EFFECT OF CAPITAL STRUCTURE ON EQUITY RISK PREMIUM OF LISTED COMMERCIAL BANKS IN KENYA

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DECLARATION

This research project is my original work and has not been presented for any award in any other university

Sign _____ Date: 28/11/2023

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

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DEDICATION

To my daughter, Amanda Nuru Etonga, always strive to do better and to appreciate and achieve the limitless bounds of your potential.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
ARDL	Autoregressive Distributed Lag
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
ERP	Equity Risk Premium
GARCH	Generalized AutoRegressive Conditional Heteroskedasticity
GLS	Generalized Least Squares
GMM	Generalized Method of Moments
KBA	Kenya Bankers Association
LTA	Logarithm of Total Assets
MM	Modigliani-Miller Theorem
MPT	Modern Portfolio Theory
NSE	Nairobi Securities Exchange
SPSS	Statistical Package for Social Sciences
WACC	Weighted Average Cost of Capital

ABSTRACT

Where the capital structure has a higher composition of equity, a firm experiences low market risk which leads to a lower equity risk premium. Commercial banks in Kenya have experienced high fluctuations in their capital structures with a reduction in average equity risk premium among the listed banks in Kenya. This survey assesses the effect of capital structure on equity risk premium of listed commercial banks in Kenya. This survey utilized correlational, descriptive and longitudinal research designs. The population of the study comprised the twelve banks that were listed on Kenya's Nairobi Securities Exchange (NSE) between 2017 and 2021. The researcher collected secondary data mined from annual reports of the banks sourced from the Central Bank of Kenya (CBK). The researcher gathered data using a collection sheet. This study used both descriptive and inferential statistics for analysis. The researcher used F statistics to conduct significance tests. From the regression coefficients, a unitary increment in capital structure would increase the equity risk premium of listed commercial banks. This survey concludes that capital structure possesses a direct bearing on equity risk premium of listed commercial banks in Kenya. However, an increment in capital adequacy had no substantial negative effect on the equity risk premium. The study concludes that capital adequacy possesses no substantial influence on equity risk premium among listed commercial banks in Kenya. Asset quality showed insignificant positive coefficient hence no substantial influence on equity risk premium. This survey concludes that asset quality of listed commercial banks in Kenya has no substantial effect on their equity risk premium. The outcomes also depicted that liquidity possessed an inverse link with equity risk premium. This directs the survey to a conclusion that liquidity possesses a positive effect on equity risk premium of listed commercial banks in Kenya. Management of listed commercial banks ought to increase equity levels within their banks; optimally reduce their core capital; optimally increase their non-performing loans (NPLs) as compared to the gross loans; and reduce their liquidity levels for increased equity risk premium.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Capital structure plays a key role in determining equity risk premium in a firm (Gergely & Rózsa, 2018). Equity and debt are the two basic sources of funding for a firm. According to the Modigliani-Miller Theorem (MM), a firm can be financed using either equity or debt. There is an optimal threshold of equity and debt funding beyond which the firm's weighted average cost of capital (WACC) increases. That said, the equilibrium around equity and debt is a problem that corporate finance experts have attempted to investigate (Chadha & Sharma 2015). The firm's capital structure plays a key role in determining expected rate of return. Capital structure has a major effect on an asset's intrinsic value which influences the equity risk premium within a firm. As per traditional capital theory, a company should finance itself with the right combination of equity and debt that lessens the equity risk premium and maximizes shareholder value (Damodaran, 2020).

This research would be centered on Modigliani and Miller (MM) capital structure theory, and current portfolios / Capital Asset Pricing Model (CAPM). Harry Markowitz proposed the Modern Portfolio Theories (MPT) in 1952. According to the hypothesis, traders can put together a portfolio of securities that optimizes the rate of return for one particular risk exposure. According to MM hypothesis, a corporation's capital structure has no bearing on its market price. The theory makes the supposition that investors behave sensibly and are therefore permitted to borrow at the exact costs that would be loaned in a free economy. Perold (2004) related CAPM theory to capital structure. The structure for linking the needed return on an investment to that investment's risks is stated in the paradigm. The CAPM is an idealistic representation of the way stocks are valued in money markets, which in response establishes projected returns on capital investment.

The listed banks in Kenya have been experiencing random changes in their capital structure (CBK, 2021). For example, in 2021, banks' capital and reserves increased by 10.7 percent while debt financing increased by 17.9 percent within the same year. This investigation established the effect of capital structure on equity premium of commercial banks. Banks have also experienced reduction in the equity risk premiums in recent years (KBA, 2021). The listed banks' equity risk premium reduced in 2021 with majority of the banks having an average return of less than 10%

(CBK, 2021). This creates the need to look at effect of capital structure on equity risk premium of listed commercial banks in Kenya.

1.1.1 Capital Structure

The exact ratio of debt to equity utilized to fund company's assets and activities is referred to as its capital structure (Miglo, 2016). From the point of view of a business, equity provides a costlier, long-term funding source with much more financing versatility. Structuring of money utilizing various long-term funding streams may be divided into two main categories: equity; and debt (Matsa, 2018). The amount and proportions of capital employed in financing an organization and sustaining its activities is capital structure. Capital is required for corporate investments and takeovers have an impact on a corporation's bottom line. When a company raises long-term financing, the ratio of company stocks is alluded to be capital structure (Ramli, Latan & Nartea, 2018). In this study, capital structure refers to the proportion of equity and debt within a company.

According to conventional capital structure theory, there exists a perfect blend of debt and equity financing for every business or venture that reduces the WACC and increases shareholder value. The ideal capital structure arises when relative costs of equity and debt are similar. A firm's market capitalization is influenced by its capital structure (Kurniawan, 2021). The efficient utilization of existing cash by a firm is ensured by an optimal capital structure that avoids over or under capitalization. Additionally, it aids the business in boosting shareholder returns, which assists in increasing the firm's earnings. There have been problems of companies more so financial institutions like banks having challenges in maintaining an optimum capital structure for researchers to be able establish its effect on equity risk premium (Sukma, Nurtina & Nainggolan, 2022).

Various researchers have differently measured capital structure. Debt to equity ratio is calculated by dividing total liabilities by total equity and was used by Hantono (2018); Atidhira and Yustina (2017); and Kurniawan (2021). Debt ratio was used by Sukma, Nurtina and Nainggolan (2022) to measure capital structure. Debt ratio is obtained by dividing total liabilities by total assets. On the other hand, Yanto, Christy and Cakranegara (2021) used equity ratio to measure capital structure of firms. Equity ratio is obtained by dividing total equity by total assets. This study measured capital structure through the equity ratio.

1.1.2 Equity Risk Premium

The percentage by which the return of a stock beats a risk-free investment in the long term is predicted by its equity risk premium (Berkel, 2021). By deducting projected expected return of risk-free bonds from projected expected return on equities, one arrives at the equity risk premium. An entrepreneur's extra return from stock market investments above a risk-free rate is known as the equity risk premium (Hodgson & Okune, 2021). Investors receive this yield as payment for accepting the greater risk that comes with equity investments. The discrepancy between projected positive return on equities as well as the projected real return on secure treasuries is used to compute its equity risk premium (Blitz, 2022). The return an asset delivers in excess of the risk-free rate is known as the equity risk premium, commonly known as simple equity premium. This is a basic aspect in economic models that explain portfolio optimization and securities market because high-risk assets ought to have higher projected yields.

The equity risk premium aids in setting asset allocation and portfolio return estimates (Damodaran, 2020). Larger premiums suggest that a shareholder might allocate a larger portion of their investment to equities. A project's equity risk premium is utilized to entice investors to make financial commitments. As an investment becomes riskier so does the risk premium increase. Of the numerous factors that traders consider prior to making an investment decision, equity risk premium is the most critical factor (Damodaran, 2019). It is difficult to estimate the equity risk premium in stock markets which experience high volatility levels.

By subtracting the projected asset return from risk-free return, the equity risk premium is determined. Sakkas and Tessaromatis (2022) measured equity risk premium through the difference between expected asset returns and risk-free return. Equity risk premium is also measured by subtracting the risk-free rate from expected market return. This measure was used by Blitz (2022); Ihalainen, Ahmed and Pätäri (2021); and Berkel (2021). Hodgson and Okunev (2021) used the capital asset pricing model (CAPM) to calculate the equity risk premium. In this study, the researcher measured equity risk premium as the difference between expected asset returns and the risk–free return.

1.1.3 Capital Structure and Equity Risk Premium

A corporation that is severely indebted typically has a highly levered capital structure, which increases the risks to stockholders (Lotfaliei, 2018). This risk can however be the main driver of a company's expansion. A shift throughout the capital structure affects the equity risk premium if the costs of borrowing differ from the costs of equity capital (Hundal, Eskola & Lyulyu, 2020). Since the costs of equity is normally greater than the cost of debt, its equity risk premium rises as equity financing is increased. This indicates that theoretically, optimal capital structure minimizes WACC while optimizing for the cost of debt and cost of equity.

Empirically, Bhamra, Kuehn and Strebulaev (2020) found that capital structure positively influenced equity risk premium. On the other hand, Dechow, Sloan and Soliman (2014) found that no significant relationship existed between capital structure and equity risk premium. Gergely and Rózsa (2018), however, found that an inverse correlation existed around capital structure and equity risk premium. This shows that capital structure and equity risk premium have produced conflicting relationships from the studies. This creates a knowledge gap that this investigation ought to fill by studying the two concepts together. This creates the need to research on capital structure and equity risk premium to establish their relationship within the Kenyan commercial banking sector.

1.1.4 Listed Commercial Banks in Kenya

The Banking Act, Central Bank of Kenya Act (CBK Act), and the Companies Act in addition to the various regulatory guidelines issued by CBK, serve to oversee, and regulate Kenyan financial firms involved in corporate operations. The CBK formulates and implements the monetary policy and nurtures the Kenyan banking sector. By 2021, Kenya had thirty-eight (38) commercial banks and one (1) mortgage financing company (Appendix I). Two (2) of the thirty-eight (38) commercial banks are majority-owned by the Kenyan government with the remaining banks operated by the private sector (Central Bank of Kenya, 2020). As of 2021, there were eleven (11) banks listed on the Nairobi Securities Exchange (Appendix II).

The commercial banks in Kenya have experienced an imbalance in their capital structure. Commercial banks are financed through equity which is a more permanent source of capital. However, the banking sector in Kenya has been facing financing challenges which has led to increased movement towards debt financing. This shows that the capital structure of commercial banks in Kenya has been evolving. Commercial banks in Kenya have also been

experiencing reduction in the equity risk premium. Majority of the banks have experienced negative equity risk premia (CBK, 2021).

1.2 Research Problem

A lower equity risk premium allows for greater financial risk acceptance, allowing for the use of more borrowed capital (Dechow, Sloan & Soliman, 2014). On the other hand, if the equity risk is significant, it is best to minimize the investment risk that will likely result from using more debt capital. The capital structure of a corporation that is substantially backed by debt is typically more aggressive, which increases the risk to investors (Gergely & Rózsa, 2018). Nevertheless, this danger can be the main factor driving the company's equity risk premium. Where the capital structure has a higher composition of equity, a firm experiences low market risk which leads to an increased equity risk premium (Bhamra, Kuehn & Strebulaev, 2020). This shows that capital structure is a key factor of equity risk premium within a company.

Commercial banking institutions in Kenya have experienced high fluctuation in their capital structure. In 2021, banking sector capital and reserves increased by 10.7 percent to Ksh.893.7 billion in December 2021 from Ksh. 807.5 billion in 2020 (CBK, 2021). The debt financing in the banks also increased by 17.9 percent in 2021 to Ksh. 247.45 billion from Ksh. 209.9 billion. This indicates that the composition of debt has been increasing more compared to the equity financing among the banks. They have revealed a reduction in their equity risk premium with majority of the banks having an average return of less than 10% (CBK, 2021). Though average equity risk premium among the banks in Kenya has fluctuated substantially in recent years, it tended to decrease through 2017- 2021 from 5.3% to 5.12 % in 2021. This has been attributed to increased market risk which has suppressed the equity risk premium. A higher-risk stock needs a high equity risk premium to be attractive to investors. An equity risk premium would enable the public to invest in the commercial bank’s shares which would in turn enhance the performance levels.

Research has been done in this area of research. For example, Cai, Li, and Cai (2019) did an empirical analysis of capital structure determinants in infrastructure projects under public–private partnerships. The study found that equity risk premium and capital structure have a negative relationship. Lotfaliei (2018) did an empirical review on studies on the variance of equity risk premium and capital structure and found a positive correlation around equity risk premium and

capital structure. Nevertheless, Hundal, Eskola and Lyulyu (2020) studied impacts of capital structure on firm performance and risk in Finland and found capital structure does not affect equity risk premium. This shows mixed results. Locally, Muthui, Baimwera and Mutegi (2017) did research on effects of capital structure on growth in interest bearing assets by commercial banks in Kenya; Kimoro (2019) studied influencers of capital structure choice of commercial banks in Kenya; Nasra (2021) studied firm specific determinants of capital structure of manufacturing companies at Nairobi Securities Exchange (NSE); while Nanua (2018) studied the effect of demographic transition on the equity risk premium in Kenya.

The studies indicate research gaps exist around capital structure and equity risk premium in banks. For example, Muthui, Baimwera and Mutegi (2017) focused on capital structure and growth in interest bearing assets; Kimoro (2019) looked at factors influencing capital structure choice, while Nasra (2021) studied firm specific determinants of the capital structure. These studies show conceptual gaps. On the other hand, Nasra (2021) based the study on manufacturers at the Nairobi Securities Exchange (NSE). This shows a contextual gap. Further, the studies showed methodological gaps. For example, Muthui, Baimwera and Mutegi (2017) focused on the period between 2010 and 2014 and Kimoro (2019) between 2004 to 2013. This study adopted the period between 2017 and 2021. Further, Kimoro (2019) adopted explanatory survey design rather than causal research design. Ochieng (2021) adopted primary data rather than secondary data while Nanua (2018) adopted Autoregressive Distributed Lag (ARDL) model rather than regression model. The question that this study addresses is what is the effect of capital structure on equity risk premium of listed commercial banks in Kenya?

1.3 Research Objective

To assess effect of capital structure on equity risk premium of listed commercial banks in Kenya

1.4 Value of the Study

This research may contribute to theoretical postulations by adding to capital structure theories in explaining equity risk premium. This study may support the assumptions of the theories. The study may also create a basis for criticisms of theories of capital structure and their application in equity risk premium. Scholars may also benefit from this research. They may utilize this study as a source of literature for their academic assignments. Other researchers will also benefit in that it may form a basis for further studies on capital structure and equity risk premium.

This research will benefit policy makers. This study may provide a basis for policy making relating to capital structure and equity risk premium among Kenyan commercial banks. Policy making will be based on the understanding of how capital structure affects equity risk premium among commercial banks. The policy makers who may benefit include CBK, NSE and the Capital Market Authority (CMA). These policies would be geared towards improving the equity risk premium among commercial banks through an optimal capital structure among the commercial banks.

The study will also contribute to practice. The management of listed commercial banks may find this paper important. This study may provide a basis for strategy formulation geared towards improved equity risk premium among their banks through improved capital structure. The recommendations from this study may also be adopted by the banks for improved equity risk premium. Investors within the banking sector may also benefit from this study. Understanding how the equity risk premium changes with capital structure of banks would enable them to make relevant investment decisions. This would be to increase returns on their investments.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section of the paper reviews scholarly works on capital structure and equity risk premium. This chapter contains theoretical review, determinants of equity risk premium of listed commercial banks, studies, conceptual framework and a summary of literature review.

2.2 Theoretical Review

This section reviews the theories on which this research is based on. This study reviewed three theories of capital structure which would enable the researcher to explain the effect of capital structure on equity risk premium.

2.2.1 Modern Portfolio Theory

Economist Harry Markowitz created Modern Portfolio Theory (MPT) in 1952. His ideas center on risks, diversification, investment relevance, and relationships across various stock types. It is a philosophy of investment that enables investors to put together a portfolio of assets that maximizes expected return for specific amounts of risk (Markowitz, 1952). Based on the hypothesis, investors always favour portfolios with lower risk for a given amount of projected return. The Modern Portfolio Theory states that larger projected returns are needed to cover elevated risk levels for investors. The hypothesis uses the fundamental principle of diversification, which states that maintaining a portfolio of assets across various categories is less hazardous than doing similarly with a portfolio of comparable assets (Markowitz, 1952).

The fact that portfolios are evaluated on variability instead of negative risks is a major critique of MPT (Lukomnik & Hawley, 2021). In a nutshell, variability is a measurement of volatility (or spread) of returns across times. The difficulty with MPT is also that two distinct portfolios might exhibit similar amounts of variance although for various causes. Investors are presumed to be risk-averse, logical, and possess realistic returns on investments according to Modern Portfolio Theory (Hu et al, 2019). Anybody who has followed the financial markets for whichever period is aware that emotions can sometimes lead to irrational behavior while making investments. Additionally, several investors could enjoy trying to take on even larger risks because they believe the benefits would be bigger.

The idea explains how expected return and risk of an investment in securities relate to this investigation. According to the idea, a security's expected return is equal to its risk-free return plus a risk premium calculated via the security's beta. This makes the theory relevant in that it would explain the correlation. The investigation assumes that a greater level of uncertainty should be offset by larger future returns, that constitute the equity risk premium. Modern portfolio theory specifies "anticipated investment returns," "accepted thresholds of riskiness," and demonstrates how to build an "optimal portfolio" employing statistical models and historical information. This would be defined by the level of debt or equity within the capital structure.

2.2.2 Modigliani and Miller Theory of Capital Structure

According to Modigliani-Miller (MM) theorem from 1958, a firm's capital structure has no bearing on its value. It proclaims that market worth is defined by present value of expected future income. The theory makes supposition that investors act reasonably but are permitted to take out loans at similar cost because they loan in a free economy. Additionally, it presupposes that there won't be any process-related transactional expenses. As per Modigliani and Miller (1958), it is the asset profitability and risks, not really the capital structure, that define the firm's worth.

Based on these assertions, the hypothesis is critiqued. According to the theory, both persons and businesses can obtain and loan money at the same interest rate. Though, this is not the case. Because businesses can borrow money at cheaper interest rates, an imbalance could develop throughout the normalization exercise (Hale, 2009). The arbitrage operation too is impacted by transactional fees. It is presumed in MM that there aren't any transactional costs involved with purchasing and selling stocks. As a result, the market does not have the requisite volume to buy and sell stocks. Nevertheless, a levered corporation must invest more money to generate more profitability due to the existence of selling and buying costs (Ogieva & Ogiemudia, 2019). The companies' market returns rise as a result. The Modigliani-Miller hypothesis clarifies how well a firm’s capital asset architecture, dividends, valuation, and equity risk are related. It also shows how financial institutions finance their operations, which raises the equity risk premium for shareholders. As per Modigliani and Miller (1958), it is the assets productivity and risks, not really the capital structure, that determines the firm's worth. This makes the theory relevant in that it explains how the capital structure relates to the risk within a firm.

2.2.3 Capital Asset Pricing Model

Contemporary finance was changed by CAPM. The concept, which William Sharpe, Jack Treynor, John Lintner, and Jan Mossin invented in the early 1960s, offered the initial cogent structure for connecting the necessary return on an investment towards the risks of such a venture. The CAPM presents an idealistic view of the way stock markets assess the value of assets and, consequently, forecast returns on capital investments (Perold, 2004). This theory supports present research in that it explains how equity risk premium is generated and relates it to the capital structure. The theory supports the assertion where the increased risks relating to capital are quantified and translated into estimates of expected return on equity explaining the way capital structure and equity risk premium relate.

The model's single period time horizon is undoubtedly a drawback. The wealth that an investment's portfolio generates at the end of the present period is therefore their main issue. In the actual world, traders want to use investments to secure their lifelong usage. Achieving the best possible investment selections by simply considering returns for the upcoming period is only possible given additional constraints (Armitage, 2005). Another objection is that modeling ought to only be founded on data which is projected to occur in the future, such as anticipated beta and rate of return. Moreover, a risk free asset does not really exist in real life. Risk exists in even government bonds, which serve this purpose in the CAPM's actual use (Užík, 2004).

2.3 Determinants of Equity Risk Premium of Listed Commercial Banks

2.3.1 Capital structure

The exact proportion of debt to equity utilized to fund a business' assets and activities is capital structure (Miglo, 2016). Equity is a costly, long-term source of funding with much more financial versatility for a business. The structuring of money using various long-term funding streams, that may be divided into two main categories, equity and debt (Matsa, 2018). How much capital is used to finance a company, finance its investments, and assist its activities is capital structure. Additionally, it might display corporate investments and purchases that may impact on overall bottom lines of a corporation. When a company raises long-term financing, the ratio of various investments is known as the capital structure (Ramli, Latan & Nartea, 2018).

2.3.2 Capital Adequacy

Capital plays a vital role in maintaining safety and sustainability of financial institutions and the financial sector (Almazari & Alamri, 2017). Capital adequacy refers to the amount of capital held in reserve relative to the financial firm ‘s loans and other assets (Federal Reserve Board, 2007). The most crucial component for the longevity and viability of banking organizations is capital adequacy (Ongore, 2012). A banking organization is considered to be adversely capitalized if it loans more money compared to the deposits. A scenario like this could result in the corporation filing for bankruptcy (Otwani, Namusonga, & Nambuswa, 2017). Fettahoğlu (2019) found that capital adequacy influences equity risk premium positively. This indicates that increased capital adequacy increases the risk premium through increased returns. On the other hand, Vu, and Dang (2020) found an inverse link around capital adequacy and equity risk premium. This shows mixed results on capital adequacy and equity risk premium.

2.3.3 Asset Quality

The credit risk level connected with loans and equity investments, additional real estate held, other assets, off-balance sheets transactions, and investments is characterized by the asset quality rating. Bad asset quality, commonly referred to as poor loan quality, is a crucial factor in asset management and a predictor of prospective banks’ profits. Non-performing loans or distressed borrowers are typically indicated by poor asset quality. Damodaran (2020) established positive but insignificant relationship around asset quality and equity risk premium. On the other hand, Wang, Zhou, Luo, and Ji (2019) established direct link around asset quality and equity premium. Shen (2021) found that inverse connection existed around asset quality and equity risk premium.

2.3.4 Firm Liquidity

Liquidity is the ease with which assets are changed to cash (Graham, 2010). Padachi (2016) recommends that for firms to have value, they ought to have a balanced liquidity. Liquidity ratios, Graham (2010) notes, are adopted in the assessment of liquidity. The most used are current ratios in addition to quick ratios. Investors will expect a larger ERP if they anticipate having to pay large transactions fees or having to incur a reduction from market prices when selling their investment. Insufficient liquidity is a problem for the investment. Market liquidity

fluctuates throughout time, for instance, liquidity declines during recessions or crises. When funds leave the equities market, liquidity decreases, and the ERP rises. Comparing liquidity to the equity risk premium has produced varied outcomes. Drechsler, Savov & Schnabl (2018) produced a direct outcome while Chen et al (2018) produced an inverse one.

2.4 Empirical Studies

Ochieng (2021) investigated the Kenyan commercial banks' market risk management and Basel III framework. Forty-two (42) commercial banks in Kenya were the subject of a survey method. Forty-two (42) risk management teams working at the forty-two commercial banks' headquarters made up the targeted demographic. Seventy-four percent (74%) of respondents responded (thirty-one, 31, out of forty-two, 42, banks). Utilizing surveys that were delivered to the forty-two (42) banks and then retrieved once the participants have responded, primary data was gathered. Quantitative data were analyzed via descriptive analytics, and qualitative data were examined via content analysis. The survey outcomes displayed a direct link around Basel III framework and market risk management techniques. The study looked at Basel III framework and market risk management other than relating capital structure with the equity risk premium. The study also adopted primary data with the current one adopting secondary data.

Nasra (2021) investigated the factors that manufacturing companies that are listed on the NSE had in their capital structures. The study utilized a descriptive survey methodology with numerical techniques, focusing on nine listed manufacturing companies in Kenya and using a census. Secondary sources were used to gather data, which was then examined via quantitive statistics. The investigation found that, for profitable manufacturing companies the equity risk premium relates positively with capital structure. This study focused on determinants of capital structure other than relating capital structure to equity risk premium. The study was conducted on manufacturing firms as opposed to commercial banks. He also adopted a descriptive survey design combining it with longitudinal and correlational design.

Hundal, Eskola and Lyulyu (2020) studied impact of capital structure on firm performance and risk in Finland. For the years 2011 to 2017, secondary data on fifty (50) large-cap Finnish public companies listed on the Helsinki Stock Exchange were obtained. The research's conclusions show that leverage has an adverse impact on most performance metrics. Nevertheless, it was concluded that the impact of leverage on non-financial indicators is

negligible. Corresponding to this, large levels of leverage increased equity risk premiums while having no impact on overall risk premiums. The study despite looking at capital structure, also relates it to firm performance and equity risk premium. The study also focused on large-cap Finnish public firms other than Kenyan commercial banks. The study also based analysis on data around 2011 and 2017 with present survey adopting data from 2017 and 2020.

An empirical examination of capital structure factors in infrastructure projects involving public-private partnerships was conducted by Cai, Li and Cai in 2019. To pinpoint the factors influencing capital structure, generalized least squares (GLS) regression analysis was used on data from 400 projects spread across twenty-two nations. Three project-specific factors—number of sponsorship, funders, and contractual arrangements well as four nation variables risk premium on borrowing, and bond market cap were found to be crucial. The study found that risk premium influenced capital structure negatively. The study looked at capital structure determinants other than capital structure and equity risk premium. The study was done on infrastructure projects rather than commercial banks. It also adopted cross-sectional data other than panel data. The study adopted generalized least-squares (GLS) regression while the current study adopted panel regression model.

A case study of Slovakia was used to examine how capital structure affects firm value by Valaskova, Lazaroiu, Olah, JSiekelova, and Lancova (2019). The Bratislava Stock Exchange provided the data for the investigation since the cost of capital calculation required access to publicly published data about businesses trading in stock markets. Owing to Slovakia's immature financial market, seventeen (17) stocks firms with all the necessary data that operate on the Slovak market were chosen for the investigation. The financial information for the businesses was gleaned through company accounting records for the years 2013 to 2017. The Pearson correlation and regression analysis were employed to examine the influence of the capital structure on equity risk premium. The research found an inverse link around capital structure and equity risk premium cost of capital. The survey was conducted on listed firms in Slovakia other than Kenyan commercial banks. The study involved all listed firms while the current involves listed commercial banks. The adopted data was collected between 2013 and 2017 rather than 2017 to 2021.

Othieno and Biekpe (2019) estimated the conditional equity risk premium in African frontier markets. Utilizing monthly datasets from 1998-2016, researchers relate the stochastic discount factor to conditional variance and employ the Bilinear GARCH (BGARCH) in spending stock valuation paradigm to forecast anticipated equity risk premium. The study concludes that conditional equity risk premium is different across African frontier markets. The study looked at conditional equity risk premium while the current related it to capital structure. This study adopted Bilinear GARCH model for analysis rather than panel regression model. The study used data collected between 1998 and 2016 with the current done between 2017 and 2021.

Lotfaliei (2018) did an empirical review on studies on variance risk premium and capital structure. A total of thirty-two (32) empirical studies across all the continents were reviewed and an analysis done. The study concluded that there is a negative correlation around leverage and the variance risk premium. The study reviewed empirical studies rather than focusing on data from annual reports. The study adopted model free regression rather than panel regression model.

The effect of capital structure on risk and company performance of Bucharest Stock Exchange listed companies was studied by Nenu, Vintilă and Gherghina (2018). On a panel of quoted companies , researchers used panel regression estimates and multivariable regression models for the economic study. The 2000 to 2016-time frame under study includes a phase in which the Romanian economy saw sizable changes. They demonstrated a direct link around leverage, firm size, and share price fluctuations. The debt structure, however, has a varied effect on the success of the company. It looks at capital structure on risk and firm performance instead of equity risk premium as is for the current study. The study also involved listed companies on Bucharest Stock Exchange rather than commercial banks at the NSE. The study also adopted GMM model for analysis rather than panel regression model. The period of data collection was 2000-2016 rather than 2017 -2021 as per the current study.

In Kenya, Nanua (2018) investigated the impact of demography change on the equity risk premium. The study reveals that fluctuations in the mean workforce has the biggest influence upon that equity risk premium centered on the Autoregressive Distributed Lag (ARDL) framework. The populace's age group of 25 to 39 has a negative impact on equity risk premium. The stock market returns change negatively when this cohort grows. However, it is discovered that the age group of 40 to 59 possessed favourable impact on equity risk premium. According to

the investigation 's findings, demographic changes in Kenya do have a considerable impact on equity risk premium, which is consistent with the life cycle concept. The study looked at demographic transition on the equity risk premium rather than capital structure and equity risk premium as per current research. The study adopted ARDL as the analytical model rather than panel regression model like the current one.

2.5 Summary of Literature Review

This study has considered studies from the local and international scene. The reviewed literature shows that numerous gaps occur on the study of the effect of capital structure on equity risk premium. Studies showed mixed outcomes on capital structure and equity risk premium. For example, Valaskova et al (2019) establish an inverse link around capital structure and equity risk premium while Nenu, Vintilă and Gherghina (2018) found that capital structure had a direct link with share price risk premium. Muthui, Baimwera and Mutegi (2017) displayed no link around capital structure and the risk premium.

The studies show gaps that this study seeks to fill. The studies focused on different concepts rather than capital structure and equity risk premium. For example, Muthui, Baimwera and Mutegi (2017) focused on capital structure and growth in interest bearing assets; Kimoro (2019) on factors influencing capital structure choice, while Nasra (2021) studied firm specific determinants of the capital structure. Further, studies were done in different sectors indicating contextual gaps. For example, Nasra (2021) based the study on manufacturers at the NSE. In addition, some studies adopted different methodologies indicating that methodological gaps exist. For example, Muthui, Baimwera and Mutegi (2017) focused on the period between 2010 and 2014; and Kimoro (2019) between 2004 to 2013. However, the current study adopted period between 2017 and 2021. Further, Kimoro (2019) adopted explanatory survey design rather than causal research design. Ochieng (2021) adopted primary data rather than secondary data while Nanua (2018) adopted Autoregressive Distributed Lag (ARDL) model rather than regression model.

2.6 Conceptual Framework

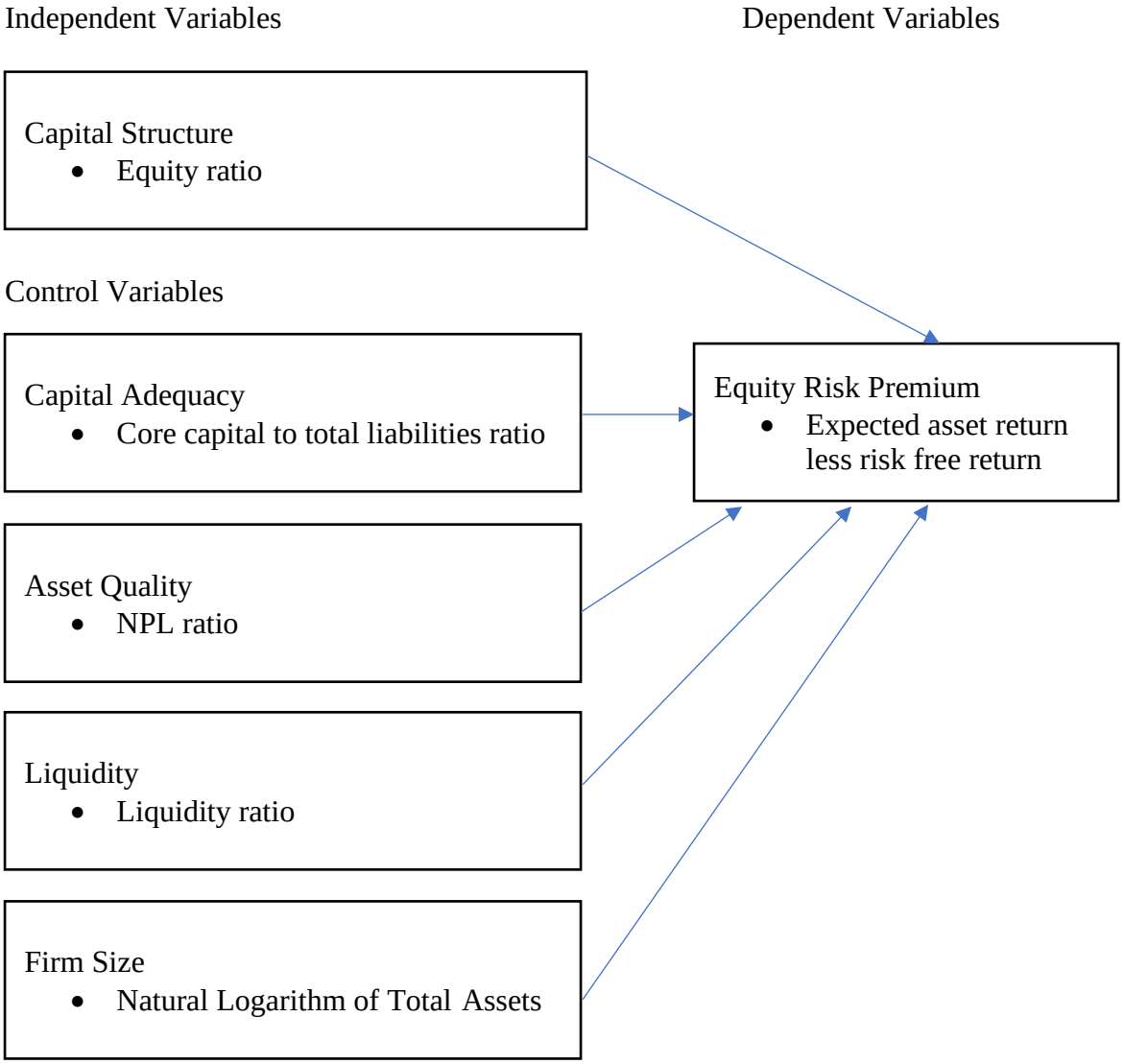

Figure 2.1: Conceptual Framework

(Researcher, 2023)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives research methods. The methods included research design, population, data collection as well as data analysis. This chapter shows how the study was done.

3.2 Research Design

This survey utilized correlational, descriptive and longitudinal research designs. Correlational research design is conducted in order to identify extent and nature of relationships (Seeram, 2019). This research design fitted the survey to establish effect of capital structure on equity risk premium. This means that the design enabled the researcher to establish the link between capital structure and equity risk premium of listed commercial banks. This study also adopted longitudinal research design where researchers observe and collect data on a number of variables with no influence on outcomes (Hopwood, Bleidorn & Wright, 2022). This design fitted for collection of data on capital structure and equity risk premium without influencing them. Another design that fitted the study is descriptive research design. The descriptive research design enables the researcher to describe the status of variables (Siedlecki, 2020). This design enabled researcher to describe capital structure and equity risk premium.

3.3 Population and Sample Design

Populace was all listed commercial banks in Kenya between 2017 and 2021. According to the NSE (2021), there were eleven (11) commercial banks listed in Kenya which have shown a reduction in their equity risk premia in the last five years, between 2017 and 2021. The banks have also changed their capital structure in the same period. This paper undertook a census and that involved all the twelve listed banks between 2017 and 2021. This was due to a small population size.

3.4 Data Collection

The researcher collected secondary data mined from annual reports of the bankers. The bank reports were sourced from the CBK. Data was gathered via a data collection sheet (Appendix III). For predictor variables, the data collection sheet contained data relating to total equity, total assets, core capital, total deposit liabilities, non-performing loans, total gross loans

& advances and liquidity ratio. For equity risk premium, data collection schedule contained data relating to market risk premium, risk-free rate, and beta.

3.5 Data Analysis

This study used both descriptive and inferential statistics for analysis. The descriptive statistics included the mean, and standard deviation. The inferential statistics were regression analysis done through a linear panel regression model. The statistics were generated with the assistance of STATA 17 which is most recommended for panel data analysis. The paper used the Capital Asset Pricing Model to estimate equity risk premia. Under CAPM, the cost of equity is computed as shown below:

$R_e = R_f + \beta (R_m - R_f)$ ----------(1)

where, R_e = cost of equity

R_f = risk-free rate

β = beta for each listed firm

R_m = equity return market portfolio

The equity risk premium (ERP) for each listed bank was computed as follows:

$ERP = R_e - R_f = \beta (R_m - R_f)$ ----------(2)

3.5.1 Diagnostic Tests

This survey undertook diagnostic tests for regression model assumptions. They included normality, heteroskedasticity, multicollinearity and model specification tests. Normality was undertaken for checking whether the residuals follow a normal distribution. The test for normality was undertaken using Shapiro Wilk statistics. The null hypothesis is that the data follows a normal distribution. The null hypothesis is not rejected where the statistics are less than 0.05. The hypothesis is rejected when statistics are greater than 0.05. Heteroskedasticity was checked to establish whether error term of the residuals is constant across time using Breusch Pagan. The null hypothesis is that error term is constant over time. It is rejected when its significance value is greater than 0.05.

Multicollinearity exists where there exists a linear relationship among predictor variables. This was tested via Variance Inflation Factor (VIF) assuming no linearity of predictor variables. If the

VIF values are less than five (5), no linearity exists among predictor variables. Model specification test was done to establish the best model to use between fixed and random effects model.

3.5.2 Analytical Model

This study assumed a model in form of:

$Y_{it}=\alpha+\beta_1 X_{1it}+\beta_2 X_{2it}+ \beta_3 X_{3it} +\beta_4 X_{4it} + \varepsilon_{it}$ …… (3)

where:

Y_{it} Equity risk premium as gauged by equity risk premium of bank i at time t

α Constant

β_1- β_4 Regression coefficients of the predictor variables

X_{1it} Capital structure as gauged by equity ratio of bank i at time t

X_{2it} Capital adequacy as gauged by core capital to total liabilities ratio of bank i at time t

X_{3it} Asset quality as gauged by NPLs ratio of bank i at time t

X_{4it} liquidity as gauged by liquidity ratio of bank i at time t

ε_{it} Error term

3.5.3 Operationalization of Variables

Variable Type	Variable	Measurement	Sources	Authorities
Dependent	Equity risk premium	equity risk premium	Supervision reports	CBK
Independent	Capital structure	equity ratio	Supervision reports	CBK
Control	Capital adequacy	core capital to total liabilities ratio	Supervision reports	CBK
	Asset quality	NPL ratio	Supervision reports	CBK
	liquidity	Liquidity ratio	Supervision reports	CBK

3.5.4 Significance Tests

The significance tests were done using F statistics. The F-statistics tested significance of the model and whether it is the best model for the data. Where the F-statistics show p values below 0.05, then the model is assumed to be significant and vice versa.

CHAPTER FOUR: DATA ANALYSIS, INTERPRETATIONS AND DISCUSSIONS

4.1 Introduction

This chapter discussed the interpretation and presentation of the findings obtained from the field. The chapter presents the descriptive outcomes, as well as regression outcomes based on the study objective: to assess the effect of capital structure on equity risk premium of listed commercial banks in Kenya.

4.2 Descriptive Statistics

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Equity risk premium	55	10.40	14.88	12.25	0.81
Capital structure	55	6.02	19.04	14.79	2.68
Capital adequacy	55	1.99	22.44	15.80	4.88
Asset quality	55	6.58	258.77	19.41	34.17
Liquidity	55	20.80	92.40	46.87	14.49

Descriptive analytics depict that listed commercial banks possessed an average equity risk premium of 12.25% between 2017 and 2021. Capital structure showed an average of 14.79% showing that the level of equity is low within the commercial banks. The banks, within the same period, had an average capital adequacy of 15.8% indicating low adequacy of capital within the listed banks. Asset quality, between 2017 and 2021, averaged at 19.41% indicating that NPLs were 19% of the total loans within the banks. Finally, liquidity showed an average ratio of 46.87% within the period. This shows that the listed commercial banks had high liquidity levels above the 20% minimum liquidity required by CBK.

4.3 Correlation Analysis

Table 2: Correlation Analysis

		equity premium	capital structure	capital adequacy	Asset quality	Liquidity ratio
equity premium	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	55				
capital structure	Pearson Correlation	.701**	1			
	Sig. (2-tailed)	.000				
	N	55	55			
capital adequacy	Pearson Correlation	-.041	-.062	1		
	Sig. (2-tailed)	.771	.654			
	N	55	55	55		
Asset quality	Pearson Correlation	.153	-.061	-.084	1	
	Sig. (2-tailed)	.266	.659	.544		
	N	55	55	55	55	
Liquidity ratio	Pearson Correlation	-.368**	-.040	.010	-.185	1
	Sig. (2-tailed)	.006	.776	.944	.175	
	N	55	55	55	55	55
**. Correlation is significant at the 0.01 level (2-tailed).						

From the correlation analysis, the study showed that capital structure had a strong positive and significant correlation coefficient against equity premium (r=0.701; p=0.000). This shows that strong positive relationship exists between capital structure and equity premium. On the other end, capital adequacy showed an insignificant negative correlation coefficient (r=-0.041; p=0.771) against equity premium. This depicts that a negative insignificant relationship between capital adequacy and equity premium among listed commercial banks. For asset quality, the Pearson correlation was positive but insignificant (r=0.153; p=0.266). This shows that asset quality has an insignificant relationship with equity premium. However, liquidity ratio shows a moderate, negative, and significant correlation coefficient (r=-0.368; p=0.006). This shows that liquidity ratio had a moderate negative and significant relationship with equity premium.

4.4 Diagnostic Tests

Table 3: Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Equity risk premium	.961	55	.076
Capital structure	.567	55	.000
Capital adequacy	.845	55	.000
Asset quality	.297	55	.000
Liquidity	.977	55	.365

Using Shapiro Wilk, normality was checked. Equity risk premium and liquidity had significance values of 0.076 and 0.365 respectively. The significance values were far above 0.05 showing that the data was normal. However, capital structure, capital adequacy and asset quality had significance values of 0.000 in each case. This was below the 5% alpha value showing that data was not normal.

Table 4: Multicollinearity

	Tolerance	VIF
Capital structure	.447	2.238
Capital adequacy	.452	2.214
Asset quality	.948	1.055
Liquidity	.964	1.038

Using VIFs, multicollinearity was checked. If VIFs are far above 5, it is assumed that multicollinearity exists. From the outcomes, the values were below 5 showing that multicollinearity was not an issue in the utilized data.

Table 5: Heteroskedasticity

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
.522	1	.470

a. Dependent variable: Equity risk premium
b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.
c. Predicted values from design: Intercept + X1 + X2 + X3 + X4

Using the Breusch-Pagan test, heteroskedasticity was checked. Where significance is below 5%, heteroskedasticity exists and vice versa. The data displays a significance value of 0.470. Therefore, it is concluded that heteroskedasticity is not present in the data.

4.5 Regression Analysis

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526[a]	.277	.219	.71365

a. Predictors: (Constant), liquidity, Capital structure, Asset quality, Capital adequacy

The model summarization displays an R value of 0.526 showing that the predicting variables have a strong relationship with equity risk premium of listed commercial banks in Kenya. The R

square value (0.277) shows that the predictors explain 27.7% of the variations in equity risk premium of listed commercial banks in Kenya.

Table 7: Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.738	4	2.434	4.780	.002[b]
	Residual	25.465	50	.509		
	Total	35.202	54			

a. Dependent Variable: Equity risk premium
b. Predictors: (Constant), liquidity, Capital structure, Asset quality, Capital adequacy

Significance was tested using F-stats. The f-stats (4.78) displayed a significance value of 0.002. The value was below 5%. This depicts that the model is significant and that capital structure, capital adequacy, asset quality and liquidity have a significant effect on equity risk premium of listed commercial banks in Kenya.

Table 8: Regression Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.188	.851		14.313	.000
	Capital structure	.161	.070	.415	2.304	.025
	Capital adequacy	-.003	.030	-.018	-.102	.919
	Asset quality	.001	.003	.024	.195	.846
	Liquidity	-.017	.007	-.299	-2.440	.018

a. Dependent Variable: Equity risk premium

The multiple regression model:

$$Y_{it}=\alpha+\beta_1X_{1it}+\beta_2X_{2it}+\beta_3X_{3it}+\beta_4X_{4it}+\varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

was fitted into:

$Y_{it}=12.188+0.161X_{1it}-0.017X_{4it}$ ……. (5)

From the model, holding all predictors constant, the equity risk premium of listed commercial banks would stand at 12.188. Further, outcomes depicted that unitary increment in capital structure would increase the equity risk premium of listed commercial banks by 0.161. The outcomes also depicted that a unitary increment in liquidity would reduce equity risk premium by 0.017. From the regression table, Capital adequacy (p=0.919) and asset quality (p=0.846) showed an insignificant coefficient of -0.003 and 0.001repectively. Hence, the two were left out in the model fitted in this survey.

4.5 Discussion of Findings

The outcomes depicted that unitary increment in capital structure would increase the equity risk premium of listed commercial banks. This reflects a positive effect of capital structure on equity risk premium. The findings are same as Nasra (2021) who displayed risk premium relates positively with capital structure. They contrast with Valaskova et al (2019) who showed an inverse link around capital structure and equity risk premium.

Capital adequacy showed an insignificant negative coefficient. This depicts that capital adequacy increase would have inconsequential decrease in equity risk premium. Therefore, capital adequacy possessed an insignificant influence on equity risk premium. The outcomes differ with Fettahoğlu (2019) who showed capital adequacy influences equity risk premium positively. They further contrasted with Vu and Dang (2020) displaying an inverse link around capital adequacy and equity risk premium.

Asset quality displayed a positive but insignificant regressions coefficient. This depicts that increased asset quality would lead to inconsequential increment in equity risk premium. Hence, asset quality has an inconsequential effect on equity risk premiums. The findings concur with Damodaran (2020) that displayed a positive but insignificant relationship between asset quality and equity risk premium. They are different from Wang, Zhou, Luo, and Ji (2019) who established direct link and Shen (2021) who found a link around asset quality and equity risk premium.

The outcomes also depicted that a unitary increment in liquidity would reduce equity risk premium. This insinuates that liquidity inversely influences equity risk premium. They are aligned to those of Chen et al (2018) who produced an inverse link around liquidity and equity risk premium. Nevertheless, Drechsler, Savov & Schnabl (2018) produced a direct outcome contradicting the outcomes for this survey.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is a summarization of outcomes anchored on research objective and variables. This research sought to assess effect of capital structure on equity risk premium of listed commercial banks in Kenya. It also displayed conclusions, recommendations together with limitations and areas for future studies.

5.2 Summary of Findings

Descriptive analytics depicts that average equity risk premium was 12.25% between 2017 and 2021. Further, capital structure depicted an average of 14.79%; capital adequacy of 15.8%; asset quality of 19.41% with liquidity averaging at 46.87% within the period. This depicts that listed commercial banks in Kenya experienced high levels of equity risk premiums (>5%) and liquidity (>20%) within the time span of 2017 and 2021. However, they experienced low levels of equity, capital adequacy and asset quality within the period.

From the correlation analysis, the study showed that capital structure had a strong positive and significant relationship with equity premium (r=0.701; p=0.000). On the other hand, capital adequacy had a negative and insignificant relationship with equity premium (r=-0.041; p=0.771). In addition, asset quality had a positive but insignificant relationship with equity premium (r=0.153; p=0.266). However, liquidity ratio had a moderate, negative, and significant relationship with equity premium (r=-0.368; p=0.006).

From the regression, capital structure, capital adequacy, asset quality and liquidity had a strong relationship with equity risk premium. They contributed 27.7% in the variations in equity risk premium of listed commercial banks in Kenya. The ANOVA outcomes depicted that capital structure, capital adequacy, asset quality and liquidity possess a significant effect on equity risk premium of listed commercial banks in Kenya.

From regression coefficients, unitary increment in capital structure would increase the equity risk premium of listed commercial banks. This depicts that capital structure possesses a favourable link with equity risk premium. The outcomes also depicted that a unitary increment in liquidity would reduce equity risk premium. This depicts that liquidity possess an inverse link with equity risk premium. However, capital adequacy and asset quality showed insignificant coefficients hence no substantial influence on equity risk premium.

5.3 Conclusions

From regression coefficients, unitary increment in capital structure would increase the equity risk premium of listed commercial banks. This depicts that capital structure possessed a favourable link with equity risk premium. This survey concludes that capital structure possesses a positive effect on equity risk premium of listed commercial banks in Kenya. This implies that when the banks increase their equity levels, they would experience increased equity risk premium.

However, an increment in capital adequacy had no substantial negative effect on equity risk premium. This depicts that capital adequacy had no significant effect on equity risk premium. The study concludes that capital adequacy has no substantial effect on equity risk premium among listed commercial banks in Kenya. This shows that where the commercial banks increase their core capital, they experience no substantial change in their equity risk premium.

Asset quality showed insignificant positive coefficient hence no substantial influence on equity risk premium. This survey concludes that asset quality of listed commercial banks in Kenya has no substantial effect on their equity risk premium. This is an insinuation that where the banks adopt an increasing NPLs, they experience no substantial increase in their equity risk premium.

The outcomes also depicted that a unitary increment in liquidity would reduce equity risk premium. This depicts that liquidity possess an inverse link with equity risk premium. This directs the survey to a conclusion that liquidity possesses a negative effect on equity risk premium of listed commercial banks in Kenya. Thus, depicts that increasing liquidity among the listed commercial banks in Kenya would reduce the firm’s levels of equity risk premium.

5.4 Recommendations of the Study

This survey concludes that capital structure possesses a positive effect on equity risk premium of listed commercial banks in Kenya. This implies that where listed banks increase their equity levels, they experience increased equity risk premium. This creates the need for increased equity levels within the listed banks in Kenya. This would in turn increase the equity risk premium across the banks.

Further, capital adequacy has no substantial effect on equity risk premium among listed commercial banks in Kenya despite the positive coefficient. This shows that where the commercial banks increase their core capital, they experience no substantial increase in their equity risk premium. This creates the need for the management of listed commercial banks in Kenya to optimally reduce their core capital to enhance the equity premium.

The investigation further makes a conclusion that asset quality of listed commercial banks in Kenya has no substantial positive effect on their equity risk premium. This is an insinuation that where the banks adopt an increasing NPLs, they experience no substantial increase in their equity risk premium. This creates the need for the listed commercial banks to optimally increase their NPLs optimally compared the gross loans which would increase the equity risk premium.

The outcomes direct the survey to a conclusion that liquidity possesses a negative effect on equity risk premium of listed commercial banks in Kenya. Thus, depicts that increased liquidity among listed commercial banks in Kenya would reduce the firm’s levels of equity risk premium. There is need for the management of listed commercial banks in Kenya to reduce their liquidity levels for increased equity risk premium.

5.5 Limitations of the Study

This study was limited by the time available for data collection. This was overcome by sampling the population and basing the analysis on listed commercial banks in Kenya other than all listed organizations. The scholar also limited the research to capital structure and equity risk premium; secondary data sources; specific measures of capital structure and equity risk premium; and period spanning 2017 and 2021.

The scholar also faced a limitation related to the credibility of data. The data was mined from third parties which may make the data incredible. However, the scholar adopted data from reports by CBK and other globally and nationally accredited. This overcame this limitation. The historical nature of secondary data also created a challenge. The researcher adopted most recent data to overcome the challenge.

5.6 Suggestions for Further Research

In reference to the limitations, future studies ought to undertake similar research anchored on other listed companies other than banks. Other influencers of equity risk premium other than capital structure ought to be considered in future research. Other data sources other than secondary ones could be considered in similar research. Other researchers can assume different measures of capital structure and equity risk premium in their future studies. Adoption of different time spans other than five years of 2017 and 2021 would be recommended for future similar studies.

Note that from the study, capital structure explained only 28% of the variations in equity risk premium for listed commercial banks in Kenya. As such, future studies should consider the link between other factors such as: (i) management quality; (ii) earnings quality; and (iii) indicators of overall economic performance such as GDP growth rate, monetary and fiscal policy; on the equity risk premium of listed commercial banks.

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APPENDICES

Appendix I: Commercial Banks in Kenya

1. ABC Bank
2. Absa Bank Kenya
3. Access Bank Kenya
4. Bank of Africa
5. Bank of Baroda
6. Bank of India
7. Citibank
8. Consolidated Bank of Kenya
9. Cooperative Bank of Kenya
10. Credit Bank
11. Development Bank of Kenya
12. Diamond Trust Bank
13. Dubai Islamic Bank
14. Ecobank Kenya
15. Equity Bank Kenya
16. Family Bank
17. First Community Bank
18. Guaranty Trust Bank Kenya
19. Guardian Bank
20. Gulf African Bank
21. Habib Bank AG Zurich
22. Housing Finance Company of Kenya
23. I&M Bank
24. Kingdom Bank Limited
25. Kenya Commercial Bank
26. Mayfair Bank
27. Middle East Bank Kenya
28. M Oriental Bank

29. National Bank of Kenya
30. NCBA Bank Kenya
31. Paramount Universal Bank
32. Prime Bank (Kenya)
33. SBM Bank Kenya
34. Sidian Bank
35. Spire Bank
36. Stanbic Holdings Plc
37. Standard Chartered Kenya
38. United Bank for Africa
39. Victoria Commercial Bank

Appendix II: Listed Banks in Kenya

1. Absa Bank Kenya PLC
2. Stanbic Holdings Plc. ord.5.00
3. I&M Holdings Ltd Ord 1.00
4. Diamond Trust Bank Kenya Ltd Ord 4.00
5. HF Group Ltd Ord 5.00
6. KCB Group Ltd Ord
7. National Bank of Kenya Ltd Ord
8. NCBA Group PLC
9. Standard Chartered Bank Ltd
10. Equity Group Holdings
11. The Co-operative Bank of Kenya Ltd

Appendix III: Research Data

Company	Year	Total equity Shs 'Millions	Total assets Shs 'Millions	Core capital 'Millions	Total deposit liabilities 'Millions	Total loans & advances 'Millions	Non-performing loans 'Millions	Liquidity ratio	market risk premium	risk-free rate	beta
Equity Bank Kenya Limited	2017	61906.0	382830.0	59198.0	285990.0	221698.0	14758.0	0.5	0.13	0.90	0.9
	2018	60586.6	438509.0	55864.0	341782.0	231026.0	17064.0	0.6	0.13	0.90	0.9
	2019	69914.4	507525.0	62469.0	381138.0	290564.0	26185.0	0.5	0.12	0.90	0.9
	2020	86697.0	667650.0	70268.0	502423.0	355630.0	42825.0	0.7	0.12	0.90	0.9
	2021	106400.0	877415.0	93843.0	652204.0	420774.0	35470.0	0.9	0.13	1.00	1.0
KCB Bank Kenya Limited	2017	88991.0	555630.0	71970.0	445398.0	411666.0	34182.0	0.3	0.13	0.90	0.9
	2018	97789.0	621723.0	87957.0	486613.0	434361.0	30012.0	0.3	0.13	0.90	0.9
	2019	92607.6	674302.0	90200.0	536830.0	468258.0	34786.0	0.3	0.12	0.90	0.9
	2020	111271.0	758345.0	102218.0	591067.0	544837.0	66810.0	0.3	0.12	0.90	0.9
	2021	123823.0	826395.0	109467.0	634258.0	584441.0	92193.0	0.4	0.13	1.00	1.0
Co-operative Bank of Kenya Limited	2017	68227.0	406402.0	58859.0	298703.0	7232.0	18714.0	0.3	0.13	0.90	0.9
	2018	68319.0	408304.0	25276.0	304593.0	257566.0	28953.0	0.4	0.13	0.90	0.9
	2019	77088.0	449616.0	62770.0	330113.0	290564.0	31156.0	0.4	0.12	1.00	1.0
	2020	85597.0	496823.0	70566.0	370085.0	307324.0	51781.0	0.5	0.12	1.10	1.1
	2021	94920.0	540387.0	78843.0	399441.0	334274.0	43312.0	0.5	0.13	0.90	0.9
NCBA Bank Kenya PLC	2017	28937.0	192817.0	27652.0	142006.0	118459.0	13265.0	0.5	0.13	0.90	0.9
	2018	31117.0	195055.0	28030.0	145220.0	117786.0	15830.0	0.5	0.13	1.00	1.0
	2019	69416.3	464891.0	62561.0	360305.0	244395.0	30516.0	0.5	0.12	1.00	1.0
	2020	72028.0	491614.0	28030.0	394813.0	259698.0	35995.0	0.5	0.12	1.00	1.0
	2021	78643.0	546734.0	27652.0	443820.0	255664.0	40909.0	0.6	0.13	1.00	1.0
ABSA Bank Kenya Plc	2017	43559.0	271682.0	38768.0	189305.0	177224.0	12615.0	0.3	0.13	0.90	0.9
	2018	43393.4	325363.0	37788.0	213033.0	186984.0	13910.0	0.4	0.13	0.90	0.9
	2019	44079.4	374 904	38832.0	242375.0	205304.0	13519.0	0.4	0.12	1.10	1.1
	2020	44969.0	377936.0	43715.0	257706.0	229677.0	17099.0	0.4	0.12	0.90	0.9
	2021	54353.0	428746.0	47870.0	275546.0	256465.0	19817.0	0.4	0.13	0.80	0.8
Standard Chartered Bank Kenya Limited	2017	44584.0	285125.0	35628.0	226051.0	139406.0	17621.0	0.6	0.13	0.90	0.9
	2018	45336.3	281516.0	35459.0	220784.0	133166.0	21661.0	0.7	0.13	0.80	0.8
	2019	47221.5	302296.0	35701.0	236461.0	144483.0	20058.0	0.6	0.12	0.80	0.8
	2020	50219.0	325873.0	39240.0	256951.0	152711.0	22337.0	0.7	0.12	0.90	0.9
	2021	52479.0	335111.0	40822.0	265852.0	147917.0	23283.0	0.7	0.13	0.80	0.8
I&M	2017	35024.0	183953.0	29790.0	134247.0	126983.0	17669.0	0.4	0.13	0.90	0.9

Bank Limited	2018	38338.6	229161.0	34201.0	177250.0	144434.0	21115.0	0.5	0.13	0.50	0.5
	2019	47015.1	254252.0	37847.0	195841.0	152807.0	18799.0	0.5	0.12	0.80	0.8
	2020	52324.0	283569.0	42208.0	219167.0	160665.0	20178.0	0.5	0.12	0.80	0.8
	2021	51920.0	307802.0	38325.0	235557.0	172615.0	18563.0	0.5	0.13	0.90	0.9
Stanbic Bank Kenya Limited	2017	33051.0	239408.0	32569.0	178696.0	135443.0	10359.0	0.5	0.13	0.80	0.8
	2018	34590.7	280953.0	33237.0	212282.0	155498.0	16644.0	0.6	0.13	0.80	0.8
	2019	38939.8	292705.0	36157.0	205516.0	163859.0	19345.0	0.6	0.12	1.00	1.0
	2020	41857.0	318986.0	40940.0	233493.0	176597.0	25038.0	0.6	0.12	1.10	1.1
	2021	46512.0	319199.0	44136.0	242384.0	200941.0	22504.0	0.5	0.13	1.10	1.1
HFC ltd.	2017	9963.0	62127.0	8298.0	36981.0	52630.0	8212.0	0.3	0.13	0.90	0.9
	2018	9165.0	57083.0	6925.0	35445.0	49215.0	13334.0	0.2	0.13	1.10	1.1
	2019	9152.0	54532.0	5812.0	38004.0	45822.0	12316.0	0.2	0.12	1.10	1.1
	2020	8247.0	54478.0	3622.0	41196.0	41836.0	10799.0	0.2	0.12	1.00	1.0
	2021	7866.0	52098.0	3172.0	38395.0	39339.0	8673.0	0.2	0.13	1.10	1.1
Diamond Trust Bank Kenya Limited	2017	43004.0	270082.0	35344.0	209254.0	156843.0	11901.0	0.5	0.13	0.80	0.8
	2018	47712.8	284691.0	39935.0	224440.0	152287.0	11036.0	0.5	0.13	0.90	0.9
	2019	52001.4	287251.0	44555.0	221038.0	155307.0	12892.0	0.5	0.12	0.90	0.9
	2020	54032.0	312189.0	47561.0	235048.0	165948.0	19747.0	0.6	0.12	0.90	0.9
	2021	57567.0	326377.0	49790.0	237455.0	171866.0	27151.0	0.6	0.13	0.90	0.9
National Bank of Kenya Limited	2017	7048.0	109942.0	3503.0	100165.0	68153.0	27658.0	0.4	0.13	1.10	1.1
	2018	6935.7	115143.0	2091.0	105244.0	66123.0	31461.0	0.4	0.13	1.30	1.3
	2019	11704.5	112029.0	6579.0	97079.0	60677.0	25175.0	0.5	0.12	0.90	0.9
	2020	11936.0	126842.0	6578.0	112672.0	74774.0	26438.0	0.4	0.12	0.90	0.9
	2021	16365.0	146543.0	10288.0	124113.0	79236.0	26542.0	0.4	0.13	1.00	1.0