

INFLUENCE OF INTERNAL EQUITY FINANCING ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN RWANDA: THE CASE OF SELECTED COMMERCIAL BANKS

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Abstract

This study investigates the influence of internal equity financing on the financial performance of selected commercial banks in Rwanda. It aims to analyze how funds generated from retained earnings and reinvestment impact key financial performance indicators, such as return on assets (ROA) and return on equity (ROE). As the Rwandan banking sector continues to expand amidst a growing economy, effective management of internal resources becomes essential for enhancing profitability and sustainability. The research emphasizes the importance of internal financing strategies in mitigating risks associated with external borrowing, thus fostering resilience against economic shocks. This study was guided by the following three theories; the static trade off theory, market timing theory and pecking order theory. The study adopted a quantitative research design, specifically utilizing a correlational research approach to examine the influence of capital structure on the financial performance of commercial banks in Rwanda. The target population for this study consisted of all 11 commercial banks operating in Rwanda, as regulated by the National Bank of Rwanda (BNR). The study utilized secondary data collection methods, relying on publicly available financial statements and reports of commercial banks in Rwanda. Data was gathered from sources such as the National Bank of Rwanda (BNR), bank annual reports, and audited financial statements covering a period of several years to ensure comprehensive analysis. To ensure validity in this study, particular attention was given to the accuracy and appropriateness of the data collected from secondary sources. Reliability of the study was done through the use of consistent and standardized data collection procedures. To analyze the data, the study computed descriptive statistics (mean, median, standard deviation) for all variables to provide an overview of the dataset. Correlation analysis was performed to determine the strength of relationships between the independent and dependent variables, followed by the application of multiple regression to establish the influence of capital structure variables on financial performance. The coefficients presented in the model indicate the relationship between various forms of financing and financial performance, with retained earnings emerging as the most significant predictor. The constant term is 2.141, suggesting a baseline level of financial performance when all other variables are zero. Internal equity financing has a negative coefficient of -0.210, indicating that it negatively impacts financial performance, with a statistically significant t-value of -3.377 ($p =$

0.001), suggesting a strong correlation. The study concludes that internal equity financing, through profits, asset sales, and reduced capital expenditures, has a positive influence on the financial performance of selected commercial banks in Rwanda, significantly improving profitability and return on investment. It is recommended that commercial banks prioritize the reinvestment of retained earnings and efficient asset management to enhance their financial sustainability and mitigate the risks associated with external debt financing. Future research could explore the long-term impact of internal equity financing on the financial stability of banks in other sectors, while also investigating the role of macroeconomic factors, such as inflation and interest rates, on these financing strategies.

Keywords: *Internal Equity Financing, Financial Performance, Commercial Banks, Rwanda, Capital Structure*

1.1 Background of the Study

Commercial banks play an important role in the global financial system by promoting economic activity through financial services such as lending, deposit-taking, and investing (OECD, 2019). The structure of a bank's capital, composed of debt and equity, is essential for ensuring its stability, profitability, and ability to fulfill its obligations to depositors and other stakeholders (Rajan & Zingales (2015). The decision-making process regarding capital structure involves balancing the benefits of debt financing, such as tax shields and lower costs of capital, against the risks associated with financial leverage, including increased vulnerability to economic downturns and regulatory scrutiny (Titman & Wessels (2018).

1.1.1 Global Perspective

In developed nations like the United States, Commercial banks face various challenges in determining their optimal capital structure due to factors such as market volatility, regulatory environments, and access to diverse funding sources (Mishra & Dey, 2020). The financial crisis of 2008, as explored by Harris and Raviv (2021), emphasized the importance of capital structure decisions for Commercial banks' resilience during economic downturns. Frank and Goyal (2019) highlighted industry-specific effects on the capital structure decisions of firms, indicating that industry characteristics significantly influence the financing choices and subsequent performance of Commercial banks.

The global financial crisis of 2007-2008 underscored the importance of robust capital structures in banks to withstand economic shocks and maintain financial resilience in United Kingdom. Research by Hall (2022) highlights the role of capital structure in mitigating systemic risk and enhancing the stability of the banking sector. For instance, the availability of well-established financial markets and regulatory support in countries like the United Kingdom and Japan may shape the financing choices of Commercial banks differently compared to those operating in less-developed financial environments (Harris & Raviv, 2021).

1.1.2 Regional Perspective

Sub-Saharan Africa (SSA) has witnessed significant growth and transformation in its banking sector there has been a notable influence stemming from issues such as economic liberalization., technological advancements, and increasing demand for financial services (Beck & Cull, 2020).

Recently, the region has experienced a burgeoning growth of Commercial banks due to factors like globalization, technological advancements, and entrepreneurial initiatives (Ayyagari, Demirguc-Kunt, & Maksimovic, 2021). Despite these developments, the region's banking sector faces unique challenges related to access to finance, regulatory environments, and macroeconomic instability (Kasekende & Atingi-Ego, 2016).

In the South African economy, commercial banks assume a pivotal role by promoting economic growth, fostering investment, and ensuring financial stability (Burger & Van Der Berg, 2020). With their central role as go-betweens for savers and borrowers, South African banks continually face challenges in optimizing their capital structure to maintain financial resilience while maximizing shareholder value (Mazzucato & Tancioni, 2022). The lack of access to formal financial systems pushes many Commercial banks towards informal sources of financing, impacting their capital structure decisions and subsequent financial performance (Allen *et al.*, 2018). Additionally, the region's vulnerability to economic volatility and political instability adds complexity to Commercial banks' capital structure management, affecting their ability to sustain growth and profitability (Hassan & Odongo, 2015).

According to Kamau and Gatei (2019) the Kenyan banking sector has experienced notable shifts in its capital structure as financial institutions utilize a range of debt and equity instruments to fund their activities. The limited availability of long-term financing and high borrowing costs often lead these enterprises to rely on a mix of internal funds, short-term loans, and occasionally, equity financing (Nyabwanga & Kibas, 2017). This reliance on specific sources of capital could impact their financial stability and growth prospects. The banking sector has witnessed increased competition, technological advancements, and regulatory changes, which have profound implications for banks' financing strategies and overall performance (Nyangaka & Njeru, 2016).

1.1.3 Local Perspective

The capital structure of commercial banks plays a critical role in determining their financial performance, particularly in emerging economies such as Rwanda (NISR, 2020). Capital structure refers to the combination of debt and equity used by banks to finance their operations, and its optimization is crucial for maximizing profitability while managing financial risks (Mutangana & Nzayisenga, 2017). In Rwanda, the banking sector has experienced significant growth in recent years, driven by government initiatives and reforms aimed at enhancing financial inclusion and stability (Kaberuka & Niyonsenga, 2020). However, the ongoing challenge for commercial banks lies in balancing the benefits of debt financing with the need to maintain regulatory capital requirements, such as those imposed by the National Bank of Rwanda (Mukaruliza & Habimana, 2019). Moreover, the evolving regulatory landscape, including capital adequacy requirements set by the National Bank of Rwanda, adds complexity to capital management strategies (BNR, 2020). As in other countries, Rwandan banks must strike a balance between debt and equity financing to optimize profitability while managing risks (Musoni & Asiimwe, 2017).

Recent empirical studies suggest that the capital structure decisions of commercial banks in Rwanda are significantly influenced by external factors such as macroeconomic conditions, interest rates, and regulatory changes (Mutoni & Ingabire, 2021). Additionally, internal factors,

including the management's risk tolerance and strategic objectives, play a role in shaping these decisions. Research indicates that commercial banks in Rwanda that maintain a higher equity-to-debt ratio tend to perform better in terms of profitability, as measured by return on equity (ROE) and return on assets (ROA) (Bizimana & Umulisa, 2022). However, excessive reliance on equity can limit growth opportunities, particularly in a competitive and expanding market. Therefore, a well-balanced capital structure that carefully integrates both debt and equity is essential for enhancing financial performance while mitigating financial risks (Ngiruwonsanga & Rukundo, 2023).

One area of interest in studying the capital structure-performance relationship of GT Bank Rwanda is the impact of regulatory reforms on its capital structure decisions (Mutemberezi, 2020). The National Bank of Rwanda has implemented various regulatory measures aimed at ensuring the stability and soundness of the banking sector (Kagoyire, 2018).

1.2 Statement of the Research Problem

The capital structure decisions of commercial banks in Rwanda have become a significant concern due to their direct impact on financial performance and the overall stability of the banking sector. Despite the sector's growth, many commercial banks struggle to optimize their debt-to-equity ratios, often relying heavily on debt to fund expansion, which increases financial risks, particularly in an unpredictable economic environment (Mukaruliza & Habimana, 2019). For instance, data from the National Bank of Rwanda indicates that the average debt ratio of commercial banks has increased from 55% in 2018 to 62% in 2022, heightening their vulnerability to financial distress during periods of economic downturn (Bizimana & Umulisa, 2022). This imbalance in capital structure poses a problem for profitability, as high-interest costs reduce returns on equity (ROE) and other performance metrics (Mutoni & Ingabire, 2021). Furthermore, the regulatory pressure to meet Basel III capital adequacy standards adds complexity to these decisions, as banks are forced to increase equity while maintaining competitiveness in a growing market (Ngiruwonsanga & Rukundo, 2023). Thus, the challenge for Rwandan banks is finding an optimal capital structure that balances risk and profitability without compromising regulatory compliance (Ntaganda & Mugiraneza, 2020).

Despite numerous studies examining the influence of capital structure on financial performance, empirical gaps still exist within the Rwandan context. Many studies have focused on developed economies or large emerging markets, overlooking the unique challenges faced by smaller developing economies like Rwanda (Mutoni & Ingabire, 2021). For instance, while some research highlights the positive relationship between equity financing and profitability (Mukaruliza & Habimana, 2019), others suggest that excessive reliance on equity may limit growth potential, especially in competitive markets (Ngiruwonsanga & Rukundo, 2023). Additionally, most of the existing literature has focused on broad financial metrics like return on assets (ROA) and return on equity (ROE), with limited exploration of how capital structure impacts other performance indicators such as operational efficiency or risk management (Ntaganda & Mugiraneza, 2020). Further, the effects of regulatory pressures, such as compliance with Basel III standards, have not been adequately examined in the context of Rwanda's banking sector (Bizimana & Umulisa, 2022).

These empirical gaps underscore the need for more focused studies that explore the specific dynamics of capital structure and financial performance in Rwandan commercial banks.

2.0 Literature Review

2.1 Empirical Review - Internal Equity Financing on Financial Performance

A study by Goyal and Joshi (2018) conducted in the Indian banking sector found a positive association between internal equity financing and profitability, indicating that banks relying more on retained earnings tend to exhibit higher levels of profitability. Similarly, research by Sufian and Kamarudin (2022) focusing on Malaysian banks revealed a positive impact of retained earnings on return on assets (ROA) and return on equity (ROE), suggesting that internal equity financing contributes positively to bank profitability and shareholder value creation.

Moreover, internal equity financing has been found to enhance banks' stability and resilience, as evidenced by empirical studies across different banking markets. For example, a study by Naceur, Omran, and Chemingui (2015) conducted in the Middle East and North Africa (MENA) region highlighted the role of retained earnings in bolstering banks' solvency and reducing their vulnerability to financial distress. Similarly, research by Li and Rose (2017) focusing on Chinese banks found that higher levels of retained earnings are associated with improved liquidity and reduced credit risk, indicating the importance of internal equity financing in enhancing banks' risk management capabilities.

Furthermore, the empirical literature underscores the significance of internal equity financing in supporting banks' growth and expansion strategies. Studies have consistently shown that retained earnings provide a stable and reliable source of funding for banks' investment activities, allowing them to finance organic growth, acquisitions, and market expansion initiatives. For instance, a study by Berger and Bouwman (2019) conducted in the U.S. banking sector found that banks with higher levels of internal equity financing are more likely to engage in merger and acquisition (M&A) activities, enabling them to capitalize on growth opportunities and achieve economies of scale. Similarly, research by Abreu, Mendes, and Santos (2017) focusing on European banks revealed a positive relationship between retained earnings and banks' investment in technological innovation, highlighting the role of internal equity financing in fostering innovation and competitiveness in the banking industry.

2.2 Theoretical Literature on Internal Equity financing

Internal equity financing, also known as retained earnings, refers to the practice of reinvesting profits back into a company for its growth and operations (Myers, 2020). This form of financing is a crucial component of Commercial banks' financial strategies, allowing them to fund expansion, research, and development without relying on external sources (Huyghebaert & Van de Gucht, 2017). Research suggests that internal equity financing serves as a stable and cost-effective source of capital for Commercial banks, reducing reliance on external debt and equity (Daskalakis, 2020). Internal equity financing provides several advantages for Commercial banks. It allows firms to maintain control and independence by avoiding dilution of ownership, unlike external equity funding (Fluck & Lynch, 2019). Additionally, retained earnings enhance the company's financial stability, improving its creditworthiness and reducing dependency on external lenders.

(Huyghebaert & Van de Gucht, 2017). Moreover, internal equity financing aligns the interests of managers and shareholders, fostering a long-term perspective on business growth (Myers, 2020). However, internal equity financing also poses certain challenges for Commercial banks. The availability of sufficient retained earnings might be limited, particularly for younger or smaller firms (Fluck & Lynch, 2019). Smaller profit margins or the need for substantial reinvestment might constrain the amount of capital available for internal financing (Huyghebaert & Van de Gucht, 2017). Furthermore, the trade-off between paying dividends to shareholders and retaining earnings for reinvestment can be a delicate balancing act for Commercial banks (Daskalakis, 2020). In conclusion, internal equity financing plays a pivotal role in the financial structure of Commercial banks, offering stability, control, and reduced reliance on external sources of capital. Understanding the advantages and challenges associated with retained earnings is crucial for SME managers in formulating effective financing strategies for sustainable growth.

2.3 The Static Trade-off Theory

One well-known theory in corporate finance, the Static Trade-off Theory, compares the pros and cons of debt to determine the best capital structure. The idea states that in order for a company to optimize its value, it must determine the optimal ratio of debt to equity. Frank and Goyal (2019) analyzed American firms in depth and discovered that these companies actively manage their capital structure to find a happy medium between tax benefits from debt and the costs associated with financial distress. This finding lends credence to the Static Trade-off Theory. By weighing the pros and cons of debt financing, as suggested by the Static Trade-off Theory, Frank and Goyal's research adds to our knowledge of how businesses decide to fund their operations.

But there have been problems and critiques of the Static Trade-off Theory. Capital structure decisions are impacted by market conditions, agency costs, and information asymmetry, according to some scholars. These factors make real-world corporate finance decisions more complicated and dynamic than what the theory predicts. One example is the Pecking Order Theory put out by Myers (2019). According to this theory, companies would rather raise capital from within rather than outside sources because of the information gap between management and investors. This view casts doubt on the central tenet of the Static Trade-off Theory, which states that businesses intentionally alter their capital structure in order to keep their debt levels at a predetermined objective.

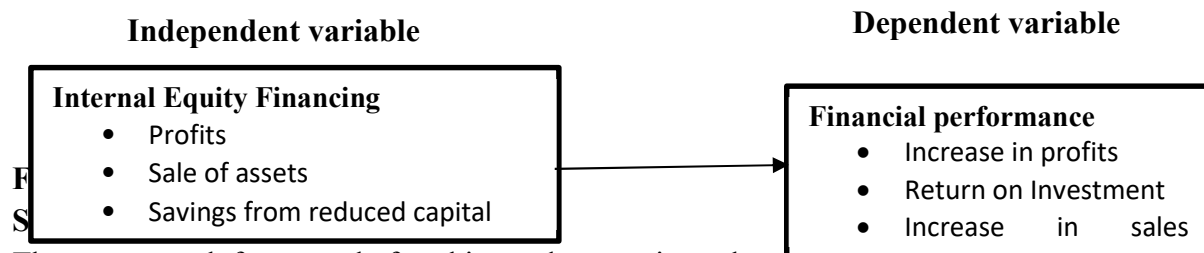
It is critical to recognize the limitations of the Static Trade-off Theory and to investigate other theories, even if it offers a useful framework for understanding the capital structure decisions of enterprises. Frank and Goyal's (2019) and other empirical evidence lend credence to the theory, but there are still many who argue that a static trade-off between the benefits and costs of debt is too simplistic to explain corporate financing decisions (Frank & Goyal, 2019; Myers, 2020).

Commercial enterprises, such as banks, endeavor to identify the optimal balance between debt and equity financing by assessing the advantages and disadvantages of both options. This aligns with the Static Trade-off Theory. This concept posits that Rwandan commercial banks predominantly depend on retained earnings as a source of internal equity financing, impacting their capital structure decisions and, consequently, their financial performance. Retained earnings enhance the

bank's equity foundation, serving as a steady and dependable source of internal financing for investments, expansions, and regulatory adherence. By employing retained earnings as a kind of internal equity financing, banks can diminish their dependence on external debt, thus alleviating financial concerns linked to excessive leverage and interest payment commitments. This improves the bank's financial adaptability and robustness, enabling it to endure economic recessions and seize growth prospects. The utilization of retained earnings may indicate financial stability and managerial confidence to investors and regulators, so enhancing the bank's reputation and facilitating access to capital markets.

2.4 Conceptual Framework

The conceptual framework serves as the theoretical underpinning guiding research endeavors by providing a structured approach to understanding and analyzing complex phenomena (Bryman, 2015). It offers a systematic structure of concepts, theories, and variables that help researchers conceptualize relationships and connections within a particular field of study. As outlined by Bryman (2015), a well-defined conceptual framework aids in framing research questions, identifying variables, and establishing the theoretical basis for empirical investigations. It acts as a roadmap, guiding the researcher through the formulation of hypotheses or propositions and informing the selection of appropriate research methodologies for data collection and analysis. Figure 1 shows the conceptual framework.



The conceptual framework for this study examines the relationship between internal equity financing—specifically profits, sale of assets, and savings from reduced capital expenditures—and financial performance, measured by factors such as an increase in profits, return on investment (ROI), and sales volume. Internal equity financing refers to the use of internally generated funds, such as retained earnings or proceeds from asset sales, to support business operations or expansion without relying on external debt (Hassan & Mugisha, 2021). This framework posits that effective utilization of internal equity financing can lead to improved financial performance, as firms reinvest profits or reduce capital costs, leading to increased profitability and a stronger ROI (Kagire & Nkurunziza, 2022). By focusing on how these internal financial strategies influence performance metrics, the study aims to contribute to understanding the dynamic between capital structure and operational efficiency in commercial banks.

3.0 Research Methodology

3.1 Research Design

This study adopted a descriptive survey design to explore the influence of capital structure on the financial performance of selected commercial banks in Rwanda. The descriptive survey design is

advantageous as it facilitates the collection of quantitative and qualitative data from a sample of banks, allowing for a comprehensive analysis of current practices and perceptions regarding capital structure (Creswell & Creswell, 2020). The study employed structured questionnaires to gather data from key stakeholders, including bank managers and financial analysts, ensuring a diverse perspective on the impact of capital structure decisions (Mugenda & Mugenda, 2020). This approach not only enabled the identification of patterns and relationships between variables but also provided a robust framework for assessing how capital structure influences financial performance metrics such as return on assets (ROA) and return on equity (ROE) (Kibet, Kipruto & Juma, 2021).

The study adopted a quantitative research design, specifically utilizing a correlational research approach to examine the influence of capital structure on the financial performance of commercial banks in Rwanda. This design is appropriate because it allows for the analysis of relationships between variables using numerical data. Secondary data from the financial statements of commercial banks, publicly available from sources like the National Bank of Rwanda, was employed to gather information on capital structure and financial performance indicators such as return on assets (ROA) and return on equity (ROE). The use of quantitative methods provides objective, reliable, and replicable results, which are crucial for understanding the extent to which capital structure impacts performance (Creswell & Creswell, 2023). Multiple regression analysis was conducted to determine the strength and direction of the relationships between the variables.

3.2 Target Population

According to Zikmund *et al.*, (2020), the term "population" encompasses all entities within a particular domain of study. Moreover, a population can be defined as a collection of individual elements, whether finite or infinite (Lavrakas, 2018). As stated by Hyndman (2018), the term "population" encompasses the complete assemblage of entities that are of interest to the researcher. The target population for this study consisted of all 11 commercial banks operating in Rwanda, as regulated by the National Bank of Rwanda (BNR). According to BNR's most recent report, Rwanda's banking sector comprises both domestic and foreign-owned banks, with 11 licensed commercial banks as of 2023 (BNR, 2023). These banks represent a diverse range of financial institutions that vary in terms of size, ownership, and capital structure, providing a comprehensive base for the study.

Table 1: Target population

No.	Commercial Bank
1	Bank of Kigali (BK)
2	I&M Bank Rwanda
3	Equity Bank Rwanda
4	NCBA Bank
5	BPR Rwanda
6	Access Bank Rwanda
7	Bank of Africa
8	GT Bank (Guaranty Trust Bank) Rwanda

9	AB Bank Rwanda
10	EcoBank Rwanda
11	Urwego Opportunity Bank

Source: National Bank of Rwanda (2024).

3.3. Sampling Procedures and Techniques

According to Lavrakas (2018), a sampling frame is a full inventory that encompasses the entire target population from which a sample is chosen. The sampling frame is commonly characterized by its finite nature, serving as a systematic framework for the selection process. Its primary objective is to guarantee that each individual within the population has an equitable opportunity to be included in the sample.

The study adopted a census approach for its sample size, where all 11 commercial banks in Rwanda were included in the analysis. A census is appropriate in this context because the total number of commercial banks in Rwanda is small and manageable, allowing for comprehensive data collection without the need for sampling (Kothari, 2020). By utilizing a census approach, the study ensure that every bank is represented, providing a more accurate and complete assessment of the influence of capital structure on financial performance across the entire population. This approach also enhances the validity and reliability of the findings, as no commercial bank was excluded from the analysis.

3.4 Data Collection Methods

The selection of data gathering methods is crucial in research, as they determine the magnitude and dependability of the results. Bryman (2016) asserts that researchers possess a diverse array of data collection methodologies, encompassing surveys, interviews, observations, and document analysis. The study utilized secondary data collection methods, relying on publicly available financial statements and reports of commercial banks in Rwanda. Data was gathered from sources such as the National Bank of Rwanda (BNR), bank annual reports, and audited financial statements covering a period of several years to ensure comprehensive analysis. Secondary data is particularly advantageous for this study as it provides accurate, reliable, and pre-validated financial information, allowing for efficient examination of capital structure variables like debt-to-equity ratio and performance indicators such as ROA and ROE (Saunders *et al.*, 2019). The use of secondary data also enhances the objectivity of the findings and reduces time and resource constraints associated with primary data collection.

3.4.1 Data Collection Instruments

The study utilized a secondary data collection sheet as the primary data collection instrument. This sheet was designed to systematically extract relevant financial information from publicly available documents, such as annual reports and audited financial statements of commercial banks in Rwanda, published by the National Bank of Rwanda (BNR) and individual banks. The data collection sheet captures key variables related to the banks' capital structure, such as the debt-to-equity ratio, and financial performance indicators, including return on assets (ROA) and return on equity (ROE). The use of a structured secondary data collection sheet ensures consistency, accuracy, and ease of analysis, aligning with best practices in financial research (Kothari, 2020).

This approach allows the study to efficiently gather large amounts of data without the need for primary data collection, thereby reducing time and cost.

3.4.2 Administration of Research Instruments

The study utilized a secondary data collection sheet to systematically gather relevant financial information from the selected commercial banks in Rwanda. This approach involved compiling data from the banks' financial statements, annual reports, and other publicly available records to assess their capital structures and financial performance metrics (Kothari, 2020). By employing a secondary data collection sheet, the study ensured a structured method for data extraction, which facilitated accurate comparisons and analyses across different banks (Mokhtar et al., 2021). This methodology was effective in providing a comprehensive view of the relationship between capital structure and financial performance without the need for primary data collection, thereby optimizing resources and time (Sharma & Sharma, 2022).

The study employed a secondary data collection sheet as the primary research instrument for gathering relevant information from the financial statements of commercial banks in Rwanda. This method allows for the extraction of quantitative data, including capital structure variables (debt ratio, equity ratio) and financial performance indicators (ROA, ROE). The data was sourced from publicly available annual reports and audited financial statements, primarily obtained through the National Bank of Rwanda and the banks' official websites. Secondary data collection is advantageous as it offers reliable and accurate information that has already been vetted and published by financial authorities, ensuring the validity of the study's findings (Kothari, 2020). The use of a structured data collection sheet ensured consistency and accuracy in capturing the necessary variables across the banks under study.

3.5 Validity and Reliability

Validity and reliability are critical components of the research methodology, ensuring that the data collected accurately reflects the concepts being measured and that the findings are consistent across different contexts. In this study, the use of secondary data from reputable sources enhances the validity of the findings, while the structured data collection sheet promotes reliability by standardizing the information extraction process.

3.5.1 Validity

To ensure validity in this study, particular attention was given to the accuracy and appropriateness of the data collected from secondary sources. Content validity was assessed by thoroughly reviewing the financial statements and annual reports of the commercial banks in Rwanda to ensure they include all necessary variables related to capital structure and financial performance. This guaranteed that the data accurately represents the constructs of interest, such as debt ratios and performance metrics like ROA and ROE. Additionally, external validity was enhanced by using data from all commercial banks regulated by the National Bank of Rwanda, which allows the findings to be generalized across the banking sector (Saunders *et al.*, 2019). The consistency of data from audited financial statements further reinforces the credibility of the secondary data used.

3.5.2 Reliability

Reliability of the study was ensured through the use of consistent and standardized data collection procedures. The data collection sheet was structured to record the same types of information (capital structure ratios and financial performance indicators) for each commercial bank, thus reducing the likelihood of errors or inconsistencies. Furthermore, since the study relies on publicly available secondary data, the reliability of the data is enhanced due to its verified and audited nature, as it is subjected to scrutiny by regulators like the National Bank of Rwanda. The use of quantitative methods, such as regression analysis, which can be replicated by other researchers, also contributes to the reliability of the study's findings (Creswell & Creswell, 2023).

3.6 Data Analysis

The data analysis process involved two key components: descriptive statistics analysis and inferential statistics analysis. Descriptive statistics provided a summary of the dataset through measures such as mean, median, and standard deviation, while inferential statistics facilitated the examination of relationships and patterns between capital structure and financial performance, allowing for generalizations beyond the sample to the broader population of commercial banks in Rwanda.

3.6.1 Descriptive Statistics Analysis

To analyze the data, the study initially computed descriptive statistics, including the mean, median, and standard deviation, for all variables involved in the assessment of capital structure and financial performance of the selected commercial banks in Rwanda. Descriptive statistics serve as a foundational tool in quantitative research, offering a comprehensive overview of the dataset and facilitating an understanding of central tendencies and variability within the data (Field, 2022). The mean provides insight into the average values of key financial indicators, while the median offers a measure of the middle point in the data distribution, thus helping to identify any skewness in the dataset. Additionally, the standard deviation indicates the degree of dispersion or variability around the mean, allowing researchers to gauge the consistency of financial performance across the banks. This preliminary analysis not only aids in summarizing the characteristics of the data but also prepares the groundwork for more advanced inferential statistical analyses, contributing to a holistic understanding of how capital structure influences financial outcomes in the Rwandan banking sector.

3.6.2 Inferential Statistics Analysis

Correlation analysis was performed to determine the strength of relationships between the independent and dependent variables, followed by the application of multiple regression to establish the influence of capital structure variables on financial performance. The significance of the regression coefficients was tested using t-tests to determine whether the independent variables have a statistically significant effect on ROA. Additionally, the model's goodness-of-fit was assessed through the R-squared value, which explains the proportion of variance in financial performance accounted for by the capital structure variables (Wooldridge, 2020). Regression analysis was a part of the research. The main regression model is depicted as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu$$

The dependent variable in this regression model is denoted as Y , which represents the financial performance as measured by Return on Assets (ROA). The intercept, denoted as α , is the value of Y when all the independent variables (X_1, X_2, X_3) are equal to zero. The error term ϵ conforms to a normal distribution characterized by a mean of zero, thereby addressing the unexplained variability in the dependent variable Y . The coefficients ($\beta_1, \beta_2, \beta_3$) denote the influence of the independent variables (X_1, X_2, X_3) on the dependent variable (Y), indicating the manner in which alterations in internal equity financing, debt financing, and retained earnings affect the financial performance as assessed by return on assets (ROA).

4.0 Results and Findings

4.1 Bank Characteristics in Rwanda

The banking sector in Rwanda is characterized by a diverse range of commercial banks that vary in size, branch network, market share, customer base, and the use of digital banking platforms. These banks serve a crucial role in the country's financial system, offering a wide array of services to individuals, businesses, and the government. Table 4.3 illustrates the general characteristics of these banks, highlighting differences in their scale of operations, geographical outreach through branch networks, market penetration, and the adoption of digital banking technologies. As competition intensifies, banks increasingly rely on digital platforms to enhance customer experience and expand their reach, contributing to their overall market presence.

Table 2: General Bank Characteristics in Rwanda

No.	Commercial Bank	Size of the Bank	Branch Network	Market Share (%)	Customer Base	Use of Digital Banking Platforms
1	Bank of Kigali (BK)	Large	300+	31.2	400,000+	Yes
2	I&M Bank Rwanda	Medium	20+	9.5	200,000+	Yes
3	Equity Bank Rwanda	Large	40+	14.5	250,000+	Yes
4	NCBA Bank	Medium	15+	5.0	100,000+	Yes
5	BPR Rwanda	Large	170+	17.5	300,000+	Yes
6	Access Bank Rwanda	Medium	30+	4.5	150,000+	Yes
7	Bank of Africa GT Bank	Medium	25+	3.5	120,000+	Yes
8	(Guaranty Trust Bank) Rwanda	Medium	10+	2.0	50,000+	Yes
9	AB Bank Rwanda	Small	5	1.0	30,000+	Yes

10	EcoBank Rwanda Urwego	Medium	12+	2.5	70,000+	Yes
11	Opportunity Bank	Small	6	1.0	20,000+	Yes

Source: **Secondary data**, (2024).

Table 2 presents the general characteristics of commercial banks in Rwanda, showing variation in size, branch network, market share, customer base, and the use of digital banking platforms. This reflects the diverse structure of the banking sector, where large banks such as Bank of Kigali (BK), Equity Bank, and BPR Rwanda dominate the market in terms of size and customer base, with Bank of Kigali holding a leading 31.2% market share. Medium-sized banks like I&M Bank, NCBA Bank, and Access Bank also contribute significantly, albeit with smaller networks and market shares. Small banks such as AB Bank and Urwego Opportunity Bank, while having a limited branch network and market penetration, are still vital players.

The adoption of digital banking platforms across all banks is notable and aligns with the trend observed in the Rwandan banking industry, where digital transformation has become central to improving financial inclusion and service delivery (Ntagungira *et al.*, 2020; World Bank, 2021). Compared to previous findings, the growth in digital banking usage, particularly during the COVID-19 pandemic, has been significant, with more customers relying on online and mobile banking services (Kagire & Uwiringiyimana, 2021). The literature also highlights that the use of digital platforms helps banks reduce operational costs and expand their customer base, thus contributing to market share growth (Ndikumana *et al.*, 2022).

4.2 Findings on Descriptive Analysis on Internal Equity Financing

The descriptive analysis of internal equity financing reveals key insights into its distribution and variability among the selected commercial banks. Table 3 presents the descriptive statistics, including mean, standard deviation, and coefficient of variation (CoV), alongside skewness and kurtosis values. These metrics provide an understanding of the central tendency and dispersion of internal equity financing variables, such as profits, asset sales, and savings from reduced capital expenditures. The skewness values indicate the asymmetry in the data distribution, while the kurtosis values reflect the peakedness of the distribution, suggesting the level of financial concentration within the banks. A detailed analysis of these statistics will help evaluate the overall efficiency and stability of internal equity financing strategies in relation to financial performance.

Table 3: Descriptive statistics on the variables

	N	Mean	Std. Deviation	CoV	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
Internal Equity Financing	121	.0976	.08453	.86608	.093	.220	.227	.437
Financial Performance	121	1.059	.78315	.73923	.409	.220	-.154	.437
Valid N (listwise)	121							

Source: **Secondary data**, (2024).

The descriptive analysis of internal equity financing reveals that the commercial banks in Rwanda exhibit significant variability in their internal equity financing practices. With 121 observations, the mean value of 0.0976 indicates that, on average, a relatively small portion of the banks' financing comes from internal equity. The standard deviation of 0.08453 shows that there is a wide range of internal equity levels across different banks. This is further supported by the coefficient of variation (CoV) of 0.86608, highlighting substantial relative variability in how internal equity is utilized. The moderate skewness value of 0.093 suggests that the distribution of internal equity financing is nearly symmetrical, indicating that most banks cluster around the mean, with no significant outliers. The kurtosis value of 0.220 also implies a close-to-normal distribution, reflecting a balanced spread of internal equity financing practices among the banks.

This analysis is aligned with existing literature, which underscores the significance of internal equity financing in maintaining a stable financial structure. According to Agyemang and Ansah (2020), internal equity financing is an essential tool for commercial banks, particularly in volatile markets, as it allows them to avoid over-reliance on external funding and debt, thereby contributing to improved financial performance. This form of financing is seen as a more conservative approach that promotes sustainability and reduces the risk of financial distress, ultimately enhancing profitability in the long term. As evidenced in the data, Rwandan banks demonstrate a balanced approach to utilizing internal equity, which may be critical in navigating the country's dynamic financial environment.

4.3 Descriptive Analysis on Financial Performance

The descriptive analysis of financial performance among commercial banks in Rwanda shows a mean of 1.059, with a standard deviation of 0.78315, indicating moderate variability in the performance outcomes across the banks. The coefficient of variation (CoV) of 0.73923 suggests that while some banks outperform others, performance differences are not extremely pronounced. The positive skewness value of 0.409 indicates that a few banks are achieving significantly better financial performance than their counterparts. This could reflect differences in operational efficiency, management practices, or the strategic use of capital structures. Banks that perform better may have implemented more effective financial strategies, such as optimal debt-equity

ratios, robust risk management, or strong revenue generation capabilities, contributing to their superior financial outcomes.

The kurtosis value of -0.154, which is slightly below zero, indicates a flatter-than-normal distribution, suggesting a broader spread of financial performance across the banks. This distribution shows that while some banks achieve higher performance, a substantial portion performs closer to the average, with fewer extreme high or low performers. The findings are consistent with Abor (2021), who argued that differences in financial performance among banks are often driven by variations in capital structure, management strategies, and market conditions. Banks with better capital allocation, effective management, and adaptive strategies to changing economic conditions tend to experience higher financial performance. However, the diverse levels of performance reflect the varied operational and strategic approaches adopted by different banks within the Rwandan banking sector.

4.4 Discussion of the findings

The findings regarding internal equity financing among Rwandan commercial banks indicate that while banks rely on this funding source, the average proportion remains relatively low. This aligns with the assertion that internal equity financing plays a crucial role in stabilizing a bank's capital structure and mitigating reliance on volatile external sources. According to Ali and Hu (2021), banks that prioritize internal equity can achieve enhanced financial resilience, particularly in uncertain economic climates. This strategy not only preserves financial stability but also fosters long-term growth through reinvestment in profitable ventures.

Moreover, the significant variability observed in internal equity financing practices among different banks highlights diverse management strategies and risk appetites. Some banks may adopt conservative approaches, opting for higher internal equity ratios to cushion against economic shocks. A study by Dede and Kalu (2022) found that banks with robust internal equity financing practices are better positioned to navigate periods of financial instability, enabling them to maintain operational continuity and fulfill their obligations to stakeholders. This suggests that Rwandan banks that effectively manage their internal equity can enhance their overall performance.

Finally, the near-symmetrical distribution of internal equity financing among the banks suggests that most institutions are adopting similar strategies regarding capital structure. This trend is critical for fostering competitive parity within the banking sector. As highlighted by Muriithi et al. (2023), understanding the dynamics of internal equity can inform policy decisions that promote sustainable banking practices. The findings indicate that enhancing the management of internal equity could be vital for Rwandan banks aiming to improve their financial performance and stability in an increasingly complex financial landscape.

5.0 Conclusions of the study

The conclusions regarding Internal Equity Financing highlight its negative impact on the financial performance of the commercial banks analyzed. Despite its theoretical significance as a source of capital, the findings suggest that a higher reliance on internal equity financing may not necessarily correlate with improved financial outcomes for these banks. This could imply that banks relying

more on internal equity financing may face challenges in optimizing their capital structure, which can hinder their overall performance. The negative coefficient associated with internal equity financing indicates that it might limit the banks' ability to leverage additional financing options, potentially constraining their growth and profitability. Consequently, banks may need to reconsider their equity financing strategies to enhance financial performance effectively, potentially by balancing their capital structure with a more favorable mix of debt and equity financing.

5.1 Recommendations of the study

The study's findings suggest that commercial banks in Rwanda should reconsider their reliance on internal equity financing to enhance financial performance. While internal equity can provide stability, banks may benefit from adopting a more balanced capital structure that includes a mix of debt and equity financing. Specifically, financial institutions should explore opportunities to leverage debt financing strategically, as this can facilitate expansion and investment in profitable projects without overly diluting ownership. Training for financial managers on optimal capital structure strategies could further support informed decision-making and better align financing choices with the banks' growth objectives.

5.2 Suggestions for Further Studies

Future research could expand on this study by exploring the impact of external factors, such as regulatory changes and economic conditions, on the relationship between different financing methods and financial performance in the banking sector. Additionally, longitudinal studies could be conducted to assess how shifts in capital structure over time influence financial performance outcomes, providing a more dynamic view of these relationships. Researchers might also consider including a broader range of variables, such as market competition, customer satisfaction, and technological adoption, to gain a more comprehensive understanding of the factors affecting financial performance in commercial banks. Finally, comparative studies between banks in Rwanda and those in other Sub-Saharan African countries could provide valuable insights into regional trends and best practices in banking finance.

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