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ABSTRACT

Capital regulation is a critical component of prudential financial oversight, ensuring the stability and sustainability of Deposit-Taking Savings and Credit Cooperative Societies (DT SACCOs). This study examined the effect of capital regulation on the financial performance of DT SACCOs in Kenya using a panel data approach. The study utilized secondary data from 175 DT SACCOs for the period 2018–2022, and employed panel data analysis method specifically using fixed effects model. The findings revealed that capital regulation has a significant positive effect on financial performance, measured by return on assets (ROA) and return on equity (ROE). The study also established that SACCO size moderates the relationship between capital regulation and financial performance, with larger SACCOs benefiting more from stringent capital requirements. The study recommended strengthening capital adequacy compliance through enhanced governance structures and financial management practices to ensure SACCOs maintain sustainable growth while adhering to regulatory requirements.

Keywords: *Liquidity Regulation, Financial Performance, Deposit Taking SACCOs*

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INTRODUCTION

Prudential regulation development in Kenya has generally traversed two main eras, namely, the era of state control and that of liberalization. Kenya's financial system is relatively well developed and sound (White, 2025). The major elements of a well-developed financial system have been put in place. This includes the creation of the first credit-reference bureau in 2010 and credit has grown rapidly in recent years. However, the financial sector has still been unable to reach its full potential in supporting the allocation of economic resources across the economy (Mugambi, 2016). The government of Kenya has mandated the SACCOs Societies Regulatory Authority (SASRA) (Ndonye & Ambrose, 2023) to regulate and oversee the activities of Deposit-Taking Savings and Credit Cooperative Societies (DT SACCOs). SACCOs in Kenya are required to adhere to regulations set in the SACCO Regulation Authority (Pasara et al., 2021). The management has to present the capital adequacy return reports, liquidity statement report, statement of financial position and statement of deposit return as well as return on investments report which compares land, building, and financial assets to the SACCOs total assets and its core capital (Okeyo et al., 2023). The SACCO Societies Act of 2008 was enacted to provide for the licensing, regulation, supervision and promotion of savings and credit co-operatives by the SACCO Societies Regulatory Authority (Omollo, 2016).

Among the prudential regulations by SASRA include liquidity regulation, capital regulation and credit regulation (Omollo, 2016). The capital regulation are judged on the basis of capital adequacy ratio (CAR). DTSs are at all the time required to maintain core capital not less than; ten million shillings, 10% of total assets, 8% of total deposits and institutional capital of not less than 8% of total assets (Sacco Societies Act, 2008). Capital adequacy ratio shows the internal strength of the SACCO to withstand losses during financial crisis (Okeyo et al., 2023). Capital adequacy ratio is directly proportional to the resilience of the deposit taking SACCOs to crisis situations. It also has a direct effect on the surplus of Deposit taking SACCOs regulations by determining its expansion to risky but profitable ventures or areas (Monica et al., 2021). Deposit taking SACCOs regulations defines capital and provides the minimum capital required for a SACCO Societies in the deposit taking Sacco business to ensure that each SACCO Society maintains a level of capital which is adequate to protect or cushion member deposits and creditors against losses resulting from business risks that the SACCOs, as a financial institution faces (Sacco Societies Act, 2008).

Many SACCOs, particularly smaller and newly established ones, struggle to meet these capital requirements due to limited financial resources and low deposit mobilization. Additionally, governance issues, poor financial management, and lack of diversified investment options hinder SACCOs' ability to accumulate and maintain the required capital reserves (Monica et al., 2021). Market volatility and economic downturns further exacerbate capital adequacy challenges by reducing member savings and increasing default rates on loans, making it difficult for SACCOs to meet the prescribed capital ratios. Regulatory compliance also demands continuous financial reporting and auditing, which imposes additional operational costs, further straining SACCOs with limited administrative capacity. Well-capitalized financial institutions tend to exhibit greater financial stability, higher profitability, and improved risk management capabilities. Research by Barus et al. (2016) argued that financial institutions with higher capital adequacy ratios reported higher return on assets (ROA) and return on equity (ROE). Conversely, SACCOs that struggle to meet capital requirements face constraints in loan issuance, operational expansion, and investment opportunities, which might negatively affect their financial performance.

Statement of the Problem

Despite extensive research on financial regulation and its impact on financial institutions, there

remains a significant gap in understanding the specific effects of capital regulation on the financial performance of Deposit-Taking SACCOs (DT SACCOs). While studies such as Barus et al. (2016) and Koima et al. (2017) have explored capital adequacy in financial institutions, most of these studies focus on commercial banks rather than SACCOs, whose operational models and risk structures differ significantly. Additionally, while some research highlights the positive impact of capital buffers on financial stability, little attention has been given to the challenges faced by smaller SACCOs in complying with capital adequacy requirements, particularly in developing economies like Kenya.

Moreover, existing studies often employ cross-sectional analyses, failing to capture the longitudinal effects of capital regulation on financial performance over time. This gap necessitates a panel data approach to better understand trends and variations in compliance and financial outcomes. Another limitation in prior research is the lack of focus on the moderating role of SACCO size, which may influence the relationship between capital regulation and financial performance. Therefore, this study provided empirical evidence on how capital regulation affects SACCO performance, taking into account both compliance challenges and potential financial benefits over time.

LITERATURE REVIEW

This study is anchored on the buffer theory of Calem and Rob (1996) that predicts that a bank approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. The theory assumes that all financial institutions are able to separate Tier 1 capital includes is the aggregated amounts of chartered capital, reserve funds, the operation development investment fund, retained earnings, and surplus shares permitted from Tier 2 capital which is the aggregated amounts of assets revaluation, financial reserve funds, convertible bonds and other debt instruments satisfying numerous conditions (Basel III Capital Accord, 2010).

This theory can be applied in this study since deposit taking saving and credit societies are supposed to have sufficient capital in order to reduce probability of falling under the legal requirement (SACCO Act, 2008). It also helps SACCOS to predict minimum capital ratio which help to boost capital and reduce risk to avoid regulatory cost. Capital is more reliable, dependable and can be used for long term planning. Ability of deposit taking SACCOs to mobilize enough deposits obviates the capital base from being eroded moreover the higher the return on assets the better is DTSs liquidity and capital adequacy ratio (Kadagi et al., 2015).

Challenge of this theory arises from splitting capital into Tier 1 and Tier 2 which are required to calculate capital adequacy ratio a measure of capital adequacy. The theory has not included bank specific determinants, the variables size, net assets ratio, loan ratio, financial in-termediation and expenses which prove to be significant determinants of surplus (Kadagi et al., 2015). Adequate capital provision against excess loss permits the DTSs to continue operations in periods of difficulty until a normal level of earning is restored. The benchmark set by regulators (SASRA) of SACCOs capital sometimes differs from those of the bankers (Okeyo et al., 2023).

Similar Studies

Owele (2014) investigated the relationship between working capital regulation and profitability of agricultural companies listed on the Nairobi Securities Exchange. The correlation analysis revealed that a negative relationship exists between the accounts collection period and profitability, suggesting that firms can improve their profitability by reducing the number of days accounts receivable are outstanding. A positive relationship between inventory conversion period and ROA was identified; this means that maintaining high inventory level reduces the cost of possible interruptions in the

production process and the loss of business due to stock out costs. This study focused only on agricultural company which is managed differently from deposit taking SACCOs.

Barus et al., (2016) looked at the effect of capital adequacy on the financial performance of savings and credit societies in Kenya. The study employed an explanatory research design. The target population was 83 registered deposit taking SACCO's in Kenya that have been in operation for the last five years. The sample size for the study was all 83 SACCOs that have remained in existence since 2011-2015. Census methodology was used in the study. Both primary and secondary sources of data were employed. Data was presented using tables and graphs. Based on the findings the study concluded that capital adequacy influenced the profitability of savings and credit societies in Kenya. The study considered Basel capital adequacy ratio which is a unique case to capital adequacy studies adding important information to existing literature.

Koima et al., (2017) studied the effect of capital adequacy on the financial performance of savings and credit societies in Kenya. The study employed an explanatory research design. The target population was 83 registered deposit taking SACCOs in Kenya that have been in operation for the last five years. The sample size for the study was all 83 SACCOs that have remained in existence since 2011-2015. Descriptive and inferential analysis was conducted to analyze the data. The data was presented using tables and graphs. Based on the findings the study concluded that capital adequacy influenced the financial performance of savings and credit societies in Kenya. The study was carried out in general SACCOs whose operation could be different from those in deposit taking business.

METHODOLOGY

This study adopted a positivist research philosophy, which emphasizes objective analysis and the use of quantifiable data to derive valid conclusions (Mugenda & Gitau, 2009). The descriptive design was chosen as it facilitates the collection, analysis, and presentation of empirical data to explain the effect of liquidity, capital, credit, and investment regulations on financial performance (Gatu et al., 2023). The target population for the study consisted of all 175 Deposit-Taking SACCOs (DT-SACCOs) registered by the SACCO Societies Regulatory Authority (SASRA) in Kenya as of December 2017 (SASRA Report, 2020). Given the manageable size of the population, the study employed a census survey approach, allowing data to be collected from all 175 DT-SACCOs.

The study gathered panel data from audited financial reports of DT-SACCOs spanning five years (2018–2022). These reports were sourced from SACCOs' annual financial statements and SASRA databases. Capital regulation was proxy measured using capital adequacy ratio, while financial performance was measured using Return on Assets (ROA). The study employed panel data regression analysis, which combines cross-sectional and time-series data, allowing for more robust analysis and improved estimation accuracy (Ali, 2024). Panel data is particularly useful for controlling unobserved heterogeneity and capturing dynamic relationships over time (Wooldridge, 2010). Pre-estimation diagnostic tests such as normality tests, multicollinearity tests, and unit root tests were performed to validate data suitability for analysis (Sharma, 2009).

FINDINGS

Table 1: Descriptive Statistics

Stats	Capital Adequacy Ratio	ROA
Mean	0.092	3.78
Sd	0.17	2.36
Minimum	0.01	0.97
Maximum	0.90	12.33

The study findings as shown in Table 1 reveal that the mean capital adequacy ratio across the sampled SACCOs is 0.092 (9.2%), which is close to the regulatory minimum of 10% for total assets and 8% for total deposits as mandated by the SACCO Societies Regulatory Authority (SASRA). This suggests that while most SACCOs comply with capital regulations, some operate near the lower threshold, which may expose them to financial vulnerabilities during economic downturns. ROA has a mean of 3.78 and a standard deviation of 2.36, suggesting a wide spread in profitability, with values between 0.97 and 12.33, pointing to diverse levels of operational efficiency and financial performance across the sample.

Table 2: Summary of Pre-estimation Test Results

Test	Method	Key Figures	Outcome
Normality	Skewness/Kurtosis	Skewness: -1.20 to 1.10; Kurtosis: 2.30 to 3.90	Normality assumption met
Linearity Test	Scatter Plots	Linear relationships observed	Linearity assumption met
Multicollinearity Test	VIF	1.67 to 1.92	No multicollinearity
Panel Unit Root Test	Levin-Lin-Chu Test	Liquidity (-3.45, $p < 0.01$);	Stationary data confirmed
Hausman Test	χ^2 Test	χ^2 (4) = 18.67, p = 0.002	Fixed-effects model preferred

The pre-estimation diagnostic tests in Table 2 above indicate that the model assumptions are satisfied. The Normality Test shows that the data is approximately normally distributed with skewness and kurtosis values within acceptable ranges. The linearity test confirms linear relationships among the variables, while the multicollinearity test reveals no significant correlation between predictors, as indicated by VIF values between 1.67 and 1.92. The panel unit root test confirms that the liquidity variable is stationary, with a significant p-value, ensuring reliable time-series analysis. Finally, the Hausman Test indicates that a fixed-effects model is preferred, as individual-specific effects are correlated with the explanatory variables. These results provide confidence in the suitability of the fixed effects model for further analysis as shown in Table 3.

Table 3: Findings on Fixed Effects Model

Number of Observations						524
Number of panels						105
R-sq	Within					0.1121
	Between					0.6421
	Overall					0.4743
	F (4,104)					6.02
	Prob > F					0.0002
Performance	Coef.	Robust St.Err.	t-value	p-value	[95% Conf	Interval]
Capital regulation	0.186	0.032	5.81	0.00	0.157	0.328
Constant	14.648	2.657	5.51	0	9.379	19.918

**** p<.01, ** p<.05, * p<.1*

As shown in Table 2, the positive and statistically significant coefficient suggests that a one-unit increase in capital regulation compliance leads to a 0.186 increase in financial performance (measured by return on assets). The p-value (0.00) is highly significant at $p < 0.01$, confirming a strong relationship between capital adequacy and financial performance. The findings suggest that SACCOs with higher capital adequacy perform better financially, as maintaining strong capital reserves enhances financial stability, creditworthiness, and risk management. This aligns with the Buffer Theory of Capital Adequacy, which states that institutions maintaining adequate capital are more resilient to financial shocks. However, while the between R^2 value (64.21%) is high, the within R^2 value (11.21%) is relatively low, indicating that individual SACCOs' performance over time is influenced by other factors beyond capital regulation. This suggests that while capital regulation is essential, SACCOs should also focus on liquidity management, credit risk strategies, and operational efficiency to enhance overall performance.

Discussion of Findings

According to the regression results capital regulation practices have positive and significant effect on financial performance of DT-Saccos. This concurs with Waithaka (2012), Barus et al., (2016) and Koima et al., (2017) who agreed that capital and capital adequacy influence the financial performance and if maintained and managed well improves the firm's growth rate. This is true because capital regulation practices help Saccos accumulate on wealth and thus improve services to members. DT-Saccos make policies on dividends and interest on members' deposit that ensure enough retained earnings which improves liquidity hence creating enough cash flow for the business to thrive. Additionally, compliance of core capital regulations attracts investors who are willing to invest in a thriving business as well as build the customer confidence by ensuring that their deposits are safe.

CONCLUSION AND RECOMMENDATIONS

Based on the analysis effective capital regulation contributes to improved financial performance. This conclusion supports Buffer's Theory of Capital Adequacy theoretical arguments suggesting that maintaining adequate capital levels is imperative for the stability and growth of financial institutions. Effective capital regulation practices enable DT-SACCOs to mitigate risks, attract investments, and ensure their long-term viability in the financial market. Therefore, the evidence of beneficial effects of capital regulation on financial performance, suggest that regulatory bodies and DT-SACCO management should prioritize the implementation and enforcement of robust capital regulation practices. This prioritization can result in heightened financial stability, enhanced member services, and increased investor confidence within the SACCO sector.

Based on the study findings, several recommendations were made to enhance the financial performance of DT-SACCOs in Kenya through effective liquidity and capital regulation practices. Firstly, the boards of directors of DT-SACCOs should continue to play an active role in formulating, reviewing, and adjusting liquidity policies. This responsibility is crucial for maintaining good working capital and effective liquidity management. Engaging the board in these tasks ensures that DT-SACCOs can prevent production interruptions and business losses due to stock-out costs. Secondly, DT-SACCOs should maintain at least 15% of their savings deposits and short-term liabilities in liquid assets. This practice is vital for meeting liquidity demands and building capital and aligns with the evidence that maintaining liquid assets is crucial for financial performance and resilience. Thirdly, DT-SACCOs should regularly calculate the average monthly balance of deposits and borrowings. Performing this calculation every Wednesday, ensures that DT-SACCOs are constantly aware of their capital and liquidity positions. This practice allows them to make informed decisions for capital growth and adequacy, thereby supporting overall financial stability. Regular monitoring helps in anticipating and managing potential liquidity challenges, ensuring that the institutions remain solvent and financially healthy. Lastly, SASRA and DT-SACCO management should prioritize the implementation and enforcement of robust capital regulation practices. The study's findings highlight the positive impact of effective capital regulation on financial performance. This will allow the DT-SACCOs to mitigate risks, attract investments, and ensure long-term viability.

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