

**THE EFFECTS OF BANK CHARACTERISTICS ON MARKET RISK
DISCLOSURE: CASE OF LISTED COMMERCIAL BANKS IN KENYA**

By

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DECLARATION

Student declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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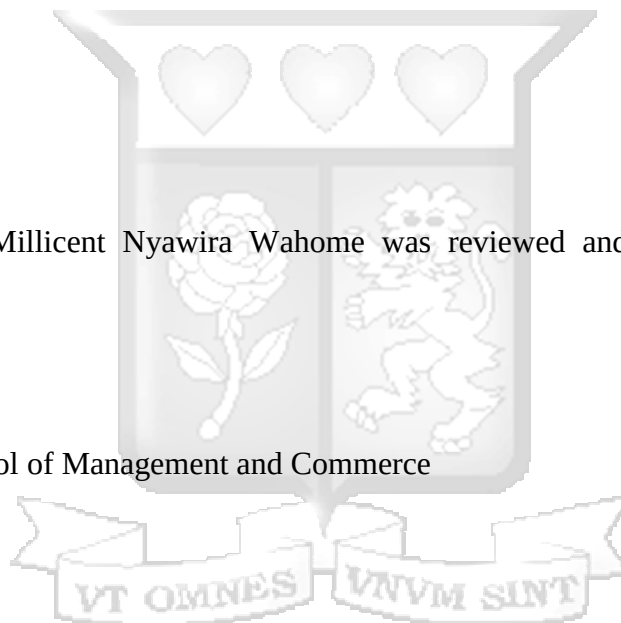
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DEDICATION

To my parents.



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I am grateful to my supervisor, Dr. Mboya, whose encouragement, supervision and support from the preliminary to the concluding level enabled me to develop an understanding of the subject of this report.

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ABSTRACT

The purpose of this study was to determine the effects of bank characteristics on market risk disclosure. Commercial banks need to be regularly monitored in order to monitor, manage and evaluate risky activities that may lead to loss of depositors' funds or collapse the financial intermediation system. The relationship between four bank characteristics namely size of a bank, profitability of a bank, leverage of a bank and depositors' knowledge were modeled against market risk disclosure. Both primary and secondary data were obtained for this study. Primary data was obtained through the use of questionnaires from depositors of listed commercial banks while secondary data was collected from financial reports, notes to accounts, Chairman's and CEO's reports and from Nairobi Securities Exchange for the years 2004 to 2009. The study found that 68% of variation in Market risk disclosure can be explained by size, profitability and leverage and depositors knowledge. The study also sought to compare market risk disclosure patterns before and after IFRS adoption. Before adoption of IFRS, larger banks and more profitable banks disclosed more market risks that they faced while highly leveraged banks disclosed less compared to the less leveraged banks. It was established that profitability and depositors knowledge were significant and positively influenced market risk disclosure while size of the bank and leverage were insignificant at 5% level of significance. The study also revealed that after adoption of IFRS disclosure standards, more profitable banks were more likely to disclose more market risks information than less profitable banks. In addition, highly leveraged banks have lower market risk disclosure levels compared to less leveraged banks. The study concluded that adoption of IFRS disclosure standards played a significant role in improving market risk disclosure. Profitability continued to play a critical role in signalling their superior performance and sound risk management while depositors' knowledge increased respondents' confidence in commercial banks. The study recommends a bigger sample and more bank characteristics should be studied in order to confirm or reject the findings of this study.

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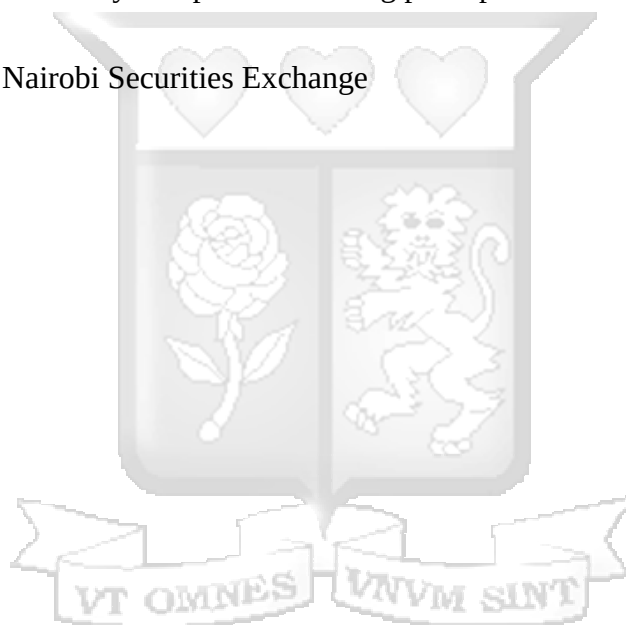
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LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
UK	United Kingdom
IFRS	International Financial reporting Standards
IT	Information Technology
NBFI	Non-banking financial institutions
GAAP	Generally accepted accounting principles
NSE	Nairobi Securities Exchange



CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Financial sector is a critical sector that enables efficient allocation of an economy's resources. A mature, efficient and well developed financial system is vital for economic growth and performance as it facilitates investment, provision and creation of credit and efficiency in conduct of business transactions (Karl, 2005). As this study examined the influence of bank characteristics on market risk disclosure, it is important to first define the main concepts as used in this study. Bank characteristics refer to the specific features of banks (Altunbas, 2012). They include size, ownership, performance, location, among other features. Market disclosure refers to the act of releasing all relevant information pertaining to a company that may influence an investment decision (Nandakumar, Mehta, Ghosh & Alkafaji, 2010). In the context of this study, it refers to the disclosure of financial information regarding market risks.

Kenya has 43 commercial banks and one mortgage finance company, six deposit taking micro-finance institutions, 115 foreign exchange bureaus, five foreign bank representative offices and two credit reference bureaus registered as of June 2012. Further, as of June 2012, loans from commercial banks to the public stood at Kshs. 1.3 trillion, while the deposit base was estimated at Kshs. 1.7 trillion. Kamau (2010) noted that commercial banks owned approximately 80 per cent of financial sector's assets as of 2009 (CBK, 2012). The financial system consists of the security market, money market, banking institutions (commercial banks) and non-banking financial institutions (NBFI). The latter category ranges from formal NBFI such as insurance firms, mortgage firms, Investment funds, Mobile telephone transfer services to semi-formal and informal NBFI such as savings and credit cooperatives (SACCOs) and Rotating Savings & Credits Associations (RSCAs). A total of 40 commercial banks are privately owned while three are public institutions with the state having majority shareholding. Of the private commercial banks, 27 are locally owned while 13 have foreign ownership (CBK, 2012).

Unlike developed economies where security and money market dominate the financial system, it is evident that Kenya is predominantly a bank-dependent economy as

commercial banks play the biggest role in financial intermediation (Ndikumana, 2001). In addition, alternative financial subsectors such as security and money markets are still inaccessible by majority of middle and microenterprises firms that form the bulk of businesses in the country (Kamau, 2010).

Commercial banks' principal role as financial intermediaries in the economy makes them a highly sensitive financial subsector that needs to constantly balance between profitability, safety and liquidity (Kamau, 2010). Safeguarding commercial banks' interests is vital not only for commercial banking players, but also for the economy as a whole. It is for this reason that the monetary authorities strive to introduce regulations and policies that oversee the conduct and smooth operations of commercial banks in any economy (Kamau, 2010).

The deregulation of commercial banking sector in Kenya in the 1990s led to transformation from conservative commercial banking to adoption of aggressive profiteering strategies in the banking industry (Cheffins, 2005). Commercial banks shifted their primary responsibility from safety of depositors' money to profit maximization. It is therefore important that all stakeholders receive relevant information to be able to understand the risk profile of any financial firm and the financial system as a whole (Linsley and Shrives, 2005).

In September 2004, CBK, through its subsidiary FID, conducted a risk management survey that provided a status position on the extent to which risk management is practiced in the financial institutions operating in Kenya. The survey revealed that whereas there was a high level of awareness in banking institutions on the importance of employing systematic methods of identifying, analyzing, and controlling/mitigating risks, there were inadequate efforts made to manage the non-credit risks in banks. The survey also showed that there was greater emphasis on Credit risk at the expense of other risks encountered by the commercial banks (CBK, 2004).

Basel II accord as well as studies like Treacy & Carey (2000), Frolov (2006) and Dantas, Rodrigues & Capelleti (2010) extensively focused on credit risk to the detriment of other risks, in particular, market risks. According to an FSID survey in 2004, 97% of the

respondent banks indicated that credit risk was the principal risk covered in their risk management policies and procedures with market risk being considered ‘relatively’ important (CBK, 2004). This could imply that commercial banks have a tendency to allocate a substantial proportion of economic capital for credit risk. Economic capital is generally described as an estimate of the amount of equity capital the bank needs in the course of its business to absorb unexpected losses arising from the bank’s current exposures (Berg-Yuen & Medova, 2004).

The CBK has designed a Risk Based Supervisory (RBS) framework to allow it deliver consistent, high quality supervision as the financial sector develops and as risk profiles of institutions change in reaction to competitive forces. According to Campbell (2005), there are several risks that commercial banks face, which include credit risk, market risk, operational risk, strategic risk, reputational risk, country risk, sustainability risk and liquidity risk among other risks. Strategic risk is the current and prospective impact on earnings or capital arising from adverse business decisions, improper implementation of decisions or lack of responsiveness to industry changes (CBK, 2004). On the other hand, operational risk can be defined as the risk of making monetary losses resulting from inadequate or failed internal processes, people, and systems or from external events. Losses from external events include natural disaster that damage a firm's physical asset or electrical or telecommunications failures that disrupt business while losses from internal problems include employee fraud and product flaws (Campbell, 2005). Market risk is composed of interest rate risk and Foreign exchange risk. The former is the current or prospective risk to earnings and capital arising from adverse movements in interest rates while foreign exchange risk is the risk of loss of earnings and capital due to adverse movements in foreign exchange rates (CBK, 2004). Credit risk can simply be defined as the probability of a bank experiencing loss due to debtor’s default (Schuermann, 2004). It is from this CBK’s survey that this study focuses specifically on market risk which is said to have a response rate of 100%.

CBK (2010) risk management survey reported that banks face a higher level of risk awareness unlike before given the transformative banking environment in Kenya. The monetary authority estimated that strategic risk stood at 81%, operational risk at 93%, credit risk at 95% and market risk 100%. According to CBK’s RBS framework, risk-

based supervision is an approach that places strong emphasis on understanding and assessing the adequacy of each institution's risk management system which are expected to identify, measure, monitor and control risk in an appropriate and timely manner.

It is important for banks to identify and adequately manage the risks facing commercial banks in order for the economy to grow sustainably. CBK (2010) guidelines state that while it is true that risk-taking is an inherent element of banking and, indeed, profits are in part the reward for successful risk taking in business, excessive and poorly managed risks can lead to losses and ultimately collapse of a firm and even industry. The financial crisis in 2007 precipitated by securitization of mortgage products and subprime lending in America is an example that echoes the adverse impact of non-disclosure of the risks involved in strategies and activities adopted by financial players. Therefore, an assessment and disclosure of the extent to which commercial banks in Kenya are exposed to risk is an important aspect of commercial banking sustainability as it affects the efficient allocation of financial resources and the posterity of the economy as a whole.

This study sought to examine the effects of bank characteristics on market risk disclosure. This study examines if depositors use that disclosed information in decision making. Four independent variables were identified in this study: the size of a bank, the profitability of a bank, the leverage of a bank and depositors' knowledge. The study began from the hypothesis that larger banks, more profitable banks and highly leveraged banks declare more market risks that they face compared to smaller, less profitable and less leveraged banks. Depositors' knowledge and usage of disclosed information in decision making is also a measure of market risk disclosure (Perignon and Smith, 2008).

1.2 Problem Statement

Commercial banks do not disclose risks in the same way. Naser (1998) argues that management with good news is likely to disclose more information than management with bad news. Effective 1st January 2007, all commercial banks in Kenya were expected to adopt and adhere to International Financial Reporting Standards (IFRS). While commercial banks, by their adherence to IFRS provide some risk information, the annual reports do not by themselves present a discussion of the risks that challenge a commercial

bank nor the actions that the management are undertaking to manage those risks (Hoelscher, 2006).

It is argued that at present, limited risk disclosure occurs and therefore firms are not fully transparent in this respect (Linsley et al, 2006). Bank deposit is the most important asset base that is primarily used to engage risky activities and in the event that a bank collapses, the depositors would lose all their savings (Kaufman, 2000). While there are many stakeholders who would suffer in the event that a bank collapses, depositors stand the highest risk. Furthermore, while noting that not all the risks that commercial banks face can be frictionless or hedged; and while acknowledging that some risks incurred might be from forces outside the banks' control, depositors need to be cautious about any financially risky projects that can lead to the loss of their deposits (Froot and Stein, 1995).

Linsley and Shrives (2005) state that if shareholders and other interested parties are to understand the risk profile of the firm, they need to receive information about the risks a firm face and how the directors are managing those risks. Depositors can only know the magnitude of risks a bank is facing if such information is adequately disclosed. Well informed depositors have the power to assess the market risk and facilitate the efficient allocation of resources by rewarding commercial banks that adequately cover their risks while punishing the banks that expose their assets to unnecessarily high risk. Uninformed depositors on the other hand have no power to make such decisions.

In Kenya, the financial deregulation of 1995 led to transformative changes in the competitive landscape from the conservative approach to a highly competitive and profit oriented environment. While this facilitated the robust growth and expansion of the economy's financial system, it also increased market risks inherent in profiteering objectives. CBK (2010) established that market risk associated with commercial banking stood at 100 per cent a fact that shows that stakeholders and more so depositors face high risk.

In an attempt to heighten risk management in the banking industry, CBK adopted IFRS standards which emphasize on disclosure of information. Commercial banks in Kenya are expected to disclose market risks that they face in order to allow depositors to make

informed judgments about safety of their savings. This study attempted to understand the extent to which market disclosure influence decision making by investigating the extent to which market risk disclosure facilitates efficient allocation of resources by stakeholders in commercial banking industry. The problem addressed in this study was: how do bank characteristics influence market risk disclosure?

1.3 Research Objectives

The main objective of this study was to determine the effect of banking characteristics on market disclosure. The study was conducted by examining the relationship between banks' specific characteristics, including profitability, size, leverage and depositors' knowledge and market risk disclosure. The specific objectives are:

1. To establish the extent to which market risk disclosure is associated with banks' characteristics of risk disclosure
2. To undertake a comparative analysis of market risk disclosure patterns before and after IFRS adoption
3. To establish if depositors make use of market risk disclosure information in decision making

1.4 Research questions

Specific research questions are:

1. To what extent is market risk disclosure associated with bank' characteristics of risk disclosure?
2. What is the comparative analysis of market risk disclosure patterns before and after IFRS adoption?
3. Do depositors make use of market risk disclosure information in decision making?

1.5 Scope of the Study

Although there is a range of methods for measuring market risk disclosure, this study focused on bank characteristics as a measure of market risk disclosure. Other methods, including Value-at-Risk and Sensitivity analysis have not been addressed because they

form another area of research. The study focused on a six-year period beginning 2004 to 2009 for all listed commercial banks in Kenya and looks at both annual financial reports and their accompanying narrative materials. The target respondents were corporate clients from those listed banks. These respondents were chosen for two reasons: they were assumed to have huge bank account balances, therefore relied heavily on market risk disclosure information in decision making; and their actions or voices against the banks carry more weight compared to an individual depositor.

1.6 Significance of the Study

This study is of importance to various institutions and stakeholders in Kenya as described below.

1.6.1 The Central Bank of Kenya

The CBK, which is the bank's regulator can benefit from understanding the relationship between market risk disclosure and bank characteristics since this method has not been utilized in Kenya.

1.6.2 The Bank Depositors

This study is important to the depositors as they can make informed judgments on whether commercial banks engage in risky activities and if their deposits are safe or not. Depositors are in a better position to demand higher returns proportionate to the risks undertaken by the banks.

1.6.3 Commercial Bank Managers

The commercial bank managers can get a better understanding of how their attitude towards market risk disclosure affect the banks that they operate in terms of how investors and depositors use the disclosed information.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review and is organized as follows. First, a theoretical literature is presented. Here, two theories are discussed namely the Efficient Market Hypothesis and a Theory of Bank Regulation. The second part presents a review of risk and market risk disclosure. Here, an overview of risk disclosure is presented followed by a review on market risk disclosure approach. The third section presents an empirical review where a number of empirical studies related to the objectives of this study are reviewed. The next section presents a conceptual framework. Lastly, the chapter concludes with a summary of literature review.

2.2 Theoretical Literature

This section presents a discussion of theories related to market risk disclosure. Two theories are discussed namely the Efficient Market Hypothesis (EMH) and the theory of bank regulation. These theories explain the need for market risk disclosure.

2.2.1 Efficient Market Hypothesis

The Efficient Market Hypothesis theory was introduced by Eugene Fama and Paul Samuelson in 1970. EMH holds that under perfectly competitive environment and given perfect information flow in the market, the price of securities reflect all information in the market and estimates of future cash flows. Financial markets are self-stabilizing because none of the players can earn abnormal profits in the long run (Fama, 1970).

Efficient market hypothesis is based on the assumption that capitalism is the cornerstone of efficient allocation of resources. Fama (1970) introduced three forms of market efficiency: weak form, semi-strong form and strong form. The weak form of market efficiency holds that security prices fully reflect historical information. Semi-strong market efficiency holds that security prices reflect public available information while strong market efficiency holds that security prices reflect both public and private information.

2.2.2 A Theory of Bank Regulation

Stockholders of limited liability banks financed by deposits (whether insured or uninsured) have incentives to take risks beyond that which is optimal for an “all equity” bank (John, John and Senbet, 1991). Santos (2000) adds that the justification for any regulation usually stems from a market failure such as externalities, market power or asymmetry of information between buyers and sellers. However, bank regulation through capital requirements and asset restrictions has limited effectiveness given higher leverage ratios of banks (John, et al., 1999).

The theory of banking regulation holds that the market needs some degree of regulation to ensure that customers are well protected against any market failures that may result from competitive dynamics and banking malpractice (John, et al., 1999).

2.3 Risk and Market Risk Disclosure Review

This section discusses risk and market risk disclosure. The section begins by discussing the overview of risk disclosure. This is followed by a review of the market risk disclosure approach. Under this section, Basel II requirements, The CBK requirements, and the IFRS requirements on risk and market risk disclosure are discussed. Finally, this section concludes with a discussion on risk disclosure measurement.

2.3.1 Overview of Risk Disclosure

EMH and theory of bank regulation differ in the extent to which the former advocates for limited principle based policies while the latter supports the introduction of regulations to ensure control and reduce the risk of market failure. However, both theories support disclosure. EMH supports the notion of availing public information as a way of informing sellers and buyers of financial securities. On the other hand, regulations may be used to compel banks to release information with regard to risk in order to facilitate decision making and efficient allocation of resources.

Risk is inherent in all markets, but more pronounced in the financial sectors (Raghavan, 2003). Risk is usually associated with uncertainty and can be defined as the likelihood or

probability of loss of profits or less than expected returns on an investment. While the types and degree of risks that an organization may be exposed to depend on a number of factors such as its size, complexity of business activities and volume, it is generally believed that banks face credit, market, liquidity, operational, compliance/legal/regulatory and reputation risks (State of Pakistan Bank, 2009).

Disclosure is seen as a neutral policy to the extent that it balances between regulation and EMH. IFRS 7 (Financial Instruments: Disclosures) paragraph 31 states that an entity shall disclose information that enables users of its financial statements to evaluate the nature and extent of risks arising from financial instruments to which the entity is exposed at the reporting date (IFRS, 2009). Linsley and Shrives (2005) argued that if shareholders and other interested parties are to understand the risk profile of the firm, they need information about the risks a firm face and how the directors are managing those risks. In addition, Ku-Ismail and Chandler (2005) state that disclosures as a form of availing information provides depositors of a more general overview of the business and moreover, can hide strategies of focused communication aimed at diverting the reader's attention from relevant issues. For information to be useful, it must be: timely, comprehensive, reliable, relevant, comparable and material.

On the other hand, Cordella and Yeyati (1998) supported the EMH by asserting that public disclosure may induce massive runs from one bank to another, a view shared by Karl (2005) who claimed that disclosure of market risks exposes the bank's loopholes to its competitors thereby giving the competitors an advantage. Majority of monetary authority combine both EMH and theory of banking regulation as they advocate for disclosure through regulation and monitoring of banks so that depositors' funds are not exposed to risky activities, but at the same time gives room for competition as a way of enhancing efficient allocation of resources and financial sector growth.

For example, according to CBK guidelines, risks are warranted when they are understandable, measurable, and controllable and within a financial institution's capacity to readily withstand adverse results. Sound risk management systems enable managers of financial institutions to take risks knowingly, reduce risks where appropriate and strive to prepare for a future that cannot be predicted with absolute certainty. Due to their

conflicting interests, different users of the same measure will rarely reach a consensus about how to rank an object of interest. This generally implies that a good measure of disclosure quality should reach a sort of “consensus” among different classes of users about how to rank the object of interest and should be validated in terms of reliability and validity (Beretta and Bozzolan, 2008; CBK, 2004).

The debate focuses on how different users of annual reports can be provided with risk management information that enables them to assess the risk profile of firms. When public disclosure of appropriate information occurs, it results in transparency, which enables the users to make judgements about a bank’s performance and especially its risk profile. If risk disclosures are improved, this assists bank supervisors in monitoring for impending problems and hence enables them to take earlier action (Linsley et al, 2006). CBK (2004) management guidelines outline the minimum coverage and elements of a comprehensive risk management program which should at least contain the following elements of a sound risk management system: Active board and senior management oversight; adequate policies, procedures and limits; adequate risk monitoring and management information systems (MIS); and adequate internal controls.

In general, banks’ disclosure should be consistent with how senior management and board of directors assess and manage the risks of the bank. Schrand and Elliott (1998) concluded that companies have no incentives for voluntary disclosures about risk because of lack of empirical research into potential linkages between the cost of capital and risk disclosure.

Whereas this study focuses on risk disclosure measurement using bank characteristics, there are other methods of measuring risk disclosure, including three popular quantitative approaches: sensitivity analysis, value-at-risk (VAR), and tabular presentation method. VAR provides a summary statistic of the order of magnitude of potential losses due to market risk. VAR summarizes the effects of leverage, diversification and probabilities of adverse price movements (Jorion, 2002). It employs various assumptions to generate scenarios of forward-looking changes in underlying market risk factors and the resultant distribution of future profits and losses on the derivatives portfolio (Sribunnak and Wong, 2004). Sensitivity analysis presents the estimated loss from derivatives and other financial

instruments as a result of hypothetical changes in the underlying financial rates or prices. The estimated losses can be expressed in fair values, cash flows or earnings. The tabular presentation provides fair values and related contract terms that are sufficient to determine future cash flows by maturity dates for each of the next couple of years and an aggregate amount thereafter.

2.3.2 Market Risk Disclosure Approach

Raghavan (2003) defines market risk as the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange and equities as well as the volatilities of those prices. On the other hand, CBK management guidelines describe market risk in a banking organization as the possibility that the outcome of an action or event could bring up adverse impacts on the financial institution's capital or earnings (CBK, 2010). Such outcomes could either result in direct loss of earnings/capital or may result in imposition of constraints on the bank's ability to meet its business objectives. Market risk is made up of two components: Interest rate risk and Foreign exchange risk. Interest rate risk as defined by CBK guidelines is the current or prospective risk to earnings and capital arising from adverse movements in interest rates while Foreign exchange rate risk is the current or prospective risk to earnings and capital arising from adverse movements in currency exchange rates. The potential for loss arises from the process of revaluing foreign currency positions in shilling terms (CBK, 2010).

Changes in Interest rates affect a financial institution's earnings by changing its net interest income and the level of other interest-sensitive income and operating expenses. Changes in interest rate also affect earnings, value of assets, liabilities, off-balance sheet items and cash flow. Hence, the objective of interest rate risk management is to maintain earnings, improve the ability to absorb potential loss and to ensure the adequacy of the compensation received for the risk taken (Raghavan, 2003). Foreign exchange rate risk is the current or prospective risk to earnings and capital arising from adverse movements in currency exchange rates. It is the risk that a bank may suffer loss as a result of adverse exchange rate movement during a period (CBK, 2008). In summary market risk is the risk of losses arising from adverse movements in market prices.

The Canadian Generally accepted accounting principles (GAAP) prescribe a sensitivity analysis for market risks to which an entity is exposed to at the reporting date. This should illustrate how profit or loss and equity would have been affected by 'reasonable possible' changes in the relevant risk variable as well as the methods and assumptions used in preparing such an analysis.

A commercial bank should not only prioritize market risk disclosure, but should also be seen to disclose market risks in a visible manner that will be helpful to all stakeholders including banks' customers (Alexander, 2008). Prioritization of risks by commercial banks relates to the extent to which a disclosure is useful to the stakeholders while the visibility of disclosure is the presence of market risk disclosure in Management analysis and is discussions, financial reports and media reports amongst other tools of communication. Visibility will also entail the format in which market risk disclosure is made: Narrative descriptions or quantified data or a combination of both.

2.3.2.1 BASEL II Requirements on Market Risk Disclosure Approach

Pillar 3 of Basel II, otherwise referred to as the market discipline approach, encourages market discipline by developing a set of market disclosure requirements which will allow market participants assess the capital adequacy of an institution. Market discipline may be defined as actions by stakeholders to both monitor and influence the actions of entities to improve their performance (Bliss and Flannery, 2002). Market discipline proposes a common framework as an effective means of informing the market about a bank's exposure to risks and provides a consistent and understandable disclosure framework that enhances comparability (Ozdemir and Miu, 2009). Arguments in favour of pillar 3 include Saidenberg and Schuermann (2003) who observe that this pillar provides a set of necessary checks and balances by seeking to promote market discipline through enhanced transparency.

Lopez (2003) criticizes Basel II pillar 3 saying that the requirements of effective market discipline are not discussed instead the section discusses in great detail what information on a bank's financial and risk positions need to be disclosed to the public. Commercial banks have been given the scope to determine which disclosures are relevant based on the

materiality concept (CBK, 2004). Information is regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions (Ozdemir and Miu, 2009). In addition, according to Karl (2005), the bank's management should use its discretion in determining the appropriate medium and location of the disclosure so that the disclosure does not seem to give competitive edge to other parties but the disclosing bank. In situations where the disclosures are made under accounting requirements or are made to satisfy Stock Exchange listing requirements, banks may rely on them to fulfill the applicable Pillar 3 expectations. In these situations, banks should explain material differences between the accounting or other disclosure and the supervisory basis of disclosure (Hoelscher, 2006).

Avenues such as publicly accessible internet websites or in public regulatory reports filed with bank supervisors are mainly used by commercial banks to provide non mandatory disclosures. This is consistent with the requirements of national supervisory authorities (Karl, 2005). If information is not provided with the accounting disclosure, institutions should indicate where the additional information can be found (SEB Group, 2009). Whereas these disclosures are required semi-annually, qualitative disclosures that provide a general summary of a bank's risk management objectives and policies, reporting system, and definitions may be published on an annual basis (SEB Group, 2009). In addition, Cordella and Yeyati (1998) write that proprietary information need not be disclosed in specific items, but should be disclosed in general terms together with the fact that, and the reason why, the specific items of information have not been disclosed. Proprietary information is one that, if shared with competitors, it would render a bank's investment in its products and/or systems less valuable, and hence would undermine its competitive position. This limited exemption is however not intended to conflict with the disclosure requirements under the accounting standards. Pillar 3 applies to the consolidated level of the banking group and not the individual banks within the group.

Critics of Basel II include King and Sinclair (2001) who argue that Basel II will be costly for banks to implement, and will benefit some institutions at the expense of others. Banks expect to incur higher capital charges under Basel II, as well as high costs in terms of management time, staffing and IT expenses in order to implement the new accord. In

addition, Basel II will encourage an uneven playing field by offering a competitive advantage to financial services firms not covered by the Accord. These are the investment banks, brokerage firms, asset management and finance companies, who will benefit at the expense of the regulated banks.

2.3.2.2 The Central Bank of Kenya's Requirements on Risk Disclosure

CBK Risk Management Guidelines require that the Risk Management Committee should exist within a commercial bank and should report directly to the Board of Directors in order to ensure its independence (CBK, 2010). The functions of the Risk Management Committee are to identify, measure, monitor and control the risks undertaken by a financial institution. This committee ensures that a bank is managed in the right manner so that it does not expose the depositors' funds to risks arising from mismanagement engaging in risky activities. Raghavan (2003) defines Market risk as the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange and equities as well as the volatilities of those prices. Market risk is made up of Interest rate risk and foreign exchange risk both of which are explained below.

2.3.4.1 Interest Rate Risk

CBK Risk Management Guidelines define Interest rate risk as the current or prospective risk to earnings and capital arising from adverse movements in interest rates. Changes in interest rates affect a financial institution's earnings by changing its net interest income and the level of other interest-sensitive income and operating expenses (CBK, 2010).

The goal of Interest rate risk management is to maintain a financial institution's interest rate risk exposure within self-imposed parameters over a range of possible changes in interest rates. As CBK (2008) mentions, sound interest rate risk management involves the application of four basic elements in the management of assets, liabilities and off-balance-sheet instruments: appropriate board and senior management oversight; adequate risk management policies, procedures and limits; Interest rate risk measurement and monitoring systems; and comprehensive internal controls and independent audit department.

CBK (2004) advises that the specific manner in which a financial institution applies these elements in managing its interest rate risk will depend upon the complexity and nature of its holdings and activities as well as on the level of interest rate risk exposure. What constitutes adequate interest rate risk management practices can therefore vary considerably according to the SEB Group (2009).

2.3.4.2 Foreign Exchange Risk

CBK risk management guidelines define foreign exchange risk as the current or prospective risk to earnings and capital arising from adverse movements in currency exchange rates. The potential for loss arises from the process of revaluing foreign currency positions on both on-and off-balance sheet items, in shilling terms. All financial institutions are required to formulate a sound foreign exchange risk management framework that according to Froot and Scharfstein (1994) and CBK (2010) encompasses: the board and senior management oversight; policies, procedures and limits; risk identification and measurement, monitoring and management information systems; and internal controls.

CBK ensures that foreign exchange traders and dealers observe their instructions and the code of behaviour required of them and that the accounting procedures meet the necessary standards of accuracy, promptness and completeness (CBK, 2010). A commercial bank should decide which disclosures are relevant for it based on the materiality concept. Information is regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions. In addition, disclosed information is quality information if it leads to better inferences from analysts and supports better estimates of future earnings (Smith, 2001).

2.3.2.3 The IFRS Requirements on Risk Disclosure

IFRS became effective for annual periods beginning on or after 1 January 2007 (Nandakumar et al., 2010). All commercial banks in Kenya have their financial periods beginning on 1 January of every calendar year, therefore IFRS was effected on 1st January 2007. Users of financial statements need information about an entity's exposure to risks

and how those risks are managed and indeed greater transparency regarding those risks allows users to make more informed judgments about risk and return. Blankley, Lamb and Schroeder (2002) state that there should be disclosure of both qualitative and quantitative information about a bank's exposure to risks arising from financial instruments including specified minimum disclosures about credit risk, liquidity risk and market risk. IFRS 7 paragraph 33 states that for qualitative disclosures, an entity should declare each type of risk arising from financial instruments, the exposure to those risks, and the bank's policies and processes for managing those risks.

Adler and Dumas (1984) identified a weakness with IFRS in that the standards are silent in addressing the steps a firm should take in the event it experiences market risk while Othman and Ameer (2009) add that although a large number of companies show compliance with IFRS in relation to disclosing market risks there are systematic differences across companies in terms of the level of disclosure details both qualitative & quantitative.

2.3.2.4 Measurement of Risk Disclosure

There are two widely accepted methods of analyzing data according to Marston and Shrives (2004): The Disclosure Index Approach method and Content Analysis Approach method. Disclosure Index Approach is a method that constructs a list of selected items which must be disclosed in the company report – the disclosure index. An index score is then calculated against that list (Ku Ismael & Chandler 2005). A researcher may decide to weight the items in the disclosure index in order to take account of the fact that some items are viewed as more important than others (Marston and Shrives, 1991). Disclosure Index Approach has however been disqualified by Ku Ismael and Chandler (2005) because of its impracticality in analysing narrative disclosures stating that although some disclosures are mandated, the content and comprehensiveness of narrative disclosures are often at the discretion of the preparer.

Content Analysis Approach on the other hand has been defined by Guthrie et al, 2004 as a technique for gathering data which involves codifying qualitative and quantitative information into pre-defined categories in order to derive patterns in the presentation and

reporting of information. Usually the amount of disclosure is measured by counting the frequency at both the category and element levels. Content analysis assumes that frequency indicates the importance of the subject matter (Krippendorff, 1980).

A researcher has the option of counting words, sentences or paragraphs in a report to determine frequency. Zeghal and Ahmed (1990) argue that by using the number of words, instead of the number of sentences or pages in Content analysis, the volume of disclosure may be recorded in greater detail while Linsley et al. (2006) believe that content analysis should be done through counting risk and risk management phrases. Beretta and Bozzolan (2004) take a neutral stand, noting that the best disclosure analysis method is one that presents the best quality of disclosure. They argue that the quality of disclosure is measured by the quantity of information disclosed and the appropriateness or usefulness of that disclosure information.

While there are various scientific methods of measuring market risk, including Value-at-Risk and Sensitivity analysis. Some studies, including Cordella and Yeyati (1998), Linsmeier et al. (2002), Ku Ismail and Chandler (2005) and Linsley et al (2006) have preferred using bank specific characteristics to measure market risk disclosure amongst banks. This study uses bank specific characteristics to measure market risk disclosure because this is a field that is not commonly explored in the Kenyan market.

2.4 Empirical Literature

This section specifically reviews studies on the relationship between firm characteristics and risk disclosure in general. Further, the section presents some of the studies on determinants of disclosure since specific studies on market risk disclosure are limited. However, some of the studies reviewed are also specific on market risk disclosure determinants. The section then presents a the hypotheses tested in the study.

2.4.1 Bank Characteristics and Market Risk Disclosure

Linsmeier *et al.* (2002) on the other hand hypothesized that 10-K report on market risk disclosures, mandated by the SEC, reduced depositors' uncertainty and diversity of opinion on market risk. Their findings supported the hypothesis that 10-K reports led to

decline in trading volume sensitivity among users of information. Ku Ismail and Chandler (2005) took a different route when examining the extent of market risk disclosure in quarterly reports of Malaysian listed companies. They hypothesized that profitability, growth, and leverage of a company were positively associated with extent of market risk disclosure. However, according to their findings only leverage of a company had a significant association with extent of disclosure and the relationship was positive.

Linsley *et al.* (2006) decided to examine market risk disclosure practices within annual reports of Canadian and UK banks. These countries were chosen because of the advanced state of risk disclosure debate within their respective countries. The study hypothesized that Canadian banks would disclose similar amounts of risk information as their UK counterparts as matched by size, profitability, leverage and quantity of risk definitions. They hypothesized that there would be a positive association between the size of the bank and total quantity of disclosures; there would be a positive association between the relative profitability of the bank and the total quantity of risk disclosures; there would be a positive association between leverage and the total quantity of risk disclosures; and finally there would be a positive association between the quantity of risk definitions disclosed and the total quantity of risk disclosures. Their findings rejected the hypothesis that there was an association between market risk disclosure and bank's profitability. Similarly, there was no association between market risk disclosure and leverage levels of a bank.

Othman and Ameer (2009) on the other hand investigated the market risk disclosure practices among Malaysian listed firms, specifically the level of compliance with FRS132: financial instruments – disclosure and presentation for financial periods beginning or after 2006. Their findings were that although a large number of companies showed compliance with FRS132 in relation to disclosing financial risk management policy, there were systematic differences across companies in terms of level of details on qualitative & quantitative disclosures.

Kanto and Schadewitz (2003) examined how non-earnings information affect a firm's market risk beta. Non-earnings information was quantified by two indices: one for overall disclosure and the other for purely voluntary disclosure. The data was divided into four

categories reflecting the quality of disclosure. The study found that the effect of disclosure on beta nonlinear with the data of interim reports submitted to the Helsinki Stock Exchange in the years 1985–1993. The findings showed that, during and after the event, the cross-sectional betas varied in all the classes of disclosure examined. Specifically, the betas were statistically significant mainly in the low quality disclosure class. This indicated that in the remaining disclosure groups firm-specific-factors, rather than aggregate market development, explained the riskiness of a firm's equity.

Chavent, Ding, Fu, et al. (2006) sought to introduce a divisive (descendant) clustering method, which splits the sample into homogeneous sub-groups corresponding to disclosure patterns (or profiles), for clearer determination of the financial characteristics of each group. This methodology was illustrated by a study of disclosure on provisions by large French firms. The results showed that the disclosure pattern was related to provision intensity, size, leverage and market expectation, but not to profit, return and industry.

Nwaeze and Kalelkar (2014) investigated factors that explain the disclosure of Directors and officers liability (D&O) insurance. Using a sample of firms from 2004 to 2008, the study focused on level of competition, threat of increase in lawsuit, and internal governance to examine the determinants of the disclosure practices. Consistent with the hypothesis, the results showed that firms in competitive industries, firms with a high threat of lawsuits, big firms, and firms with weak internal governance were less likely to disclose D&O insurance. The study further found that variations in the scope and nature of disclosure were associated with the firms' litigation risk and governance structure.

Khlif and Hussainey (2014) noted that the empirical literature on the determinants of risk disclosures offers mixed results and therefore did a meta-analysis of studies on the relationship. The study analyzed the findings of 42 empirical studies using a meta-analysis technique. They examined whether differences in the findings were attributable to random error or due to legal and institutional systems, uncertainty avoidance, disclosure regime (mandatory vs. voluntary), industry types, and the proxies used to measure corporate characteristics. The study found that all moderators affected the relationship between corporate size and risk reporting. Legal system, disclosure regime, industry types, and leverage ratio measurement moderated the association between

leverage ratio and risk disclosure. Industry types and uncertainty-avoidance level affected the relationship between profitability and risk disclosure. Finally, the association between risk factor and risk disclosure was moderated by industry types.

Gao, Dong, Ni, and Fu (2015) examined the determinants and economic consequences of non-financial disclosure quality, which was measured according to the ratings of corporate social responsibility (CSR) disclosure provided by the Ministry of Economic Affairs in the Netherlands. The study found that firms with better CSR performance, greater external financing needs, and stronger corporate governance tend to provide higher quality CSR disclosures. In return, these firms gain greater analyst coverage, higher levels of institutional ownership, greater stock liquidity, higher valuations in SEOs, and lower yields to maturity in bond issuances. These benefits apply largely to firms with strong CSR performance. Collectively, the findings suggest that higher quality CSR disclosures deliver economic benefits.

Yen, Li and Chen (2015) examined how product market competition affects firms' narrative disclosures of Item 1A Risk Factors in 10-K filings. They found that firms in more concentrated industries tend to disclose a greater quantity of narrative risk information. Besides, such firms provide risk disclosures more similar to those of their competitors, hence reducing the quality of the disclosure. They also documented similar findings for idiosyncratic risk disclosure, which is inherently more firm-specific. The results imply that firms in more concentrated industries avoid divulging risk information in their narrative disclosures by disclosing more similar information rather than by reducing the amount of risk disclosure.

Cordella and Yeyati (1998) examined the relationship between market risk disclosure by banks and the probability of bank failures. They noted that one would expect informed depositors to exert a tighter control on commercial banks, penalizing risk-taking behaviour by demanding returns on deposits proportionate to the banks' risk exposures. Further, they hypothesized that public disclosure may induce massive runs from one bank to another thus leading to negative feedback on the bank that discloses its market risk. Their findings were that when banks have complete control over the volatility of their loan portfolio, public disclosure reduces the probability of banking crises. However, when

banks do not control their risk exposure, the presence of informed depositors may increase the probability of bank failures.

Tripe, McIntyre and Wood (2009) examined retail depositors' knowledge of foreign ownership in the New Zealand banking market, and their attitudes towards the risks of foreign-owned banks. They found that respondents do not perceive foreign banks to be a great deal more risky, although it is not clear that respondents identify the long established, incumbent banks as being foreign-owned.

2.4.2 Hypothesis Development

The association between these independent variables and the extent of market risk disclosure is based on the notion that managers have more information about the value of a firm than outside depositors (Ku Ismael and Chandler, 2005). The association between independent variables and the extent of disclosure is based on the notion that managers have more information about the value of a firm than do depositors. (Ku Ismael and Chandler, 2005). There are various ways of measuring the size of a commercial bank, including turnover, total assets, market capitalization, number of bank branches and number of active accounts amongst others. As there is no theoretical reason to favour one measure over the other (Hackston and Milne, 1996), this study will adopt Linsley et al. (2006) by the use of market capitalization to measure the size of a bank.

On the association between size of the bank and market risk disclosure, most studies have found an association between the two variables. For instance, Linsley *et al.* (2006) found a positive association between size and market risk disclosure. Chavent, et al. (2006) also found that size of the firm was associated with market risk disclosure. Further, Nwaeze and Kalelkar (2014) revealed that size of the firm influenced disclosure. Thus, the study settles on the following hypothesis:

Hypothesis 1: *There is a positive association between the size of the bank and the total quantity of market risk disclosures.*

A highly profitable bank is likely to signal the market its superior performance by disclosing more information (Cooke, 1989). This study acknowledges that net profit is not

a good measure of profits because it does not give a level playing ground to commercial banks of different sizes. This study, therefore adopts Singhvi and Desai (1971) measurement of profitability as net profit against turnover, which is a good measurement of profitability for the different sizes of banks.

Regarding the relationship between profitability and market risk disclosure, the results from empirical studies are generally mixed. While Chavent, et al. (2006) found that returns were associated with market risk disclosure, the study by Linsmeier *et al.* (2002) did not find any significant association between profitability and market risk disclosure. Further, Linsley *et al.* (2006) found that there was no association between profitability and market risk disclosure. This leads to the following hypothesis:

Hypothesis 2: There is a positive association between the relative profitability of the bank and total quantity of market risk disclosures.

This study measures leverage in terms of the ratio of debt to total assets, as employed by Ku Ismail and Chandler (2005). Several studies have found an association between leverage and market risk disclosure. For instance, Linsmeier *et al.* (2002) found a positive and significant association between leverage and market risk disclosure. Chavent, et al. (2006) found that leverage was strongly related with market risk disclosure. Ku Ismail and Chandler (2005) also found an association between leverage and market risk disclosure for banks. However, Linsley *et al.* (2006) found no association between leverage and market risk disclosure. Thus, the study settles on the following hypothesis:

Hypothesis 3: There is a positive association between leverage of a commercial bank and total quantity market risk disclosures.

Cordella and Yeyati (1998) found that when banks do not control their risk exposure, the presence of informed depositors may increase the probability of bank failures. Tripe et al., (2009) found that knowledge of retail depositors influenced by they perceived bank risks and therefore may influence market risk disclosure by banks. This leads to the following hypothesis:

Hypothesis 4: *There is a positive association between depositors' knowledge and total market risk disclosures.*

2.5 Conceptual Framework

This framework is partly derived from studies by Linsley et al (2006) who hypothesized that there is a positive association between market risk disclosure and size of a bank; Singhvi and Desai (1971) who hypothesized that there is a positive association between market risk disclosure and profitability of a bank; and Ku Ismail and Chandler (2005) who hypothesized that there is a positive association between market risk disclosure and leverage of a bank. Figure 2.1 below provides a conceptual model of the hypothesized relationship between independent variables of size, profitability, leverage and depositors' knowledge.

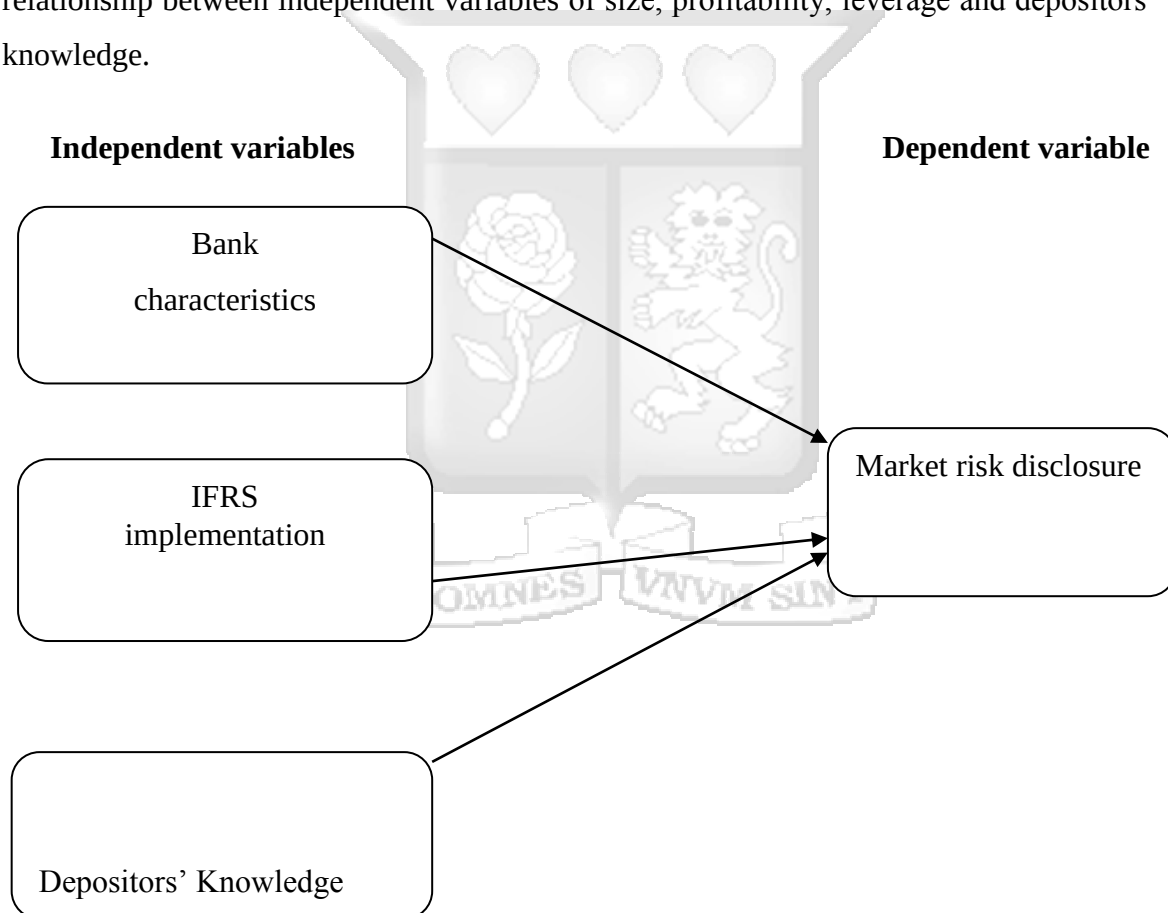


Figure 2.1: Conceptual Framework

Source: Lindsey et al., (2006)

In measuring the extent of disclosure, only items that are common and could be disclosed by all companies become the basis of measurement (Ku Ismail, 2006). Several bank characteristics, including growth, size, profitability and leverage have been used to measure the extent of disclosure and they include growth, size, profitability and leverage of a bank. The association between these independent variables and the extent of market risk disclosure is based on the notion that managers have more information about the value of a firm than outside depositors (Ku Ismael and Chandler, 2005).

Growth of a company: Growth is generally associated with good management and performance and high growth companies are likely to disclose more information to highlight the good news and give confidence to investors (Ku Ismail, 2005). It is argued that management of a company with good prospects is willing to inform investors of its growth opportunities (Kanto and Schadewitz, 1997). Schadewitz and Blevins (1998) measure growth as the percentage change in net sales for the current period compared to the previous period.

The size of the bank: There is a positive association between the size of the bank and the total quantity of Market Risk disclosures (Linsley et al, 2006). Depositors have an expectation that larger banks should be providing more disclosures because they have the resources to do so. Larger banks also have more stakeholders who have more varied needs and consequently are expected to respond to those needs or expectations.

Profitability: A highly profitable firm is more likely to signal to the market its superior performance by disclosing more information (Cooke, 1989). Management with good news is likely to disclose more information than management with bad news (Naser, 1998). Linsley et al. (2006) argues that those commercial banks that are better at risk management will have higher levels of relative profitability and that they will then want to signal their superior risk management abilities to the market place via disclosures in the annual reports. On the other hand, management with low profitability may provide less information to cover up the reasons for losses or reduced earnings (Singhvi and Desai, 1971).

Leverage: From the perspective of agency theory, Jensen and Meckling (1976) argued that higher monitoring costs would be incurred by firms that are highly leveraged. To reduce the monitoring costs, it is expected that firms that are highly leveraged would disclose more information in their financial reports. Thus, the relationship between leverage and the extent of disclosure is expected to be positive. Ku Ismail and Chandler (2005) hypothesized that highly leveraged firms disclose more information in the quarterly reports compared with the lowly leveraged firms.

Depositors' knowledge: Stakeholders not at risk would have little or no incentive to monitor and influence their banks and thus have little if any, use of the information disclosed about the financial performance of the banks (Kaufman, 2003). Cordella and Yeyati (1998) hypothesized that informed depositors would exert a tighter control on commercial banks, penalizing risk-taking behaviour by demanding returns on deposits commensurate with the banks' risk exposures. The relationship between depositors' knowledge and extent of disclosure is therefore expected to be positive. Market risk disclosure offers a gauge of risk exposure through which depositors form their judgment regarding a bank's risk taking (UK's Financial Services Authority, 2006.) Rational depositors should demand high compensation to commensurate with the bank's risk taking activities. In the absence of relevant information, individual depositors cannot make informed decisions and would be exploited unfairly by bank management who would be in a better position to know the true market risk position of the bank. This kind of asymmetric information is a major source of market imperfection (Gannon, 2009). For this reason, disclosure requirements, both mandatory and voluntary, have been a major tool used to reduce information asymmetries in the financial markets. The theory is that, in a market with symmetric information, depositors would be able to access the market risks that their banks face and decide if those risks exceed their risk preference. To minimize asymmetric information requirements, depositors should be well informed when making their investment decisions and should be periodically updated with all relevant developments. This is generally known as *caveat emptor*, or "let the buyer beware" (Gannon, 2009).

Including all these bank characteristics would make the independent variables far too many to be of service in the development of a practical disclosure strategy (Parviainen et

al, 2001). This study will focus on bank characteristics of size of the bank, profitability of the bank, leverage of the bank and depositors' knowledge. Growth of a bank has been omitted because to measure it, one compares outcomes of two different financial reporting periods while ignoring external factors like political climate, world economic recessions amongst other factors which are out banks' control. Corporate governance, market maturity and culture of a bank have also been eliminated because there is no existing data in the Kenyan market that can be measured.

Table 2.1: Operationalization of Variables

INDEPENDENT VARIABLES	MEASUREMENT / OPERATIONALIZATION	AUTHOR
Market Risk disclosure adequacy	Counting the number of market risk disclosure phrases that appear in the narrative materials that accompany the financial statements.	Linsley et al (2006)
Bank characteristics	Size of bank, profitability of a bank and leverage of a bank	Ku Ismail and Chandler (2005), Linsley et al (2006),
Size of bank	Measured by value of Market capitalization. The values used are obtained from NSE	Linsley et al (2006)
Profitability of bank	Profit after tax over Turnover. The values used are obtained from the financial reports	Singhvi and Desai (1971)
Leverage of bank	Ratio of debt to Total assets. The values used are obtained from the financial reports	Ku Ismail and Chandler (2005)
Depositors' knowledge	Identification and usage of market risk disclosure information through use of questionnaires	Author

2.6 Conclusion

This chapter reviewed market risk and disclosure requirements mandated by the regulator (CBK), financial accounting standards (IFRS) and Basel II. Empirical studies by various authors have been reviewed after which hypothesis and conceptual framework were developed. Independent variables of size, profitability and leverage were identified from previous studies as good measurements of market risk disclosure while depositors' as a measure of market risk disclosure was developed by the study. While data for the first three independent variables of size, profitability and leverage will be obtained from the financial statements, data on depositors' knowledge will be obtained through the use of questionnaires.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the research methodology used in this research. The chapter is organised as follows. First, the research design used is explained. Secondly, the target population of the study is described. Then, the chapter presents the sample selection and size used. The process of data collection and the tools are then described. Finally, the data analysis process is presented. This includes the explanation of the model used in the study.

3.2 Research Design

This study employed a descriptive survey design. The aim of the study was to explore the relationship between bank characteristics and market risk disclosure in Kenya. According to Mugenda & Mugenda (2003) the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. Borg & Gall (1996) note that descriptive survey research is intended to produce statistical information about aspects of a study that interest policy makers.(it form of study design which tries to explain a phenomena using three variables, place time and persons).

3.3 Target Population

The target population for this study comprised all commercial banks in Kenya. According to CBK (2011), there were 43 commercial banks in Kenya as at 1st January 2011, from which the sample is chosen. The population of the study was therefore 43 commercial banks in Kenya.

3.4 Sampling and Sample Size

The study selected a sample size of nine banks listed in the Nairobi Securities Exchange (NSE). This sample of listed banks was selected because market capitalization data which is critical to this study could only be obtained on those banks that are listed. There were

11 listed banks on the NSE which formed the sample for this study, representing 26% of the whole population of commercial banks operating in Kenya. Two banks were however eliminated because one listed bank was acquired by an unlisted bank during the period under review while the second bank was eliminated because the data could not be obtained for the entire period under review. The final sample for this study was therefore 7 banks, which represented a 64% of listed banks. A total of ten bank depositors were targeted per bank giving a sample size for questionnaire administration to be 70.

3.5 Data Collection

This study used both primary and secondary data. Primary data was gathered using questionnaires which were administered to depositors of the nine commercial banks listed in NSE. For a respondent to be selected for this research, he must have been an account holder for a period of not less than three calendar years. This period of three years was based on the assumption that such an account holder would have some financial opinion on his bank regardless of how minuscule. On specific days, the researcher randomly selected 10 bank depositors for each of the banks and administered the questionnaire. Of the initial sample of 70 respondents, 62 of them agreed to take part in the survey but only 55 responded to all the questions. The effective response rate was therefore 79%. Secondary data was collected from three sources: annual audited financial, notes to financial accounts and NSE. The annual audited financial accounts provided data on operating income, assets and liabilities values and profit after tax. Narrative materials that accompany the financial accounts include notes to the accounts, chairman's and CEO's reports. NSE provided market capitalization figures for the listed banks. This research was longitudinal since data collected was for a period of 6 years, that is, financial years ending 2004 – 2009. The periods 2004 to 2006 were before adoption of IFRS while periods 2007 to 2009 were after the adoption of IFRS by commercial banks. This time frame helps answered research objective 2 of comparing market risk disclosure patterns before and after adoption of IFRS. The time frame was long enough to be representative of listed commercial banks disclosure patterns.

3.6 Data Analysis

All secondary data were coded then analyzed using SPSS software. A total of 55 responses were entered into SPSS for both descriptive and regression analyses. To test hypotheses 1, 2, 3 and 4 (the levels of association between the total number of risk disclosures and the independent variables of size, profitability, leverage and depositors' knowledge) the following model was adopted for the study:

This model was adopted partly from Linsley et al (2006) and Ku Ismail and Chandler (2005). It holds that:

$$\text{Market Risk Disclosure} = \alpha + \beta_1 \text{Size} + \beta_2 \text{Profitability} + \beta_3 \text{Leverage} + \beta_4 \text{depositors' knowledge} + \varepsilon$$

Where:

Market Risk Disclosure = the extent of disclosure measured by the total number of disclosure risk and risk management sentences

Size = size of a commercial bank measured by market capitalization

Profitability = profitability of a company, measured by profit margin (i.e. Net income/ turnover),

Leverage = capital structure (leverage) of a company measured by the ratio of debt to total assets,

Depositors Knowledge = Ability to identify market risk and use that information in decision making

α and β_i = constant/ parameters to be estimated, $i = 1$ to 4,

ε = margin of error

CHAPTER FOUR

RESEARCH FINDINGS

4.1 Introduction

This chapter presents the findings of the study from the analysis of data collected. The chapter is organized as follows. The first section presents results on the effect of bank characteristics and customer knowledge on market disclosure. This is followed by a presentation of results on market risk disclosure patterns before and after IFRS adoption. Then, a presentation of results on depositors' knowledge and use of market risk disclosure information.

4.2 Market Disclosure, Bank Characteristics and Customer Knowledge

The study sought to establish the relationship between bank characteristics, depositors' knowledge, and market disclosure. To achieve this objective, the four hypotheses were tested using a linear regression analysis. The results are presented in Table 4.1

Table 4.1: Market Disclosure, Bank Characteristics, and Depositors' Knowledge

Goodness of fit			
Adjusted R Square	0.673		
F- Statistics	24.76	0.001	
Independent Variable	Coefficient	T-Statistic	P-Value
Constant	1.605	0.194	0.847
Size	-0.208	-1.169	0.252
Profitability	3.8608	3.331	0.002**
Leverage	-2.167	-0.23	0.82
Customer knowledge	1.405	11.257	0.000***

Dependent Variable: Market Disclosure

Source: Author

First, diagnostic analysis evaluated the degree to which the regression model can be relied upon for analysis. The results above show that adjusted *R*-square was 0.673 meaning that 67% of variation in market disclosure was explained by bank characteristics and customer knowledge. *F*-statistic of 24.76 was found to be significant at 5% level ($p = 0.001$). This means that at least one coefficient in the model is significantly different from zero. Therefore *F*-statistic and adjusted *R*-square result prove that the model has predictive and

analytical power. A correlation matrix did not reveal any large correlations between the independent variables. Thus, no multicollinearity was detected.

The size of the bank had a negative relationship with market risk disclosure ($\beta = -0.208$). However, this relationship was insignificant at 5% level ($p = 0.252$) as the p-value exceeds the critical p-value of 0.05. This shows that size of the bank does not influence market risk disclosure. Therefore, *H1* was not confirmed. These results are inconsistent with prior findings. Specifically, the results are inconsistent with those of Linsley *et al.* (2006), Chavent, et al. (2006) and Nwaeze and Kalelkar (2014) who had found that size of the firm influenced market risk disclosure. This can be attributed to the fact that the sample firms in the study were almost of similar size and therefore the lack of significant differences in their sizes did not influence their market risk disclosure.

The results show that profitability had a positive relationship with market risk disclosure ($\beta = 3.8608$). This relationship was significant at 5% level ($p = 0.002$) as the p-value was less than the critical p-value of 0.05. This shows that the profitability of a bank positively influences market risk disclosure of a bank. Therefore, *H2* was confirmed. The results are consistent with the findings of Chavent, et al. (2006) who found that returns were associated with market risk disclosure. This means that banks with higher returns are therefore more likely to disclose their market risks than those lowly performing banks.

The study found that leverage had a negative relationship with market risk disclosure ($\beta = -2.167$). The relationship was insignificant at 5% level ($p = 0.820$) as the p-value exceeded the critical p-value. The results show that leverage does not influence market risk disclosure. Therefore *H3* was not confirmed. These results are consistent with the findings of Linsley *et al.* (2006) who found no association between leverage and market risk disclosure. The banks in the sample were not significantly different in terms of their leverages. This may, therefore, explain the lack of a significant contribution of leverage on market risk disclosure practices of the banks surveyed.

The results also show that customer knowledge had a positive relationship with market risk disclosure ($\beta = 1.405$). This relationship was not significant at 5% level ($p = 0.000$) as the p-value is less than the critical p-value. This shows that depositors' knowledge has

a positive influence on market risk disclosure. Thus, *H4* was confirmed. This is consistent with Cordella and Yeyati (1998) hypothesized that informed depositors were expected to exert a tighter control on commercial banks, penalizing risk-taking behaviour by demanding returns on deposits proportionate to the banks' risk exposures. Linsley and Shrivs (2005) add that if shareholders and other interested parties are to understand the risk profile of the firm, they need to receive information about the risks a firm faces and how the directors are managing those risks. The result reconfirms that depositors significantly depend on market risk disclosure to make decisions about their deposits thereby agreeing with Gannon (2009) that to minimize asymmetric information requirements, depositors should be well informed when making their investment decisions and should be periodically.

4.3 Disclosure Patterns Before and After IFRS Adoption

The second objective of the study was to undertake a comparative analysis of market risk disclosure patterns benchmarking with IFRS. Data from financial reports, notes accompanying financial reports and information from NSE was used. Three years before IFRS adoption (2004, 2005 and 2006) and three years after IFRS adoption (2007, 2008 and 2009) were analyzed. The correlation of dependent variable of market risk disclosure and independent variables of size of a bank, profitability and its leverage before IFRS adoption are presented in table 4.2 3 show correlation before and after adoption of IFRS respectively.

Table 4.2: Market Risk Disclosure Patters Before and After IFRS Adoption

	Before IFRS				After IFRS			
	Disc	Size	Prof	Lev	Disc	Size	Prof	Lev
Disclosure	1.00				1.00			
Size	.011	1.00			-.454*	1.00		
Profitability	.273	.038	1.00		.285	.332	1.00	
Leverage	-.377*	.372*	-.184	1.00	-.082	.313	-.053	1.00

*Correlation is significant at the 0.05 level (2-tailed)

Source: Author

The results in table 4.2 show that before the adoption of IFRS in financial institutions, the market risk disclosure of a bank and its size had a positive correlation of 0.11 with a probability score of 0.945. Since 0.945 is greater than 0.05, this implies that there is no

statistically significant correlation between the market disclosure and bank size. In other words, an increase in market risk disclosure is not significantly due to an increase in size of the bank. Thus, before IFRS adoption, market risk disclosure was not associated with the size of the bank. After the adoption of IFRS, the correlation between size of a bank and market risk disclosure is -0.454 with the p value of 0.030. This means that after the adoption of IFRS, the effect of size on market risk disclosure becomes negative; for every unit increase in size of a bank, market risk disclosure reduces by 0.454 units. One conclusion that can be drawn from this is that after the adoption of IFRS, all banks are bound to disclose all market risks they face regardless of their sizes.

The results also show that before adoption of IFRS, the extent of market risk disclosure and the profitability of a bank have a positive correlation of 0.273 with a probability score of 0.093 which is greater than 0.05. After the adoption of IFRS, the correlation between the market risk disclosure and profitability is 0.285, an increase of only 0.012 units compared to pre-IFRS adoption period. This shows that after the adoption of IFRS, more profitable banks disclose slightly more market risks that they face than they did before adopting IFRS. However the p-value is above 0.05 which indicates that increase in market risk disclosure is not significantly due to increase in profitability of the bank.

The study found that before IFRS adoption, the correlation between leverage and market risk disclosure is -0.377 which is a weak negative association. It means that when leverage of a commercial bank increases, market risk disclosure decreases by 0.377. The correlation of the two variables is seen to have a significance level of 0.018 which is less than 0.05 meaning that there is statistical significance between the leverage of a bank and its market risk disclosure. The results of the correlation between market risk disclosure and bank leverage after the adoption of the IFRS is still negative as was before the adoption of IFRS. After the adoption of IFRS, the study found that the association between market risk disclosure and leverage of banks was -0.082. This can be construed to mean that more leveraged banks are beginning to disclose more which could be as a result of IFRS compliance. However since the p-value of 0.712 is greater than 0.05, it means change in market risk disclosure is not significantly due to increase in leverage.

In summary, these results show that before the adoption of IFRS by commercial banks in Kenya, larger banks and more profitable banks disclosed more market risks that they faced but more leveraged banks disclosed less compared to the less leveraged banks. The correlation values show that the extent of increase in size and profits before the adoption of IFRS was not significant. This may be attributed to the fact that at this period, banks had no obligation to disclose market risks that they faced. After the adoption of IFRS by commercial banks in Kenya, larger banks disclosed less market risks than smaller banks, profitable banks disclosed more market risks than less profitable banks and leveraged banks declared less than less leveraged banks.

4.4 Depositors' Knowledge and Use of Market Risk Disclosure Information

The last objective of the study was to establish if depositors make use of market risk disclosure information in decision making. Through use of questionnaires respondents were asked: what risks they were familiar with; sources of information on risk; whether, in their opinion, banks declared risks and if they had any use of that declared information.

Cordella and Yeyati (1998) hypothesized that informed depositors would exert a tighter control on commercial banks, penalizing risk-taking behaviour by demanding returns on deposits commensurate with the banks' risk exposures. Stakeholders not at risk would have little or no incentive to monitor and influence their banks and thus have little if any use of the information disclosed about the financial performance of the banks (Kaufman, 2003). The relationship between depositors' knowledge and extent of disclosure was therefore hypothesized to be positive.

4.4.1 Risks Identified by the Respondents as Affecting Banks

CBK (2010) Risk management survey shows that commercial banks have a higher level of institutional risk awareness unlike before with the highest response rates for the risks rated by the institutions being: Strategic risk 81%, Operational risk 93%, Credit risk 95% and Market risk 100% amongst other risks. Figure 4.1 shows the risks that the respondents to this study are familiar with.

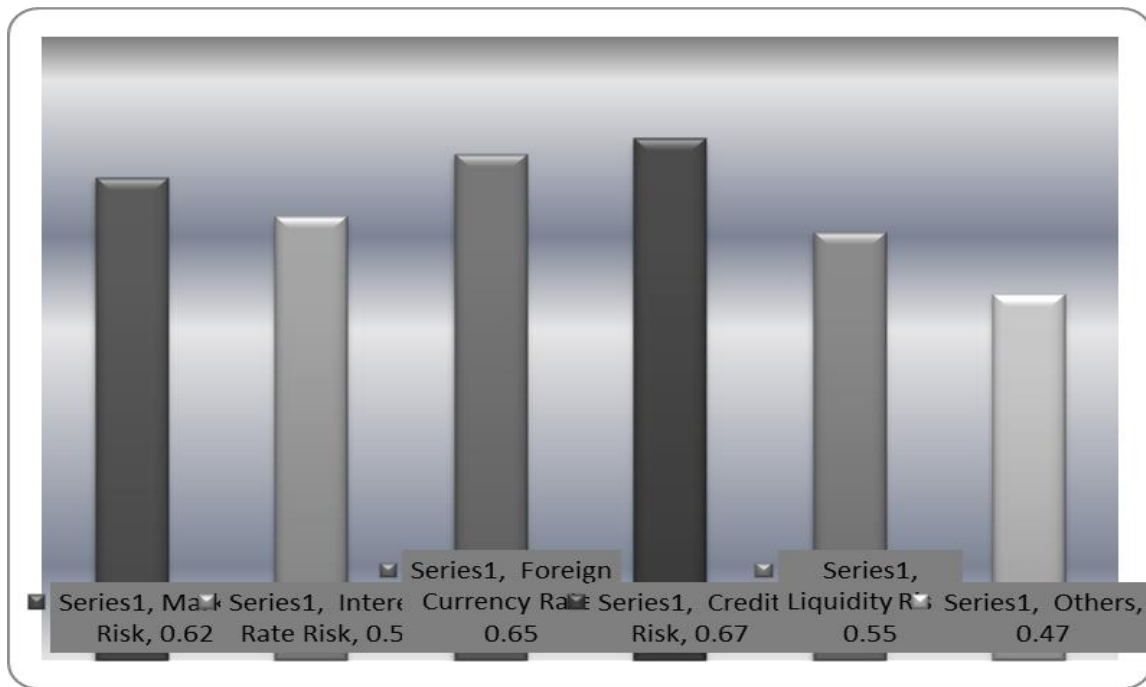


Figure 4.1: Degree of risk awareness among respondents

Source: Author

In this question, respondents had the freedom to identify more than one risk. As indicated in figure 4.1, the response rate was as follows: 67% of the respondents were familiar with credit risks, 65% foreign currency risk, then market risk known by 62%. Interest rate risks and liquidity risks were also recognized by the respondents given that 57% and 55% of them were familiar with them respectively. 47% of the respondents were familiar with other risks which included operational risks, transaction risks, country risks and reputation risks.

4.4.2 Respondents' sources of information on the identified risks

Given the familiarity with the risks, the study sought to know the respondents' source of information concerning the risks. As established by the study, most of the respondents got their information from the media with newspapers and television being the biggest informants. Figure 4.2 below gives the respondents' views.

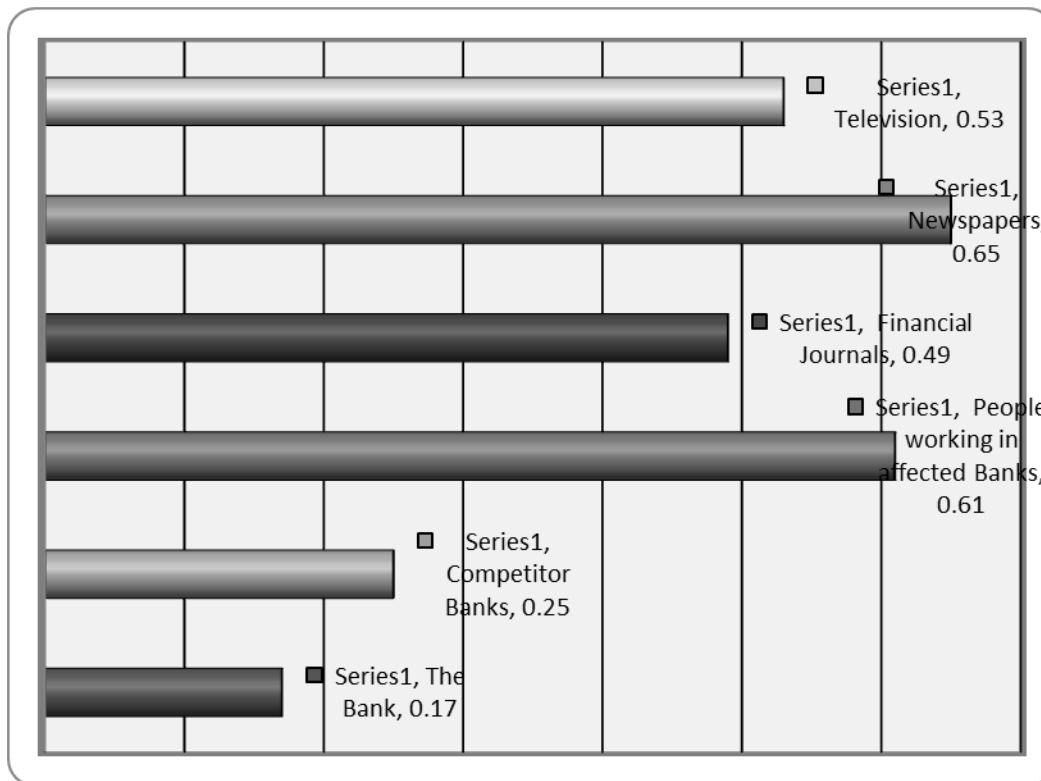


Figure 4.2: Sources of information about risks

Source: Author

Others had financial journals (49%), competitor banks (25%) and finally from own banks (17%). Conclusion from this observation is that the banks are not doing much to ensure that their risks are disclosed as the respondents rated the banks as the least source of their information. It seems the media have experts who are able read and interpret banks' disclosure information then relay it in simple terms to the public.

4.4.3 Determining whether banks declare Market Risks to depositors

Narrowing down to market risks, the respondents were asked if they were aware that their banks made disclosures.

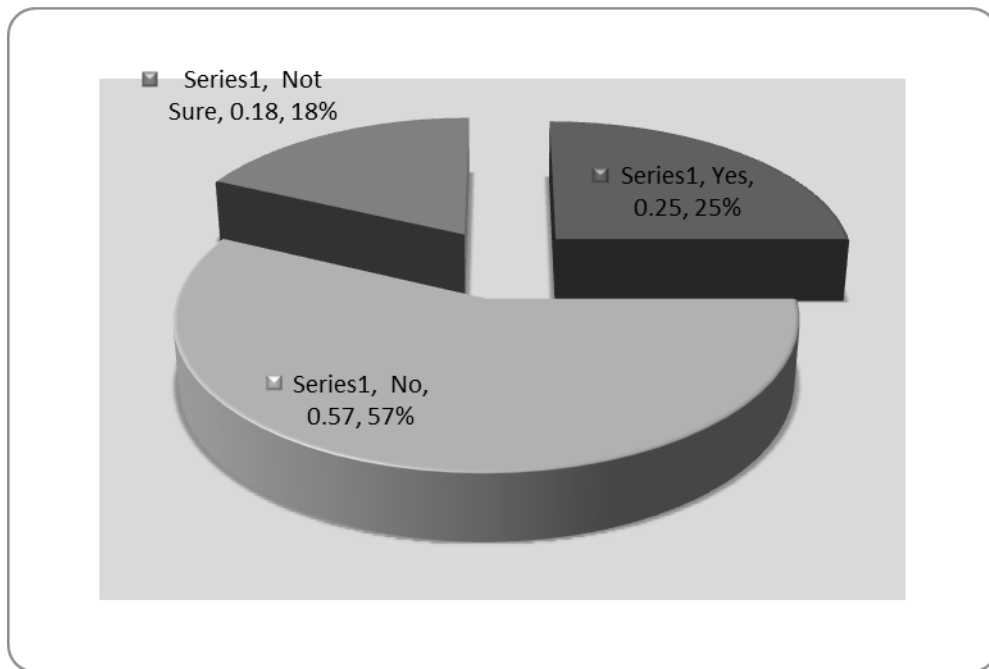


Figure 4.3: Whether banks declare market risks

Source: Author

It was revealed that only a small percentage of the respondents (25%) were aware that their own banks disclose market risks. Fifty seven per cent of the respondents said that their banks do not declare market risk while 18% were not sure. This can be interpreted to mean that a majority of banks are afraid of disclosing their risks just as Cordella and Yeyati (1998) argue that public disclosure may induce massive runs from one bank to another. Karl (2005) adds that disclosure of market risks exposes a bank's loopholes to its competitors thereby giving the competitors an advantage.

4.4.4 Usefulness of market risk disclosure information to depositors

Finally the study probed if the information on market risk disclosure was useful to the respondents for purposes of decision making. The results are depicted in figure 4.4 below.

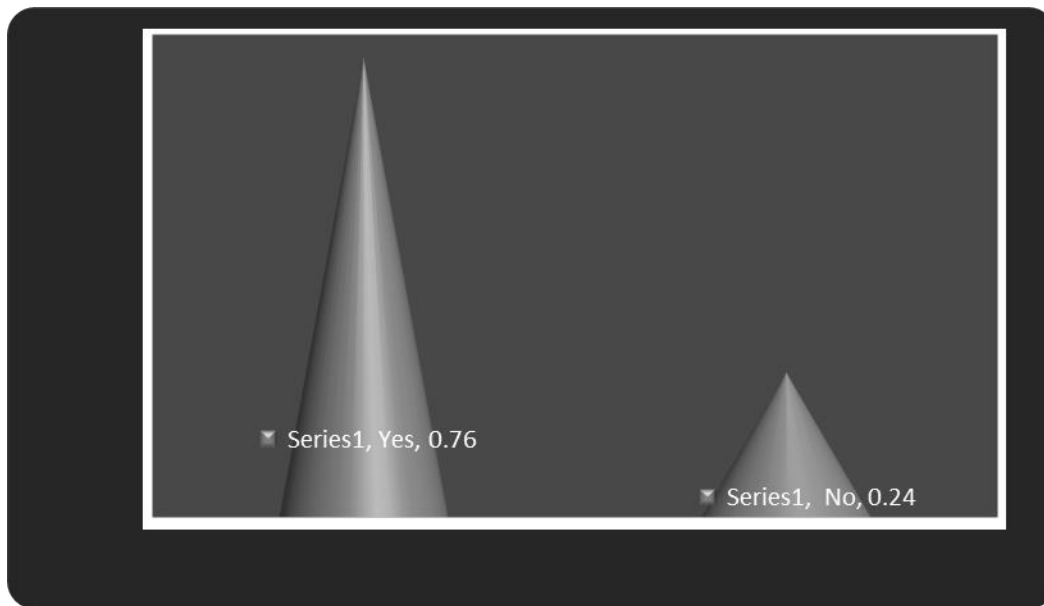


Figure 4.3: Is information on market risk disclosure useful to depositors

Source: Author

76% of the respondents said that information on market risk disclosure was important to them and that they use it to evaluate the nature and extent of the risks and understand the risk profile of the banks.

4.5 Conclusions

This chapter sought to analyze both primary and secondary data. Primary data was obtained through use of questionnaires while secondary data was obtained from financial accounts, notes to financial accounts and from NSE. Conclusions drawn from the data show that 68% of variations in market risk disclosure by banks can be explained within the model. Size and leverage of the bank were found to be insignificant at 95% level of confidence while depositors' knowledge and profitability were found to be significant predictors of market disclosure. During pre-IFRS adoption period, larger banks and more profitable banks disclosed more market risks that they faced therefore supporting the hypothesis that larger and more profitable banks declare more market risks compared to smaller and less profitable banks.

Highly leveraged banks, on the other hand, disclosed less compared to the less leveraged banks therefore disputing the hypothesis that highly leveraged banks disclose more than less leveraged banks. After adoption of IFRS by commercial banks in Kenya, larger

banks disclose less market risks than smaller banks. More profitable banks continue to disclose more market risks than less profitable banks while highly leveraged banks have lower market risk disclosure levels compared to less leveraged banks. The willingness of highly profitable banks declaring more market risks that they face supports Cooke (1989) who stated that a highly profitable firm is more likely to signal to the market its superior performance by disclosing more information (Cooke, 1989). Another conclusion drawn is that after adoption of IFRS, all banks are mandated to disclose all the market risks that they face hence size of a bank ceases being a benchmark for quantity of market risk disclosure. Depositors on the other hand place value on market risk disclosure information in decision making.



CHAPTER FIVE

SUMMARY FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes objectives of the study, findings, conclusions, limitations and recommendations of the study.

5.2 Summary of the Findings

This study sought to establish the extent to which market risk disclosure is associated with banks' characteristics of risk disclosure, undertake a comparative analysis of market risk disclosure patterns before and after adoption of IFRS by the banks and to establish if depositors make use of market risk disclosure information in decision making. Four bank characteristics were established, size, profitability, leverage and depositors' knowledge. The summary is presented based on the study's research questions.

5.2.1 Extent to which market risk disclosure is associated with banks' characteristics of risk disclosure

The first objective of the study was to establish the relationship between the independent variables of: size of the bank; profitability and the leverage and dependent variable of market risk disclosure. Findings show that the variation in market risk disclosure can be explained to an accuracy level of 68% by the independent variables (size, profitability and leverage). Profitability and customer knowledge were found to be significant at 95% level of confidence while leverage and size of the bank were found to be insignificant. It was established that a unit increase in the extent of profitability was found to increase market risk disclosure by 3.86 holding all others constant. A unit increase in customer deposit was found to increase market disclosure by 1.405.

5.2.2 Analysis of market risk disclosure patterns benchmarking with IFRS

The second objective was to establish the difference in disclosure patterns of banks between the pre IFRS period and the post IFRS period. The study found that before the adoption of IFRS in banks, the market risk disclosure of a bank and its size had a perfect

correlation of 0.11, the extent of market risk disclosure and the profitability of a bank were found to have a perfect correlation of 0.273 while the correlation between leverage and market risk disclosure was found to be -0.377. After the adoption of IFRS, the correlations have changed significantly to -0.454 between size of a bank and market risk disclosure, 0.285 between market risk disclosure and profitability of the bank while the correlation between the leverage of the bank and market risk disclosure after the IFRS is -0.082. This implies that after adoption of IFRS highly profitable banks continue to declare more market risks that they face while size of bank is no longer an indicator of quantity of market risk disclosure

5.2.3 Significance of market risk disclosure information to depositors

In the last objective, the study aimed to establish the significance of the risk disclosure information to depositors. The findings show that the relationship between market risk disclosure and the depositor knowledge is a perfect positive ($R=0.824$). Market risk disclosure can be explained by the depositors' knowledge of the bank by 68% based on the findings of the R^2 of 0.679. The coefficients on the other hand depicted that a unit increase in depositors' knowledge led to a subsequent increase in market risk disclosure by 1.405 units.

5.3 Conclusions

Given the high predictability power of the regression model, market risk disclosure can be explained by the independent variables namely size, profitability, leverage variables and customer knowledge. However, size and knowledge were found to be insignificant. One of the plausible explanations is the fact that most of the listed commercial banks are tier I banks and therefore are relatively large with regards to size and asset base. The study concludes that market risk disclosure in commercial banks in Kenya is influenced by leverage and customer knowledge.

The second objective sought to establish the difference in disclosure patterns of banks between the pre IFRS period and the post IFRS period. The study concludes that before the adoption of IFRS in banks, both size and profitability of a bank had positive effects on market risk disclosure while leverage of a bank had negative effect on market risk

disclosure. After the adoption of the IFRS, the study concludes that significant changes occurred in the effects of bank's size, profitability and leverage to market risk disclosure. The effect of size of the bank to market risk disclosure becomes negative while profitability increases by some small margin. The leverage of the bank on the other hand increased as well.

In the last objective, the study aimed to establish the significance of the risk disclosure information to depositors. From the findings, the study concludes that there is a perfect positive relationship between market risk disclosure and the depositor knowledge. Depositors put a lot of importance in the extent of risk disclosure information in decision making.

5.4 Limitations

The sample used in this study is not big enough. Only 7 banks out of 43 banks in existence were studied. Further studies should be done with a broader sample. Another limitation was that only 4 bank characteristics of risk disclosure were studied. More bank characteristics should be studied.

5.5 Recommendations

The study makes a number of recommendations. First, listed banks should aim to increase their market risk disclosure levels because depositors place a great deal of value in them when making decisions. Banks should also embrace the adoption of IFRS because, through the adoption of the standards, better disclosure principles are followed.

Secondly, the study recommends that for since higher profitability signals more market risk disclosure. Thus, firms should strive to improve on their profitability as they would be perceived to be disclosing market risk information more than those less profitable firms.

Since size of the bank does not influence market risk disclosure, the study recommends that smaller banks have no reason not to disclose market risk information by citing their

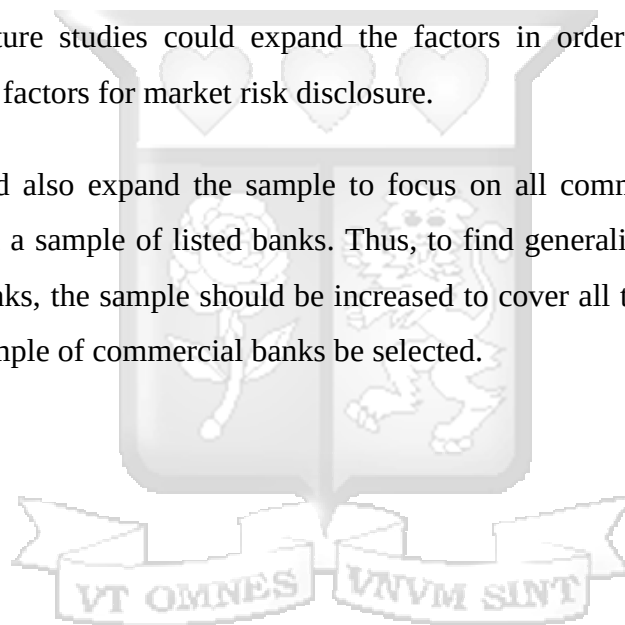
size as a disadvantage. Market risk disclosure should therefore not be dependent on the size of the firm.

Lastly, the study recommends that since leverage does not influence bank disclosure of market risk, banks should disclose market risks regardless of their levels of leverage. Thus, market risk disclosure of banks should be key for all banks, no matter their varied levels of leverage.

5.6 Suggestions for Further Research

More studies need to be done to examine other factors that may influence market risk disclosure. In this study, the focus was on firm specific factors and depositors' knowledge. Thus, future studies could expand the factors in order to find out more elaborate determining factors for market risk disclosure.

Further studies should also expand the sample to focus on all commercial banks. The present study selected a sample of listed banks. Thus, to find generalizable determinants of for commercial banks, the sample should be increased to cover all the banks in Kenya or a representative sample of commercial banks be selected.



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APPENDICES

Appendix I: Introduction letter

I am a student at Strathmore University pursuing Masters Degree in Commerce. In partial fulfilment of the requirements of this course, I am carrying out a research on the effects of bank characteristics on market risk disclosure. This research will help depositors make informed judgment on whether commercial banks engage in risky activities that might lead to loss of their funds

I am hereby requesting that you fill the attached questionnaire to the best of your knowledge. All information you provide in this questionnaire will be kept confidential and only used for purposes of this research. No name or identifying information is required. Thank you.

Yours faithfully

MILLICENT WAHOME



Appendix II: Research Questionnaire

1. Amongst the following risks that affect banks, which one are you familiar with?

(Please tick)

Market risk

☐

Interest rate risk

☐

Foreign currency risk

☐

Credit risk

☐

Liquidity risk

☐

Operational risk

☐

2. Identify the sources from which you learnt about these risks.

From Your bank

☐

From a competitor bank

☐

From media

☐

From other sources (specify)

.....

.....

- 2 In your opinion, does the bank you have an account with declare these risks that you are familiar with?

Yes

☐

No

☐

Not sure

☐

3 If yes, what medium does your bank use to communicate these risks?

State:

4 Is the information on disclosure of risks useful to you?

Yes

☐

No

☐

5 If yes in Question 5 above, please indicate how (Optional question)

.....
.....
.....



Appendix III: Listed Commercial Banks in Kenya

1. Barclays Bank of Kenya
2. CFC Stanbic Bank
3. I&M Holdings
4. Diamond Trust Bank
5. Housing Finance
6. Kenya Commercial Bank
7. National Bank of Kenya
8. NIC Bank
9. Standard Chartered Bank
10. Equity Bank
11. The Cooperative Bank of Kenya

