

**EFFECT OF CORPORATE GOVERNANCE PRACTICES ON
ASSET QUALITY AMONG COMMERCIAL BANKS IN KENYA**

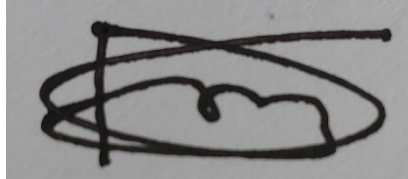
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**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE,
FACULTY OF BUSINESS AND MANAGEMENT SCIENCES,
UNIVERSITY OF NAIROBI**

OCTOBER, 2022

DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.



Signed: ---_ _Date: 26th October 2022

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D63/36454/2020

This research project has been submitted for examination with my approval as the University Supervisor.



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ACKNOWLEDGEMENT

This research is a compilation of a meaningful journey characterized by eye opening experiences and discoveries. Firstly, is to thank the God Almighty for continued grace and favor that sustained me though the entire academic journey.

I extend immense gratitude to my supervisor Dr. Herick Ondigo. I sincerely appreciate him for his guidance, corrections, and direction towards the completion of the project. Indeed, it is through his scholarly excellence, dedication to supervision, and fatherly motivation that has enabled me to accomplish this high-quality work.

This far, I have benefited greatly from the ever-present support and persistent prayers from my family. The journey has surely been long, winding and arduous. However, with the unconditional love, steadfast support system, and encouragement from them I have been able to survive the vagaries of the academic process. I am deeply grateful for their tremendous belief in me.

Of course, this work and the entire journey could not have come to such a wonderful end without the participation of my Masters colleagues especially Micheal, Wycliffe and Carol. The many hours and sessions we spent consulting and encouraging one another during the journey have greatly paid off. I must as matter of due kindness thank them. And may God really bless them.

Due to limitation of time, convenience, and space, it may not be possible to mention each and every person whose contribution I benefited from to see this work through. However, I must submit my sincerest gratitude their support so richly served.

DEDICATION

This research project is dedicated to my uncle Lox Sigoli a man with a big heart who singlehandedly put all his resources in my basic education years, my late grandmother Leah Achieng'; her support and care during my schooling life will forever remain in my heart and my mother Florence Magware; the dedicated prayers she offers have seen me this far. Last but not least I dedicate this to my husband Dr. Elisha Ogada-I wouldn't have come this far if he had decided otherwise, my children; Ferryll, Elly, Prudence and Jonathan who have been my support system the entire duration.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT	iii
DEDICATION	v
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study.....	1
1.1.1 Corporate Governance Practices	2
1.1.2 Asset Quality.....	4
1.1.3 Corporate Governance Practices and Asset Quality	5
1.1.4 Commercial Banks in Kenya	6
1.2 Research Problem	7
1.3 Research Objective	9
1.4 Value of the Study.....	9
CHAPTER TWO: LITERATURE REVIEW	10
2.1 Introduction	10
2.2 Theoretical Framework	11
2.2.1 Agency Theory.....	11
2.2.2 Stakeholder Theory.....	12
2.2.3 Stewardship Theory	13
2.3 Determinants of Asset Quality	15
2.3.1 Corporate Governance Practices	15
2.3.2 Bank Size.....	15
2.3.3 Capital Adequacy.....	16
2.3.4 Bank Liquidity	17

2.4 Empirical Review	17
2.4.1 Global Studies.....	17
2.4.2 Local Studies	19
2.5 Conceptual Framework	22
2.6 Summary of the Literature Review	23
CHAPTER THREE: RESEARCH METHODOLOGY	24
3.1 Introduction	24
3.2 Research Design.....	24
3.3 Population	24
3.4 Data Collection	24
3.5 Data Analysis	25
3.6.1 Diagnostic Tests.....	25
3.6.2 Analytical Model	26
3.6.3 Tests of Significance.....	27
CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS	28
4.1 Introduction	28
4.2 Descriptive Statistics.....	28
4.3 Diagnostic Tests	29
4.3.1 Normality Test	29
4.3.2 Multicollinearity Test.....	30
4.3.3 Heteroskedasticity Test.....	30
4.3.4 Autocorrelation Test.....	31
4.3.5 Stationarity Test	31
4.4 Correlation Results.....	32
4.5 Regression Results	33
4.6 Discussion of Research Findings	35

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	38
.....	
5.1 Introduction	38
5.2 Summary	38
5.3 Conclusions	39
5.4 Recommendations for Policy and Practice	40
5.5 Limitations of the Study.....	41
5.6 Suggestions for Further Research	42
REFERENCES.....	44
APPENDICES	50
Appendix I: Data Collection Sheet	50
Appendix II: Commercial Banks in Kenya.....	52
Appendix III: Research Data.....	54

LIST OF TABLES

Table 3.1: Diagnostic Tests.....	25
Table 4.1: Descriptive Results	28
Table 4.2: Test for Normality	29
Table 4.3: Multicollinearity	30
Table 4.4: Heteroskedasticity Results.....	30
Table 4.5: Test of Autocorrelation.....	31
Table 4.6: Levin-Lin Chu unit-root test.....	32
Table 4.7: Correlation Results	33
Table 4.8: Model Summary	33
Table 4.9: ANOVA Analysis.....	34
Table 4.9: Regression Coefficients	34

LIST OF ABBREVIATIONS

ALLL	Allowances for Loan and Lease Losses
ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CG	Corporate Governance
CSR	Corporate Social Responsibility
EPS	Earnings Per Share
NPL	Non-Performing Loans
NPM	Net Profit Margin
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
SME	Small and Medium Enterprises

ABSTRACT

Banks in Kenya have made significant investments in corporate governance to tackle issues about competition, income and cost. At the same time, the number of nonperforming loans held by commercial banks has increased. The critical question is whether corporate governance practices have been effective in enhancing the asset quality of banks. Given that corporate governance structures costs money, it is critical to investigate the link between growing NPLs and corporate governance. This study sought to investigate how corporate governance affects asset quality among commercial banks in Kenya. The Corporate governance indicators were board size, gender diversity and board independence. Bank liquidity, capital adequacy and bank size were the control variables while the dependent variable was asset quality, measured as the ratio of NPLs to total loans. The study was guided by agency theory, stakeholder theory and stewardship theory. Descriptive research design was utilized in this research. The 40 commercial banks in Kenya as at December 2021 served as target population. The study collected secondary data for five years (2017-2021) on an annual basis from CBK and individual banks annual reports. Descriptive, correlation as well as regression analysis were undertaken and outcomes offered in tables followed by pertinent interpretation and discussion. The research findings yielded a 0.530 R square (R^2) value implying that 53% of changes in banks' asset quality can be described by the six variables chosen for this research. The multivariate regression analysis further revealed that individually, board size has a negative and significant effect on asset quality of banks ($\beta = -0.141$, $p = 0.001$). Board independence also has a negative and significant effect on asset quality ($\beta = -0.310$, $p = 0.000$) while gender diversity exhibited negative but not statistically significant influence on asset quality ($\beta = -0.030$, $p = 0.116$). Both bank size and bank liquidity have a negative effect on asset quality of banks as shown by ($\beta = -0.927$, $p = 0.000$) and ($\beta = -0.287$, $p = 0.000$) respectively. Capital adequacy exhibited a negative but not significant influence on asset quality as shown by ($\beta = -0.036$, $p = 0.103$). The study recommends the need for banks to have adequate board members as this reduces the level of NPLs in a bank. The study further recommends the need to have an independent board as this also enhances asset quality by providing a better monitoring mechanism. Future research ought to focus on other financial institutions in Kenya to corroborate or refute the conclusions of this research.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Corporate Governance (CG) practices have the potential to influence immediate goals as well as future goals of the company (Shahwan & Habib, 2020). According to Saparovna and Sayatovna (2015), a correctly constructed corporate governance framework recognizes greater benefits in relation to enhancing the firm's asset quality, the ability to attract financing on more favorable terms, facilitating access to capital markets and strengthening the organization's reputation. The purpose of corporate governance is to protect the principals' interests from agents. Strong corporate governance, on the other hand, not only establishes and maintains a positive corporate culture that motivates management in making decisions that maximize shareholder wealth, but this to guarantees asset quality (Bimo, Silalahi & Kusumadewi, 2021).

The study drew support from agency theory, stakeholder theory as well as stewardship theory that have attempted to elaborate how CG relates to asset quality. The research anchor theory was Jensen and Meckling (1976) agency theory as it explains in what manner management, being agent, is supposed to fulfill their perfect fiduciary duty of serving the principal's best interests to enhance the main goal of a firm. The theory holds that strong CG practices provide better monitoring leading to asset quality. The stakeholder theory by Freeman (1984) is applicable to this study because it provides backing for agency theory, which failed to capture all other important stakeholders who depend on financial results to make economic decisions, like regulators, credit suppliers, staff, financial analysts, as well as probable investors, among others. Stewardship theory by Donaldson and Davis (1991) offers a theoretical framework for understanding how successful agents who are firm managers manage their profession

through performing their duties with highest dignity, compulsory corporate governance code compliance, as well as the disclosure of correct, appropriate, and suitable reports to all stakeholders at regular intervals.

The recent failures of multinational companies like Lehman Brothers, Xerox, Enron, as well as WorldCom, among others, have strengthened the significance of corporate governance in organizations, according to (Dibra, 2016). Kenya, like other industrialized economies as well as developing countries in the area, does not lag behind when it comes to corporate governance among commercial banks. Despite a tight regulatory framework, corporate governance issues are still experienced among commercial banks (Koech & Ogolla, 2018). This is evidenced by the recent collapse of Chase Bank and Imperial Bank and the struggles experienced by National Bank. Further, CBK (2020) revealed that the level of NPLs among Kenyan banks has been on the rise over the years and this implies deterioration in asset quality. Commercial banks in Kenya provide a good context to examine CG practices effect on asset quality.

1.1.1 Corporate Governance Practices

Corporate governance practices are methods and structures put in place for controlling and directing a business, as well as managing affairs among managers, shareholders, board members, and other stakeholders, while preserving their rights and fostering openness (Sarbah & Xiao, 2019). Corporate governance practices can also be said to be a framework formulated to control and directs an organization based on principles of good governance; fairness, accountability, transparency, independence and responsibility (Naimah & Hamidah, 2017). Corporate governance practices, as per Iqbal (2015), are a way of ensuring that business is done fairly, effectively, and openly in order to attain goals of an organizational via effective practices as well as procedures.

The current study adopts the definition by Sarbah and Xiao (2019) due to its wider applicability in previous literature.

Firms with effective CG practices are more likely to be transparent in their disclosures and are more likely to meet shareholder's need of wealth maximization by investing effectively than firms with weak CG practices. For CG to be effective, top management need to set the right tone. High ability managers have the capacity and capability of upholding the principals of CG. They are well trained and are more transparent in their disclosures (Chen et al., 2017). By abiding by the set CG practices, these managers invest efficiently thus increasing their firm's operational efficiencies (Bidabad et al., 2017). CG has attracted renewed global attention as a result of major financial scandals and collapse of corporations courtesy of lack of adequate internal control systems that enhance financial transparency and accountability (Salem et al., 2019).

Mamatzakis and Bermpei (2015) operationalized corporate governance practices in terms of managerial ownership, bank executive's compensation, senior managers' bonuses as well as allowances, CEO power structure, and gender diversity. Board as well as committee structure, composition of board of directors, governing systems and processes, board autonomy, components of audits, as well as the manner the corporate bodies circulates and publishes information to stakeholders are all significant corporate governance qualities (Olick, 2015). As per Wasike (2012), corporate governance practices involve; the corporation's directors 'board characteristics, the ownership structure of the corporation, financial transparency and information disclosure. The current study operationalized CG practices in relation to board size, gender diversity and board independence.

1.1.2 Asset Quality

Asset quality is a measure of the total risk tied to assets owned by an individual or a corporate body (Adeyemo & Bamire, 2005). This terminology is common in the banking industry to determine the value of assets at risk and points to how much provisions banks have to make for loan losses. The asset quality comprises credit risk related to the loan and investment portfolio and includes real estate, other assets and off balance sheet items such as bank guarantees and letters of credit (Tabari, Ahmadi & Emami, 2013). According to Yin (2009), asset quality refers to the level of vulnerability of loans and advances of a financial institution to the risk of default.

The quality of assets in a financial institution is important as it strongly influences performance of any commercial bank since it leads to an increase in interest income and a reduction of the cost burden of managing bad debts respectively (Levine, 2008). According to the law banks are required set aside some finances to be used as an expense that will protect the banks from bad debts and loan default. A high NPL ratio to the gross/net asset causes the asset quality to fall. This shows there is a negative trade-off between asset quality and performance (Ombaba, 2013).

The level of asset quality in a bank is determined by the percentage of the NPLs to the total loans advanced. The higher the percentage, the lower the asset quality and the higher the credit risk that a bank will be facing (Bimo et al., 2021). This is also a reflection of the ability of the bank to spot and manage credit risks. Abata (2014) stated that, an emphasis should be placed on the evaluation of asset quality and the significance of allowances for Loan and Lease Losses (ALLL), the intensity of counter party exposure, the issuer or borrower defaults under actual or implied contract agreements. However, other risks and factors should be considered that impact the asset

value like; operating, market, reputation, strategic or compliance risks. The current study used the ratio of NPLs to total loans issued as a measure of asset quality due to its wider applicability in previous literature. The measure has been used before by Bulus and Lawal (2021) and Gupta and Sharma (2022). The Central Bank of Kenya also uses this as the measure of asset quality.

1.1.3 Corporate Governance Practices and Asset Quality

Some theories describe the theoretical link between corporate governance and asset quality, like the agency theory, which forecasts that CG systems have a positive impact on asset quality. Firm owners may take consolation in the knowledge that agents' actions favours the owners if they are offered adequate incentives and are properly managed (Jensen & Meckling, 1976). As a result, the director's function becomes one of monitoring management's actions who as per the stewardship theory has the fiduciary duty of ensuring the interests of the shareholders are well shielded. Thorough stakeholder monitoring will improve the likelihood of complete disclosure, resulting in a positive corporate governance structure's impact on asset quality.

Jensen and Meckling (1976) states that managers only keep their self- interests in mind and the maximization of shareholder value is conditional to having efficient governance structures that will punish wrongful acts. Additionally, the stewardship theory holds that governance problems do not always originate from executives; rather, these challenges stem from the choices of regulators and investors who are working toward their own goals of achieving self-fulfillment (Donaldson & Davis, 1991).

High corporate governance focused on shareholder profit maximization will result in a good performance by management, adequate allocation of resources, informed investment strategy, and reliability in reporting. This will exhibit a positive impact on

the firm's financial standing, ensure appropriate availability of information between the industry and the firm, benefit debt holders and reduce default risk in the long run (Padachi, Ramsurrun & Ramen, 2017). Weak corporate governance practices which are inadequate for safeguarding extreme taking of risks result in vast sums of non-performing loans (Luyima, 2015).

1.1.4 Commercial Banks in Kenya

CBK definition of a bank is an entity conducting or planning to carry out banking operations in Kenya. Included in commercial banking are the activities of deposit acceptance, extending credit, processing financial transactions in addition to offering financial services in other areas. Specifically, the industry contributes significantly to the financial sector, with a special focus on the mobilization of saving and the provision of loans to businesses and consumers. The CBK is the regulating authority in the Kenyan banking industry. The banking segment has 1 mortgage finance company, 40 commercial banks, as well as 13 microfinance companies in the industry. There are 12 of the 40 listed at the NSE (CBK, 2021).

The banking segment in Kenya has faced several cases of bank collapse which has been practiced to corporate governance. The downfall of Dubai Bank of Kenya, Imperial Bank as well as Chase Bank in the year 2015 and 2016 offers good examples. The wave of bank mergers, acquisitions, as well as failures that swept Kenya as well as the rest of the world in the 1990s served as a wake-up call for Kenya's Central Bank, which strengthened its bank supervision arm in 2001 as well as again in 2013 and 2015. In order to attain this, the CBK has released prudential rules on corporate governance on several occasions, which all institutions registered under Kenya's Banking Act Cap 488 must follow (CBK, 2021).

In a report compiled by Moody in 2019, it was documented that the asset quality of commercial banks in Kenya has been deteriorating as reflected by increasing amount of NPLs. The report showed that in April 2019, Kenya's ratio of NPL to total loans rose to 12.9 from 12.4 percent in March 2019. The statistics showed that Kenya was the fourth nation in Africa with a high ratio of NPL to total loans, the rest being Angola at 24, the Democratic Republic of Congo at 21 and Ghana at 19 percent at the same time period. The above statistics show that in East Africa, Kenya had the worst NPL performance in the region (Moody, 2019). The evidence proves that the increasing amount of NPLs is a crucial issue. Therefore, determining the stability of commercial banking institutions is important in promoting the country's financial stability.

1.2 Research Problem

Usually corporate governance guidelines are introduced with a view to making the Management of the firms more transparent and accountable in every aspect including both financial and non-financial activities as the management is working for the maximum utilization of shareholders investment (Mgammal, Bardai & Ku Ismail, 2018). Theories and researches show that the management may behave in a self-interest way to maximize their very own interest. Eventually, it will not be possible to maximize shareholders' interest. This kind of self-interest behavior of the management is very much detrimental to the growth of the firm especially for any financial institutions. Rehman (2016) stated that poor corporate governance practices affect banking industry more severely than any other sectors. Asset quality has become a major problem in the growth of banking industry. Researches show that poor governance practices are leading to the rising level of NPL.

Banks in Kenya have made significant investments in corporate governance to tackle issues about competition, income and cost. At the same time, the number of nonperforming loans held by commercial banks has increased. The critical question is whether corporate governance practices have been effective in enhancing the asset quality of banks. Given that corporate governance structures costs money, it is critical to investigate the link between growing NPLs and corporate governance. It is critical to keep NPLs under control so that commercial banks' financial performance is not adversely affected. An increase in NPL among commercial banks if not checked can lead to huge losses in the banking sector and the effect would be felt in the entire economy.

Globally, there exist empirical studies in this area but they exhibit conceptual, contextual and methodological research gaps. Bulus and Lawal (2021) examines the impact of corporate governance mechanisms on the asset quality of selected deposit money banks in Nigeria. The study presents a conceptual gap as some CG practices as gender diversity and board size were not taken into account. Gupta and Sharma (2022) sought to to identify specific corporate governance determinants of asset quality in the Indian banking system. The research presents a contextual gap as it was performed in China which has a different economic and social situation from Kenya. Nasrallah and El Khoury (2022) investigated the aims to empirically examine the link between corporate governance and the financial performance of small and medium enterprises in Lebanon. The research offers a conceptual gap as it did not address the effect of corporate governance on asset quality.

Locally, most studies conducted have focused on individual determinants of asset quality. Miruka (2020) looked at corporate governance practices impact on Kenyan

banks' financial performance. The research presents a conceptual gap as it focused on financial performance which is different from asset quality. Rono (2019) aimed to determine the impact of board gender diversity on Kenya's commercial bank's business performance. The study presents conceptual gaps as other corporate governance practices such as board independence were not considered. Ibrahim, Ouma and Koshal (2019) examined impact of gender diversity on the financial performance of Kenyan insurance firms. The study reveals a contextual gap as it focused on the insurance industry. These researches have not investigated correlation between corporate governance practices and asset quality among banks in Kenya. Thus, it is worthwhile for the study to seal the gap through establishment of the connection between corporate governance practices and asset quality among banks in Kenya. The current research was based on these gaps and attempts to answer the research question; what is the effect of corporate governance practices on asset quality of commercial banks in Kenya?

1.3 Research Objective

to determine the effect of corporate governance practices on asset quality of commercial banks in Kenya.

1.4 Value of the Study

The conclusions of this research will contribute to already existing theoretical as well as empirical literature on corporate governance and asset quality. The findings will also help in theory development as they will offer insights on the shortcomings and relevance of the current theories to the variables of the study. Subsequent studies may also be carried out based on the recommendation for further research.

The conclusions of the research might be relevant to the policy makers such as the CBK. The research will serve as government guide on its role in policy making and

how CG practices affect asset quality. This would help the government identify areas of improvement. It will also be of help in evaluating how the various commercial banks are doing in terms of CG practices and asset quality and develop policies to guide on the same.

The conclusions will also aid commercial banks management in understanding the correlation between the two variables, the research is expected to be beneficial by giving them insight on the significance of CG practices. Managers are likely to develop a clear strategy for improving their CG practices. The information can be used by the firms to enhance their delivery mode as well as strengthen their asset quality position.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter widely explains the theories on which corporate governance and asset quality is based. It further discusses the previous empirical studies; knowledge gaps

identified and summarizes with a conceptual framework and hypotheses showing the expected relationship among the study variables.

2.2 Theoretical Framework

This segment examines the theories which underpin the study of corporate governance and asset quality. The study reviewed the agency theory, stakeholder theory and the stewardship theory.

2.2.1 Agency Theory

This is the anchor theory of the current study. Jensen and Meckling (1976) agency theory describe an 'agent' as someone who works on behalf of another person. The problem with the principal-agent relationship is that principals cannot contractually specify what the agent can do in any case (Moenga, 2015). Three factors can exacerbate the problems that arise from the principal-agent relationship: opportunism, sunk costs, and secret facts (Njau, 2016). Hidden information happens when agents have knowledge that the principal does not have and the agent has an opportunity to keep the knowledge hidden from the principal, all other factors held responsible. Hidden knowledge has the effect of allowing the agent to 'shirk' or minimize efforts to the disadvantage of the principal. Agency theory has implications for why corporate governance best practice structures can offer productivity benefits and competitive edge to organizations, based on the convention that corporate governance is required to guarantee agent action is directed toward the principal interests (Aimone & Butera, 2016).

Despite this, agency theory is not without flaws. The agency theory fails to account for many of the complexities and challenges that agents confront in carrying out the principal's tasks and assignments. Furthermore, the control devices proposed in relation

to agency theory are not only costly, but too ineffective economically, since shareholders' interest protection strategies can interfere with the implementation of strategic decisions, restrict collective activities, change investment plans, and neglect other stakeholder interests, resulting in a reduction in their economic value development endeavor (Segrestin & Hatchuel, 2011).

Suitability of agency theory to this research is because it clarifies in what way management, as the agent, is supposed to fulfill their perfect fiduciary duty of acting in principals' best interests and to prepare and offer principals with financial reports. As a result, agency theory is thought to provide a sound theoretical basis for the research's primary objective, which is the affiliation between CG and asset quality.

2.2.2 Stakeholder Theory

Freeman (1984) came up with the theory with the intention of being utilized as a management tool. However, since then it has progressed into a firm theory with a lot of explanatory power. The stakeholder theory is a methodological framework for organizational ethics and management that focuses on ethical as well as moral ideologies in the management of public and private organizations. Stakeholder theory stresses the importance of maintaining a balance of stakeholders' interests as the primary determinant of organizational strategy.

The single-valued objective supposition, according to which advantages go to a firm's stakeholders, is a source of criticism for this theory. According to Jensen (2016), there are additional ways to assess an organization's performance apart from the benefits stakeholders receive. The factors comprise flow of information from top administration to lower-level employees, the work conditions, and interpersonal relationships inside the company.

Stakeholder theory is applicable to this research since it provides support for agency theory, which failed to capture all other important stakeholders who depend on financial results to make economic decisions, like regulators, creditors, staff, financial analysts, as well as potential investors, among others. It lays a theoretical basis for understanding how various individuals and entities both inside as well as outside of a firm need accurate information, in compliance with code of corporate governance and legal requirements, it may be guaranteed. As a result, the theory is supposed to include theoretical reasons for all of the practical objectives so that, in case the directors board as well as management have all stakeholders' interests at heart, they can completely comply with corporate governance code as well as guarantee that performance results provided to stakeholders are correct, pertinent, and represent the correct condition of the firm.

2.2.3 Stewardship Theory

The stewardship theory was pioneered by Donaldson and Davis (1991). It emerges as a critical counterpoint to agency theory. A manager's principal purpose, as per stewardship theory, is to maximize the company's output, since a manager's passion for success as well as achievement is gratified whenever the firm performs effectively. This theory counters the agency theory by arguing that managerial opportunism is unimportant. Stewardship and agency theory mainly differ in that, stewardship theory substitutes the absence of confidence that agency theory relates to with reverence for authority and the desire of managers to behave ethically. According to stewardship theory, managers in publicly held firms are discouraged from operating against the interests of shareholders by their concern for their own reputations and career development, so agency costs should be naturally reduced (Donaldson & Davis, 1991). Because of detailed understanding of organizational operations, like access to data as

well as technical skills, an insider-dominated board, according to Muth and Donaldson (1998), is more successful. Compensation incentivizes shareholders' agents to work for the good of all stakeholders. True stewards and executives follow corporate governance code as well as regulatory directives, and disclosing the true earnings quality to stakeholders (Chen et al., 2016).

Scholars critiquing stewardship theory like Pastoriza and Ario (2018), argue that stewardship theory is oversimplified and impractical because people are predisposed to become stewards owing to situational and psychological reasons. These factors do not affect all managers as the question arises: where there is a misalignment between the company's management theory and the manager's psychological features, what then happens to the organizational pursuit? Additionally, stewardship theory proclaims that becoming steward emanates simply from a rational procedure, but it is unclear which fundamental mechanisms lead a person to choose. The question is how a person can determine whether or not he has a steward's nature. It's critical to figure out the kind of inner drive that motivates a person to look besides his own self-interest and resolve inter-motivational conflict within himself (Daodu, Nakpodia & Adegbite, 2017).

Stewardship theory is pertinent to the research since it complements stakeholder theory, which captures all other important stakeholders other than management who depend on financial results to make economic decisions, like shareholders, regulators, creditors, staff, financial analysts, as well as potential investors, among others. It offers a theoretical framework for understanding how successful stewards, who are managers of firms, manage their own careers via performing their duties with utmost dignity, an absolute need for any company's compliance with corporate governance guidelines, and the disclosure of correct, appropriate, as well as useful reports to all interested parties

at regular intervals without placing any stakeholder at a disadvantage. The theory links CG practices with asset quality.

2.3 Determinants of Asset Quality

Asset quality is determined by a number of factors. Some of these factors are within the control of management while others are not. They include corporate governance, bank size, capital adequacy and liquidity.

2.3.1 Corporate Governance Practices

Jensen and Meckling (1976) states that managers only keep their self-interests in mind and the maximization of shareholder value is conditional to having efficient governance structures that will punish wrongful acts. Additionally, the stewardship theory holds that governance problems do not always originate from executives; rather, these challenges stem from the choices of regulators and investors who are working toward their own goals of achieving self-fulfillment (Donaldson & Davis, 1991).

Companies that implemented sound corporate governance had more access to capital and better profits, as was discovered by Shleifer and Vishny (1997). Good corporate governance encourages investors to put their money into businesses like this. Competitiveness in a dynamic environment requires companies to be creative and to adjust strong corporate governance policies and frameworks (OECD, 2020).

2.3.2 Bank Size

The size of a bank usually determines how much it is affected by financial and legal concerns. High banks are typically able to obtain low-cost capital while also making large profits, implying that bank size is closely related to capital sufficiency. Furthermore, ROA has a positive relationship with bank size, indicating that large banks are able to achieve economies of scale, lowering operating costs as well as

boasting loan volumes (Amato & Burson, 2007). Magweva and Marime (2016) found a positive correlation between the size of the bank and the amount of NPLs, implying that the level of NPLs rises as the bank grows in size.

As per Amato and Burson (2007), the amount of assets owned by an organization determines its size. In comparison to small organizations with less assets, it can be argued that the larger a firm's assets are, the better its ability to take on a huge number of projects with higher returns. Furthermore, as compared to small firms, the bigger the organization, the greater the amount of security that can be pledged in order to acquire credit facilities (Njoroge, 2014). According to Lee (2009), the amount of assets under a company's control has an impact on the company's NPLs from one year to another.

2.3.3 Capital Adequacy

The capital adequacy ratio, often known as the bank capitalization ratio, is the equity-to-total-assets ratio. It assesses a bank's capability to manage risks in terms of solvency. Berger and DeYoung (1997) found a negative association between capital adequacy ratio and nonperforming loans in their research. Louzis et al. (2012) found a negative correlation between capital adequacy ratio and nonperforming loans. They came to the conclusion that banks with huge capital adequacy ratios can manage to put in place efficient measures to limit default risks, resulting in lower NPL numbers.

Adequately capitalized bank leads gestures to the market that it ought to expect above-average performance. According to Athanasoglou et al., (2005), capital has a positive impact on the level of NPLs, as evidenced by the Greece banks' strong financial position. Berger et al. (1987) also discovered a link between capital contribution and the amount of NPL in enterprises in both directions.

2.3.4 Bank Liquidity

Cheluget, Gekara, Orwa, and Keraro (2014) argued that a link exists between banks' asset quality and their liquidity and found that asset quality is substantially determined by liquidity management. Liquidity and solvency indicators had a substantial influence on increasing cost efficiency; businesses with higher bought input expenditures comparable to capital have less chance to become efficient when solvency and liquidity are taken into account (Arif, 2012).

When liquidity and solvency indicators are taken into account, businesses with higher spending on bought inputs compared to capital are less likely to increase asset quality (Russell et al., 2013). According to Liang Fu (2016), liquidity is another term for company liquidity which refers to amount of liquid assets held in the books of accounting. When dealing with companies with liquidity risk, the corporate investment behavior of family firms has a reduced financial distress risk tolerance, as shown by their much greater degree of corporate liquidity (Liang Fu, 2016).

2.4 Empirical Review

Local as well as global researches have determined the link between corporate governance and asset quality, the objectives, methodology and findings of these studies are discussed.

2.4.1 Global Studies

Aliani, Souilah and Mhamid (2021) sought to study the impact of corporate governance on credit risk of Tunisian banks. From a sample of 11 Tunisian listed banks, during the period 2008 to 2013, the empirical results reveal that the high level of capitalization, the board and the bank size have positive impact on the banks' credit risk. However, the duality of the CEO as well as the foreign directors' influence negatively affects the

credit risk of Tunisian banks. Furthermore, the presence of directors representing the state tends to increase the credit risk. Board diversity, independent directors and audit quality have no significant effects on the credit risk. This study presents a conceptual gap as some components of CG such as gender diversity and board independence were not taken into account.

Bulus and Lawal (2021) examines the impact of corporate governance mechanisms on the asset quality of selected deposit money banks in Nigeria for a period of ten (10) years. Data for the study were quantitatively generated as retrieved from the annual financial reports and accounts of some selected deposit money banks in Nigeria. Data was analyzed using regression analysis and it was discovered that audit committee and board composition contributes positively and significantly to assets quality of the deposit money banks in Nigeria. Some aspects of CG such as board size and gender diversity were not taken into account and therefore a conceptual gap.

Musa and Adutwumwaa (2021) examined the influence of various corporate governance structures such as board size, board independence, board gender diversity and CEO duality on the financial performance of rural banks in Ghana. The study collected secondary data from the annual report of 30 rural banks for a 10-year period spanning 2010 to 2019. The result shows that there was a positive but statistically insignificant association between CEO duality and ROA and ROE. The study further reveals a positive association between board size and ROA and ROE even though that of ROA was statistically insignificant. Also, board independence was found to be a significant determinant of rural bank financial performance. This study focused on CG and financial performance leaving a gap on asset quality which was the focus of the current study.

Gupta and Sharma (2022) sought to identify specific corporate governance determinants of CSR in the Indian banking system. The authors identify the determinants of CSR for the Indian banks using novel data from 2010 to 2019 through a dynamic panel data approach. The authors analyse 45 public and private sector banks using general method of moments. The results indicate that intensity of board activities, board functioning and ownership concentration are significant determinants of CSR. Furthermore, the study hypotheses on board independence and board size are rejected as they do not significantly impact the CSR. This study focused on CSR while the current study focuses on asset quality.

Neralla (2022) investigated the corporate governance structure effect on the firm's performance of the Indian-listed companies. The study was based on Indian-listed companies on the Bombay Stock Exchange. The study applied the panel data statistics. The study findings indicate that higher board size has a positive significant impact with the ROA and Tobin's Q. Besides, the study results show statistically insignificant correlation among the ROA, EPS and NPM with the board independence. The results also reflected the positively correlation among the board meetings and the performance indicators of Tobin's Q. Further, the results negatively revealed correlation amongst the ROE, NPM and corporate governance indicators of CEO duality. This study was performed in India which has a difference socio-cultural and economic environment from Kenya where the current study was undertaken.

2.4.2 Local Studies

Rono (2019) aimed to determine the impact of board gender diversity on Kenya's commercial bank's business performance. The research was done via an explanatory research design with a population of 146 workers and a sample of 106 respondents.

Purposive sampling technique was deployed for this particular study and a closed-ended questionnaire was utilized in primary data collection. Regression analysis was conducted. The conclusions indicate that board gender diversity and business performance have a strong as well as substantial relationship. The research discovers that board gender diversity is crucial for leadership capacity building in the organization. The research presents a conceptual gap as other structures of CG were not considered.

Ibrahim, Ouma and Koshal (2019) examined gender diversity impact on the financial performance of Kenyan insurance companies. The research looked at data from Kenya's 55 insurance companies. The female directors' number on the boards of Kenyan insurance companies was used to measure gender diversity. A total of 412 board directors, CEOs, and chief finance officers provided primary data. To interpret the data, descriptive as well as inferential statistics were utilized. In assessing the firm's performance, the accounting-based assessments of ROA as well as ROE were used. The regression analysis outcomes show gender diversity has a substantial as well as positively impacted financial performance of Kenyan insurance organizations. The research presents a contextual gap as it focused on insurance firms.

Miruka (2020) pursued to find corporate governance impact on Kenyan banks financial performance. Precisely, the study focused on board independence effect on financial NIC bank's performance. 135 employees at 8 NIC bank branches within Nairobi Central Business District served as the research population. Stratification was done based on three management levels: Managers, head of departments and operations staff where a sample of 101 employees was sampled. A questionnaire was utilized for data collection while 81 responded. The study revealed that an independent board results in

candid discussion of pertinent issues and positively impacts on performance. The research reveals a conceptual gap as it concentrated on only one aspect of CG.

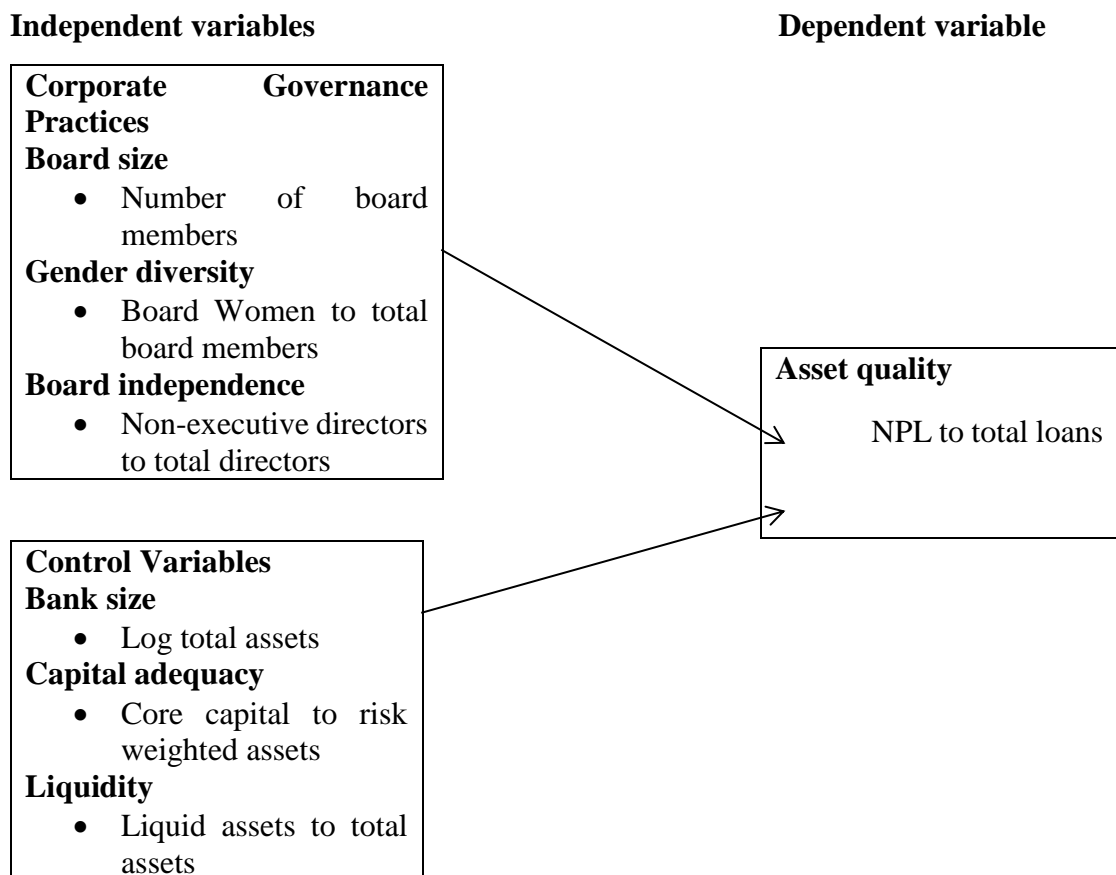
Soi (2022) investigate the moderating effect of CEO power on the relationship between corporate governance and risk taking among commercial banks in Kenya. The target population consisted of 43 commercial banks that were registered with Central Bank of Kenya during the period 2008 -2018. The study used secondary data. The findings show that board ownership and board financial expertise had negative and significant effect on risk-taking in commercial banks in Kenya. However, board independence and board meeting frequency had positive and significant effect on risk-taking. CEO power had a buffering interaction effect on the relationship between board ownership while CEO power had enhancing interaction effect on the relationship between board meeting frequency and risk taking. The research presents a conceptual gap as asset quality was not taken into account.

Kivaya (2022) investigated the role of firm size as a moderator of the relationship between board size, board duality, board composition and board independence on microfinance institutions financial performance in Nairobi City County. The target population of the study comprised the thirteen microfinance institutions in Nairobi City County. Secondary data was obtained from financial reports for the period 2012 - 2019. The study revealed that board size, board duality, board composition and board independence influences financial performance of Microfinance Institutions in Nairobi County. It was also concluded that firm size is a significant moderator on board duality, board composition and financial performance of microfinance institutions. The research presents a conceptual gap as the effect of CG on asset quality was not addressed.

2.5 Conceptual Framework

The independent variable for this study was corporate governance practices given by board size, gender diversity and board independence. The control variables were capital adequacy measured by the ratio of core capital to risk weighted assets, liquidity measured by the ratio of liquid assets to total assets and bank size given by natural logarithm of total assets. Asset quality was the dependent variable given by the ratio of NPLs to total loans.

Figure 2.1: The Conceptual Model



Source: Researcher (2022)

2.6 Summary of the Literature Review

Various empirical studies have been analysed in this section. Inconclusive and contradictory findings on the variables studied makes it difficult to precisely conclude the relationship between corporate governance practices and asset quality. At the conceptual level, the studies reviewed have studied different variables. The relationships tested varied from study to study. Due to different definitions and operationalisation, the findings differed and the conclusions obtained conflicted.

Contextually, foreign, regional and local studies were identified and discussed. However, the majority of the studies reviewed were from foreign regions. This made it difficult to extrapolate findings to the Kenyan economy. Methodologically, data collection, sampling and data analysis methods differed. The results therefore obtained were inconclusive. All this leaves a study gap that this research aimed at filling.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the approaches utilized in accomplishing the study objective which was to establish how corporate governance affects asset quality among banks in Kenya. In particular, the study highlights the; the design, data collection, and analysis.

3.2 Research Design

A descriptive design was adopted to determine how corporate governance practices and asset quality among commercial state corporations relate. This design was suitable since the researcher is particularly interested in the nature of the phenomenon (Khan, 2008). It was also effective for defining the phenomena' interconnections. This design also accurately and validly reflected the variables, providing enough replies to the study questions (Cooper & Schindler, 2014).

3.3 Population

A population is all observations from a collection of interest like events specified in an investigation (Burns & Burns, 2008). The research population was all the 40 commercial banks in Kenya as at 31st December 2021 (Appendix II).

3.4 Data Collection

Secondary data was relied on in this investigation which will be extracted from annual published financials of the commercial banks in Kenya from 2017 to 2021 and captured in data collection forms. The reports were extracted from the CBK financial publications and individual banks annual reports. The specific data collected included NPL and total loans for asset quality, number of board members as a proxy for size, total board members and non-executive directors as a proxy for board independence,

number of women directors and total board members as a proxy for gender diversity, liquid assets and total assets as a proxy for liquidity, total assets as a proxy for bank size and core capital and risk weighted assets as a proxy for capital adequacy.

3.5 Data Analysis

SPSS version 25 was used to analyze the data. Tables and graphs presented the findings quantitatively. Descriptive statistics were employed in the calculation of measures of central tendency and dispersion and combined with standard deviation for every variable. Inferential statistics relied on correlation and regression. Correlation determined the extent of the link between the research variables and a regression determined cause and effect among variables. A multivariate regression linearly determined the relation dependent and independent variables.

3.6.1 Diagnostic Tests

The linear regression was based on a various assumption inclusive of linearity, no autocorrelation, no or little multi-collinearity, homoscedasticity and multivariate normality.

The diagnostic tests performed were outlined in Table 3.1

Table 3.1: Diagnostic Tests

Test	Meaning	Statistica l method	Interpretation	Diagnosis
Autocorrelation	Occurs when the residuals lack independence from each other.	Durbin-Watson statistic	When the test outcomes fall within critical values ($1.5 < d < 2.5$) there is no autocorrelation	Correlogram (Auto Correlation Function-ACF plot) Review model specifications
Multicollinearity	How closely related are the independent variables of the study	Variance Inflation Factors (VIF)	VIF less than 10 implies that there is no multicollnearity	Data that was causing Multicollnearity was adjusted using log transformation

Heteroscedasticity	When data lacks similar variance as assumed by standard linear regression model	Breusch Pagan Test	Data split into high and low value. If data differ significantly, there is an element of heteroscedasticity	Non-linear transformation
Normality Test	When linear regression analysis for all variables is multivariate normal	Goodness of fit test Jarque-Bera test	Jarque-Bera test prob.> 0.05. If the test is not substantial, the distribution is possibly normal.	Data that was not normally distributed was adjusted for using log transformation and non-linear log transformation.
Stationarity	a unit-root test to establish if the data was stationary	Levin-Lin Chu unit root test	A p value less than 0.05 implies that the data is stationary	Robust standard errors were used where data failed the test.

3.6.2 Analytical Model

The following equation was applicable:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where: Y = Asset quality measured as the ratio of NPL to total loans

β_0 = y intercept of the regression equation.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = are the regression coefficients

X_1 = Board size as measured by the number of board members

X_2 = Gender diversity as measured by the ratio of women directors to total directors in the board

X_3 = Board independence as measured by percentage of the non-executive directors in proportion to the total number of directors

X_4 = Bank size as measured by the natural logarithm of total assets

X_5 = Capital adequacy as measured by the ratio of core capital to risk weighted assets

X_6 = Bank liquidity measured as liquid assets divided by total assets

ε =error term

3.6.3 Tests of Significance

Parametric tests determined the general model and variable's significance. The F-test determined the model's relevance and this was achieved using ANOVA, while a t-test determined the relevance of every variable.

CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS

4.1 Introduction

This chapter presents descriptive statistics and the results and interpretations of various tests namely: Test of normality, Multicollinearity, Heteroskedasticity tests, Autocorrelation and stationarity test. The chapter also presents the results of Pearson correlation and regression analysis.

4.2 Descriptive Statistics

This section presents the descriptive findings from the collected data. The descriptive results include mean and standard deviation for each of the study variables. The analyzed data was obtained from CBK and individual banks annual reports for a period of 5 years (2017 to 2021). The number of observations is 190= (38*5) as 38 banks provided complete data for the 5-year period. The banks that did not have complete data set for the 5 year period were excluded from the analysis. The results are as shown in Table 4.1

Table 4.1: Descriptive Results

	N	Minimum	Maximum	Mean	Std. Deviation
Asset quality	190	.0008	.8832	.145023	.1436364
Board size	190	5.0000	18.0000	9.394737	2.6956704
Gender diversity	190	.1714	.6000	.482283	.0828218
Independence	190	.5714	.9444	.869815	.0696715
Capital adequacy	190	.0280	2.1258	.236362	.2086072
Bank size	190	14.7750	20.6163	17.713741	1.3487735
Bank liquidity	190	.0246	1.4193	.489577	.2582595
Valid N (listwise)	190				

Source: Field Data (2022)

4.3 Diagnostic Tests

Diagnostic tests were done by the researcher to ensure the assumptions of Classic Linear Regression Model (CLRM) are not violated, and to obtain suitable models for examining in the consequence that the CLRM hypotheses are infringed. Consequently, the pre and post approximation analysis were carried out before processing regression model. The tests carried out were: Normality, Multicollinearity, Heteroskedasticity, Autocorrelation and stationarity. The study refrained from factitious regression results by getting this analysis.

4.3.1 Normality Test

The normality of data can be tested using a variety of methods. The most commonly used methods include the Jarque-Bera test, Shapiro–Wilk test and Kolmogorov–Smirnov test. The study used the Jarque-Bera test as the numerical method of determining normality. The null hypothesis says that the data are obtained from a normally distributed population. The null hypothesis is rejected when p-value is less than 0.05, and the data are said to be not normally distributed. If any violation of the assumption of normality was detected, necessary corrective measures were applied.

Table 4.2: Test for Normality

	Jarque-Bera Coefficient	P-value
Asset quality	3.624	0.201
Board size	4.304	0.302
Gender diversity	4.428	0.404
Board independence	2.763	0.315
Bank liquidity	3.153	0.327
Capital adequacy	4.239	0.400
Bank size	4.145	0.301

Source: Research Findings (2022)

From Table 4.2 results, all the study variables have a p value more than 0.05, and therefore, were normally distributed.

4.3.2 Multicollinearity Test

Multicollinearity occurs when the independent variables in a regression model are significantly linked. Multicollinearity was assessed using the VIF and tolerance indices. When the VIF value is higher than ten and the tolerance score is less than 0.2, multicollinearity is present, and the assumption is broken. In this case, the VIF values are less than 10, indicating no problem of multicollinearity.

Table 4.3: Multicollinearity

Variable	Collinearity Statistics	
	Tolerance	VIF
Board size	0.714	1.401
Gender diversity	0.629	1.590
Board independence	0.697	1.434
Bank liquidity	0.703	1.422
Capital adequacy	0.661	1.513
Bank size	0.677	1.477

Source: Research Findings (2022)

4.3.3 Heteroskedasticity Test

Homoskedasticity refers to constant variance, whereas heteroskedasticity refers to non-constant variance. The study used the Breusch-Pagan/Cook-Weisberg test to check if the variation was heteroskedastic. The null hypothesis implies constant variance, indicating that the data is homoskedastic. The results are as shown in Table 4.4.

Table 4.4: Heteroskedasticity Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
chi2(1)	=	0.8368
Prob > chi2	=	0.6318

Source: Research Findings (2022)

Table 4.4 reveals that the null hypothesis was not rejected since the p-value was 0.6318, which was statistically significant ($p > 0.05$). As a result, the dataset had homoscedastic

variances. Since the p-values of Breusch-Pagan’s test for homogeneity of variances were greater than 0.05. The test, therefore, confirmed homogeneity of variance. The data can, therefore, be used to conduct panel regression analysis.

4.3.4 Autocorrelation Test

Serial correlation, also known as autocorrelation, makes the standard errors of coefficients appear to be less than in linear panel data models, resulting in higher R-squared and erroneous hypothesis testing. Autocorrelation was tested using Durbin-Watson test. Error terms of regression variables are uncorrelated if Durbin-Watson test is equivalent to 2 (i.e. between 1 and 3). The closer the value to 2 the better. The results are as shown in Table 4.5.

Table 4.5: Test of Autocorrelation

Durbin Watson Statistic
1.936

Source: Research Findings (2022)

The results in Table 4.7 show that the Durbin-Watson statistic was 1.936. This shows that the error terms of regression variables are uncorrelated as the Durbin-Watson statistic was close to 2.

4.3.5 Stationarity Test

The research variables were subjected to a panel data unit-root test to establish if the data was stationary. The unit root test was Levin-Lin Chu unit root test. At a standard statistical significance level of 5%, the test was compared to their corresponding p-values. In this test, the null hypothesis is that every panel has a unit root, and the alternative hypothesis is that at least one panel is stationary. Table 4.6 shows Levin-Lin Chu unit root test results.

Table 4.6: Levin-Lin Chu unit-root test

Levin-Lin Chu unit-root test			
Variable	Statistic	p value	Comment
Asset quality	6.4722	0.0000	Stationary
Board size	7.3975	0.0000	Stationary
Gender diversity	6.2126	0.0000	Stationary
Board independence	8.2031	0.0000	Stationary
Bank liquidity	7.8718	0.0000	Stationary
Capital adequacy	6.8447	0.0000	Stationary
Bank size	6.8132	0.0000	Stationary

Source: Research Findings (2022)

As demonstrated in Table 4.6, this test concludes that the data is stationary at a 5% level of statistical significance since the p-values all fall below 0.05.

4.4 Correlation Results

To determine the degree and direction of link between each predictor variable and the response variable, correlation analysis was carried out. The correlation findings in Table 4.7 display correlation nature between the research variables in relation to magnitude and direction. The correlation results disclose that board size has a weak negative as well as significant link with asset quality of banks in Kenya ($r=-0.257$) at 5 percent significance level while gender diversity has a negative but not significant relationship with asset quality. Board independence has a weak negative as well as significant link with asset quality of banks in Kenya ($r=-0.344$) at 5 percent significance level. The results also disclose that board size and asset quality have a negative as well as significant correlation ($r=-0.332$) at 5 % significance level. The relationship between bank liquidity and asset quality was also negative and significant ($r=-0.214$) at 5 % significance level. Capital adequacy had a negative but not significant relation with asset quality as depicted by a p value above 0.05.

Table 4.7: Correlation Results

		Asset quality	Board size	Gender diversity	Independence	Capital adequacy	Bank size	Bank liquidity
Asset quality	Pearson Correlation	1						
	Sig. (2-tailed)							
Board size	Pearson Correlation	-.257**	1					
	Sig. (2-tailed)	.001						
Gender diversity	Pearson Correlation	-.012	.135	1				
	Sig. (2-tailed)	.868	.063					
Independence	Pearson Correlation	-.344**	.083	.933**	1			
	Sig. (2-tailed)	.000	.255	.000				
Capital adequacy	Pearson Correlation	-.106	.099	-.001	.012	1		
	Sig. (2-tailed)	.147	.174	.984	.867			
Bank size	Pearson Correlation	-.332**	.226**	.197**	.118	-.033	1	
	Sig. (2-tailed)	.000	.002	.006	.104	.655		
Bank liquidity	Pearson Correlation	-.214**	.038	.162*	.152*	.008	.102	1
	Sig. (2-tailed)	.003	.606	.025	.037	.913	.163	

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=190

Source: Research Findings (2022)

4.5 Regression Results

To determine the extent to which asset quality is described by the chosen variables, regression analysis was used. In Table 4.8, the regression's findings are displayed.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.728 ^a	.530	.502	.008115

a. Predictors: (Constant), Bank liquidity, Capital adequacy, Board size, Independence, Bank size, Gender diversity

Source: Research Findings (2022)

From the conclusions as epitomized by the R^2 , the studied independent variables explained variations of 0.530 in asset quality among banks in Kenya. This suggests that other factors not incorporated in this study account for 47% of the variability in asset quality variations.

Table 4.9: ANOVA Analysis

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.701	6	.117	6.681	.000 ^b
	Residual	3.199	183	.017		
	Total	3.899	189			

a. Dependent Variable: Asset quality
b. Predictors: (Constant), Bank liquidity, Capital adequacy, Board size, Independence, Bank size, Gender diversity

Source: Research Findings (2022)

The data had a 0.000 significance level, according to Table 4.9's ANOVA results, which suggests that the model is the best choice for drawing conclusions about the variables.

Table 4.9: Regression Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
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	B	Std. Error	Beta		
(Constant)	-.481	.041		-6.336	.000
Board size	-.141	.045	-.149	-3.169	.002
Gender diversity	-.030	.076	-.015	-1.347	.116
1 Independence	-.310	.020	-.315	-4.344	.000
Bank liquidity	-.287	.069	-.269	-4.163	.000
Capital adequacy	-.036	.0004	-.026	-1.640	.103
Bank size	-.927	.008	-.958	-56.567	.000

a. Dependent Variable: Asset quality

Source: Research Findings (2022)

The coefficient of regression model was as below;

$$Y = -0.481 - 0.141X_1 - 0.310X_2 - 0.287X_3 - 0.927X_4$$

Where:

Y = Asset quality; X₁ = Board size; X₂ = Board independence; X₃= Bank liquidity X₄= Bank size

4.6 Discussion of Research Findings

The objective of this research was to establish the effect of corporate governance on asset quality of banks in Kenya. The study utilized a descriptive design while population was the 40 banks in Kenya. Complete data was, however, obtained from 38 banks in Kenya and which were considered adequate for regression analysis. The research utilized secondary data which was gotten from CBK and individual banks annual reports. The specific attributes of corporate governance considered were: board size, gender diversity and board independence. The control variables were: bank liquidity, bank size and capital adequacy. Both descriptive as well as inferential statistics were used to analyze the data. The results are discussed in this section.

The correlation results disclose that board size has a weak negative as well as significant link with asset quality of banks in Kenya while gender diversity has a negative but not significant relationship with asset quality. Board independence has a weak negative as

well as significant link with asset quality of banks in Kenya. The results also disclose that board size and asset quality have a negative as well as significant correlation. The relationship between bank liquidity and asset quality was also negative and significant. Capital adequacy had a negative but not significant relation with asset quality.

Multivariate regression results revealed that the R square was 0.530 implying 53% of changes in asset quality of banks are due to the six variables alterations selected for this study. This means that variables not considered explain 47% of changes in asset quality. The overall model was also statistically significant as the p value was 0.000 which is less than the significance level of 0.05. This implies that the overall model had the required goodness of fit.

The multivariate regression analysis further revealed that individually, board size has a negative and significant effect on asset quality of banks ($\beta=-0.141$, $p=0.001$). Board independence also has a negative and significant effect on asset quality ($\beta=-0.310$, $p=0.000$) while gender diversity exhibited negative but not statistically significant influence on asset quality. Both bank size and bank liquidity have a negative effect on asset quality of banks as shown by ($\beta=-0.927$, $p=0.000$) and ($\beta=-0.287$, $p=0.000$) respectively. Capital adequacy exhibited a negative but not significant influence on asset quality as shown by ($\beta=-0.036$, $p=0.103$).

These findings concur with those of Bulus and Lawal (2021) who examines the impact of corporate governance mechanisms on the asset quality of selected deposit money banks in Nigeria for a period of ten (10) years. Data for the study were quantitatively generated as retrieved from the annual financial reports and accounts of some selected deposit money banks in Nigeria. Data was analyzed using regression analysis and it

was discovered that audit committee and board composition contributes positively and significantly to assets quality of the deposit money banks in Nigeria.

The research findings also concur with Soi (2022) who investigated the moderating effect of CEO power on the relationship between corporate governance and risk taking among commercial banks in Kenya. The target population consisted of 43 commercial banks that were registered with Central Bank of Kenya during the period 2008 -2018. The study used secondary data. The findings show that board ownership and board financial expertise had negative and significant effect on risk-taking in commercial banks in Kenya. However, board independence and board meeting frequency had positive and significant effect on risk-taking. CEO power had a buffering interaction effect on the relationship between board ownership while CEO power had enhancing interaction effect on the relationship between board meeting frequency and risk taking.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The key aim of the research was determining how corporate governance influences the asset quality of banks in Kenya. This section includes a summary of the findings from the previous chapter as well as the conclusions and limitations of the study. Additionally, it makes recommendations for potential policy measures. The chapter provides recommendations for further research

5.2 Summary

The objective of this research was to establish the effect of corporate governance on asset quality of banks in Kenya. The study utilized a descriptive design while population was the 40 banks in Kenya. Complete data was obtained from 38 banks in Kenya and which were considered adequate for regression analysis. The research utilized secondary data which was gotten from CBK and individual banks annual reports. The specific attributes of corporate governance considered were; board size, gender diversity and board independence. The control variables were, bank liquidity, bank size and capital adequacy. Both descriptive as well as inferential statistics were used to analyze the data. The results are discussed in this section.

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relationship between bank liquidity and asset quality was also negative and significant. Capital adequacy had a negative but not significant relation with asset quality.

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5.3 Conclusions

The study purpose of the research was to find out the association between corporate governance attributes and asset quality. The study results indicated that board size had a negative and significant effect on asset quality which might mean that boards with a large board size are beneficial in reducing the level of non-performing loans in a bank. This might be explained by the fact that having a large board size enhances monitoring as it is likely to have more diverse expertise compared to a small board.

The study results showed that board independence had a negative and significant effect on asset quality. This may mean that the higher proportion of independent non-executive and executive directors increased board effectiveness in monitoring managerial opportunism and preventing self-interest thereby consequently reducing the level of non-performing loans in a bank.

Additionally, the outcomes revealed that liquidity has a significant negative effect on asset quality among banks. This implies that firms with low levels of liquid assets compared to their assets end up having a higher level of non-performing loans. This can be explained by the inability of illiquid banks to attract credit worthy borrowers as compared to those with high levels of liquidity.

The research outcomes further depicted that bank size possessed a negative as well as significant effect on asset quality which might mean that an increase in asset base of a bank leads to a reduction in the level of non-performing loans. This can be explained by the fact that bigger banks are likely to have developed structures to monitor the internal operations of a firm leading to reduction in the level of NPLs. Bigger banks are also likely to have better governance structure which can also explain the low NPLs associated with bank size.

5.4 Recommendations for Policy and Practice

The study findings reveal that board size had a negative and significant effect on asset quality. The study therefore recommends that shareholders of banks should strive to enhance their board size as this contributes to reduction in the level of non-performing loans in a bank. Policy makers such as CBK should also come with policies and guidelines of the minimum number of people that should be in a board.

Further, board independence was discovered to have a significant as well as negative effect on asset quality. The research thus suggests that shareholders of the banks in Kenya ought to guarantee that there is an appropriate number of non-executive directors in the board to enhance smooth coordination within the board as the results are indicative that more diversified boards in terms of independence lead to reduction in the level of NPLs.

Further, liquidity was discovered to possess a significant and negative effect on asset quality. The research, therefore, recommends that management of banks in Kenya should ensure that they do not over commit their assets by giving excess loans as this will likely lead to reduction in the level of asset quality. The banks should come up with effective liquidity management strategies. Regulators should ensure that the banks do not lend beyond a certain set limit of their asset base.

From the study findings, bigger banks were found to have low level of NPLs compared to small banks, this study recommends that banks should keep adequate asset levels to sustain their obligations when they fall due whereas simultaneously time enjoying short term investment chances which may arise. The policy makers should set a limit of the asset base level that banks should have.

5.5 Limitations of the Study

The focus was on various factors which are thought to influence asset quality of Kenyan banks. The research focused on six explanatory variables in particular. However, in certainty, there is presence of other variables probable to influence asset quality of banks some of which are aspects of corporate governance attributes like board meetings and board expertise whereas others are beyond the control of the firm like interest rates as well as political stability.

In this study, a five-year period from 2017 to 2021 was selected. There is no proof that comparable results will remain the same across a longer time frame. Moreover, it is not possible to predict if the same outcomes would persist after 2021. Given that additional time contains instances of big economic transitions like recessions and booms, it is more dependable.

The quality of the data was the main restriction for this study. It is not possible to conclusively conclude that the study's findings accurately reflect the current reality. It has been presumed that the data utilized in the study are accurate. Due to the current conditions, there has also been a great deal of incoherence in the data measurement. The study made use of secondary data rather than primary data. Due to the limited availability of data, only some of the asset quality drivers have been considered.

The data analysis was performed using regression models. Because of the limitations associated with using the model, like inaccurate or erroneous findings resulting from a change in the variable value, the researchers would not be able to generalize the conclusions precisely. A regression model cannot be performed using the prior model after data is added to it.

5.6 Suggestions for Further Research

This study focused on banks in Kenya. Further studies can focus on a wide scope by covering other financial institutions in Kenya to back or criticize the results of the current study. Further, this study focused on three measures namely; board size, gender diversity and board independence. Future studies should focus on other corporate governance measures that were not considered in this study.

The current research scope was restricted to five years; more research can be done past five years to determine whether the results might persist. Thus, inherent future studies

may use a wider time span, that can either support or criticize the current research conclusions. The scope of the study was additionally constrained in terms of context where banks were examined. Further studies can be extended to other financial firms to establish if they complement or contradict the current study findings. Researchers in the East African region, the rest of Africa, and other global jurisdictions can too perform the research in these jurisdictions to ascertain if the current research conclusions would persist.

The research only used secondary data; alternate research may use primary data sources such in-depth questionnaires and structured interviews given to practitioners and stakeholders. These can then affirm or criticize the results of the current research. This study used multiple linear regression and correlation analysis; future research could use other analytic techniques such factor analysis, cluster analysis, granger causality, discriminant analysis, and descriptive statistics, among others.

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APPENDICES

Appendix I: Data Collection Sheet

Year	NPL	Total Loans	Board members	NED	Women directors	Liquid assets	Core capital	Total assets	Risk weighted assets
2017									
2018									
2019									

2020									
2021									

Appendix II: Commercial Banks in Kenya

1. ABSA Bank Kenya Plc	2. Gulf African Bank Limited
3. Access Bank(Kenya) PLC	4. <u>Habib Bank A.G Zurich</u>
5. African Banking Corporation Limited	6. I & M Bank Limited
7. Bank of Africa Kenya Limited	8. Imperial Bank Limited
9. Bank of Baroda(Kenya) limited	10. Jami Bora Bank Limited
11. Bank of India	12. KCB Bank Kenya Limited
13. Charter house Bank Limited	14. Mayfair CIB Bank Limited
15. Citibank N.A Kenya	16. Middle East Bank (K) limited
17. Consolidated Bank of Kenya	18. M-Oriental Bank Limited
19. The Cooperative Bank of Kenya	20. National Bank of Kenya Limited
21. The Credit Bank Limited	22. NCBA Bank Kenya PLC
23. Development Bank of Kenya	24. Paramount Bank Limited
25. Diamond Trust Bank of Kenya	26. Prime Bank Limited
27. DIB Bank Kenya Limited	28. SBM Bank Kenya Limited
29. Eco Bank Kenya Limited	30. <u>Sidian Association Bank Limited</u>
31. Equity Bank of Kenya Limited	32. Spire Bank Limited
33. Family Bank Limited	34. <u>Stanbic Bank Kenya Limited</u>
35. First Community Bank Limited	36. Standard Chartered Bank Kenya
37. Guaranty Trust Bank(K) Limited	38. UBA Association Kenya Bank
39. Guardian Bank Limited	40. Victoria Commercial Bank Limited

Source: CBK (2022)

Appendix III: Research Data

Bank	Year	Asset quality	Board size	Gender diversity	Independence	Capital adequacy	Bank size	Bank liquidity
1	2017	0.1426	9.0000	0.3273	0.7273	0.1645	16.9342	0.5125
1	2018	0.1566	9.0000	0.4889	0.8889	0.1528	16.9451	0.4556
1	2019	0.1829	10.0000	0.5000	0.9000	0.1560	17.0576	0.6756
1	2020	0.1989	10.0000	0.5000	0.9000	0.1844	17.1451	0.7448
1	2021	0.1490	10.0000	0.5000	0.9000	0.1538	17.1964	0.7232
2	2017	0.2325	18.0000	0.5444	0.9444	0.1639	18.0537	0.2742
2	2018	0.2606	18.0000	0.5440	0.9440	0.1616	17.8408	0.3254
2	2019	0.2816	11.0000	0.5440	0.9440	0.1578	17.8080	0.2887
2	2020	0.3383	11.0000	0.5440	0.9440	0.1602	17.7090	0.2953
2	2021	0.4139	11.0000	0.4889	0.8889	0.1083	17.5996	0.2754
3	2017	0.0754	10.0000	0.4750	0.8750	1.9617	18.0376	0.6428
3	2018	0.0846	10.0000	0.4750	0.8750	0.3053	18.2332	0.6662
3	2019	0.0586	10.0000	0.4750	0.8750	0.3229	18.3812	0.6639
3	2020	0.0882	10.0000	0.4750	0.8750	0.3466	18.6278	0.6526
3	2021	0.0828	10.0000	0.4750	0.8750	0.3274	18.7805	0.6372
4	2017	0.0420	9.0000	0.4889	0.8889	0.1840	19.2998	0.1158
4	2018	0.0521	9.0000	0.3140	0.7140	0.1786	19.3751	0.1323
4	2019	0.0556	9.0000	0.3140	0.7140	0.1803	19.4197	0.1656
4	2020	0.0610	10.0000	0.3140	0.7140	0.1638	19.6003	0.1472
4	2021	0.0560	10.0000	0.3143	0.7143	0.1667	19.7397	0.1270
5	2017	0.0202	13.0000	0.3143	0.7143	0.4230	17.5571	0.7007
5	2018	0.0139	13.0000	0.4180	0.8180	0.4574	17.6829	0.6912

5	2019	0.0207	13.0000	0.4180	0.8180	0.5397	17.8521	0.7020
5	2020	0.0713	13.0000	0.4182	0.8182	0.4392	17.9537	0.6503
5	2021	0.0936	13.0000	0.4330	0.8330	0.4842	17.9514	0.5377
6	2017	0.0580	9.0000	0.4330	0.8330	0.2832	18.2945	0.7331
6	2018	0.0192	11.0000	0.4330	0.8330	0.2637	18.4534	0.6613
6	2019	0.0368	11.0000	0.4330	0.8330	0.2555	18.4028	0.5954
6	2020	0.0162	11.0000	0.4333	0.8333	0.2764	18.2656	0.6081
6	2021	0.0257	11.0000	0.4333	0.8333	0.2715	18.3858	0.5497
7	2017	0.1059	7.0000	0.4333	0.8333	0.1792	19.1891	0.3826
7	2018	0.0745	9.0000	0.4570	0.8570	0.1845	19.2507	0.3554
7	2019	0.0831	11.0000	0.4570	0.8570	0.1732	19.3199	0.4025
7	2020	0.0797	11.0000	0.4571	0.8571	0.1573	19.3172	0.5734
7	2021	0.0553	11.0000	0.4571	0.8571	0.0939	16.4642	0.5605
8	2017	0.1176	5.0000	0.4667	0.8667	0.0790	16.4487	0.2890
8	2018	0.1527	5.0000	0.4670	0.8670	0.0509	16.4149	0.5506
8	2019	0.1533	5.0000	0.4670	0.8670	0.0280	16.3718	0.4309
8	2020	0.2568	5.0000	0.4750	0.8750	0.1352	16.2888	0.7651
8	2021	0.0638	5.0000	0.4750	0.8750	0.1551	16.1464	0.5803
9	2017	0.0722	10.0000	0.4750	0.8750	0.2285	16.3200	0.2478
9	2018	0.0754	10.0000	0.4750	0.8750	0.1477	16.4904	0.2405
9	2019	0.0724	10.0000	0.4750	0.8750	0.1451	16.7006	0.3577
9	2020	0.0870	10.0000	0.4750	0.8750	0.1496	16.8910	0.2284
9	2021	0.0342	10.0000	0.4889	0.8889	2.1258	19.6518	0.2211
10	2017	0.0390	10.0000	0.4889	0.8889	0.2277	19.6787	0.5144
10	2018	0.0620	10.0000	0.4889	0.8889	0.2268	19.7736	0.5296

10	2019	0.1009	10.0000	0.4889	0.8889	0.1618	19.8406	0.5866
10	2020	0.0979	10.0000	0.4889	0.8889	0.1505	19.9402	0.6934
10	2021	0.2601	10.0000	0.4889	0.8889	0.2508	16.6135	0.6071
11	2017	0.2098	10.0000	0.4889	0.8889	0.2355	16.6072	0.5346
11	2018	0.2981	10.0000	0.4889	0.8889	0.2323	16.5449	0.5924
11	2019	0.3695	11.0000	0.4889	0.8889	0.3147	16.5472	0.5076
11	2020	0.0241	10.0000	0.4889	0.8889	0.1463	19.4199	0.6935
11	2021	0.0325	10.0000	0.4889	0.8889	0.1850	19.6087	0.7629
12	2017	0.0666	11.0000	0.4889	0.8889	0.1901	19.7107	0.7952
12	2018	0.0629	11.0000	0.4890	0.8890	0.2111	19.7497	0.7848
12	2019	0.0683	11.0000	0.4890	0.8890	0.2091	19.7719	0.6970
12	2020	0.5539	10.0000	0.4890	0.8890	0.7005	14.7750	0.6677
12	2021	0.0037	9.0000	0.4990	0.8990	0.2990	15.4739	0.6829
13	2017	0.0095	5.0000	0.4990	0.8990	0.1486	16.0114	1.3073
13	2018	0.0622	5.0000	0.4990	0.8990	0.2496	17.7749	1.2291
13	2019	0.1628	5.0000	0.4990	0.8990	0.1944	17.6683	1.0328
13	2020	0.3770	5.0000	0.4990	0.8990	0.1599	17.7944	0.8101
13	2021	0.1735	5.0000	0.4990	0.8990	0.1659	17.8130	0.7456
14	2017	0.1448	7.0000	0.5000	0.9000	0.1622	18.1380	0.1556
14	2018	0.0272	7.0000	0.5000	0.9000	0.2018	19.8748	0.1738
14	2019	0.0628	7.0000	0.5000	0.9000	0.1966	19.9761	0.3356
14	2020	0.0553	7.0000	0.5000	0.9000	0.2041	20.0779	0.3222
14	2021	0.0710	7.0000	0.5000	0.9000	0.1593	20.1671	0.3771
15	2017	0.0873	6.0000	0.5090	0.9090	0.1979	20.3283	0.3930
15	2018	0.0367	6.0000	0.5090	0.9090	0.1441	18.2134	0.4443

15	2019	0.1197	6.0000	0.5090	0.9090	0.2078	18.0567	0.3845
15	2020	0.1923	6.0000	0.5090	0.9090	0.1986	18.0516	0.3275
15	2021	0.1618	6.0000	0.5090	0.9090	0.1952	18.0204	0.2696
16	2017	0.1409	6.0000	0.5090	0.9090	0.1869	18.1831	0.1425
16	2018	0.2346	6.0000	0.5090	0.9090	0.1145	16.4941	0.1037
16	2019	0.3195	6.0000	0.5090	0.9090	0.1399	16.5210	0.0904
16	2020	0.4078	6.0000	0.5090	0.9090	0.1534	16.6697	0.1881
16	2021	0.4882	6.0000	0.5090	0.9090	0.0911	16.6992	0.2950
17	2017	0.4145	10.0000	0.5090	0.9090	0.0810	16.7474	0.5820
17	2018	0.0916	10.0000	0.5091	0.9091	0.2649	17.5282	0.5287
17	2019	0.1108	10.0000	0.5091	0.9091	0.2547	17.2864	0.5689
17	2020	0.1088	10.0000	0.5091	0.9091	0.2387	17.2774	0.4618
17	2021	0.1467	10.0000	0.5091	0.9091	0.2597	17.4516	0.5065
18	2017	0.1090	9.0000	0.5091	0.9091	0.2428	17.1856	0.4366
18	2018	0.0304	9.0000	0.5167	0.9167	0.1763	16.4972	0.4653
18	2019	0.0169	9.0000	0.5167	0.9167	0.1904	16.5037	0.4858
18	2020	0.0453	9.0000	0.5167	0.9167	0.2022	16.5757	0.4953
18	2021	0.0757	9.0000	0.5167	0.9167	0.2275	16.5997	0.6154
19	2017	0.0689	9.0000	0.5167	0.9167	0.2220	16.6120	1.0060
19	2018	0.0842	9.0000	0.5230	0.9230	0.1577	17.0226	0.7975
19	2019	0.0923	9.0000	0.5230	0.9230	0.1872	17.1171	0.9662
19	2020	0.0929	9.0000	0.5231	0.9231	0.1620	17.2596	0.3658
19	2021	0.1064	9.0000	0.5231	0.9231	0.1866	17.3218	0.4455
20	2017	0.1534	9.0000	0.5350	0.9350	0.1711	17.3744	1.4193
20	2018	0.0792	9.0000	0.6000	0.9090	0.3213	16.1408	0.8674

20	2019	0.1871	9.0000	0.6000	0.9090	0.3911	16.3419	0.5202
20	2020	0.0745	9.0000	0.6000	0.9090	0.2463	16.8845	0.4751
20	2021	0.0922	9.0000	0.6000	0.9090	0.2729	17.0273	0.4664
21	2017	0.0437	7.0000	0.6000	0.9090	0.1813	18.0874	0.3808
21	2018	0.0692	7.0000	0.6000	0.9090	0.1769	18.0912	0.3826
21	2019	0.1081	7.0000	0.6000	0.9090	0.1700	18.0282	0.3937
21	2020	0.2494	7.0000	0.6000	0.9090	0.1534	17.9190	0.4708
21	2021	0.2356	7.0000	0.6000	0.9090	0.1456	17.8490	0.2786
22	2017	0.0248	15.0000	0.6000	0.9090	0.2021	19.0716	0.2851
22	2018	0.0289	15.0000	0.6000	0.9090	0.1815	19.1652	0.2948
22	2019	0.0870	15.0000	0.6000	0.9090	0.1858	19.2966	0.2659
22	2020	0.1079	14.0000	0.6000	0.9090	0.1792	19.3315	0.2797
22	2021	0.0979	14.0000	0.6000	0.9090	0.2156	19.4287	0.2771
23	2017	0.0517	8.0000	0.3143	0.7143	0.1625	16.6358	0.2403
23	2018	0.1720	8.0000	0.4182	0.8182	0.2008	16.5742	0.2615
23	2019	0.1331	8.0000	0.4182	0.8182	0.1933	16.3714	0.2405
23	2020	0.0446	7.0000	0.4182	0.8182	0.1536	20.1400	0.2165
23	2021	0.0705	7.0000	0.4182	0.8182	0.1801	20.2045	0.8202
24	2017	0.0766	7.0000	0.6000	0.9090	0.1663	20.2873	0.8878
24	2018	0.0627	7.0000	0.6000	0.9090	0.1955	20.3868	0.8005
24	2019	0.1016	6.0000	0.6000	0.9170	0.1903	20.6163	0.8552
24	2020	0.1590	6.0000	0.5167	0.9167	0.3933	15.4706	0.8684
24	2021	0.1807	6.0000	0.5167	0.9167	0.5708	15.4489	0.0783
25	2017	0.3825	7.0000	0.5167	0.9167	0.4494	15.4946	0.0910
25	2018	0.1374	7.0000	0.5167	0.9167	0.3119	15.9516	0.1478

25	2019	0.0821	7.0000	0.5167	0.9167	0.3869	16.1101	0.1914
25	2020	0.0718	7.0000	0.5170	0.9170	0.3316	16.1741	0.2388
25	2021	0.0940	7.0000	0.5170	0.9170	0.3093	16.1683	0.2651
26	2017	0.1931	7.0000	0.4571	0.8571	0.3442	16.3327	0.2212
26	2018	0.1116	8.0000	0.4750	0.8750	0.1399	18.6473	0.2289
26	2019	0.1749	8.0000	0.4750	0.8750	0.0715	18.5348	0.2535
26	2020	0.3001	7.0000	0.4750	0.8750	0.0542	18.5148	0.3028
26	2021	0.3913	7.0000	0.4571	0.8571	0.0370	18.5591	0.2939
27	2017	0.3564	16.0000	0.4750	0.8750	0.1150	18.5343	0.2801
27	2018	0.0912	16.0000	0.5380	0.9380	0.2059	18.9262	0.2843
27	2019	0.1126	16.0000	0.5375	0.9375	0.2304	18.9481	0.3822
27	2020	0.1089	13.0000	0.5231	0.9231	0.2227	19.1442	0.2833
27	2021	0.1224	13.0000	0.5380	0.9380	0.1869	19.1550	0.2710
28	2017	0.0519	14.0000	0.4571	0.8571	0.2412	16.1693	0.2674
28	2018	0.0828	14.0000	0.5290	0.9290	0.2741	16.0592	0.2358
28	2019	0.1056	14.0000	0.5286	0.9286	0.2946	16.0711	0.2410
28	2020	0.1318	14.0000	0.4889	0.8889	0.2853	16.1067	1.1388
28	2021	0.1211	14.0000	0.4890	0.8890	0.2450	16.1615	0.9389
29	2017	0.0170	12.0000	0.6000	0.9170	0.1729	17.9899	0.7282
29	2018	0.0362	12.0000	0.6000	0.9170	0.2216	17.9950	0.6733
29	2019	0.0486	12.0000	0.6000	0.9170	0.2248	18.1721	0.5869
29	2020	0.0606	13.0000	0.6000	0.9170	0.3729	18.4220	0.4759
29	2021	0.1018	13.0000	0.6000	0.9170	0.4136	18.5049	0.4368
30	2017	0.1025	10.0000	0.5000	0.9000	0.1509	18.7977	0.3876
30	2018	0.8832	10.0000	0.5000	0.9000	0.1281	16.0873	0.3467

30	2019	0.7290	10.0000	0.5000	0.9000	0.1644	16.2608	0.3458
30	2020	0.2528	10.0000	0.5000	0.9000	0.2425	18.0733	0.3484
30	2021	0.8521	10.0000	0.5000	0.9000	0.2312	18.0994	0.3469
31	2017	0.1284	5.0000	0.4000	0.8000	0.2468	16.7655	0.3099
31	2018	0.2383	5.0000	0.4000	0.8000	0.2325	16.8541	0.3569
31	2019	0.2780	5.0000	0.4000	0.8000	0.1646	16.7757	0.3686
31	2020	0.2035	5.0000	0.4000	0.8000	0.1440	17.0467	0.6834
31	2021	0.1968	5.0000	0.4000	0.8000	0.1793	17.0908	0.6793
32	2017	0.0411	11.0000	0.5091	0.9091	0.1870	19.1552	0.5936
32	2018	0.0505	11.0000	0.5091	0.9091	0.1812	19.1847	0.7626
32	2019	0.0666	11.0000	0.5091	0.9091	0.1684	19.3319	0.7537
32	2020	0.0945	11.0000	0.5091	0.9091	0.1740	19.4537	1.0875
32	2021	0.0998	11.0000	0.5091	0.9091	0.1834	19.4947	1.0535
33	2017	0.1015	12.0000	0.6000	0.9170	0.2116	19.2707	1.0108
33	2018	0.0829	12.0000	0.6000	0.9170	0.2091	19.3389	0.9063
33	2019	0.0896	12.0000	0.6000	0.9170	0.1852	19.4705	0.8892
33	2020	0.1169	12.0000	0.6000	0.9170	0.1947	19.4694	0.5301
33	2021	0.0953	12.0000	0.6000	0.9170	0.1773	19.5264	0.5264
34	2017	0.3332	8.0000	0.3500	0.7500	0.1745	16.4876	0.5370
34	2018	0.1677	8.0000	0.3500	0.7500	0.1627	16.4404	0.4524
34	2019	0.4271	8.0000	0.3500	0.7500	0.1265	16.2268	0.4029
34	2020	0.5598	8.0000	0.3500	0.7500	0.2201	16.0372	0.0457
34	2021	0.7111	8.0000	0.4333	0.8333	0.2060	15.7413	0.0748
35	2017	0.1103	9.0000	0.3143	0.7143	0.2164	16.1624	0.0748
35	2018	0.1156	9.0000	0.3143	0.7143	0.2230	16.1547	0.0843

35	2019	0.2416	9.0000	0.4182	0.8182	0.2908	16.1419	0.3640
35	2020	0.2211	9.0000	0.4182	0.8182	0.2111	16.1414	0.5597
35	2021	0.2857	9.0000	0.4182	0.8182	0.2015	16.0475	0.5245
36	2017	0.0180	8.0000	0.4182	0.8182	0.2379	15.8672	0.5261
36	2018	0.0186	8.0000	0.4000	0.8000	0.3868	15.5385	0.5548
36	2019	0.0436	8.0000	0.4750	0.8750	0.3878	15.6880	0.0246
36	2020	0.1276	8.0000	0.4750	0.8750	0.3316	16.5455	0.7179
36	2021	0.2432	8.0000	0.4750	0.8750	0.2537	16.5936	0.7097
37	2017	0.0329	11.0000	0.4750	0.8750	0.1930	16.8122	0.6361
37	2018	0.0255	11.0000	0.4750	0.8750	0.2545	16.9247	0.5670
37	2019	0.0008	11.0000	0.1714	0.5714	0.2274	17.0730	0.4912
37	2020	0.0308	11.0000	0.1714	0.5714	0.2109	17.2917	0.4925
37	2021	0.0506	11.0000	0.1714	0.5714	0.2015	17.4010	0.4482
38	2017	0.1750	9.0000	0.1714	0.5714	0.2003	17.2703	0.4229
38	2018	0.1731	9.0000	0.3143	0.7143	0.1999	17.2654	0.4367
38	2019	0.1712	9.0000	0.4889	0.8889	0.1995	17.2605	0.4861
38	2020	0.1692	9.0000	0.4889	0.8889	0.1991	17.2556	0.3917
38	2021	0.1673	9.0000	0.4889	0.8889	0.1987	17.2507	0.2804