society towards the sources of wealth, the rising societal expectations from bank staff and the subsequent desire of the staff to live up to such explanations as contributory factors of fraud..

Otusanya (2008) carried out a study on the role of Bank CEO in the perpetration of corporate executive frauds in the Nigerian Banking sector. The study uses a matched sample of 15 banks that their CEO had perpetrated fraud between the years 2003-2007. Descriptive research was undertaken to ascertain and be able to describe the characteristics of the variables .The study reveals that recent banking crises in Nigeria have exposed the activities of bank executives in corruption and fraudulent practices using institutional anomie theory called American dream theory, whereby the pursuit of monetary success has come to dominate society.

Idowu (2009) did a research on the means of minimizing the incidence of fraud in Nigerian banking industry. Using a sample of 50 firms that had incidences of fraud and those who never had any incidence of fraud. The diagnostic tests were conducted using backward binary logistics regression approach. Findings of the study revealed that, so many factors contributed to the incidence of frauds in banks amongst which are poor management of

policies and procedures, inadequate working conditions, bank staff staying longer on a particular job and staff feeling frustrated as a result of poor remunerations.

Kimani (2011) studied fraud risk assessment plan for Barclays Bank of Kenya. This was a case study focusing on one organization, selected from a population of other banks in Kenya to enable in depth analysis of the data. The study analyzed methods through which fraud is committed by both internal and external fraudsters, and evaluated the control measures in place, the fraud response actions taken by the Bank and finally how resilient the bank is to fraud. The study used interviewed fraud specialists in the Bank and secondary sources. The study established that the Bank face fraud committed by its employees and third parties.

Wanjiru (2011) studied the strategic response of equity bank to fraud related risks. She conducted 18 interviews. The study was descriptive and established that fraud impacts negatively on the Bank's profitability where income lost through fraud would have been reinvested to foster growth. She further established that the worst fraud risk is identity theft. Fraudsters make parallel passports, IDs and driving licenses then use them to take over accounts. The study further concludes that cheque fraud is common. Additionally, in combating fraud, the Bank's IT infrastructure is designed to support the monitoring process by producing daily reports and alerts to be auctioned. The study also revealed that a whistle blowing facility is existent in the Bank.

Ngosiah (2012) conducted a study on fraud investigative and detective framework in the Motor Insurance Industry. The population consisted of all the 120 licensed motor insurance companies in Kenya from the year 2001 to 2005.The study used regression analysis the findings establish a high prevalence of fraudulent motor insurance claims contrasted with poor management and detection of such claims. That is, while 65% of the motor insurance claims are fraudulent, 15% use technology to detect the same. Ngosiah established motor claims to be the highest followed by medical claims, premium embezzlement and cheque fraud. Medical insurance fraud included misrepresenting information, concealing, deceiving behavior that resulted in healthcare benefits. This included non-disclosure of pre-existing conditions and billing of services not rendered by healthcare provider.

Fredrick Olongo (2005) carried out a research to evaluate the effect of financial fraud and liquidity on the performance of the commercial banks in Kenya, the population consisted of all the 43 licensed commercial banks in Kenya from the year 2001 to 2004.The study used regression analysis model in which the dependent variable was ROA and the independent variables were the annual liquidity ratios and annual fraud loss. The study revealed that there exist a relationship between financial fraud and liquidity and financial performance of commercial banks in Kenya.

Timothy Sisa Wanyama (2012) carried out a research on effectiveness of fraud response adopted by co-operative bank in Kenya; this was a case study on co-operative bank of Kenya. The data collected was qualitative in nature and was analyzed using content analysis which is the best suited analysis for a case study. The study revealed that poor human resources practices are partly to blame for escalating fraud cases by employees; the study also established that the banks information technology systems is instrumental in detection and response to fraud related cases. The more effective the IS system is the quicker the detection and response.

2.5 Conceptual Framework

The previous studies on whether the financial ratios can detect fraudulent financial reporting, found that out of 21 ratios 16 were found to be significant. (Kathleen,et,2004).They found two ratios which are total liabilities/total assets and working capital/total assets were significance during the year of fraudulent financial reporting, while net income/total assets and retained earnings/total assets found to be significance during the second and third year after the fraud occurred. Luger & Shields (1989) on study of whether changing auditors is directly associated with FFS use of several ratios for prediction of bankruptcy found that the net income to total assets ratio is the stronger in ability to detect FFS compared to other ratios of cash/total assets, sales/total assets and total debt/total assets. Kathleen, et al. (2004) also stated that a key ratio useful for fraud detection is by using Altman (1968) Z-score.

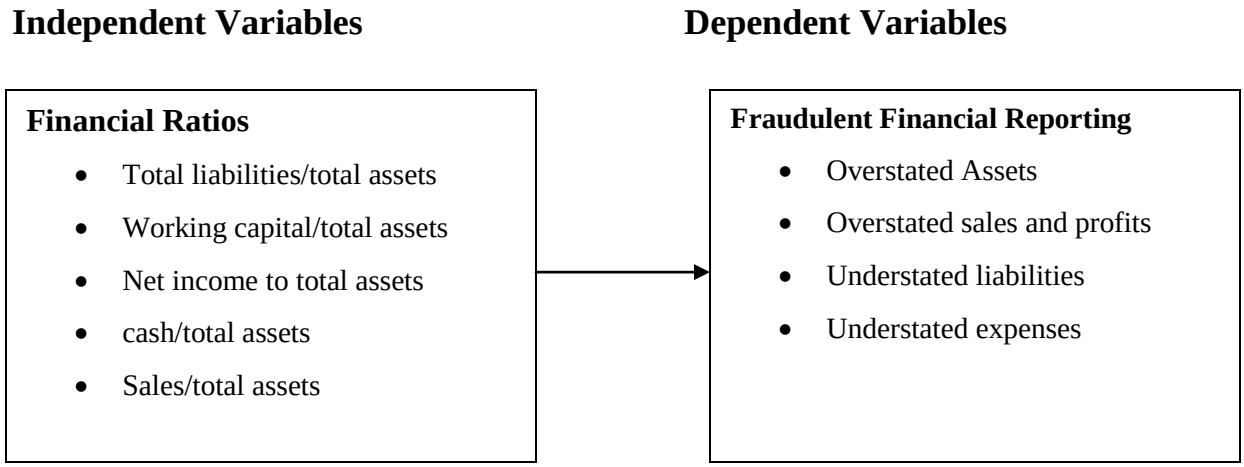

Figure 2.1 Conceptual Framework

2.6 Summary of Literature Review

A number of studies have been carried out in the area of fraud .Notable works include that of financial institutions Lagos (FITC 2003). From the studies, it is evident that they have dwelt largely on comparing the financial ratios of fraudulent and non-fraudulent financial statements, perpetrators of fraud and their modus operandi. Many studies have also examined fraud in banking sector and other organizations are mostly qualitative in nature and focus on the details of types and causes of fraud without providing compelling support. This is the gap in literature that this study is attempting to fill by empirically investigating the power of financial ratios in detecting fraudulent financial reporting at the Nairobi securities exchange

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlines the research design that is suitable to the study, target population, research sample, data collection and data analysis techniques to be applied.

3.2 Research Design

The study will adopt a descriptive research design. Descriptive research is undertaken to ascertain and be able to describe the characteristics of the variables. This approach will; describe relevant aspects of the predictability or detectability of fraudulent financial reporting using financial ratios in listed companies. This study will help us understand how financial ratios can be used in detecting the Fraudulent Financial Reporting at the Nairobi Securities Exchange.

3.3 Population of the Study

This will be a census survey and all the firms listed at the Nairobi security exchange (NSE) are the focus and import of this study. As at 31 December 2015, there were 59 companies listed at the Bourse (NSE, 2015). However, for consistency of data, companies that had traded for five years (2011-2015) will be targeted. The year 2016 is omitted as financial statement for the year is yet to be released since some companies have their financial year ending in December while others in March.

3.4 Data Collection

The study will make use secondary data sources. These sources will be the published annual audited financial statements of the companies. According to the CMA Act, all companies listed at the NSE are required to make their annual financial statement public and file the same with the CMA. Thus, these financial statements will be obtained from the CMA and NSE offices.

The financial reports disclosures, plus the qualification of audit reports will be collected and collated for inspections and inquiries by the regulator, over fraud. The non-FFS control group, will also be looked at within the same period.

3.5 Validity and reliability

Validity and reliability refers to the degree to which an instrument collects data that measures what it is intended to measure and also to measure the soundness of the research. Orodho (2000) notes validity as the degree to which the empirical measure or several measures of the concept, accurately measure the concept. A pilot study will be done to improve the face validity of the instrument. According to Orodho (2002) content validity is improved through proper assessment of the relevance of the content used in the questionnaire by competent judges. Experts' advice will be sought from supervisor to improve the content validity of the data collection instruments.

Reliability of the research instrument will be checked to determine if the scale consistently reflects the construct it is measuring. The study will use inter-item consistency reliability, (the Cranach's alpha coefficient) to test for the factors the predictability of financial ratios in detecting fraudulent financial reporting.

3.6 Data Analysis

The data collected will be checked for errors and enhance completeness. This will, then, be computed, coded and entered into the computer using Statistical Package for Social Sciences (SPSS) for processing and analysis. Inferential techniques like regressions will be used to establish the relationship between variables of interest and inferences made.

Methodologically, this study will be guided by Spathis' (2002) study. Spathis used logistic regression to test the ability of financial ratios to detect FFR. Logistic regression is used to determine the probability of occurrence of an event with the presence of its determinants by fitting the data on a probability curve. That is, it is a type of regression used when the dependent variable is binary or ordinal or ditochonomous (Dayton, 1992). Dataset to be used by this study, thus, violates assumptions of linear regression. For example, the assumption of

homogeneity doesn't hold; the variance around the dependent variable is similar for all values of the independent variable (either 1 or 0). Another assumption that the dataset will violate is Y-Y' is not normally distributed. Owing to these and as Agresti (2007) postulated, logistic regression has several advantages over other analytical models such as linear regression as it does not assume a linear relationship between the independent variables and dependent variable (it may handle nonlinear effects), the dependent variable need not be normally distributed, there is no homogeneity of variance assumption, normally distributed error terms are not assumed, it does not require that the independents be interval as is in this case. Thus, logistic regression will be more appropriate. Morgan and Teachman (1988) used logistic regression model of financial ratios (independent variables) to identify which of them were related to non-FFS and FFS. Logistic regression will be preferred as it is not affected by other factors such as serial autocorrelation; thus, will be a better presentation of the prediction.

In this study, logistic analysis will be used to determine whether non-FFS or FFS can be predicted from the financial ratios. Thus, the dependent variable will be FFS (value 0) with probability of success and 1 with probability of failure (non-FFS). Hence, variance for a distribution of a binary variable is PQ where P (FFS) is the probability of a zero, and Q (Non-FFS) is the probability of a 1. The Logistic model will be conducted by allocating status of fraudulent reporting into binary (1 = non-FFS, 0 = FFS). The model will be:

$FFS_I/1\text{-}FFS_I = \beta + \beta_1 FI/TA + \beta_2 TO/TA + \beta_3 WC/TA + \beta_4 CF/NP + \beta_5 NP/TA + \beta_6 DIV + \varepsilon$

Whereby, FFS = status of fraud (Fraudulent Financial Reporting or otherwise (1-FFS));
FI/TA = Financial Investment/Total Assets Ratio;
TO/TA = Total Operating Expenses/Average Total Assets;
WC/TA = Working Capital/Total Assets; CF/NP = Cash Flow/Net Profit;
NP/TA = Net Profit/Total Assets;
And, DIV = Dividend Return Ratio.
β = constant; $\beta_1 - \beta_6$ = regression coefficients of independent variables;
ε = Error factor; 1 and X variables will be converted into standard scores: Zy, Z1, Z2 ….Zn.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.0 Introduction

In this chapter, the study provided two types of data analysis; namely descriptive analysis and inferential analysis. The descriptive analysis helps the study to describe the relevant aspects of the phenomena under consideration and provide detailed information about each relevant variable. For the inferential analysis, the study used the Pearson correlation, the panel data regression analysis and the t-test statistics. While the Pearson correlation measures the degree of association between variables under consideration, the regression estimates the extent the of financial ratios in detecting fraudulent financial reporting at the Nairobi securities exchange. Furthermore, in examining if the financial ratios are significantly different from that of fraudulent financial reporting, the Chi-Square Test statistics was used.

4.1 Data Presentation and Analysis

In examining the level of fraudulent financial reporting of the listed companies, a disclosure index has been developed using the capital market authority post consolidated code of financial ratios, the FFS code and Non-FFS (2001; 2002). Issues on fraud are therefore classified into Financial Investment/Total Assets Ratio; TO/TA = Total Operating Expenses/Average Total Assets; WC/TA = Working Capital/Total Assets; CF/NP = Cash Flow/Net Profit; NP/TA = Net Profit/Total Assets; and, DIV = Dividend Return Ratio. Under all these broad and subcategories, a total of 49 issues have been considered. As earlier stated in chapter three, with the help of the list of disclosure items, the annual reports of the companies were examined. A dichotomous procedure was followed to score each of the disclosure items. Each company was awarded a score of ‘1’ if it appears to have disclosed the concerned issue and ‘0’otherwise.

Table 4.1: Level of the Power of Financial Ratios in Detecting Fraudulent Financial Reporting at the Nairobi Securities Exchange

Years	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	FK12	FK12
2011-2012	29	35	32	27	41	32	30	28	25	27	28	27	27
2013-2014	30	31	33	28	31	33	29	29	30	31	29	29	28
2015	31	36	38	27	38	33	36	37	31	33	30	31	29
Total	90	102	103	82	110	98	96	94	86	91	87	87	84
AVE	33.33	34	34.33	27.33	36.67	32.67	32.00	31.33	28.67	30.33	29	29	28
FRI	**0.63**	**0.65**	**0.66**	**0.68**	**0.88**	**0.75**	**0.69**	**0.68**	**0.58**	**0.51**	**0.63**	**0.67**	**0.67**
Years	F125	F26	F27	F28	F29	F30	F44	F45	F46	**F47**	**F48**	F48	F49
2011-2012	30	26	26	29	34	40	31	31	35	27	32	32	25
2013-2014	31	26	27	28	31	39	33	33	36	28	33	34	29
2015	32	28	29	30	35	41	34	35	37	29	34	35	30
Total	88	76	75	81	95	118	92	93	104	76	90	101	84
AVE	29.3	25.3	25	27	31.67	39.33	30.67	31	34.67	25.33	33.33	33.67	28
FRI	**0.63**	**0.65**	**0.67**	**0.66**	**0.83**	**0.84**	**0.75**	**0.69**	**0.79**	**0.76**	**0.78**	**0.65**	**0.55**

Source: computed by researcher using data extracted from annual reports of listed companies

Table 4.1 presents a summary of the average fraudulent reporting disclosure data by the 49 listed firms in NSE and also the disclosure index as at 2011. The table reveals that all the firms present annual reports of their fraudulent reporting. However, the extensiveness of the reports varies between firms. Based on the 49 fraudulent indices used for assessment, Kenya airways and East Africa Breweries limited emerged with the highest level of fraudulent reporting disclosure with 39 and 38 disclosure items (i.e. 87% and 85% respectively) during the period under review. These two companies were followed by East Africa cables ltd and Bamburi cement ltd with 77% and 71% respectively. On the other hand, Kakuzi, Sasini ltd and Unga group ltd, disclosed the least fraudulent items. Kakuzi disclosed an average of 24.7 items (55%), Sasini and unga ltd both disclosed 25 and 25.3 items respectively and this is approximately 56% each.

Table 4.2: Evaluation of Listed Firm's Financial Ratios Measures From 2011- 2015

	TO/TA	WC/TA	CF/NP	NP/TA	DIV	Overall evaluation
Sasini Ltd	4.36	3.33	3.86	4.38	.5433	4.20
Kakuzi	4.49	3.28	4.55	5.22	.221	4.54
ReaVipingo Plantations Ltd	2.88	2.23	3.09	3.23	.99	3.89
Williamson Tea Kenya Ltd	3.89	4.83	3.89	4.43	.48	3.96
Kenya Airways Ltd	4.56	4.42	3.69	4.82	.53	5.67
Nation Media Group	4.62	4.54	3.94	4.99	.31	5.47
Standard Group Ltd	4.66	3.54	3.99	4.89	.28	5.94
Safaricom Ltd	4.63	4.46	3.98	4.98	.13	5.85
CMC Holdings Ltd	4.73	4.82	4.99	0.92	.21	3.77
Sameer Africa Ltd	4.59	3.28	4.46	5.28	.68	4.64
City Trust Ltd	2.83	3.63	3.75	3.30	.23	4.86
Olympia Capital Holdings ltd	3.26	4.11	3.58	4.22	.11	3.16
Centum Investment Co Ltd	3.96	3.38	4.49	5.28	.29	3.61
B.O.C Kenya Ltd	2.89	2.15	2.85	3.39	.03	3.83
British American Tobacco Kenya Ltd	3.89	4.28	3.88	4.29	.35	5.38
Carbacid Investments Ltd	4.55	4.02	4.21	1.23	.46	2.63
East African Breweries Ltd	4.62	4.33	4.56	3.89	.42	5.62
Mumias Sugar Co. Ltd	3.69	4.81	4.58	4.32	.39	4.26
Unga Group Ltd	4.54	4.23	3.99	4.29	.81	1.87

Eveready East Africa Ltd	1.52	4.34	2.91	2.99	.63	4.78
Athi River Mining	4.95	3.28	4.49	5.18	.45	4.64
Bamburi Cement Ltd	2.89	2.83	3.79	3.38	.52	3.98
E.A.Cables Ltd	3.96	4.14	3.48	4.29	.76	5.26
E.A.Portland Cement Ltd	4.83	4.32	4.22	4.22	.63	5.63
KenolKobil Ltd	4.98	4.18	4.48	5.11	.45	4.94
KenGen Ltd	2.99	2.93	2.88	3.56	.96	4.82
Kenya Power & Lighting Co Ltd	3.68	4.80	3.98	4.21	.88	4.39
Total Kenya Ltd	4.99	3.68	4.47	5.28	.86	2.92
Crown Berger Ltd	3.81	2.23	2.79	4.06	.93	2.89
Kenya Orchards Ltd	4.66	4.99	3.88	4.89	.81	3.84
Car and General (K) Ltd	4.96	3.88	4.49	5.98	.69	4.68
AccessKenya Group Ltd	3.69	4.15	3.68	4.28	.53	3.88
TPS Eastern Africa (Serena) Ltd	4.53	4.28	3.90	4.92	.22	3.88
Scangroup Ltd	3.69	4.13	3.98	4.29	4.66	3.32
Importance of the ratios	30%	25%	16%	24%	5%	100%

The findings in Table 4.2 indicates that Kenya airways, Nation media Group ltd, East Africa breweries, EA cables and Safaricom Kenya ltd have the most overall financial ratios fraud detection with Sasin, Scan group ltd, Access Kenya group ltd, Crown Kenya ltd (Kenya) and Kenol Kobil ltd registering lowest financial ratios fraud detection. On the importance of the financial ratios, Cash Flow/Net Profit is indicated the highest, followed by Net Profit/Total Assets, Working Capital/Total Assets, Total Operating Expenses/Average Total Assets and Dividend Return Ratio.

4.2 Data Analysis (Preliminary)

Table 4.3: Descriptive Statistics for (Financial ratios fraud detection)

	N	Minimum	Maximum	Mean	Std. Deviation
TO/TA	49	.11	.36	.5953	.6435
WC/TA	49	4.03	14.33	9.238	.48034
CF/NP	49	.43	.85	4.6356	.8968
DIV	49	.52	.95	.6606	.9143
	49	.28	.89	.4439	.6280
Valid N (list wise)	49				

Source: computed by researcher using data extracted from annual reports of firms

Generally, from the 49 observations as seen in table 4.3, DIV has a minimum figure of 54.33% recorded by Sasini Tea ltd. This implies that the firm with the least fraudulent detection has an index of 54% while the maximum index of 99% was disclosed by Rea Vipingo Plantations Ltd in one of the 5 years reviewed. This further compliments the result of average fraud for the 49 firms in table 4.1. The mean fraud is about 66% with standard deviation of approximately 9%. This means that fraud can deviate from mean to both sides by 9%.

For the model, the level of fraud from the 49 observations is about 13 suggesting that firms in Kenya have relatively moderate fraud as suggested by Kyereboah-Coleman and Biekpe (2012) with a maximum level of fraud of nineteen (19) and deviation of 2.48. The implication is clear that firms in Kenya have relatively similar fraud cases.

In addition, total operating cost/total assets is 59.53%. Also on average, about 11% of the total valuation indicates fraud.

4.2.1 Regression Analysis

In this section, the study used the panel data regression analysis to investigate the relationship between financial ratios and fraud detection. In doing this, the study used a simple definitional model as developed in our chapter three to guide the analyses.

Table 4.4: Regression Result for Panel Data for Financial Ratios and Fraudulent Detection in NSE Listed Firms

Financial ratios	Fraudulent detection
TO/TA	0.127 [-1.631] {0.013}
WC/TA	0.433 [-1.386] {0.097}
CF/NP	0.833 [2.383] ** {0.031}
DIV	1.326 [3.271]*** {0.002}
R Squared	0.763
Adjusted R Squared	0.721
F- Statistics	7.237***
Number of Observations	49

***Significant at 1% level

***Source**: Computed from Annual Reports of listed firms*

The result from the regression equation is shown in table 4.4. The equation takes into account firms' fraudulent detection as its main measure while Cash Flow/Net Profit, Net Profit/Total Assets, Working Capital/Total Assets, Total Operating Expenses/Average Total Assets and Dividend Return Ratio are the financial ratios. For the model, the F-values which are significant at 1% level indicate that the model do not suffer from specification bias. However, from the model, the coefficient of determination (R^2) indicates that about 76.3% of change in firms is accounted for by the explanatory variables while the adjusted R-squared of 72.1% further justifies this effect.

The regression result for the model further revealed that the relationship between the working capital and fraudulent proxies are not in line with our stated expected result. The net profit ratio also shows a contrary result with a priori ($\beta_1 BOS_t$; $\beta_2 NED < 0$). This invariably means that the firms' fraudulent detection goes down as working capital increases. In addition, the firms' fraudulent detection decreases when accounting ratios are introduced to the firm.

Table 4.5: Chi-Square Test: Two-Sample Assuming Equal Variances

	(Efficient fraud detection firms)	**(Non-efficient fraud detection firms)**
Mean	0.008177643	0.08954739
Variance	0.02343563	1.38185E-05
Observations	14	7
Hypothesized Mean Difference	0	
Df	13	
t Stat	2.9243450189	
P(T<=t) one-tail	0.093254419	
t Critical one-tail	1.470933383	
P(T<=t) two-tail	0.1108838	
t Critical two-tail	2.160368652	
Mean	0.0623437643	0.039439

Source: *Computed by the researcher from annual reports of listed firms*

From the t-test result, the efficient fraud detection firms recorded a mean of 0.0623 while the non-efficient fraud detection firms recorded a mean of 0.0394. However, the variance for the efficient fraudulent detection firms and the no-efficient firms are 0.0234 and 1.3819 respectively.

Furthermore, at two- tailed, the t- calculated of 2.9243 is seen to be greater than the t-tabulated of 1.4709.

4.3 Hypothesis Testing

4.3.1 There is No relationship between Corporate Governance and Firms Performance

The study carried out correlation analysis for the null hypothesis that there is no relationship between corporate governance and firm's performance. The findings were as indicated in Table 4.6.

Table 4.6: Relationship between Financial Ratios and Firms Fraudulent Detection

Ratios	Firm fraudulent index
TO/TA Pearson Correlation	0.633
Sig. (2-tailed)	0.000
N	49
WC/TA Pearson Correlation	0.745
Sig. (2-tailed)	0.013
N	49
CF/NP Pearson Correlation	0.632
Sig. (2-tailed)	0.014
N	49
DIV Pearson Correlation	0.631
Sig. (2-tailed)	0.033
N	49
Multiple directorship Pearson Correlation	0.698
Sig. (2-tailed)	0.013
N	49

The analysis above shows that financial ratios has the strongest positive (Pearson correlation coefficient =.633; P value 0.000) influence on firms fraudulent detection. In addition, Cash Flow/Net Profit as well as Working Capital/Total Assets are positively correlated to firms fraudulent detection (Pearson correlation coefficient =.632 and .745). Further the study compounded the ratios into the major variable (financial ratios) and the firm's fraudulent detection and carried out a correlation for the two. The study findings are as shown below.

Table 4.7: corporate Governance Practices Vs Firms Performance

	Firms fraudulent detection
Financial ratios Pearson Correlation	0.889
Sig. (2-tailed)	0.000
N	49

A Pearson coefficient of 0.889 and p-value of 0.000 shows a strong, significant, positive relationship between financial ratios and firms fraudulent detection by NSE listed firms in Kenya. Therefore basing on these findings the study rejects the null hypothesis that there is no relationship between financial ratios and firms fraudulent detection and accepts the alternative hypothesis that there exists a relationship between financial ratios and firms fraudulent detection.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The objective of this chapter is to discuss the findings, reach conclusion and make necessary recommendations from all the qualitative and quantitative analysis presented in chapter four. The chapter is structured into five sections as follows: section 5.1 summarizes the research objectives and the analysis, section 5.2 presents the theoretical and empirical findings, section 5.3 covers the conclusion while section 5.4 and 5.5 covers the sections for recommendations and suggestions for further study.

5.1 Summary

This study made use of secondary data in analyzing the power of financial ratios in detecting fraudulent financial reporting at the Nairobi securities exchange. The secondary data was obtained basically from published annual reports of the selected firms. Relevant data for the study were retrieved from the Nairobi Stock Exchange and Capital market authority Fact Book for 2011 and the websites of the reviewed firms.

The Pearson Correlation and regression analysis were used to find out whether there is a relationship between the ratios to be measured (i.e. financial ratios and firms' fraudulent detection) and also to find out if the relationship is significant or not. However, the t-test statistics was used to establish if there is any significant difference between the firms fraudulent detection of efficient firms and also if a difference exist in the fraudulent detection of firms with more financial ratios and those with less financial ratios. The proxies that were used for financial ratios are; Cash Flow/Net Profit, Net Profit/Total Assets, Working Capital/Total Assets, Total Operating Expenses/Average Total Assets and Dividend Return Ratio are the financial ratios.

However, in examining the level of financial ratios in fraudulent detection of the sampled firms, a disclosure index was developed using the CBN post consolidation code of best practices and guided by the papers prepared by the UN secretariat for the nineteenth session

of ISAR (International Standards of Accounting and Reporting, 2001), entitled "Transparency and disclosure requirements for fraudulent detection" and the twentieth session of ISAR (2002), entitled "Guidance on Good Practices in financial ratios Disclosure") for the firms under study.

With the help of the list of disclosure issues, the annual reports of the firms were examined and a dichotomous procedure of content analysis was followed to score each of the disclosure issue. Each firm was awarded a score of '1' if it appears to have disclosed the concerned issue and '0' otherwise. The score of each firm was totaled to find out the net score of the firm. A fraudulent detection index was then computed. Furthermore, the t- test was used to establish if there is any significant difference in the firm's fraudulent detection as recorded by the cleared firms as identified by CBN.

This study reveals that Cash Flow/Net Profit, Net Profit/Total Assets, Working Capital/Total Assets, Total Operating Expenses/Average Total Assets and Dividend Return Ratio are significantly and positively related to firm's fraudulent detection.

However, there is no doubt that several studies have been conducted so far and are still on – going on the examination of the relationship between firm fraudulent detection and financial ratios. The findings are therefore in line with the work of Staikouras et al. (2007) where they examined a sample of 58 out of the 100 largest, in terms of total assets, credit institutions operating in Europe for the period between 2002 and 2004. Their analysis inferred that firm profitability – measured in terms of IC and Tobin's Q is positively and significantly related to the financial ratios. Pathan et al. (2007) using a dataset of the Thai commercial banks over the period 1999-2003, also obtained a positive relation between financial ratios and firm fraudulent detection.

The findings are in line with Thorn Hill (1995) who points out that Analytical Procedures (AP) was useful tools in identifying fraud like misstatements in financial reports. AP involves the analysis of trends, ratios and reasonableness test derived from an entity's financial and operating data. International standard on auditing (ISA) no.240,"the auditors

'Responsibility to consider fraud in an audit of financial statements", states that two types of international misstatements are relevant to the auditor: those resulting from fraudulent financial reporting and those resulting from misappropriation of assets.

Also noted is that the findings are in line with Adewunmi (2007) who in his explanation of bank fraud identify socio-economic lapse in society such as misplacement of societal values, the unquestioning attitude of society towards the sources of wealth, notes that the rising societal expectations from bank staff and the subsequent desire of the staff to live up to such explanations is a contributory factor of fraud.

Finally, the findings also agrees with Zulkafli and Samad (2007) in their study in which they analyzed a sample of 107 listed firms in the nine countries of Asian emerging markets (Malaysia, Thailand, Philippines, Indonesia, Korea, Singapore, Hong Kong, Taiwan, India). They deduced that financial ratios are significantly correlated with fraudulent detection measures, such as the Tobin's Q and IC.

5.2 Conclusion

From the analysis above, the study therefore conclude that there is no uniformity in the disclosure of fraud detection made by firms in Kenya. Though they all disclose their fraudulent cases, but what is disclosed does not conform to any particular standard. The insider-related frauds are expected to form an insignificant part of the profits of the firms and so may provide an adequate picture of the risk profile of the firms.

Furthermore, the study conclude that a positive relationship exist between firms fraudulent detection and financial ratios. That is, a reasonably strong correlation exists between fraudulent detection and subsequent increase in working capital and firms net profits. While a percentage increase in return on equity can be explained by the firm's disclosure level.

The study concludes that accounting fraud is important in evaluating companies. It is also an important news event. At the end of yearly statutory external audits; some companies in Kenya do incur expenditures towards publishing or advertisements of audited financial

statements. This practice confirms the importance of listed companies in the eyes of stakeholders, but in case of FFR it is most unlikely that the companies release audited reports to a watchdog press for fear of losing shareholders.

5.3 Recommendations

Based on the findings of this research, the study therefore present the following recommendations which will be useful to stakeholders. Efforts to improve fraudulent detection should focus on the value of the stock ownership, since it is positively related to both future operating performance and to the probability of profit turnover in poorly performing firms. Firm's financial managers should note with caution the negative relationship between financial ratios and firm's profitability. Hence, if the purpose of financial management is to improve fraudulent detection, then such efforts must be improved in using financial ratios to detect fraudulent financial reporting. Finally, there is the need to set up a unified body saddled with the responsibility of collecting and collating fraudulent related data and constructing the relevant indices to facilitate fraudulent financial reporting research in Kenya.

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APPENDIX I: COMPANIES TRADING 2011 – 2015

A.Baumann & Co.Ltd Ord 5.00

Athi River Mining Ord 5.00

B.O.C Kenya Ltd Ord 5.00

Bamburi Cement Ltd Ord 5.00

Barclays Bank Ltd Ord 2.00

British American Tobacco Kenya Ltd Ord 10.00

Car & General (K) Ltd Ord 5.00

Carbacid Investments Ltd Ord 5.00

City Trust Ltd Ord 5.00

CMC Holdings Ltd Ord 5.00

Crown Berger Ltd 0rd 5.00

Diamond Trust Bank Kenya Ltd Ord 4.00

E.A.Cables Ltd Ord 0.50

E.A.Portland Cement Ltd Ord 5.00

Eaagads Ltd Ord 1.25

East African Breweries Ltd Ord 2.00

Equity Bank Ltd Ord 5.00

Eveready East Africa Ltd Ord.1.00

Express Ltd Ord 5.00

Housing Finance Co Ltd Ord 5.00

Hutchings Biemer Ltd Ord 5.00

I.C.D.C Investments Co Ltd Ord 5.00

Jubilee Holdings Ltd Ord 5.00

Kakuzi Ord.5.00

Kapchorua Tea Co. Ltd Ord Ord 5.00

KenGen Ltd. Ord. 2.50

Kenya Airways Ltd Ord 5.00

Kenya Commercial Bank Ltd Ord 10.00

Kenya Orchards Ltd Ord 5.00

Kenya Power & Lighting Ltd Ord 20.00

Limuru Tea Co. Ltd Ord 20.00

Marshalls (E.A.) Ltd Ord 5.00

Mumias Sugar Co. Ltd Ord 2.00

Nation Media Group Ord. 5.00

National Bank of Kenya Ltd Ord 5.00

NIC Bank Ltd 0rd 5.00

Olympia Capital Holdings ltd Ord 5.00

Pan Africa Insurance Holdings Ltd 0rd 5.00

Rea Vipingo Plantations Ltd Ord 5.00

Sameer Africa Ltd Ord 5.00

Sasini Tea & Coffee Ltd Ord 5.00

Scangroup Ltd Ord 1.00

Standard Chartered Bank Ltd Ord 5.00

Standard Group Ltd Ord 5.00

Total Kenya Ltd Ord 5.00

TPS Eastern Africa (Serena) Ltd Ord 1.00

Uchumi Supermarket Ltd Ord 5.00

Unga Group Ltd Ord 5.00

Williamson Tea Kenya Ltd Ord 5.00