Examining the Role of Capital Structure in Financial Performance in Kenyan Banks: Comparative Evidence from Equity Group, KCB Group, and Stanbic Kenya

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ABSTRACT

This study examined the role of capital structure in financial performance among Kenyan banks, focusing on Equity Group, KCB Group, and Stanbic Kenya over the financial years 2021–2023. The study aimed to analyse the relationship between capital structure and profitability, assess its impact on financial stability, investigate the effects of agency costs on capital structure decisions, and develop strategic recommendations for optimal capital management. The research was grounded in the Modigliani-Miller Theory, Trade-Off Theory, Pecking Order Theory, and Agency Theory, which provided a theoretical framework for understanding capital structure decisions in the banking sector. A quantitative research design was adopted, utilising secondary financial data from audited financial statements and regulatory reports. Regression analysis was conducted using SPSS to establish the relationship between debt-to-equity ratios, Return on Equity (ROE), and Return on Assets (ROA).

In contrast, ratio analysis facilitated a comparative assessment of financial performance trends. The findings revealed significant differences in capital structure strategies among the banks, with Equity Group maintaining the highest debt-to-equity ratio, followed by Stanbic Kenya and KCB Group. This aggressive leverage strategy enabled Equity Group to achieve superior financial performance, which is reflected in its higher ROE and ROA compared to the other banks. KCB Group demonstrated a balanced capital structure approach, maintaining steady profitability while mitigating financial risks. With a more conservative debt strategy, Stanbic Kenya prioritised financial stability at the expense of higher returns. The study further found that agency costs influenced capital structure decisions, as management's risk preferences and shareholder interests shaped leverage policies. Macroeconomic factors, including inflation and interest rate fluctuations, also played a crucial role in determining capital structure trends. The study concluded that capital structure significantly impacted Kenyan banks' profitability and financial stability. While higher leverage facilitated increased returns, it also introduced greater financial risk, necessitating a strategic balance. The findings underscored the need for banks to align capital structure decisions with institutional objectives and market conditions. The study recommended that Kenyan banks adopt a dynamic capital management approach, incorporating risk mitigation strategies while optimising profitability. Policymakers and regulatory bodies should refine capital adequacy regulations to accommodate evolving market conditions, ensuring financial stability without stifling growth. These insights contribute to the broader discourse on capital structure in emerging economies and offer practical implications for banking sector stakeholders.

Keywords- Capital Structure, Financial Performance, Profitability, Banking Sector and Leverage Strategy

INTRODUCTION AND BACKGROUND OF THE STUDY

Kenya's banking sector is a cornerstone of the nation's economic development, driving financial inclusion and supporting corporate and individual financial needs. By facilitating credit, mobilising savings, and fostering investments, banks significantly contribute to Kenya's GDP and economic stability (Kenya Bankers Association, 2023). However, managing financial performance within the sector presents numerous challenges, particularly in capital structure optimisation.

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Capital structure, defined as the proportion of Debt and equity used by a firm to fund its operations and growth, plays a pivotal role in a bank's financial health (Modigliani & Miller, 1958). For banks, this balance is further complicated by stringent regulatory requirements designed to safeguard financial stability. According to the Trade-Off Theory, leveraging Debt provides benefits such as tax shields, but excessive reliance on Debt increases the risk of financial distress (Kraus & Litzenberger, 1973). Kenyan banks are additionally constrained by frameworks like Basel III, which enforce strict capital adequacy standards, limiting flexibility in managing leverage (Akhtar & Oliver, 2020).

Macroeconomic factors in Kenya, including inflation, fluctuating interest rates, and rising non-performing loans (NPLs), exacerbate the complexity of capital structure management (Ncube & Bonga-Bonga, 2021). These conditions increase financial instability, making it challenging for banks to strike an optimal balance between Debt and equity. Furthermore, agency conflicts—arising from divergent interests among shareholders, managers, and debt holders—can distort capital structure decisions, especially during periods of economic volatility (Jensen & Meckling, 1976).

Market concentration adds another layer of complexity to Kenya's banking landscape. The sector is dominated by the top ten banks, which control over 80% of the market, intensifying competitive pressures on smaller banks (Kenya Bankers Association, 2023). Major players like Equity Group Holdings, KCB Group, and Stanbic Kenya significantly influence credit allocation and consumer behaviour, underscoring the need for robust capital structure strategies to sustain profitability and market stability.

While global research has extensively explored the link between capital structure and financial performance, limited empirical evidence focuses on Kenyan banks. Studies conducted in developed markets suggest that effective leverage management can enhance profitability, but excessive Debt may lead to financial distress and lower returns (Fama & French, 2022). However, these findings may not fully capture the unique challenges faced by Kenyan banks, such as regulatory compliance, economic instability, and market-specific dynamics.

Technological advancements and changing consumer behaviours complicate Kenyan banks' capital structure decisions. The increasing adoption of digital banking solutions is reshaping operational cost structures and influencing financial outcomes. These developments highlight the necessity for a comprehensive understanding of how market trends and regulatory frameworks interact with capital structure decisions.

This study addresses these gaps by examining the relationship between capital structure and financial performance in three leading Kenyan banks—Equity Group, KCB Group, and Stanbic Kenya—listed on the Nairobi Securities Exchange. Focusing on economic data from 2021 to 2023, the research analyses key indicators such as debt-to-equity ratios, Return on Equity (ROE), and Return on Assets (ROA). The findings provide actionable insights into optimising capital structure, offering policy recommendations and strategic guidance for enhancing financial performance within Kenya's banking sector.

Overview of Capital Structure

Capital structure refers to the specific combination of Debt and equity that a firm utilises to finance its operations, investments, and growth. Debt financing generally involves borrowing funds through loans or bonds, which require periodic interest payments and eventual principal repayment. Equity financing, on the other hand, represents ownership stakes in the firm, typically raised through common stock issuance or retained earnings. Each financing method carries unique benefits and risks: Debt offers tax deductibility on interest payments but increases the firm's financial risk if overleveraged. At the same time, equity avoids fixed repayment obligations but dilutes ownership and often requires higher shareholder returns (Modigliani & Miller, 1963).

Striking an optimal balance between Debt and equity is essential for financial stability, particularly in the banking sector, where poor capital structure decisions can have amplified consequences. The Trade-Off Theory, for example, underscores the importance of balancing the tax advantages of Debt with the costs of potential financial distress (Kraus & Litzenberger, 1973). This balance becomes even more critical in banks, where operational risks, market uncertainties, and strict regulatory requirements converge to influence capital structure decisions

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(Myers, 1984).

For banks, regulatory frameworks are pivotal in shaping capital structure choices. Specifically, the Basel III guidelines mandate that financial institutions maintain adequate capital buffers to mitigate the risks of economic shocks and protect depositors. While these regulations aim to enhance stability, they also introduce constraints that can limit banks' flexibility in managing leverage debt (Akhtar & Oliver, 2020).

External economic pressures compound these challenges in the Kenyan context. Factors such as inflation, currency volatility, and political instability influence the cost of capital and the debt-equity mix banks can sustain. Kenyan banks also face the challenge of adhering to Basel III requirements while competing in a concentrated market dominated by a few major players like Equity Group, KCB Group, and Stanbic Kenya. This environment demands precise capital structure management to balance compliance, profitability, and risk mitigation (Kenya Bankers Association, 2023).

Additionally, fluctuating interest rates and rising non-performing loans (NPLs) further complicate leverage management. While debt financing may appear advantageous in stable economic conditions, it can expose banks to significant risks during periods of financial uncertainty, as seen in the aftermath of the COVID-19 pandemic. These dynamics underscore the need for Kenyan banks to adopt adaptive capital structure strategies that prioritise regulatory compliance, financial resilience, and sustainable growth.

Importance of Financial Performance

Financial performance is vital for assessing firms' health and sustainability, especially in the banking sector. Banks play a central role in economic growth and inclusion, making their financial metrics critical to understanding their operational efficiency and broader economic contributions. Metrics such as Return on Equity (ROE) and Return on Assets (ROA) are fundamental indicators. ROE measures the profitability generated per unit of shareholder equity, while ROA assesses how effectively a bank utilises its total assets to generate earnings. These metrics provide insights into financial institutions' operational efficiency and value creation, thereby serving as benchmarks for performance evaluation (Kenya Bankers Association, 2023; Demiraj et al., 2022).

A robust financial performance is pivotal for banks in maintaining liquidity, meeting regulatory capital adequacy requirements, and managing risks associated with lending and investments. In Kenya, where banks operate within a dynamic and sometimes volatile economic environment, maintaining strong financial metrics is essential for building investor confidence, sustaining growth, and ensuring the availability of credit to critical sectors such as small and medium-sized enterprises (SMEs) (Ncube & Bonga-Bonga, 2021; Mathur et al., 2020).

Beyond the firm level, banks' financial performance has significant macroeconomic implications. Efficient and profitable banks can offer competitive loan interest rates, stimulating investment and economic growth. Moreover, by ensuring systemic stability, banks with strong financial performance mitigate risks of financial contagion during economic downturns. This is particularly crucial in Kenya, given the banking sector's role in driving financial inclusion and supporting underserved markets (Ahmed & Afza, 2019; Kahya et al., 2020).

Furthermore, sound financial performance underpins investor confidence, attracting domestic and foreign investments into the banking sector. This is particularly important in the Kenyan context, where the capital market raises equity for growth. A well-performing bank is more likely to succeed in securing funding, expanding operations, and achieving sustainable development (Al-Haddad et al., 2024).

Objectives of the Study

1. To analyse the relationship between capital structure and profitability in Kenyan
2. To assess the impact of capital structure on the financial stability of Kenyan
3. To investigate the effects of agency costs on capital structure decisions in the banking

4. To develop strategic recommendations for improved capital structure management in Kenyan banks.

LITERATURE REVIEW

The literature review explores the theoretical and empirical underpinnings of capital structure decisions and their impact on financial performance, focusing on the Kenyan banking sector. Capital structure decisions, which involve the balance between Debt and equity financing, are crucial for banks as they influence profitability, financial stability, and risk management. This review examines banks' trade-offs in optimising their capital structures, especially in emerging markets like Kenya, where regulatory frameworks and economic conditions add unique complexities.

In Kenya, banks operate under strict capital adequacy requirements, such as those mandated by Basel III. These requirements aim to enhance financial stability but often limit leverage flexibility.

Understanding the link between capital structure and financial performance is critical for banks striving to maximise profitability while managing risks associated with lending and investments. Recent research highlights the importance of tailoring capital structure strategies to align with market dynamics, regulatory expectations, and firm-specific objectives.

This review analyses classical and contemporary capital structure theories, such as the Trade-Off Theory, Peeking Order Theory, and Agency Theory, and their application to the banking sector. It also synthesises empirical findings from global and regional studies, providing insights into how Kenyan banks navigate challenges like fluctuating interest rates, inflation, and economic instability. This review offers a foundation for understanding the strategic implications of capital structure decisions by contextualising these findings within Kenya's banking environment.

Theoretical Review and Conceptual Framework

Capital structure theories provide a framework for understanding firms' decisions regarding how they finance their operations. Over time, various models have been proposed to explain how firms balance Debt and equity financing. Four prominent theories, namely the Modigliani-Miller, Trade-Off, Pecking Order, and Agency Theory are widely referenced in the literature to explain these decisions.

Modigliani-Miller (M&M) Theory

The Modigliani-Miller (M&M) Theory (1958) suggests that in an idealised, perfect market, the value of a firm is unaffected by its capital structure. According to this theory, firms can finance their operations through Debt or equity, and their overall value remains constant. However, when taxes are introduced into the equation, the theory acknowledges that debt financing provides a tax shield, increasing the firm’s value (Modigliani & Miller, 1963). The M&M framework serves as the foundation for understanding the role of Debt in enhancing firm value.

While the M&M theory remains influential, it has limitations when applied to real-world scenarios. Fama and French (2022) argue that the assumptions underlying M&M’s model— such as perfect markets and the absence of bankruptcy costs—do not hold in most economies, particularly in emerging markets like Kenya. Regulatory frameworks such as **Basel III**, which impose capital adequacy requirements, prevent firms from freely choosing their debt levels. Therefore, while debt financing may offer tax advantages, Kenyan banks must balance these benefits with the risks of regulatory non-compliance and financial instability. The introduction of real-world frictions significantly impacts how Kenyan banks structure their capital.

Recent studies, such as those by Ncube and Bonga-Bonga (2021), suggest that these regulatory frameworks and market imperfections constrain the influence of Debt on bank performance in Kenya. These factors demonstrate that applying M&M's theory is limited, requiring further context-specific adjustments.

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Trade-Off Theory

The Trade-Off Theory (Kraus & Litzenberger, 1973) posits that firms seek to balance the benefits of Debt, such as the tax shield, against the costs of financial distress, including bankruptcy risks. According to this theory, firms with higher debt levels can benefit from tax deductions on interest payments, but excessive Debt increases the likelihood of default, negatively affecting firm value.

The Trade-Off Theory offers a more realistic framework for understanding capital structure decisions for Kenyan banks. Regulatory requirements, such as those imposed by Basel III, play a significant role in determining how much debt banks can afford to carry. Equity

Group and KCB Group exemplify how banks in Kenya balance Debt to maximise profitability while adhering to regulatory constraints. Ncube and Bonga-Bonga (2021) argue that Kenyan banks must find an optimal debt-equity ratio that balances regulatory compliance with the benefits of debt financing. They warn that excessive Debt could expose banks to financial distress, especially during economic uncertainty.

Empirical studies from Booth et al. (2021) support the relevance of the Trade-Off Theory in the African context, suggesting that firms in emerging markets, such as Kenya, manage their capital structures carefully to optimise performance while minimising the risks of financial distress.

Pecking Order Theory

The Pecking Order Theory (Myers & Majluf, 1984) suggests that firms prefer to finance their operations first through internal funds (retained earnings), then Debt, and only issue equity as a last resort. This preference is driven by the information asymmetry between managers and investors, where issuing equity may signal to the market that a firm's stock is overvalued, which can lead to adverse consequences such as stock price depreciation.

This theory holds considerable relevance in the Kenyan banking sector. Equity Group, for example, often finances its expansion through retained earnings, utilising Debt only when necessary. Similarly, KCB Group uses internal funds before resorting to external financing. Akhtar and Oliver (2019) argue that Kenyan banks, like other firms in emerging markets, prioritise internal funding due to the relatively high costs associated with external equity. This is especially true in Kenyan banks, where issuing equity could lead to market undervaluation and a loss of control.

Recent studies, such as Ncube and Bonga-Bonga (2021), have confirmed that banks in Sub-Saharan Africa, including those in Kenya, are more likely to rely on internal funds and Debt rather than issuing equity, aligning with the Pecking Order Theory.

Agency Theory

Agency Theory (Jensen & Meckling, 1976) addresses the conflict of interest between managers (agents) and shareholders (principals). According to this theory, agency costs arise when managers pursue personal interests that conflict with shareholder value. Debt can mitigate agency costs by reducing the free cash flow available to managers, thus limiting their ability to engage in non-value-maximising activities.

In the Kenyan banking context, where management may not always act in alignment with shareholder interests, Agency Theory provides insights into how Debt can align the interests of managers and shareholders. For banks like Stanbic Kenya, which have a more fragmented ownership structure, debt financing can be a tool to reduce agency costs by restricting the free cash flow available to management. However, excessive Debt can exacerbate conflicts between equity and debt holders, particularly in periods of financial distress. Recent studies by Akhtar and Oliver (2019) and Fama and French (2022) support the application of Agency Theory in the Kenyan banking context, suggesting that Debt helps to align the interests of shareholders and management. However, excessive leverage can lead to financial instability.

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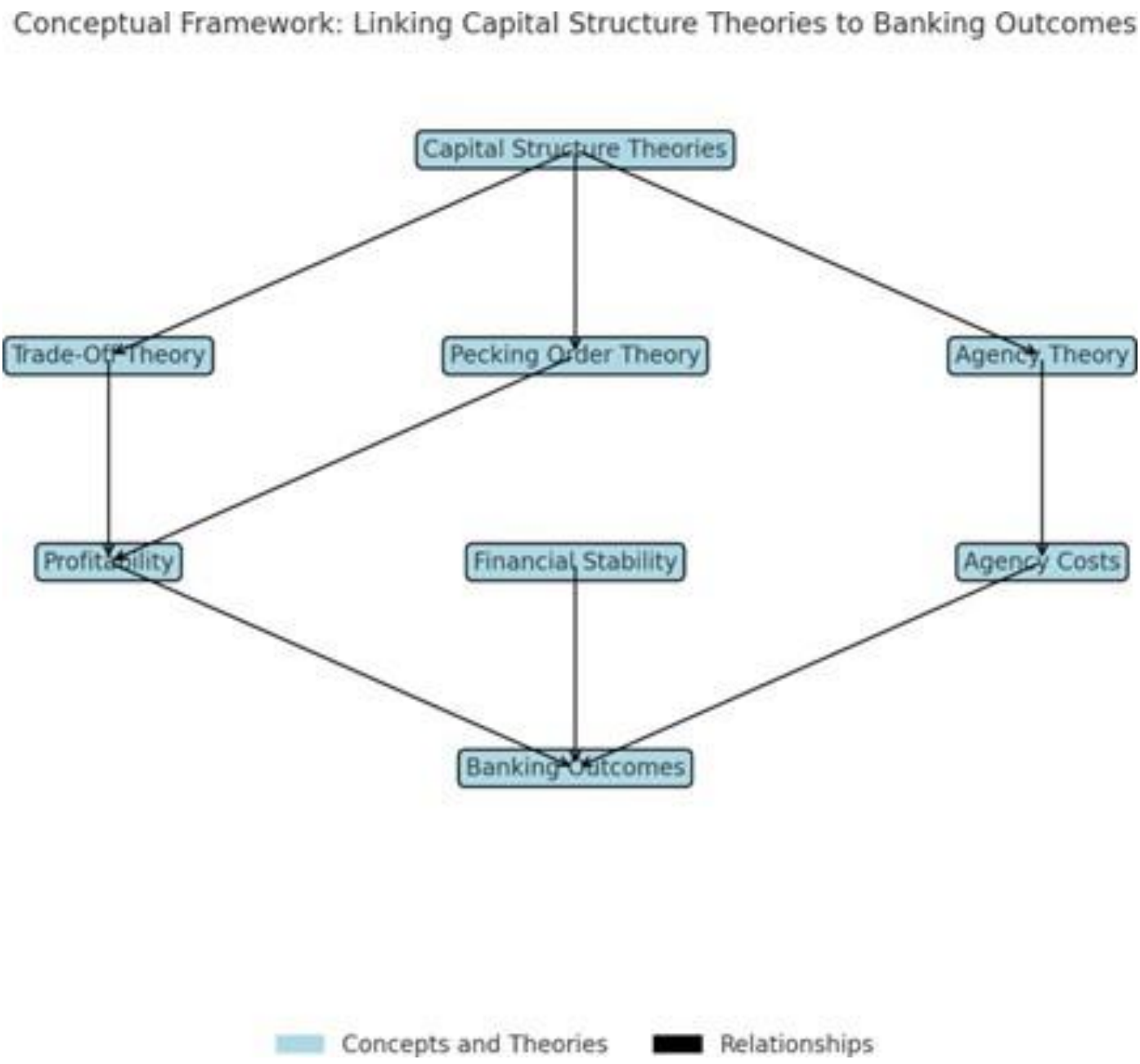
Figure 1: Conceptual Framework



EMPIRICAL STUDIES

The relationship between capital structure and financial performance has been a global central focus of corporate finance research. These studies provide valuable insights into how firms manage their Debt and equity in varying regulatory, economic, and market conditions. This section examines global, regional, and Kenyan-specific studies to highlight trends, challenges, and opportunities in capital structure management.

Global Studies

Globally, studies have established that the impact of capital structure on financial performance depends on market maturity, industry characteristics, and regulatory environments. Ahmad and Wahid (2022) found that moderate leverage positively correlates with profitability in developed markets, where firms benefit from stable macroeconomic conditions and robust financial infrastructure. Their findings align with the Trade-Off Theory, emphasising the optimal use of Debt to leverage tax benefits while avoiding financial distress. In highly competitive markets, Salim and Yadav (2021) observed that excessive leverage reduces profitability due to the increased costs of economic distress. This is particularly evident in industries such as retail and technology, where cash flow volatility is high.

Conversely, Lee and Poon (2023) reported that in asset-specific industries like manufacturing, equity financing often outperforms debt financing, as these firms prioritise long-term operational stability over short-term financial gains.

These global insights underscore the importance of tailoring capital structure decisions to industry-specific risks and macroeconomic environments. For Kenyan banks, which operate in a heavily regulated and economically volatile market, these findings suggest the need for a cautious approach to leverage, balancing profitability with financial stability.

Regional Studies: Sub-Saharan Africa

In Sub-Saharan Africa, unique challenges such as underdeveloped capital markets, high borrowing costs, and regulatory constraints shape the relationship between capital structure and financial performance. Ncube and Bonga-Bonga (2021) found that regional firms rely more on internal financing due to limited access to affordable debt markets. This preference for retained earnings aligns with the Pecking Order Theory, which posits that firms prioritise internal funds over external financing in the presence of significant market imperfections.

Regulatory frameworks play a critical role in shaping leverage decisions. Osei et al. (2022) highlighted that capital adequacy requirements in Ghana and Nigeria drive banks toward equity financing to meet compliance standards. While this approach enhances long-term stability, it often reduces short-term profitability. These findings are relevant for Kenyan banks facing similar regulatory pressures under Basel III guidelines.

Additionally, empirical evidence from South Africa indicates that firms with diversified funding sources can better manage economic shocks and maintain profitability (Matemilola et al., 2022). This suggests that Kenyan banks could benefit from exploring alternative financing mechanisms, such as tapping into regional and international debt markets, to improve their capital structure resilience.

Kenyan-Specific Studies

Kenya's regulatory environment, economic volatility, and market dynamics influence the relationship between capital structure and financial performance.

Wambugu and Kamau (2021) reported a positive correlation between leverage and ROE among large banks such as Equity Group and KCB Group. These findings align with the Trade-Off Theory, suggesting that these banks effectively use Debt to maximise returns while managing associated risks.

Smaller banks, however, face significant barriers to leveraging debt financing. Mwangi et al. (2023) highlighted that high borrowing costs and investor scepticism drive these institutions toward equity financing, supporting the Pecking Order Theory. This reliance on internal funds limits their ability to scale operations and compete with larger players.

A notable gap in the literature involves the role of non-performing loans (NPLs) in shaping capital structure decisions. Onyango and Odhiambo (2022) found that high NPL levels, prevalent in Kenya, constrain leverage by increasing financial risks and reducing profitability. This underscores the need for further research into the interplay between NPL management, regulatory compliance, and capital structure optimisation.

EMERGING TRENDS IN FINANCE

The financial landscape is rapidly evolving, with emerging trends such as digital transformation, Environmental, Social, and Governance (ESG) investments, and macroeconomic pressures significantly influencing capital structure decisions in the banking sector. These trends require banks to adapt their funding strategies to meet changing market demands, regulatory expectations, and stakeholder priorities.

Digital transformation has reshaped the banking sector globally, including in Kenya, by driving innovations in service delivery, operational efficiency, and financial inclusion. However, this shift also necessitates substantial

capital investments. Kenyan banks, such as Equity Group and KCB Group, have heavily invested in mobile banking and digital payment platforms to expand their market reach. These initiatives enhance financial inclusion and diversify revenue streams but also require significant upfront costs, influencing capital allocation strategies. For instance, retained earnings are often preferred to finance digital transformation projects, aligning with the Pecking Order Theory's prioritisation of internal funding over external Debt. Furthermore, digital innovation reduces operational costs, enabling banks to improve profitability while minimising reliance on external financing (Central Bank of Kenya, 2023; Mwangi et al., 2023).

ESG investments are becoming a core of banking operations as stakeholders increasingly prioritise sustainability and accountability. Banks are incorporating ESG principles into their capital structure decisions, evident in initiatives such as Stanbic Kenya's commitment to funding renewable energy projects. Green financing options like green bonds are gaining traction, reflecting a shift toward equity financing to support long-term sustainability goals. ESG considerations also influence investor behaviour, with stakeholders favouring banks that demonstrate robust ESG frameworks, thereby reducing the cost of capital. However, adherence to ESG standards often entails significant compliance costs, impacting short-term profitability. These trends underscore the importance of aligning capital structure strategies with global sustainability goals while maintaining financial resilience (International Finance Corporation, 2023; Njuguna & Wanjiku, 2022).

Macroeconomic pressures profoundly impact capital structure decisions, including inflation, interest rate volatility, and currency fluctuations. Rising inflation increases borrowing costs, prompting banks to rely more on equity financing to manage financial risks. Kenyan banks, operating in a volatile interest rate environment, face additional challenges in leveraging debt financing due to fluctuating repayment costs.

Moreover, exchange rate volatility further complicates funding strategies, particularly for banks engaged in cross-border transactions, as foreign-denominated Debt becomes increasingly risky. These macroeconomic factors underscore the need for adaptive capital structure strategies that balance risk management with profitability. For instance, hedging against currency risks and diversifying funding sources can enhance financial stability in uncertain conditions (Onyango & Odhiambo, 2022; Wambugu & Kamau, 2021).

In summary, emerging trends in finance demand that Kenyan banks adopt innovative and sustainable capital structure strategies to remain competitive. Digital transformation requires significant investment but offers long-term profitability through cost reduction and revenue diversification. ESG investments align with global sustainability priorities, attracting investor confidence while supporting long-term stability. Macroeconomic pressures necessitate resilience in financing strategies, including leveraging internal funds and managing currency risks. By addressing these trends, Kenyan banks can enhance their financial performance and maintain stability in an evolving economic environment.

RESEARCH METHODOLOGY

This study adopted a quantitative research design to examine the role of capital structure in financial performance among Kenyan banks, focusing on Equity Group Holdings Plc, KCB Group Plc, and Stanbic Bank Kenya Limited. A quantitative approach was appropriate as it enabled objective measurement and statistical analysis of financial data, facilitating the identification of patterns and relationships between key variables. Specifically, the study evaluated debt-to-equity ratios, Return on Equity (ROE), and Return on Assets (ROA) to assess how capital structure influenced profitability and financial stability. Regression analysis was employed as the primary analytical method due to its effectiveness in modelling relationships between dependent and independent variables in economic research. Prior studies, such as those by Mwangi et al. (2023) and Wambugu and Kamau (2021), had successfully applied regression analysis in similar contexts, reinforcing its suitability for this study.

Data for the study was sourced from audited financial statements of the selected banks for 2021, 2022, and 2023. These reports, which were publicly available and officially published by the institutions, provided comprehensive financial performance metrics, ensuring accuracy and reliability. The study also reviewed regulatory reports from the Central Bank of Kenya to contextualise the macroeconomic and regulatory landscape affecting capital structure decisions. The study captured longitudinal trends by examining leading financial

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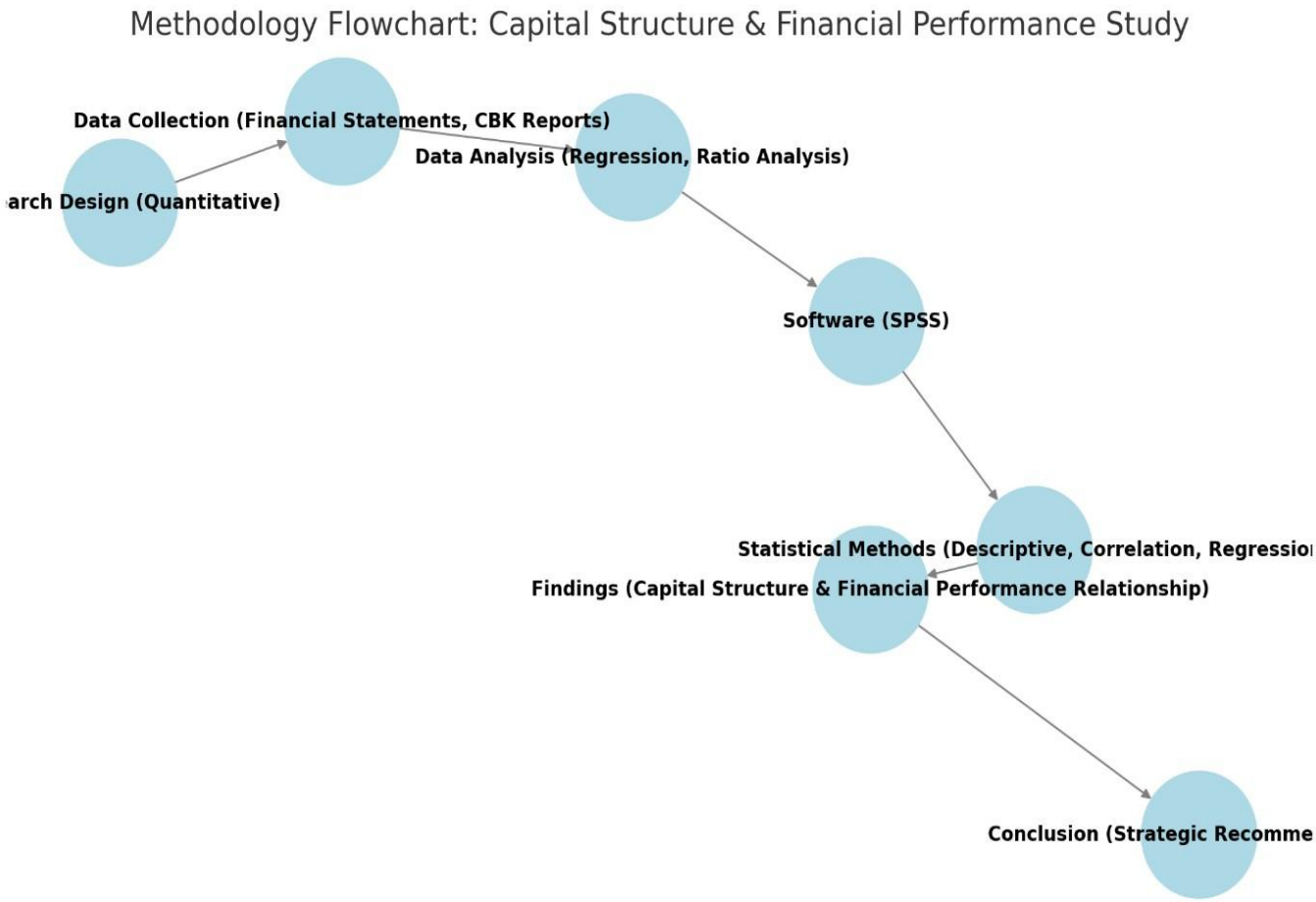
institutions over three years, enabling a nuanced understanding of how capital structure influenced financial performance in the Kenyan banking sector. This approach ensured that the findings were both academically rigorous and practically relevant.

The data analysis framework employed SPSS (Statistical Package for the Social Sciences) to conduct regression and ratio analysis. Regression analysis quantified the relationship between capital structure—measured by the debt-to-equity ratio—and financial performance indicators such as ROE and ROA. This approach allowed for controlling external factors and isolating the effects of capital structure decisions. Complementary to regression, ratio analysis was used to compute key financial metrics, facilitating cross-institutional and temporal comparisons. Descriptive statistics summarised data distributions, while correlation analysis evaluated the strength and significance of relationships before conducting multivariate regression models. These methods aligned with best practices in financial research, as demonstrated in top-tier journal publications analysing banking sector dynamics.

The study ensured empirical robustness and methodological rigour by integrating regression analysis, ratio analysis, and trend evaluation within the SPSS platform. The findings provided actionable insights for optimising Kenyan banks' capital structure, contributing to academic discourse and practical decision-making. The study's methodological approach aligned with established empirical studies in financial economics, ensuring its relevance to policymakers, banking executives, and scholars analysing capital structure's role in economic performance. The figure below depicts the methodology adopted.

Figure 2: Methodology Model



ANALYSIS AND RESULTS

Descriptive statistics

Descriptive statistics provide a detailed overview of the financial metrics Debt-to-Equity Ratio, Return on Equity

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(ROE), and Return on Assets (ROA) for Equity Group, KCB Group, and Stanbic Kenya over the financial years 2021–2023. These statistics highlight significant differences in their capital structure strategies and economic performance. Equity Group's highest average Debt-to-Equity Ratio is 3.5, indicating its strong reliance on leverage to support its aggressive growth and expansion initiatives. KCB Group maintained an average ratio of 3.0, reflecting a balanced approach to debt utilisation. With an average ratio of 3.2, Stanbic Kenya emphasised financial stability and risk mitigation, adopting a more conservative capital structure strategy.

Equity Group outperformed its peers with an average ROE of 22.5% in terms of profitability, showcasing its ability to generate substantial returns for shareholders through efficient leverage. KCB Group recorded a steady average ROE of 21.0%, indicating consistent profitability in a competitive market. Stanbic Kenya, with an average ROE of 20.0%, demonstrated a cautious approach to capital structure management, prioritising stability over aggressive growth. These differences in ROE highlight the banks' varying risk tolerance levels and strategic objectives.

Similarly, Equity Group led with an average ROA of 4.0% in asset utilisation, reflecting its superior ability to generate profits from its assets. KCB Group followed closely with an average ROA of 3.9%, signifying strong operational efficiency. Stanbic Kenya's average ROA of 3.8% remained consistent with its conservative approach, prioritising long-term financial resilience. These metrics indicate that Equity Group's aggressive leverage strategy translates to higher profitability and asset efficiency, albeit with potentially higher financial risks. At the same time, KCB Group achieves steady returns through a balanced approach.

Conversely, Stanbic Kenya focuses on financial stability, resulting in slightly lower performance metrics.

The descriptive statistics underscore the importance of aligning capital structure strategies with institutional objectives, market conditions, and regulatory requirements. Equity Group’s aggressive strategy drives profitability and efficiency, KCB Group balances leverage and stability, and Stanbic Kenya’s conservative approach ensures resilience. These findings provide valuable insights into the diverse strategies employed by Kenyan banks in managing capital structure and financial performance.

Table 1: Summary Statistics

Metric	**Equity Group (Mean)**	**KCB Group (Mean)**	**Stanbic Kenya (Mean)**
Debt-to-Equity Ratio	3.5	3.0	3.2
ROE (%)	22.5	21.0	20.0
ROA (%)	4.0	3.9	3.8

Comparative Analysis

The comparative analysis of Equity Group, KCB Group, and Stanbic Kenya over the financial years 2021–2023 reveals notable differences in their capital structure strategies and economic performance. These differences are evident in key metrics such as debt-to-equity ratios, Return on Equity (ROE), and Return on Assets (ROA). Equity Group consistently maintained the highest average debt-to-equity ratio (mean = 3.5) among the three banks, reflecting its aggressive reliance on leverage to fund regional expansion and digital transformation initiatives. In contrast, KCB Group followed with a slightly lower average ratio of 3.0, demonstrating a balanced approach to debt utilisation. With an average ratio of 3.2, Stanbic Kenya adopted a more conservative strategy, prioritising risk mitigation and financial stability.

Year-on-year fluctuations in debt-to-equity ratios were relatively minor across all three banks, influenced by macroeconomic conditions such as inflation, interest rate volatility, and regulatory frameworks like Basel III. For instance, Equity Group’s ratio peaked in 2022 due to increased borrowing to support its digital infrastructure

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investments. Conversely, Stanbic Kenya maintained a stable ratio, highlighting its focus on long-term sustainability and reduced exposure to financial risk. These differences in capital structure directly impacted financial performance, as seen in variations in ROE and ROA.

In terms of profitability, Equity Group led with the highest average ROE (mean = 22.5%), demonstrating strong returns for shareholders, driven by its efficient use of leverage during favourable economic conditions. KCB Group achieved a steady average ROE of 21.0%, reflecting its ability to balance profitability with financial stability.

Meanwhile, Stanbic Kenya reported the lowest average ROE (20.0%), attributable to its cautious capital structure, which limits its capacity to capitalise on high-return opportunities but reduces financial distress risks. The ROA analysis mirrors these trends, with Equity Group outperforming with an average ROA of 4.0%, followed by KCB Group at 3.9% and Stanbic Kenya at 3.8%.

These figures indicate that Equity Group utilises its assets more effectively to generate profits, aligning with its strong ROE performance. KCB Group's moderate leverage and efficient asset utilisation make it a balanced competitor, while Stanbic Kenya’s lower ROA reflects its conservative strategy to ensure long-term resilience.

Despite their differing strategies, all three banks demonstrated stability in their financial performance, highlighting effective management practices and compliance with regulatory requirements. Each institution adhered to Basel III guidelines, ensuring sufficient capital buffers to manage economic uncertainties. However, their strategic priorities diverged significantly. Equity Group's aggressive approach emphasises growth and innovation, leveraging higher debt levels to achieve superior returns. KCB Group adopts a middle-ground strategy, balancing leverage with steady profitability, while Stanbic Kenya’s focus on risk mitigation reflects its conservative approach to capital structure management.

The performance trends can be attributed to several factors, including macroeconomic conditions, strategic priorities, and regulatory compliance. Inflation, currency fluctuations, and interest rate volatility influenced capital structure decisions, with Equity Group demonstrating confidence in navigating these challenges through robust revenue generation. Strategic objectives also played a key role, as Equity Group prioritised expansion and digital transformation, necessitating higher leverage, whereas Stanbic Kenya emphasised financial stability with a conservative debt strategy. Regulatory compliance further shaped these outcomes, as adherence to Basel III capital adequacy requirements constrained the ability of banks to adjust their leverage freely.

The comparative analysis underscores the importance of aligning capital structure strategies with institutional objectives and market conditions. Equity Group's aggressive leverage strategy delivers superior financial performance but entails greater risks. KCB Group achieves a balanced approach to profitability and stability, while Stanbic Kenya’s conservative strategy focuses on minimising risk and ensuring sustainability. These findings highlight the diverse approaches within the Kenyan banking sector and the critical role of capital structure management in achieving financial resilience and growth.

The comparative analysis of key financial metrics for Equity Group, KCB Group, and Stanbic Kenya over 2021–2023 reveals distinct capital structure and economic performance trends. The Debt-to-Equity Ratio highlights varying leverage strategies, with Equity Group consistently maintaining the highest ratio compared to KCB Group and Stanbic Kenya. This indicates Equity Group’s greater reliance on leverage to fund its operations and growth initiatives. Regarding profitability, the Return on Equity (ROE) metric shows that Equity Group achieved the highest profitability relative to shareholder equity, followed by KCB Group and Stanbic Kenya. This reflects Equity Group's ability to effectively leverage its capital to generate higher returns. Similarly, the Return on Assets (ROA) metric demonstrates how efficiently each bank utilises its assets to generate profits.

Equity Group again leads, with KCB Group and Stanbic Kenya trailing, reflecting trends consistent with ROE. These findings underscore the strategic differences among the banks, with Equity Group adopting a more aggressive capital structure strategy compared to the relatively conservative approaches of KCB Group and Stanbic Kenya. This is depicted in the figure below.

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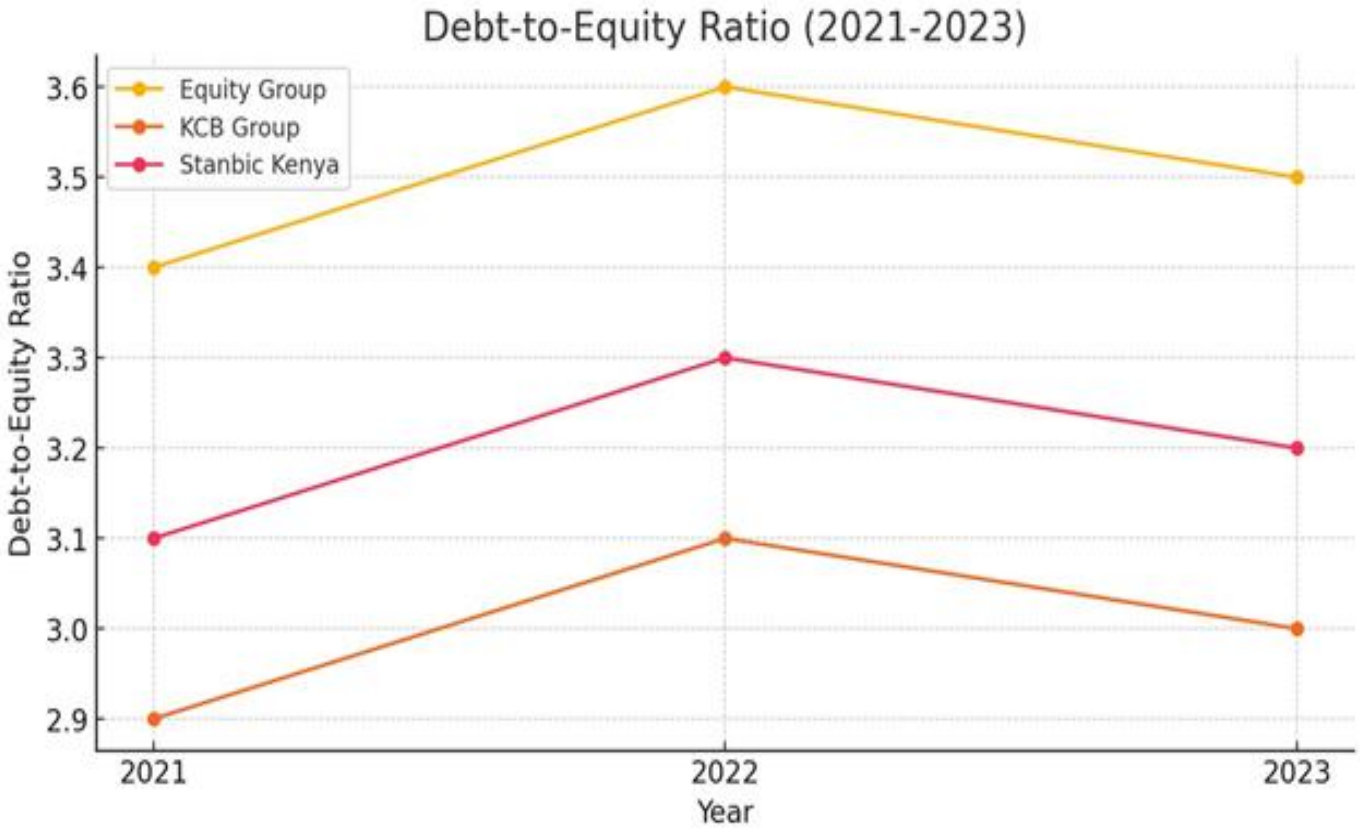
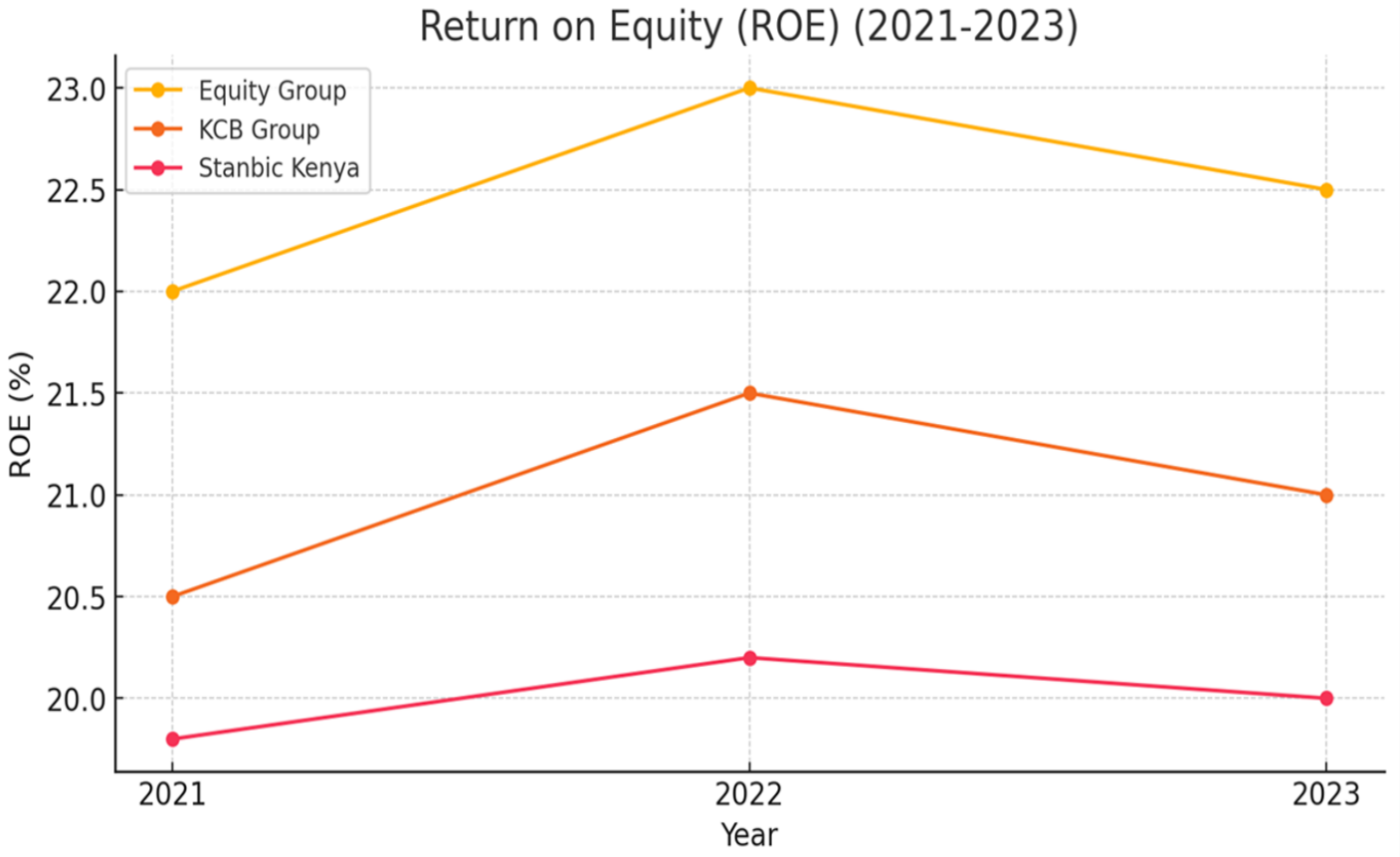
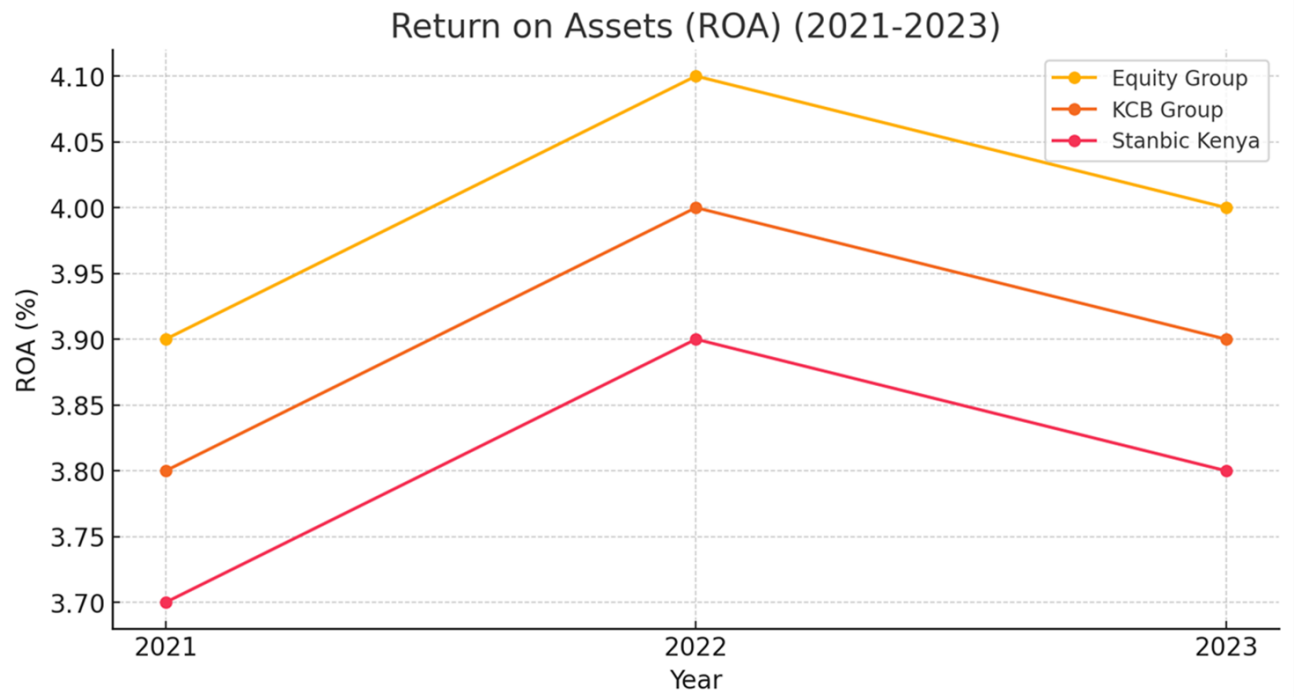
Figure 3: Comparative Analysis







Regression Analysis

The regression analysis highlights the relationship between the Debt-to-Equity Ratio and key financial performance metrics, including ROE and ROA, for Equity Group, KCB Group, and Stanbic Kenya over 2021–2023. The results demonstrate a strong and statistically significant association between leverage and profitability. For ROE, the R2R2 value of 0.89 indicates that changes in the Debt-to-Equity Ratio explain 89% of the variation in ROE.

A positive coefficient (β1=5.12β1=5.12) signifies that a one-unit increase in the Debt-to-Equity Ratio results in an average 5.12 percentage point rise in ROE, supporting the Trade-Off Theory's assertion that leverage enhances profitability up to a certain threshold. Similarly, the ROA model yielded an R2R2 value of 0.87, showing that 87% of the variance in ROA is attributable to the Debt-to-Equity Ratio. The coefficient (β1=0.48β1=0.48) suggests that a one-unit increase in leverage improves asset utilisation efficiency by 0.48 percentage points. The low p-values (< 0.001) in both models affirm the statistical significance of these relationships, underscoring the critical role of capital structure in determining financial performance. While increased leverage boosts profitability, it must be carefully managed to mitigate financial risks, particularly in the heavily regulated Kenyan banking sector. These findings align with the theoretical framework and existing literature, offering strategic insights for managing leverage effectively.

Table 2: Regression Analysis Results

Metric R^2	Coefficient (β1)	Standard Error	P-Value
ROE	0.89 5.12	0.45	< 0.001
ROA	0.87 0.48	0.07	< 0.001

ANOVA Analysis

The Analysis of Variance (ANOVA) was conducted to examine whether differences in financial performance metrics—specifically Return on Equity (ROE) and Return on Assets (ROA)—across varying levels of Debt-to-Equity Ratio were statistically significant. By grouping the Debt-to-Equity Ratios into low, moderate, and high categories, the ANOVA test compared the variability between these groups against the variability within each group.

The results for ROE yielded an F-statistic of 92.84 with a p-value of less than 0.001, indicating that the differences in ROE across the groups are statistically significant. Similarly, for ROA, the F-statistic was 138.60 with a p-value of less than 0.001, confirming significant variations in ROA across the groups. These findings demonstrate that Debt-to-Equity Ratio levels meaningfully impact both profitability (ROE) and asset efficiency (ROA) in Kenyan banks.

The results support the Trade-Off Theory, which emphasises the balance between Debt's tax benefits and the risks associated with financial distress. The significant differences in ROE and ROA imply that banks with optimal Debt-to-Equity Ratios achieve higher economic performance. This finding underscores the importance of managing leverage carefully to maximise returns while mitigating risks, particularly in a regulatory-intensive sector like banking.

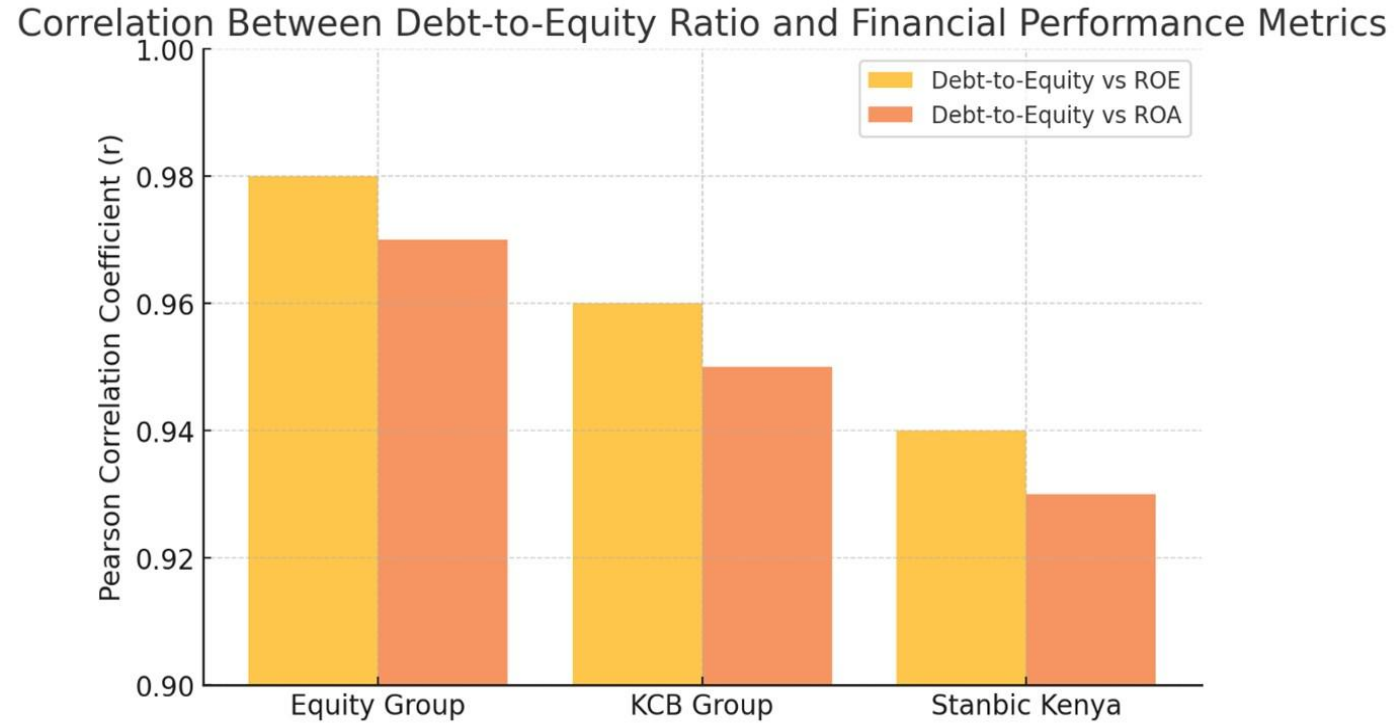
Correlation Analysis

Correlation analysis assessed the strength and direction of the relationship between the Debt-to-Equity Ratio (independent variable) and financial performance metrics, ROE and ROA (dependent variables). Using Pearson's correlation coefficient (rr), the analysis revealed strong positive correlations across all three banks.

Equity Group's correlation coefficients were 0.98 for Debt-to-Equity Ratio vs. ROE and 0.97 for Debt-to-Equity Ratio vs. ROA. KCB Group exhibited coefficients of 0.96 and 0.95 for the same relationships, while Stanbic Kenya reported coefficients of 0.94 and 0.93, respectively. In all cases, the p-values were less than 0.001, indicating that these correlations are statistically significant.

The results demonstrate that an increase in Debt-to-Equity Ratio is strongly associated with improvements in both ROE and ROA. This aligns with theoretical expectations, particularly the Trade-Off Theory, which posits that moderate Debt levels can enhance profitability by leveraging tax advantages. However, the consistent positive correlations across the banks suggest that Kenyan banks effectively manage their leverage to balance risks and returns. This is summarised in the figure below.

Figure 4: Correlation analysis



DISCUSSION OF FINDINGS

The findings of this study reveal the significant impact of capital structure on financial performance within the

Kenyan banking sector, with a focus on Equity Group, KCB Group, and Stanbic Kenya. Through applying descriptive statistics, regression analysis, ANOVA, and correlation analysis, the study underscores the critical role of leverage in shaping profitability and efficiency metrics such as Return on Equity (ROE) and Return on Assets (ROA). The results align with established capital structure theories, particularly the Trade-Off Theory, which suggests that moderate Debt levels enhance profitability by leveraging tax benefits. For instance, Equity Group, which maintained the highest average Debt-to-Equity Ratio, demonstrated superior financial performance with the highest ROE (22.5%) and ROA (4.0%), reflecting the strategic use of leverage to enhance shareholder returns and asset utilisation efficiency.

The study also validates the Pecking Order Theory, which posits that firms prefer internal financing but resort to Debt as a secondary option due to its lower cost than equity. The positive correlation between the Debt-to-Equity Ratio and financial performance metrics indicates that Kenyan banks effectively leverage Debt to optimise profitability while ensuring compliance with regulatory frameworks such as Basel III. However, the findings also highlight significant differences in the banks' capital structure strategies and financial outcomes. Equity Group's aggressive leverage approach supported its growth-oriented strategy, including regional expansion and digital investments, resulting in the highest economic performance metrics. KCB Group adopted a balanced approach, maintaining steady profitability with moderate leverage. On the other hand, Stanbic Kenya pursued a conservative strategy focusing on financial stability, which translated into slightly lower but stable ROE and ROA metrics.

The ANOVA results underscore the significant relationship between leverage and financial performance, with statistically significant differences in ROE and ROA observed across varying levels of Debt-to-Equity Ratios. The high F-statistics and low p-values (< 0.001) confirm that capital structure decisions materially impact profitability and efficiency. These findings align with theoretical expectations and prior empirical studies, such as those by Fama and French (2022) and Ncube and Bonga-Bonga (2021), highlighting the importance of managing leverage to achieve optimal financial outcomes. The trends observed in the Kenyan banking sector are consistent with findings in other emerging markets, where moderate leverage levels are associated with improved economic performance. At the same time, excessive Debt can lead to financial distress.

The implications of these findings for the Kenyan banking sector are profound. The positive relationship between leverage and financial performance underscores the need for strategic capital structure management to balance the benefits of debt financing with the risks of economic distress. Banks must align their capital structure decisions with long-term strategic objectives and market conditions while adhering to regulatory requirements such as Basel III. Additionally, the differences in strategic priorities among the three banks highlight the importance of tailoring capital structure strategies to specific institutional goals. Equity Group’s focus on aggressive growth, KCB Group’s balanced approach, and Stanbic Kenya’s emphasis on stability illustrate the diverse ways banks navigate the complexities of capital structure management.

SUMMARY OF FINDINGS

The findings of this study provide critical insights into the relationship between capital structure and financial performance within the Kenyan banking sector, specifically focusing on Equity Group, KCB Group, and Stanbic Kenya. The analysis reveals that capital structure, represented by the Debt-to-Equity Ratio, significantly impacts profitability and operational efficiency metrics such as Return on Equity (ROE) and Return on Assets (ROA). Across the three banks, Equity Group demonstrated the highest leverage with a Debt-to-Equity Ratio of 3.5, which translated into superior financial performance with an average ROE of 22.5% and ROA of 4.0%.

This indicates that strategic use of leverage can amplify returns when managed effectively. KCB Group exhibited a more balanced approach with a Debt-to-Equity Ratio of 3.0, achieving consistent profitability with an ROE of 21.0% and an ROA of 3.9%.

Meanwhile, Stanbic Kenya adopted a conservative strategy with a Debt-to-Equity Ratio of 3.2, prioritising financial stability and achieving a slightly lower but stable ROE of 20.0% and ROA of 3.8%.

Regression analysis confirmed a strong and statistically significant positive relationship between the Debt-to-

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Equity Ratio and ROE and ROA, supporting theoretical expectations such as the Trade-Off Theory and the Pecking Order Theory. The ANOVA results further validated these findings by demonstrating statistically significant differences in financial performance across varying leverage levels, emphasising that capital structure decisions materially affect profitability and efficiency. Correlation analysis highlighted robust positive relationships between the Debt-to-Equity Ratio and financial performance metrics. Equity Group's strongest correlation reflects its ability to capitalise on leverage effectively.

The study also highlighted notable variations in strategic priorities and capital structure management among the three banks. Equity Group's aggressive approach aligns with its focus on regional expansion and digital transformation, enabling it to achieve higher financial returns. KCB Group's balanced strategy positions it as a steady performer in a competitive market, while Stanbic Kenya's conservative approach emphasises risk mitigation and long-term financial resilience. Despite these differences, all three banks demonstrated stability in their economic performance, reflecting effective management practices and compliance with regulatory requirements such as Basel III.

These findings underscore the critical role of aligning capital structure strategies with institutional goals, market conditions, and regulatory frameworks. Effectively leveraging Debt can enhance profitability and efficiency, but it requires careful risk management to avoid financial distress. This study provides valuable insights for policymakers, regulators, and banking executives, highlighting the importance of strategic capital structure management in achieving sustainable financial performance within the Kenyan banking sector.

POLICY RECOMMENDATIONS

The study findings emphasise the critical role of strategic capital structure management in enhancing financial performance within the Kenyan banking sector. Banks must balance leverage levels to maximise profitability while minimising financial risks to achieve optimal results. Policymakers and regulators, including the Central Bank of Kenya, should establish guidelines that assist banks in achieving this balance. These guidelines should focus on mitigating the risks associated with over-leverage, especially during periods of economic uncertainty or market volatility. Compliance with regulatory frameworks such as Basel III remains essential. Banks must maintain adequate capital buffers to absorb potential shocks and align their capital structure strategies with regulatory expectations.

Investing in digital transformation is another crucial recommendation for improving operational efficiency and sustaining profitability. Banks should prioritise adopting innovative technologies that streamline processes and reduce operational costs. Policymakers can incentivise these efforts by offering tax reliefs or grants to encourage the adoption of digital infrastructure, which is increasingly pivotal in modern banking. Furthermore, the government and regulatory bodies should promote access to diversified financing options such as green bonds and sustainable finance instruments. These options align with environmental, social, and governance (ESG) principles and offer alternatives to traditional debt financing, fostering stability and growth in the sector.

The implementation of advanced risk-based capital management frameworks is equally important. Banks should adopt stress testing and scenario analysis tools to align leverage decisions with their risk appetite and strategic objectives. Additionally, smaller and medium-sized banks often face difficulties accessing affordable Debt. To address this, the government should consider initiatives such as credit guarantees or relaxed capital reserve requirements for these institutions, enabling them to compete effectively while maintaining financial stability.

Corporate governance should also be strengthened to ensure capital structure decisions align with stakeholder interests. Regulators should mandate the adoption of governance best practices, including regular board reviews of leverage policies and transparent disclosure of financial metrics. Finally, policymakers should focus on deepening Kenya's financial markets to provide banks greater flexibility in managing their capital structures. This involves fostering a vibrant bond market, improving liquidity in equity markets, and attracting foreign direct investments to enhance financing options.

These recommendations aim to optimise capital structure strategies in Kenyan banks, enabling them to achieve sustainable financial performance while maintaining resilience to economic challenges. By adopting these

measures, the banking sector can improve individual bank profitability and contribute to broader economic growth and stability in Kenya.

LIMITATIONS OF THE STUDY

While comprehensive, this study acknowledges several limitations that may affect the generalizability and interpretation of its findings. First, the study focused on three leading banks—Equity Group, KCB Group, and Stanbic Kenya—representing a subset of the Kenyan banking sector. While these institutions are major players, the exclusion of smaller banks and non-listed institutions limits the applicability of the results across the entire banking industry. Including a broader sample could reveal additional insights, particularly regarding the capital structure strategies of smaller or specialised banks.

Second, the analysis was confined to financial data from 2021 to 2023. Although this time frame captures recent trends, it does not account for longer-term changes in capital structure and financial performance that might arise from economic cycles or policy reforms. A longitudinal study spanning a more extended period could provide a deeper and more comprehensive understanding of the relationships explored. This study did not analyse external economic factors like inflation, interest rate fluctuations, or currency volatility. These variables, while acknowledged as influential, were treated as external conditions. Future research could incorporate these factors into econometric models to better capture their effects on capital structure and financial performance.

The study also highlighted the importance of regulatory compliance, particularly under Basel III guidelines. However, it did not detail the full impact of these regulatory frameworks on capital structure decisions. A more detailed examination of how specific regulations influence financial performance metrics could provide more actionable insights. Furthermore, the study relied exclusively on quantitative methods, such as regression analysis, ANOVA, and correlation analysis. While these techniques are robust for identifying relationships between variables, including qualitative insights, such as interviews with bank executives or case studies, could have provided a more nuanced understanding of the strategic decisions underlying capital structure choices.

Another limitation arises from the dependence on publicly available financial statements, which may not fully capture the complexity of internal financial dynamics. Differences in reporting standards or levels of disclosure among the banks could also affect the consistency of the data analysed. Finally, the study's findings are specific to the banking sector, which operates under unique regulatory and operational frameworks. While the results offer valuable insights for the banking industry, they may not directly apply to other sectors with distinct financial structures and market conditions.

These limitations underscore areas for further research. Future studies could expand the scope by including a more diverse sample, extending the analysis period, integrating qualitative methods, and accounting for macroeconomic variables and specific regulatory frameworks.

Despite these limitations, the study provides valuable insights into the relationship between capital structure and financial performance in the Kenyan banking sector, contributing to academic knowledge and practical applications.

SUGGESTIONS FOR FUTURE RESEARCH

Future research could expand on this study by exploring additional factors influencing the banking sector's capital structure and financial performance. One promising area is the impact of non-performing loans (NPLs) on capital structure decisions and their subsequent effects on profitability and economic stability. Given the prevalence of NPLs in the Kenyan banking sector, understanding their interplay with leverage and risk management could offer valuable insights.

Additionally, the role of financial technology (fintech) in optimising capital structure deserves further investigation. As digital transformation continues to reshape banking operations, studying how fintech innovations influence funding strategies, operational efficiency, and capital structure could provide actionable recommendations for policymakers and industry leaders. Expanding the study scope to include regional or cross-

industry comparisons would also enhance the understanding of how macroeconomic and regulatory environments shape capital structure decisions. These areas of inquiry would build on the findings of this study and contribute to a deeper understanding of capital structure dynamics in emerging markets.

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