FINANCIAL LEVERAGE AND LIQUIDITY POSITION OF MICROFINANCE BANKS IN KENYA

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Abstract

The liquidity position of microfinance banks (MFBs) plays a pivotal role in their financial stability and their ability to fulfill their mission of promoting financial inclusion and alleviating poverty in Kenya. Financial leverage, primarily through debt financing, is a significant source of funding for MFBs, yet its impact on their liquidity position remains unclear in existing empirical evidence. Hence, this study investigates the effect of financial leverage on the liquidity position of microfinance banks (MFBs) in Kenya and provides recommendations for policy and practice. Using panel data analysis covering the period from 2012 to 2021, the study investigates the effect of financial leverage on liquidity position of microfinance banks. The findings indicate a significant relationship between financial leverage and liquidity, with higher levels of leverage affecting liquidity both positively and negatively depending on the leverage structure and management. Recommendations for policymakers include enhancing the regulatory framework governing MFBs to ensure prudent debt management and promoting transparency in financial reporting practices. For practitioners, the study recommends optimizing the debt-to-equity ratio, diversifying funding sources, and integrating leverage management into strategic planning processes. Overall, the study underscores the importance of prudent financial leverage management in supporting the liquidity position of MFBs in Kenya and offers actionable insights for policymakers and practitioners to enhance financial stability, resilience, and the promotion of financial inclusion.

Keywords: *Financial leverage; Liquidity position; Long-term debt, short-term debt, Liquidity; Microfinance banks*

1.0 Introduction

Microfinance banks (MFBs) in Kenya play a vital role in providing financial services to individuals and small businesses that are typically excluded from traditional banking. Operating under the Microfinance Act and regulated by the Central Bank of Kenya (CBK), these institutions aim to foster financial inclusion and support economic development (Shubita & Alsawalhah, 2019). MFBs offer a variety of products, including microloans for income-generating activities, asset purchases, or emergencies; savings products for both individuals and

groups; micro-insurance to protect against risks; and remittance services for domestic and international money transfers (Ado et al., 2020). Their primary clientele consists of low-income individuals and small businesses, often in underserved rural and urban areas. To enhance accessibility, many MFBs have adopted mobile banking, agent banking, and digital payment solutions (Baltac & Ayaydn, 2018). Despite their crucial role in advancing financial inclusion, MFBs face challenges, particularly in securing affordable capital for lending. High borrowing costs and limited access to long-term financing options constrain their ability to provide loans (Microfinance Barometer, 2021). Financial leverage, the reliance on borrowed funds to expand lending capacity, is often used but can strain liquidity if not managed properly (Mugo & Muathe, 2023). While financial leverage is critical in enhancing the capacity of MFBs to provide loans and foster growth, an excessive reliance on it can lead to liquidity risks, especially when borrowing costs outpace the returns on loans offered. Regulatory compliance, including liquidity and capital adequacy requirements, also complicates the financial landscape for MFBs (CBK, 2023). Serving low-income populations introduces further risks, such as credit and operational risks (FinDev Gateway, 2022). Despite these challenges, MFBs continue to play an essential role in promoting financial inclusion and poverty reduction in Kenya.

Liquidity is crucial for the stability and growth of MFBs, as it ensures timely access to financial products for low-income individuals and micro-entrepreneurs (Njuguna et al., 2022; CBK, 2023). Financial leverage can enhance liquidity but excessive debt may strain it if borrowing costs exceed loan returns (CGAP, 2021). Adequate liquidity supports growth and risk management, especially when lending to informal sectors and remote areas (FinDev Gateway, 2022). Inadequate liquidity levels compromise the MFBs' ability to manage cash flow effectively and may lead to challenges in meeting customer demands for loans and other financial services. Regulatory frameworks like the Microfinance Act of 2006 and the Microfinance Regulations of 2019, overseen by CBK, enforce minimum liquidity ratios to ensure financial stability and inclusion (CBK, 2023; Central Bank of Kenya, 2018). As of 2013, six out of nine regulated microfinance institutions had established deposit-taking (DT) outlets, a significant increase from five such branches in 2012 to 43 by the end of 2013. This growth was accompanied by a 12.3% rise in customer deposits from Ksh 43.8 billion in 2019 to Ksh 49.5 billion in 2020. Key factors driving this deposit growth included the use of agency banking and mobile phone banking channels, with Muungano Microfinance Bank, which received its operating license in November 2019 and began operations in 2020, contributing significantly to the rise in deposits. Deposits and loans are the main financing sources for microfinance institutions, accounting for 66% and 15% of total financing, respectively. Financial leverage, through these funds, helps MFBs expand operations and improve liquidity. However, without effective risk management and diversified funding sources, excessive reliance on debt may limit MFBs' ability to manage external shocks and liquidity needs. However, excessive reliance on borrowed funds can strain liquidity, especially when debt servicing costs rise or economic conditions worsen. The regulatory framework ensures liquidity by setting minimum ratios, which are vital for maintaining financial stability and enabling MFBs to continue serving low-income and underserved populations effectively (CBK, 2023).

In Kenya, microfinance banks (MFBs) are mandated to maintain a minimum liquidity ratio of 20% (CBK, 2023). However, over the years, several MFBs have struggled to meet this requirement, which has adversely impacted their financial performance (Microfinance

Barometer, 2021). A closer look at the reasons for these deficiencies, such as macroeconomic conditions like inflation, fluctuations in exchange rates, or regulatory changes, would provide a better understanding of how external factors influence MFBs' liquidity challenges (Njuguna et al., 2022; Ado et al., 2020). Table 1 below outlines the liquidity positions of these banks, highlighting instances where they failed to meet the required threshold. The inability to maintain an adequate liquidity ratio can constrain MFBs' ability to manage day-to-day operations effectively, limiting their capacity to provide loans and other financial services to their clientele, ultimately affecting their overall stability and growth (Mugo & Muathe, 2023).

Comparison with global trends: Comparing the liquidity challenges faced by Kenyan MFBs with those of microfinance institutions in other emerging markets would be valuable (Schreiner, 2017). For example, Kenyan MFBs have faced consistent liquidity issues, with some banks failing to meet the 20% statutory liquidity requirement over the years (CBK, 2023). A comparison of liquidity ratios in similar countries in Sub-Saharan Africa or other emerging economies could shed light on whether these challenges are unique to Kenya or part of broader global trends (Ado et al., 2020; Baltac & Ayaydn, 2018). This context would provide a more comprehensive view of the sector's challenges and suggest possible solutions informed by global best practices (Microfinance Barometer, 2021).

Table 1: Summary of MFBs and their liquidity positions duing the period (2013-2022)

Year	MFB	Minimum statutory level	Liquidity Ratio	Deficiency
2013	-	-		-
2014	Uwezo	20%	15%	-5%
2015	-	-	-	-
2016	Rafiki	20%	12%	-8%
	Century	20%	9%	-11%
2017	Rafiki	20%	19%	-1%
	Choice	20%	10%	-10%
2018	Choice	20%	3%	-17%
2019	Sumac	20%	3%	-17%
2020	Choice	20%	1%	-19%
	Daraja	20%	6%	-14%
2021	Daraja	20%	4%	-16%

Source: CBK (2013-2021)

An analysis of liquidity ratios for Kenyan microfinance banks (MFBs) from 2014 to 2021 reveals persistent challenges in meeting the statutory minimum liquidity requirement of 20%. For instance, Uwezo's ratio was 15% in 2014, and Rafiki's ratio, though improving from 12% in 2016 to 19% in 2017, still fell short of the required threshold. Century's liquidity ratio was just 9% in 2016, signaling severe instability. Choice Microfinance experienced a drastic decline, with its ratio dropping from 10% in 2017 to 1% in 2020, reflecting a deepening crisis**.** Similarly, Sumac's ratio in 2019 was 3%, while Daraja's remained low at 6% in 2020 and 4% in 2021. None of the MFBs achieved the 20% requirement, highlighting systemic liquidity problems across the sector. These prolonged liquidity shortfalls expose institutions to insolvency risk, erode depositor confidence, and deter investment.

1.1 Research Problem

Microfinance Banks (MFBs) are vital to Kenya's economy, offering financial services to individuals excluded from traditional banking. Their liquidity position is crucial for sustainability, requiring a balance between excessive liquidity, which reduces profitability, and insufficient liquidity, which disrupts operations (Akbarpour & Aghabeygzadeh, 2019). According to data from the Central Bank of Kenya (CBK), liquidity ratios for MFBs have declined significantly, dropping from 61% in 2014 to 41% in 2021, even as credit to the private sector continued to grow at a steady pace (CBK, 2022). The liquidity ratio is a key indicator of a company's financial health, providing insights into its ability to meet short-term obligations. Anderson and Carverhill (2012) attribute the decline in liquidity ratios to changes in the financing structure of firms.

Akbarpour and Aghabeygzadeh (2019) argue that the primary driver of financial difficulties in businesses is related to funding. Furthermore, Opungu (2019) identifies financing structure as one of the key factors influencing corporate financial success. In his MDA model, Altman (1968) found that increasing financial leverage tends to improve a company's financial outcomes. These empirical findings suggest that a firm's capital structure, particularly its financial leverage, significantly impacts financial performance indicators such as liquidity, profitability, and firm value (Outecheva, 2007). However, the literature reveals inconsistent results regarding the relationship between financing structure and liquidity, with some studies showing positive effects while others suggest negative or neutral impacts (Wangombe & Kibati, 2019; Oladele, Omotosho, & Adeniyi, 2017). This variability may stem from methodological issues such as endogeneity, hidden variable biases, or differences in the context of the studies conducted.

While much of the existing research focuses on listed companies in developed economies, research on this topic within the Kenyan context, especially in relation to MFBs, remains limited (Rajendran & Achchuthan, 2013; Eton et al., 2017). Moreover, the challenges faced by MFBs in Kenya, such as regulatory policies, market dynamics, and macroeconomic conditions, may differ significantly from those in other regions, adding complexity to the relationship between financial leverage and liquidity. As such, empirical studies examining the effect of financial leverage on the liquidity position of MFBs in Kenya are still in their early stages and fragmented (Akbarpour & Aghabeygzadeh, 2019; Younus et al., 2018; Isola & Akanni, 2019).

Additionally, previous studies on this relationship have produced mixed results (Opungu, 2019; Githire & Muturi, 2019), with some indicating positive effects of leverage on liquidity while others show a negative or neutral relationship. Given the gaps in the existing literature, the lack of empirical evidence linking financial leverage to the liquidity position of MFBs in Kenya, and the contradictory findings, there is a clear need for further investigation into how financial leverage affects the liquidity position of microfinance banks in Kenya. Understanding these dynamics is crucial, as liquidity challenges directly influence MFBs' ability to serve their target market and sustain operations.

1.2 Objective of the Study

The general objective was to investigate the effect of financial leverage on liquidity position of microfinance banks in Kenya while the specific objectives were;

i. To determine the effect of short-term debt on the liquidity position of microfinance banks in Kenya.
ii. To determine the effect of long-term debt on the liquidity position of microfinance banks in Kenya.

1.3 Study hypothesis

H_{01}: Short-term debt has no significant effect on liquidity position of microfinance banks in Kenya.

H_{02}: Long-term debt has no significant effect on liquidity position of microfinance banks in Kenya.

1.4 Scope of Study

The study sought to investigate the effect of financial leverage on the liquidity positions of microfinance banks (MFBs) in Kenya. Specifically, the study sought to determine the effect of short-term and long-term debt on the liquidity positions of 13 MFBs operating in the Kenyan financial sector, that were regulated by the Central Bank of Kenya (CBK) as of December 31, 2021. These MFBs are primarily based in Nairobi County, which was selected as the geographical focus due to its concentration of financial institutions, economic significance, and its role as the hub of Kenya's financial sector. The research employed a longitudinal approach, covering a ten-year period from 2012 to 2021, in order to analyze how the relationship between financial leverage and liquidity positions of MFBs evolved over time.

2.0 Literature Review

The literature review explores both the theoretical and empirical aspects of how financial leverage affects the liquidity positions of microfinance banks (MFBs) in Kenya. It is structured into two sections: the theoretical review, which addresses key financial theories relevant to the study, and the empirical review, which examines prior studies and research findings related to the topic.

2.1 Theoretical Review

The theoretical review covers two financial theories, the Modigliani-Miller theorem and the Trade-off Theory that provide a framework for understanding how financial leverage affects the liquidity positions of microfinance banks. The Modigliani-Miller Theorem (M&M Theory**)**, proposed by Franco Modigliani and Merton Miller in 1958, revolutionized the understanding of capital structure in corporate finance. The theory asserts that, in an idealized world without taxes, bankruptcy costs, and market imperfections, the capital structure of a company (i.e., the proportion of debt and equity) does not affect its overall value or performance. Essentially, whether a firm is financed by equity or debt, its market value remains the same because investors

can create their desired level of leverage through personal borrowing (Modigliani & Miller, 1958). The key premise of M&M theory is that, under ideal conditions, financial leverage (the use of debt financing) has no impact on the liquidity or overall value of the firm. However, the introduction of taxes in the 1963 revision (Modigliani & Miller, 1963) recognized that debt could provide tax advantages, which could impact capital structure decisions. The benefits of debt arise from the "tax shield," where interest payments on debt are tax-deductible.

Subsequent research has built on M&M's work by exploring how market imperfections, agency costs, and bankruptcy risks affect the relationship between financial leverage and firm performance (Jensen & Meckling, 1976). Critics of the theory argue that it oversimplifies the real-world complexities of financing, where factors like bankruptcy costs, asymmetric information, and market inefficiencies play significant roles (Ghosh & Poudel, 2020). For the current study, M&M's theory provided a foundational framework for understanding the impact of leverage on the financial health of microfinance banks. While the idealized conditions of M&M may not fully apply in Kenya's microfinance sector, the theory's insights into the relationship between leverage and liquidity offered a useful starting point for analyzing capital structure in real-world, imperfect markets.

The Trade-Off Theory of Capital Structure was a financial theory that suggested firms aimed to balance the benefits and costs of debt financing to determine their optimal capital structure. First proposed by Kraus and Litzenberger (1973), the theory posited that companies weighed the tax advantages of debt (i.e., interest deductibility) against the potential costs of financial distress, such as bankruptcy or agency costs. According to the theory, firms should increase leverage until the marginal benefit of the tax shield equaled the marginal cost of financial distress. The main premise of the Trade-Off Theory was that there was an optimal debt level at which the value of the firm was maximized. The benefits of debt arose from the tax shield, where interest payments on debt reduced taxable income, thus lowering a firm's overall tax burden. However, as firms took on more debt, they incurred higher bankruptcy and financial distress costs, which could erode the advantages of using debt. Therefore, companies faced a trade-off between the tax shield benefit and the risk of financial distress.

Further work by Jensen and Meckling (1976) and Myers (1984) expanded on this theory by incorporating the concept of agency costs, where conflicts of interest between shareholders and debt holders affected the optimal level of leverage. The Trade-Off Theory was also criticized for oversimplifying the real-world complexities of financing decisions, particularly in emerging markets where bankruptcy laws and financial distress costs were less clear (Brealey et al., 2019). In the context of the current study on financial leverage and liquidity positions of microfinance banks in Kenya, the Trade-Off Theory was highly relevant. It helped explain how MFBs may have sought to balance the advantages of debt (such as tax savings) with the risks associated with increased financial distress, which could have affected their liquidity and overall financial stability.

2.2 Empirical Review

This section provided a review of previous studies that explored the relationship between financial leverage and liquidity positions, with a particular focus on financial institutions. Its aim

was to offer empirical insights into the effect of financial leverage on the liquidity dynamics specific to microfinance banks (MFBs) in Kenya. Dudycz (2021) investigated the impact of financial leverage on business success, focusing on a sample of 259 companies listed on the Warsaw Stock Exchange. The study employed multiple regression analysis and found that financial leverage, particularly high debt levels, could increase the risk of financial distress, which negatively impacted liquidity positions. The study concluded that while high financial leverage might have driven higher returns in the short term, it also jeopardized long-term liquidity sustainability. This finding was relevant for MFBs, where balancing debt and liquidity was critical to survival.

Wambui and Muturi (2018) assessed the impact of capital structure, particularly debt financing, on the liquidity levels of commercial banks in Kenya. Using a causal-comparative methodology with data from the Nairobi Securities Exchange (NSE), the study revealed a positive correlation between debt financing and liquidity in these institutions. However, their findings were specific to larger commercial banks, suggesting that microfinance banks, with different operational structures and resource constraints, might have experienced different liquidity dynamics under similar financial leverage conditions. This highlighted the importance of sector-specific insights, as the dynamics of liquidity and financial leverage in larger commercial banks may not have fully translated to MFBs.

Mehmood and Rashid (2017) conducted a study using panel data from 2000–2013 to explore the relationship between leverage and liquidity in Pakistani firms. Their findings indicated a negative relationship between high leverage and liquidity, with heavily leveraged firms experiencing liquidity constraints. While the study focused on larger corporations in a different regulatory environment, its findings were useful for understanding the risks that financial leverage posed to liquidity in smaller institutions like MFBs. A critical evaluation of this study could have considered the generalizability of its findings from larger corporations to microfinance banks, given their distinct operational characteristics.

In 2018, Tarus, Chenuos, and Biwott explored the relationship between profitability, capital structure, and liquidity using data from companies listed on the NSE between 2006 and 2016. Their study found that higher leverage was inversely related to liquidity, indicating that companies with higher debt levels faced difficulties maintaining sufficient liquidity. This finding suggested that the same principles might have applied to MFBs, where financial leverage could have created liquidity challenges.

Bilafif and Ibrahim (2019) examined the impact of capital structure on firm value within manufacturing companies in Mombasa County. Their study found a positive relationship between retained earnings and firm value, but no significant relationship between capital structure and liquidity. Although the study focused on a different sector, it highlighted the need for further investigation into how different capital structures, including leverage, impacted liquidity in other sectors such as microfinance. This study underscored the need for sector-specific research, particularly on the unique dynamics of capital structure in the microfinance sector.

Waithira and Mwangi (2022) compared the effects of financial leverage on liquidity across different microfinance banks in Kenya. They used a mixed-methods approach, combining quantitative analysis of leverage ratios and liquidity with qualitative interviews. The study found that some microfinance banks showed a positive relationship between leverage and liquidity, while others experienced no significant effect. This variability pointed to the need for further research into how specific management practices and regulatory environments influenced this relationship.

Kiptoo and Waweru (2024) conducted a study on the influence of financial leverage on liquidity management practices in Kenyan microfinance banks. Using both quantitative data from financial reports and qualitative insights from interviews with bank managers, they found a significant positive relationship between leverage and liquidity management. Their research highlighted that microfinance banks with higher leverage had stronger liquidity positions, indicating that, under certain conditions, leveraging could have improved liquidity. The study emphasized the role of regulatory frameworks and market conditions in shaping the outcomes of financial leverage strategies.

These studies collectively demonstrated the complex relationship between financial leverage and liquidity, particularly in financial institutions, and underscored the need for more research tailored to the unique characteristics of microfinance banks in Kenya. The comparative analysis of these studies revealed a diverse range of outcomes, from negative to positive relationships between leverage and liquidity, which suggested that the impact of financial leverage might have depended on factors such as management practices, regulatory frameworks, and market conditions. There was also a clear gap in the literature regarding the influence of the regulatory environment specific to Kenyan MFBs, and the role of external factors like market volatility. Further research was needed to fill these gaps and provide deeper insights into how these factors shaped the leverage-liquidity relationship in MFBs.

2.3 Conceptual Framework

A conceptual framework illustrates key variables and their relationships within a study, guiding research design and analysis (Miles & Huberman, 1994; Maxwell, 2013).

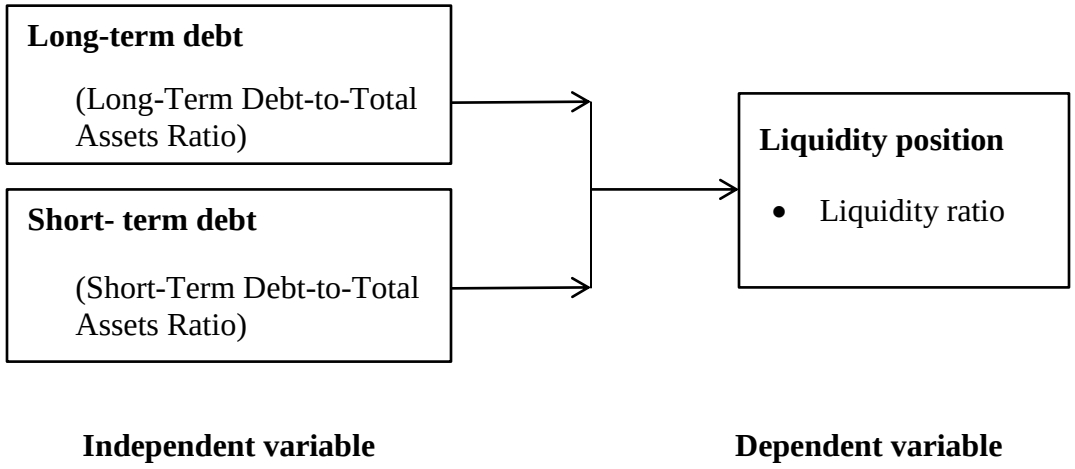

Figure 2.1: Conceptual Framework

3.0 Research Methodology

This study adopts a positivist philosophy, which asserts that scientific claims are valid only when they are supported by empirical evidence (Crossan, 2003). An explanatory research approach was chosen to explore the topic comprehensively and develop a well-founded model. According to Mugenda and Mugenda (2009), explanatory research is suitable for studies that aim to explain the relationships between variables through formulated hypotheses. The study focused on all 13 microfinance banks (MFBs) in Kenya, and a census method was applied to collect data from each institution. The data covered a period of 10 years (2012 to 2021), utilizing secondary sources such as supervisory reports from the Central Bank of Kenya (CBK) and publicly available financial statements from the MFBs. This time frame was selected due to several significant factors, including regulatory changes within the MFB sector and the availability of comprehensive data across this period. These factors ensured the reliability of the data and helped in capturing the evolving dynamics of financial leverage and liquidity during this period.

To analyze the data and determine the significance of the relationship between the independent and dependent variables, panel regression analysis was employed, following the methodology proposed by MacKinnon & Fairchild (2009). The panel regression approach is particularly suitable as it accounts for both time-series and cross-sectional variations within the data. The analysis was executed using STATA software (version 15.0), with a 95% confidence level. Additionally, descriptive statistics, including means, standard deviations, and minimum and maximum values, were used to provide a summary of the data distribution and to identify potential outliers.

The key variables in the study were defined as follows: Financial Leverage (independent variable): Measured by both short-term debt (STD_{it}) and long-term debt (LTD_{it})**.** These measures were selected because they reflect different aspects of debt structure. Short-term debt is typically used for immediate financial needs, while long-term debt is associated with more permanent

financing. Liquidity Position (dependent variable): Measured using commonly accepted liquidity ratios such as the current ratio and quick ratio. These ratios were chosen because they provide a clear picture of an MFB's ability to meet its short-term financial obligations.

The following general empirical model was defined and adopted in the analysis:

$\mathbf{LP_{it} = \alpha + \beta X_{it} + \varepsilon_{it}}$………………………………………..........………… (1)

Where: $\mathbf{LP}_{it}$ is the Liquidity position of firm i at time t; *i* is a firm, i = 1…13; *t* is the period, t = 2012… 2021; $\mathbf{X}_{it}$ is the predictor variable vector for the variable financial leverage; $\boldsymbol{\beta}$ is the beta coefficient; $\boldsymbol{\alpha}$ is a constant term and $\boldsymbol{\varepsilon_{it}}$ is the error term.

Equation 1 is expanded to obtain equation 2 which is used for estimation.

$\mathbf{LP_{it} = \alpha + \beta_1 LTD_{it} + \beta_1 STD_{it} + \varepsilon_{it}}$………………………………………………………… (2)

Where: $\mathbf{LP}_{it}$ is the Liquidity position of firm i at time t; *i* is a firm, i = 1…13; *t* is the period, t = 2012… 2021; $\mathbf{LTD}_{it}$ **=** Long-term debt; $\mathbf{STD}_{it}$ **=** Short-term debt variable; $\boldsymbol{\beta}$ is the beta coefficient; $\boldsymbol{\alpha}$ is a constant term and $\boldsymbol{\varepsilon_{it}}$ is the error term.

4.0 Results, Findings and Discussion

This section presents the results and findings of the study, followed by a discussion of their implications. The analysis explores the relationship between financial leverage and the liquidity positions of microfinance banks in Kenya, offering insights into the effectiveness of financial leverage strategies in improving the liquidity positions of these institutions.

4.1 Descriptive Statistics

The findings from the descriptive analysis reveal significant insights into the liquidity position and financial leverage of microfinance banks (MFBs) in Kenya. The average liquidity position was calculated at 0.231, reflecting the proportion of liquid assets relative to total assets. However, the standard deviation of 2.90 indicates substantial dispersion around the mean, suggesting considerable variability in liquidity levels among the sampled MFBs. This high standard deviation indicates the presence of significant outliers or skewness in the data, which could distort the overall interpretation of liquidity. Specifically, a small number of MFBs with extremely high or low liquidity ratios may be driving the large variation observed. This variability implies that while some MFBs maintain robust liquidity buffers, others may face challenges with lower liquidity, potentially impacting their financial stability. The range between the minimum liquidity position of 0.242 and the maximum of 8.21 further underscores this diversity. Specifically, MFBs with lower liquidity levels might be more exposed to liquidity risks, whereas those with higher liquidity might experience inefficiencies in capital allocation, affecting profitability.

When comparing the liquidity position to industry standards for MFBs, the mean liquidity ratio of 0.231 is relatively low compared to typical benchmarks for the sector, where a ratio of around 0.3-0.5 is often considered ideal for ensuring financial stability while optimizing capital

efficiency. This discrepancy highlights the varying financial health of the MFBs in the sample, with some banks potentially facing challenges in maintaining adequate liquidity.

The mean long-term debt ratio stands at 0.382, indicating a moderate level of long-term financial leverage across the sampled MFBs. A standard deviation of 0.059 suggests relatively low variability in long-term debt levels, implying that most institutions maintain similar leverage strategies. The minimum long-term debt ratio of 0.232 and the maximum of 0.443 further confirm a moderate and consistent use of long-term debt financing. This consistency suggests that MFBs adopt similar approaches to leveraging long-term capital, balancing the benefits and risks associated with debt financing.

The mean short-term debt ratio is 0.286, with a standard deviation of 0.030, indicating a low variation among MFBs in their short-term borrowing practices. The minimum value of 0.202 and the maximum of 0.339 show a narrow range, suggesting uniformity in short-term debt management across the institutions. The relationship between debt ratios (long-term and short-term) and liquidity suggests a trade-off for MFBs. While higher long-term debt may provide more stable financing, it could also reduce liquidity, as funds are tied up in longer-term obligations. On the other hand, short-term debt allows for more flexible financing but may pose a higher risk of liquidity problems if not carefully managed.

Further analysis could explore the breakdown of liquidity and debt ratios by institution type or size to identify patterns or trends within different subsets of MFBs, as smaller or larger institutions may exhibit different strategies for managing liquidity and leveraging debt. Additionally, tests for normality, outliers, or data distribution were conducted, and the results indicated that the liquidity data is positively skewed, which aligns with the observed high variability. These findings suggest that the data distribution may be influencing the descriptive statistics, and further statistical methods (such as log transformations or robust measures) may be required to address skewness.

In terms of the broader implications, the findings suggest that MFBs with high liquidity may face challenges in utilizing capital efficiently, potentially impacting profitability. Conversely, those with low liquidity may be more vulnerable to financial instability, especially in times of economic or market stress. Strategic decision-making for MFBs must balance liquidity management with leveraging debt, ensuring that they can meet short-term obligations without sacrificing long-term financial health.

Table 1: Summary Statistics for various variables

Variables	Obs	Mean	Std. Dev	Min	Max
Long-term debt	130	0.382	.059	0.232	0.443
Short-term debt	130	0.28586	0.03012	0.202	0.339
Liquidity position	130	0.231	2.90	0.242	8.21

Source: Survey Data, 2024

4.2 Regression Analysis

This study was based on the hypothesis that a relationship exists between financial leverage (long-term debts and short-term debts) and liquidity positions. A panel regression model was

employed to assess this relationship, with the liquidity ratio as the dependent variable. The analysis aimed to test the statistical significance of the hypotheses. The Wald chi-square test was used to evaluate the goodness of fit of the regression model, while the coefficient of determination (R^2) indicated the proportion of variance in the liquidity ratio that could be explained by financial leverage. The null hypothesis assumed that the regression coefficients were zero. The results, including the coefficient of determination and the Wald chi-square test findings related to liquidity positions as determined by the liquidity ratio, are presented in Table 2.

Table 2: Test of Fitness

Liquidity ratio	Statistics
Wald chi2(4)	13.48
Prob>F	0.027
R-Squared	0.6111

Source: Survey Data, 2024

The results presented in Table 2 show a Prob > F value of 0.027 for the liquidity ratio, the dependent variable, which is below the conventional significance threshold of 0.05 at the five percent level. This led to the rejection of the null hypothesis (H_0) that the regression coefficients are equal to zero, confirming that the liquidity ratio is statistically significant and suitable for analysis in the panel regression model. Furthermore, the R-squared value of 0.6111 suggests that financial leverage explains approximately 61.11% of the variance in the liquidity ratio, indicating a strong explanatory relationship between financial leverage and liquidity across the data.

4.3 Test for Direct Effect

The objective of this study was to examine the impact of financial leverage (long-term debts and short-term debts) on the liquidity position of Microfinance Banks (MFBs). As shown in Table 3, the analysis aimed to understand how financial leverage influences the liquidity ratios of MFBs, providing insights into the relationship between the banks' capital structure and their ability to maintain adequate liquidity levels.

Table 3: Effect of Financial Leverage on Liquidity position

Liquidity Position	Coefficient	Std. Error	Z	P>|z|
Long-term debts	.345	.169	2.04	0.044
Short-term debts	.132	.025	5.21	0.000
-Cons	.479	.037	13.30	0.000

Source: Survey Data, 2024

As a result, the financial leverage (long-term debts and short-term debts) and liquidity position model was as follows:

$$\mathbf{Y = 0.48 + 0.35X_1 + 0.13X_2}$$

Where; Y = Liquidity position; X_1 = Long-term debt and X_2 = Short-term debt

The findings of the current study indicate that the liquidity position of microfinance banks in Kenya was estimated at 0.479 (constant term). For long-term debts, a one-unit change in long-term debt results in a 0.345 change in the liquidity position, with a p-value of 0.044, indicates statistical significance at the 5% level. Similarly, a one-unit change in short-term debts leads to a 0.132 change in the liquidity position, with a p-value of 0.000, demonstrating a highly significant relationship. The study rejected the null hypothesis, confirming a significant relationship between financial leverage (both long-term and short-term debts) and liquidity.

Comparing this with Dudycz (2021), who found that high financial leverage increased short-term returns but posed liquidity risks, the current study highlights similar dynamics in microfinance banks in Kenya. Specifically, the results indicate that both long-term and short-term debts significantly impact liquidity. The study found a positive relationship between financial leverage and liquidity, with a 0.345 change in liquidity position for every unit change in long-term debt and 0.132 for short-term debt, suggesting that financial leverage can improve liquidity in these institutions, albeit with potential trade-offs. Wambui and Muturi (2018) found a positive correlation between debt financing and liquidity in larger commercial banks, suggesting that microfinance banks may experience different dynamics due to their operational structure. The results of the current study indicate that financial leverage plays a crucial role in shaping liquidity, similar to larger commercial banks, but with nuances unique to microfinance institutions.

Mehmood and Rashid (2017) found a negative relationship between high leverage and liquidity in Pakistan, which contrasts with the positive relationship observed in the current study. Similarly, Tarus, Chenuos, and Biwott (2018) found an inverse relationship between leverage and liquidity in larger firms, supporting the notion that high leverage can challenge liquidity. However, the positive findings in this study suggest that Kenyan microfinance banks might experience different outcomes, possibly due to sector-specific factors. Waithira and Mwangi (2022) noted varying results among Kenyan microfinance banks, with some showing a positive relationship between leverage and liquidity, while others showed the opposite. This aligns with the current study's finding that financial leverage has a positive impact on liquidity for microfinance banks in Kenya, though individual bank strategies may still vary. Kiptoo and Waweru (2024) found a positive relationship between financial leverage and liquidity management, further supporting the idea that leveraging can improve liquidity in microfinance banks. This aligns with the results of the current study, where financial leverage appears to have a beneficial effect on liquidity. In conclusion, while previous studies highlight the risks and benefits of financial leverage on liquidity, the current study specifically contributes to the understanding of these dynamics within Kenyan microfinance banks, providing evidence that financial leverage, both short-term and long-term, can positively impact liquidity, but with potential risks that should be carefully managed.

5.0 Conclusions

Based on the findings of this study, it can be concluded that both long-term debt and short-term debt significantly influence the liquidity position of microfinance banks (MFBs) in Kenya. The

analysis reveals a positive relationship between financial leverage, represented by long-term and short-term debts, and liquidity, indicating that MFBs' use of debt financing plays a crucial role in managing their liquidity. Specifically, the study suggests that an increase in long-term debt is associated with a 0.345 change in liquidity, while short-term debt results in a 0.132 change, highlighting the varying impacts of these debt types on liquidity positions. The results suggest that higher financial leverage, through both long-term and short-term debts, may improve liquidity positions, enabling MFBs to meet short-term obligations more effectively and capitalize on growth opportunities. Long-term debts appear to have a slightly stronger impact on liquidity compared to short-term debts, although both contribute positively to the liquidity position.

6.0 Recommendations

Based on the findings of this study, several recommendations can be made to enhance the liquidity management practices of microfinance banks (MFBs) in Kenya. First, MFBs should optimize their use of both long-term and short-term debt to improve liquidity. While both types of debt have a positive impact on liquidity, MFBs should recognize the slightly stronger influence of long-term debt. Long-term debt is particularly advantageous for financing large, capital-intensive projects or investments that generate stable, long-term returns, while short-term debt is more suitable for addressing immediate funding needs. By carefully balancing these debt types, MFBs can meet short-term obligations while ensuring long-term financial stability**.** For instance, MFBs may consider using short-term debt for operational expenses or working capital needs, and long-term debt for strategic investments or infrastructure development.

Furthermore, MFBs should implement robust risk management frameworks to monitor the effects of financial leverage on liquidity. Excessive debt can lead to a range of risks, including liquidity crises, increased default risk, and difficulty in servicing debt during economic downturns. Over-leveraging can lead to a higher risk of default if MFBs are unable to meet their debt obligations, especially when revenues decline. Additionally, servicing high levels of debt during economic downturns can strain liquidity, leading to potential solvency issues. Therefore, MFBs should ensure that their debt levels are aligned with their ability to generate consistent revenue and maintain operational flexibility.

To avoid over-leveraging, MFBs should focus on setting limits on debt-to-equity ratios and closely monitor their leverage levels. Regularly tracking liquidity ratios, such as the current ratio and quick ratio, will help MFBs maintain a healthy balance and mitigate potential risks. **These** liquidity ratios should be reviewed alongside debt ratios to provide a comprehensive view of financial health. Moreover, MFBs could adopt financial reporting systems that allow for real-time tracking of liquidity ratios and other key performance indicators (KPIs), facilitating quick responses to emerging liquidity risks.

Strategic insights for MFBs could include a focus on internal and external monitoring mechanisms. Internally, MFBs should establish a financial oversight function dedicated to monitoring debt management and liquidity. This could involve using **financial software or tools** that provide real-time insights into liquidity positions, enabling MFBs to make timely adjustments. Externally, third-party audits or reviews could be recommended to provide impartial oversight and ensure compliance with industry best practices.

Additionally, it is important to link these recommendations to broader policy considerations. Policymakers and regulatory bodies could be encouraged to create or refine guidelines that help MFBs optimize their debt-to-equity ratios and enhance their liquidity management practices. Such policy measures might include industry-wide best practices, minimum liquidity requirements, or guidelines on acceptable levels of leverage for MFBs. This would provide MFBs with clear frameworks for managing financial leverage and liquidity, promoting a stable financial ecosystem within the sector.

In conclusion, careful management of both long-term and short-term debt, robust risk management frameworks, and effective monitoring mechanisms will enable MFBs to maintain a healthy liquidity position. By integrating these practices, MFBs can mitigate the risks associated with excessive debt, ensure financial stability, and strengthen their ability to weather economic challenges.

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