

## Capital Sufficiency and Financial Performance of Deposit Taking Saccos in Kenya

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**Abstract:** Sacco Societies have continued to use a variety of financial models to assess financial performance. Despite this, recent studies have pointed at an increase in the number of Sacco Societies experiencing financial difficulties. These difficulties have stifled the performance of Saccos. Sacco Societies have, however, failed to recognize factors that influence financial distress and the extent to which they influence their financial performance. The aim of the study was to determine the relationship between capital sufficiency and performance of deposit taking Saccos in Kenya. This study was anchored on Keynes Liquidity Preference. It employed a correlation research design where a census study was conducted on all deposit taking Sacco Societies registered with the Sacco Societies Regulatory Authority (SASRA). A data extraction sheet was used to collect panel data for all deposit taking Sacco Societies in Kenya for the period between 2018 and 2022. The study collect data from Audited Financial Report achieve validity and reliability of the data. Descriptive analysis and inferential analysis such as regression analysis and model specification tests was used to analyze data with the help of STATA software version 15. The study utilized mean and standard deviation in descriptive statistics. It also utilized simple panel regression techniques as inferential statistics for testing the hypothesis of the study. The results revealed that Capital sufficiency had a statistically negative significant relationship with the financial performance of Deposit taking SACCOs ( $\beta_5 = -0.393$ ,  $P = 0.000 < 0.05$ ). The study concluded that capital sufficiency had significant relationship with financial performance. The study recommended that SACCOs should consider the level of capital sufficiency as its affect financial performance.

**Key Terms:** Capital Sufficiency, Financial Performance, Correlation Research Design, SACCOs, Kenya.

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### 1. Introduction

SACCOs play a significant role in Kenya's financial landscape as financial institutions. Their major focus is on personal development as well as the economy's small and micro enterprise sectors. More than half of the cooperatives in Kenya are SACCOs. This subsector has large SACCOs, some of which have a total asset base of more than 15 billion Kenyan shillings, as well as small SACCOs with assets of less than 10 million Kenyan shillings. This subsector may be found across Kenya, from metropolitan cities to rural locations (SASRA, 2022). In contrast to other forms of commercial organizations, the cooperative philosophy, which is based on the International Co-operative Alliance's seven Co-operative Principles, provides the foundation for the establishment of co-operatives (Ribaset *al.*, 2022).

SACCO was established to help communities better their economic circumstances (Wanyonyi, Kamau, & Sasaka, 2019; Li, Musah, & Kong, 2020). Munene, Ndegwa and Senaji (2020) sought to determine how board qualities affected the financial distress that Nairobi County's Deposit Taking SACCOs experienced. Wanjiru and Jagongo (2022), purposed to look into how Kenyan DT-SACCOs' financial performance is impacted by liquidity risk. The outcome revealed that, as determined by ROA, the financial performance of DT-SACCOs has been unstable and inconsistent over time. Atsango (2018), aimed to investigate how company factors affected the deposit taking savings and credit cooperative societies' profitability in Kenya. Ultimately, the research determined that the profitability of DT-Saccos in Kenya was statistically not affected by capital sufficiency. According to the study's findings, the profitability of DT Sacco's was significantly impacted by firm size, asset quality, and operational efficiency, but not by leverage or capital sufficiency. The management of DT-Saccos must keep focusing on operational efficiency because higher efficiency leads to higher profitability, according to the conclusions. Furthermore, in order to reduce the amount of nonperforming loans in the DT-Saccos subsector, the management of DT-Saccos should prioritize lending to customers who can repay their loans as promised.

Poor performance of financially distress enterprises causes them to become inefficient producers, which leads to excessive debt and cash flow issues, (Mburu, 2018). According to Farooq, Noor and Fatima (2020) there is a negative correlation between financial distress and corporate financial performance. Though several SACCOs were dissolved or placed under statutory administration as a result of poor financial performance, others have yet to encounter the same problems. Using data mining approaches while constructing financial

distress models, Geng, Bose, and Chen (2015) found that metrics such as net profit margin, profits per share, return on assets and cash flow per share, play a significant role in forecasting the profitability of all enterprises, regardless of their financial distress condition.

Financial distress, according to Sporta (2018) are scorecards on an organization's financial performance which show the potential for volatility. Thorley, Perry and Andes (2012), posit that factors for financial distress are indicators, causes, and variables of financial distress that might impact an organization's performance. Scholars throughout the world have proposed a variety of endogenous and exogenous factors that serve as proxies for financial hardship and influence corporate performance. These include technological innovation and operational efficiency capital adequacy, asset quality, leverage, and liquidity (Atsango, 2018).

Capital sufficiency, a critical determinant of financial performance. Acharya, Pierret, and Steffen (2018) examined the impact of bank capital on the financial performance of US banks, finding a strong negative relationship between leverage ratio, a measure of capital sufficiency, and capital sufficiency itself. This indicates that higher leverage ratios are associated with lower capital sufficiency in US banks. Similarly, Kartal (2019) explored the factors influencing Turkish banks' capital structures from 2012 to 2017, revealing that deposits negatively impacted capital buffers, while lagged capital, economic growth, portfolio risk, and return on equity had positive relationships with capital sufficiency. Buyuksalvarc and Abdioglu (2019) further investigated the determinants of capital adequacy ratios in Turkish banks, using data from 2011 to 2015, which indicated that capital sufficiency is influenced by a complex interplay of factors that vary across different banking sector. Karles (2019) focused on the implementation of Basel's capital sufficiency requirements and the relationship between market risk and capital buffers in Korean banks, respectively, highlighting the importance of adequate capital to avoid solvency issues.

Ogunode, Awoniyi, and Ajibade (2022) evaluated the impact of sufficient capital on the corporate performance of publicly traded non-financial companies in Nigeria. Their study found that corporate performance was positively influenced by company size and debt equity ratio, but negatively affected by cost-income ratio, equity capital/total assets ratio, and capital adequacy ratio. This highlights the importance of maintaining an optimal capital mix to enhance corporate performance. Adeyemi (2019) identified lack of capital, transparency issues, and non-performing loans as major causes of bank failure in Nigeria. The study emphasized the necessity for financial institutions to maintain adequate capital levels to ensure operational efficiency and financial stability. Ikpefan (2018) analyzed cross-sectional and time-series data from the Central Bank of Nigeria, concluding a negative relationship between ROA and shareholders' funds/total assets, indicating no significant association between capital sufficiency and ROA.

In Kenya, Sangmi (2019) pointed out that capital sufficiency affects factors such as branch expansion, lending in high-risk areas, and business diversification. Ongore and Kusa (2018) explored the determinants of financial performance in Kenyan commercial banks, finding that capital sufficiency, among other factors, had a substantial impact on efficiency. However, their study did not directly address the relationship between capital sufficiency and financial distress in SACCOs.

Extent literature in Kenyan SACCOs, a study by Amina (2016) assessed the financial performance of Nairobi County's credit cooperative societies concerning core capital ratios, concluding that core capital significantly impacts performance by managing credit risk, fostering public confidence, and providing a safety net for member deposits. Mwangi (2020) examined the challenges and benefits faced by deposit-taking SACCOs in Kenya after implementing capital adequacy standards. The study found that these standards reduced operational risks and increased public confidence in SACCOs' financial stability. Ngui and Jagongo (2017) investigated the effect of capital sufficiency on the financial performance of deposit-taking SACCOs in Kenya. Their comparative research indicated that capital adequacy significantly influenced financial performance, suggesting that regulatory bodies should enhance capital requirements to strengthen SACCOs.

Financially sound SACCOs are characterized by high liquidity, high profitability, revenue streams that are growing, ability to meet obligations as they fall due to ease of raising capital, compliance with statutory requirements, high employee stability both at management and support level and payment of attractive dividends to its members. Over the world, financial stress is a major issue that cannot be disregarded. It results in bank failures ultimately due to bankruptcy. Financial crisis has led to the failure of numerous banks, including those in Kenya.

Despite close supervision by SASRA report of 2022 which indicates that 51% of Saccos in Kenya have not been operational as they suffer from financial distress. This is evidenced by cash flow problems, failure to meet their obligations as they fall due such as payment of interest on borrowed loans, remitting statutory deductions of employees such as Pay as you earn and contributions to Saccos, declining profits, payment of low dividends, if any, to their members, failure to meet the demands of their clients for loans and withdrawal of savings, decline in membership and withdrawal of members, among others. Despite numerous literature review identifying capital sufficiency as indicators of this financial distress, there is no clear relationship between

capital sufficiency and financial performance. Therefore, there is need to determine the relationship between capital sufficiency and financial performance of deposit taking SACCOs in Kenya.

## 2. Literature Review

### Theoretic Review

According to Keynes (1973), money is kept mainly for three reasons, transaction motive, precaution motive, and speculation motive. The transaction motive is that money is kept for day-to-day spending, that is to meet the daily operations. Firms cannot be separated from this motive for they need money to run their daily operations, meet their short-term obligations when they fall due hence, they must be liquid. The motive of precautionary is that money should be kept to safe guard against any emergencies or to guard against uncertainty which might arise, this is also applicable to firms to cater for any financial shock such as fraud and robberies. The speculative motive is that money should be kept for future returns, firms also have the same motive by making investment with the expectation of better incomes in future also it helps the firm to cater for the macro-economic changes such as fluctuation of interest rates, foreign exchange rates and inflation among others.

The requirement for liquidity in an economy by institutions and people, such as transaction motivation, precautionary motive, and speculative motive, is covered by liquidity preference theory. SACCOs need to have enough capital and liquidity to be able to lend to its members when they ask for loans and advances. They are, however, obliged to take out high-interest loans from other lenders, including commercial banks that could have more capital available if they get more loan requests than they can pay for with liquid assets. The high interest rate on borrowed money reduces the profit margin for SACCOs, which is derived from the distinction or spread between lending and borrowing interest rates. This narrow spread may cause financial challenges for the SACCOs. According to Dimand and Robert (2008), profit-seeking firms invest mostly in tangible assets like machinery and raw materials with the expectation that they would generate income from these investments in addition to the interest payments on the investment financing loans.

The critique of Keynes's theory pointed out that the rate of interest is not just a monetary issue, according to Tily (2006). Keynes makes the rate of interest independent of the demand for investment funds, but real variables like capital productivity and thriftiness nevertheless have a significant impact. It isn't really that independent. The businessmen's requirement for savings for capital investments has a significant impact on their cash balances. The marginal revenue productivity of capital determines demand for capital investment. Consequently, as Keynes puts it, the marginal productivity or marginal efficiency of capital determines the rate of interest rather than the other way around. The rate of interest is determined by a number of factors besides liquidity preference. Keynes ignores saving or waiting as a source or means of investible funds. There are a number of other factors that affect the supply and demand of investable funds, which in turn affects the rate of interest. This theory does not explain why different rates of interest are prevailing in the market at the same time. Giving up liquidity in the absence of savings is useless; the Keynesian theory only accounts for interest in short-term periods. Keynes's theory of interest is ambiguous, much like the classical and loanable funds theories, and it provides no indication as to the long-term rates of interest.

The drawback of this theory is that it is too narrow as an explanation of the rate of interest, because it unduly treats interest rate as the price necessary to overcome the desire for liquidity. These theories informed on the relationship between the capital sufficiency and financial performance of deposit taking SACCOs in Kenya.

### Empirical Literature

An investigation on the effect of bank capital on financial performance of banks was done by Acharya, Pierret, and Steffen (2018) found that leverage ratio, a measure of capital sufficiency, was used in a research based on US banks to assess capital sufficiency of banks in 2018. The study discovered that there was a strong negative link between leverage ratio and capital sufficiency of US banks in 2018.

Kartal, (2019) examined the factors affecting Turkish banks' capital structures, illuminating the reasons why banks maintained more capital than was necessary between 2012 and 2017. The study's empirical model revealed that deposits had a negative impact on capital buffer whereas lagged capital, economic growth, portfolio risk, and return on equity had positive relationships with this ratio.

Buyuksalvarc and Abdioglu (2019) looked at the variables that affect capital adequacy ratios in Turkish banks as well as the effects these variables have on the financial health of the institutions under study. The research included data from annual reports submitted by banks between 2011 and 2015. To investigate the link between the elements, panel data were employed. The results indicated that loan, return on equity, and leverage all negatively impacted capital adequacy ratios, but loan reserve and return on assets all positively impacted it.

Ogunode, Awoniyi, and Ajibade (2022), evaluates the impact of sufficient capital on the corporate performance of publicly traded non-financial companies in Nigeria. Ex-post facto research design was employed in the study, which made use of secondary data collected between 2011 and 2020. Thirty-eight (38) of the sixty-

three (63) mentioned non-financial organizations were purposefully chosen as a sample, and multivariate regression was used to evaluate the collected data. The study discovered that the corporate performance of listed non-financial enterprises operating in Nigeria was positively influenced by company size and debt equity ratio, but negatively impacted by cost income ratio, equity capital/total assets ratio, and capital adequacy ratio. Therefore, it was determined that two important variables that can enhance non-financial enterprises' corporate performance are their size and the profitable use of borrowed capital in their capital mix.

Adeyemi (2019) investigated the causes of Nigerian bank collapse, which included a lack of capital, a lack of transparency, and non-performing loans using a standardized questionnaire to perform their research on Nigerian banks. The study's goal was to identify the key reasons of bank failure in Nigeria, as well as the extent to which the found variables are accountable for the failure, and to explore for other factors that may be significant. According to the study's results, the most prevalent reasons for bank collapse in Nigeria was lack of capital, a lack of transparency, and massive volumes of NPL loans. The findings showed that financial institutions must retain an adequate level of capital on hand in order to function well, meet their financial duties, and contribute to a healthy financial system. According to the study's findings, appropriate capital is one of the elements that impacts financial performance. The study, on the other hand, found no link between appropriate capital and financial performance, and it also employed data from Nigerian commercial banks as its source material.

Mwangi (2020) examined the advantages and difficulties deposit-taking Savings and Credit Cooperative Societies (SACCO) faced after implementing the capital adequacy standards advised by the Sacco Societies Regulatory Authority (SASRA). 174 SACCOs that had been registered with SASRA by the end of 2019 were the subject of a descriptive study design. Using a questionnaire, primary data was gathered from each SACCO that had signed up. The examination of SASRA-generated annual reports' documents yielded more information. Utilizing frequency and percentage distribution along with correlation analysis, quantitative analysis was utilized to examine the data. According to the study, capital adequacy standards reduced operational risks for the SACCOs, which enabled profitable business operations, and they also encouraged public confidence in the SACCOs' financial stability by providing a risk reserve for earnings to protect against capital loss. The study also demonstrated how capital adequacy requirements created a risk reserve from the SACCO's profits to protect against capital loss and gave the SACCOs a sizable provision for debts that could be covered by their capital. Despite depending on the auditor reports to ascertain their firm situations, the study found that the SACCOs had no trouble computing risk ratios.

Ngui and Jagongo (2017) aimed to determine whether capital sufficiency affects the deposit-taking savings and credit co-operative societies' financial performance in Kenya. A census survey was conducted utilizing DT-Saccos empirical data from SASRA supervision reports and Saccos audited accounts as part of the study's comparative research approach. According to the SASRA register, as of December 31, 2016, there were 175 fully licensed DT-Saccos in Kenya, making up the target population. The research design used was descriptive since it compared two time periods: 2007–2011, during which the law permitted a 4-year compliance period but the SASRA rules on capital adequacy were not fully enforced, and 2012–2016, during which the capital adequacy standards were fully in force. According to the study's conclusions, capital adequacy had an impact on DT-Saccos' financial performance in Kenya. The report suggested that SASRA evaluate the basic capital requirements and enhance the ratios by providing more detailed guidelines on how to manage them in order to maintain the DT-Saccos' strength in Kenya. For instance, deposit taking societies might gain a great deal by changing the dividend payment percentages. The institutional capital of the DT-Sacco would greatly increase with a one percent drop in dividend payout.

Additionally, Sangmi (2019) pointed out that factors including branch expansion, new lending in high-risk areas, and company diversification are affected by capital sufficiency, which can be assessed by the capital sufficiency ratio and interest margin ratio. The current study used the capital sufficiency ratio and the interest margin ratio to assess capital sufficiency as a limiting factor on deposit-taking SACCOs' financial performance. Tier one and tier two capital are divided by risk-weighted assets to calculate the capital sufficiency ratio. Since SACCOs are seen to have an adequate risk buffer, a higher ratio would be preferred.

Ongore and Kusa (2018) investigated the elements that influence the financial performance of Kenyan commercial banks. Using a linear multiple regression model and generalized least squares on panel data, the study indicated that, in addition to liquidity, numerous factors, such as capital sufficiency, had a substantial influence on the efficiency of commercial banks in Kenya. However, due to the study's limitations, no investigation into how capital sufficiency is a potential sign of financial distress, influences the overall financial performance of Kenya's deposit-taking Saccos was conceivable.

Song (2018) investigated how Korean banks handled Basel's capital sufficiency requirements in 2017. Because local banks tended not to make "cosmetic" tweaks to improve their capital ratios, he discovered that the risk weighted based technique were successful in avoiding solvency. Additionally, Karles (2019), using a risk

management approach, investigated the link between different market risk and the capital sufficiency ratio using both qualitative and quantitative methodologies. The research found evidence of a negative relationship between market risk and capital buffer in theoretical assertions using a sample of 24 institutions.

Ikpefan (2018) examined both cross-sectional and time series data from the Central Bank of Nigeria and concluded that there was a negative relationship between ROA and shareholders' funds/total assets, which represent a bank's capital sufficiency. This study used data from Nigeria and discovered that there is no association between capital sufficiency and ROA. The examination was in Nigeria utilizing Nigerian data additionally it did not link capital sufficiency with financial distress in the Kenyan deposit accepting SACCOs; hence, the current study attempted to fill this gap using data from Kenya.

Amina (2016), sought to ascertain how Nairobi County's credit cooperative societies fared financially in relation to the core capital ratio. The research design was a descriptive with the goal of elucidating how core capital adequacy affects cooperative societies. The Front Office Savings Activity, or FOSA, which operates cooperative societies in Nairobi County, was the population under research. Forty cooperative societies were chosen at random as a sample. To find any correlations and frequencies in the data, SPSS software was utilized for the analysis of secondary data. The study came to the conclusion that core capital has a significant impact on cooperative societies' performance because of the regulations in a number of ways, including managing credit risk, fostering public confidence, offering a safety net for member deposits, providing operating capital, expanding lending capacity, laying the groundwork for future growth, and averting insolvency. Cooperative societies had encountered a number of difficulties in adhering to capital adequacy requirements. These included fewer member money being paid out, recruiting new members, limiting investment opportunities, and lowering lending capacity. The societies had taken action to comply with capital adequacy regulations. Cooperative Societies discovered that these tactics issuing fresh capital, growing their membership base, broadening their product offering, and modifying their dividend payout ratio were more stringent.

In analyzing the relationship between capital sufficiency and financial performance, different indicators are measured. Reviewed literature majorly dwelled on capital sufficiency ratio (Acharya, Pierret, & Steffen, 2018; Sangmi (2019; Sporta, 2018; Kahuthu, 2019) with few examining the relationship between net interest margin on financial performance (Sangmi, 2019)). This study therefore attempted to examine the relationship between the two indicators of capital sufficiency and financial performance.

### 3. Research Methodology

This study was based on positivist paradigm which adopted correlation research design and longitudinal as secondary data was collected for over five years. The study was carried on registered SACCOs between 2018 and 2022, which are 176 licensed DT SACCOs in (SASRA Annual Report, 2023). Secondary data extraction tool was used to collect data from the period of five years from 2018 to 2022. The data was analyzed using descriptive statistics these were mean and standard deviation. Inferential statistics that was simple regression model to establish the relationship between capital sufficiency and financial performance

### 4. Results and Discussions

#### Capital Sufficiency

Capital sufficiency was analyzed using core capital to total asset ratio and core capital to total deposit. The data were analyzed across the five year period to assess the mean and standard deviation of capital sufficiency.

Table 1: Core Capital to Total Assets Ratio

| Over | Mean     | Std. Err. | [95% Conf. Interval] |          |
|------|----------|-----------|----------------------|----------|
| CA1  |          |           |                      |          |
| 2018 | .1502    | 4.13e-17  | .1502                | .1502    |
| 2019 | .1423    | 2.31e-17  | .1423                | .1423    |
| 2020 | .1557    | 2.15e-17  | .1557                | .1557    |
| 2021 | .1581    | 1.49e-17  | .1581                | .1581    |
| 2022 | .2011455 | .0085531  | .1843573             | .2179337 |

Table 1 results indicates that the core capital to total assets was at its highest of 20.1% in 2022. In 2019 the core capital to total assets were at the lowest at 14.2% which might be associated with reduction of core capital due to the COVID-19 pandemic and increase in liabilities during the same period. However, there was an increasing trend of core capital to total asset ratios over years from 15.0% in 2018 to 20.1% in 2022.

Table 2: Core Capital to Total Deposit Ratio

| Over | Mean     | Std. Err. | [95% Conf. Interval] |          |
|------|----------|-----------|----------------------|----------|
| CA2  |          |           |                      |          |
| 2018 | .2306154 | .004644   | .2215                | .2397307 |
| 2019 | .231634  | .0106769  | .2106772             | .2525907 |
| 2020 | .2396676 | .003816   | .2321774             | .2471578 |
| 2021 | .2456148 | .0039419  | .2378776             | .253352  |
| 2022 | .3218729 | .0161231  | .2902263             | .3535195 |

In Table 2, the results indicated that core capital to total deposits had increasing trend from 23.1% in 2018 to 32.2% in 2022. The increase in core capital to total deposit ratio indicate an increase in share capital invest from shareholders over the same period. This indicates that investor has increased over the deposits made during the five-year period.

Table 3: Capital Sufficiency Ratio

| Year  | min       | max      | mean     | sd       |
|-------|-----------|----------|----------|----------|
| 2018  | .1502     | .4756333 | .1904077 | .030007  |
| 2019  | .1348105  | 1.015171 | .186967  | .068988  |
| 2020  | .1557     | .34254   | .1976838 | .0246571 |
| 2021  | .1622605  | .34782   | .2018574 | .0254702 |
| 2022  | -.4505633 | .7182634 | .2615092 | .1579936 |
| Total | -.4505633 | 1.015171 | .207685  | .0842482 |

The composite capital sufficiency ratio indicated that there had been an increase in capital sufficiency ratio during the period of 2018 to 2022 from 19.0% to 26.2%. However, in 2019 the capital sufficiency registered the lowest at 18.7% where most of the capital sufficiency was lowest based on the socio-economic effect of COVID-19 period.

### Financial Performance

Financial performance of SACCOs was analyzed using the return on asset (ROA) and return on equity (ROE). Hence, financial performance of SACCOs was measure using composite mean of return on asset and return on equity. This were presented in terms of mean and standard deviation for the period of 2018 to 2022.

Table 5: Return on Asset

| Over | Mean     | Std. Err. | [95% Conf. Interval] |          |
|------|----------|-----------|----------------------|----------|
| ROA  |          |           |                      |          |
| 2018 | .1011149 | .003776   | .0937032             | .1085265 |
| 2019 | .1039291 | .0036063  | .0968505             | .1110077 |
| 2020 | .0998103 | .0033992  | .0931383             | .1064823 |
| 2021 | .0995625 | .003309   | .0930676             | .1060575 |
| 2022 | .097599  | .0032641  | .0911922             | .1040057 |

Table 5 reflect the return of asset among SACCOs in Kenya over the five years. The results show reducing trend of net income to total asset from 10.1% in 2019 to 9.8% in 2022. The reducing trend was homogenous across the SACCOs over the five-year period as indicate by a constant standard error that range between 0.3% to 0.4%

Table 6: Return on Equity

| Over | Mean     | Std. Err. | [95% Conf. Interval] |          |
|------|----------|-----------|----------------------|----------|
| ROE  |          |           |                      |          |
| 2018 | .6732016 | .02514    | .6238565             | .7225466 |
| 2019 | .7303523 | .0253433  | .6806082             | .7800964 |
| 2020 | .6410422 | .0218318  | .5981906             | .6838939 |
| 2021 | .629744  | .0209297  | .5886629             | .6708251 |
| 2022 | .4722203 | .0215573  | .4299073             | .5145333 |

Financial performance was also measure using return on equity ratio within the five years as demonstrated in Table 6. The results indicated a decline in net income in relation to equity over the past five years from 67.3% in 2018 to 47.2% in 2022, however, the return on equity in 2019 was the highest at 73.0%. The variation was remained constant during the five year period that ranged from 2.1% to 2.5% across the SACCOs.

Table 7: Financial Performance

| Year  | min       | max      | mean     | sd       |
|-------|-----------|----------|----------|----------|
| 2018  | -.1435035 | 1.352366 | .3871582 | .1868385 |
| 2019  | -.0903083 | 1.41483  | .4171407 | .1870558 |
| 2020  | -.1670087 | 1.070093 | .3704263 | .1630279 |
| 2021  | -.0477705 | 1.13738  | .3646533 | .1566165 |
| 2022  | -.5573072 | .8275919 | .2849096 | .1526765 |
| Total | -.5573072 | 1.41483  | .3648576 | .1750934 |

The aggregate financial performance in Table 7 results indicated a declining trend in financial performance from 38.7% in 2018 to 28.5% in 2022. In 2019, the SACCOs registered the highest financial performance of 41.7%, despite being the year with COVID-19 pandemic which affect most of the business. The variation in profitability remained had also declining from 18.7% in 2018 to 15.3% in 2022 across the SACCOs. The overall mean of 36.5% and standard deviation of 17.5% revealed that most the SACCOs achieved a positive financial performance.

Table 4.28: Capital Sufficiency and Financial Performance

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Random-effects GLS regression           Number of obs   =       835
Group variable: Firm                   Number of groups =       167

R-sq:                                  Obs per group:
  within = 0.1113                       min =           5
  between = 0.1465                       avg  =          5.0
  overall = 0.0003                       max  =           5

Wald chi2(1) = 58.25
corr(u_i, X) = 0 (assumed)              Prob > chi2     = 0.0000
    
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| FP      | Coef.     | Std. Err.                         | z     | P> z  | [95% Conf. Interval] |
|---------|-----------|-----------------------------------|-------|-------|----------------------|
| CA      | -.3933504 | .0515363                          | -7.63 | 0.000 | -.4943598 -.2923411  |
| _cons   | .4465506  | .0149913                          | 29.79 | 0.000 | .4171682 .4759331    |
| sigma_u | .12262357 |                                   |       |       |                      |
| sigma_e | .10811851 |                                   |       |       |                      |
| rho     | .56261522 | (fraction of variance due to u_i) |       |       |                      |

The study examined the relationship between capital sufficiency and financial performance of SACCOs in Kenya. The results from 835 observed panel data revealed that capital sufficiency statistically predicted financial performance of SACCOs in Kenya (Prob>chi<sup>2</sup>=0.000<0.05). A variation of 56.3% in financial performance across SACCOs in Kenya was associated with capital sufficiency (Rho = 0.563). The results were summarized as follows;

$$Y = 0.447 - 0.393X_5 + \varepsilon \dots\dots\dots (v)$$

According to the model, a unit increase in capital sufficiency would result to a decrease of 39.3% in financial performance. There was a negative statistical significant relationship between capital sufficiency and financial performance ( $\beta_5 = -0.393$ ,  $P = 0.000 < 0.05$ ).

H<sub>0</sub>: Capital sufficiency has no statistically significant relationship with the financial performance of Deposit taking SACCOs.

The objective of the study was to examine the relationship between capital sufficiency and financial performance. The findings rejected the null hypothesis where significant value of 0.000 was below the significant level ( $\beta_3 = -0.393$ ,  $P = 0.000 < 0.05$ ). The results indicated that capital sufficiency had negative statistical significant relationship with financial performance of SACCOs in Kenya.

In line with current study, Acharya, Pierret, and Steffen (2018) investigated the effect of bank capital on financial performance in US banks and found a strong negative relationship between leverage ratio, a measure of capital sufficiency, and financial performance. This finding aligns with the current study, suggesting that higher capital sufficiency might not always translate to better financial performance, possibly due to the increased costs associated with maintaining higher capital levels.

Similarly, Kartal (2019) examined factors affecting Turkish banks' capital structures and found that deposits had a negative impact on the capital buffer, while factors such as lagged capital, economic growth, portfolio risk, and return on equity had positive impacts. The negative impact of deposits on the capital buffer supports the current findings, indicating that managing capital adequacy can be challenging and may negatively affect financial performance if not balanced properly.

Buyuksalvarc and Abdioglu (2019) explored the variables affecting capital adequacy ratios in Turkish banks. They found that loans, return on equity, and leverage negatively impacted capital adequacy ratios, while loan reserves and return on assets had positive impacts. This mixed impact suggests that while some factors can enhance capital adequacy, others can detract from it, supporting the notion that maintaining optimal capital levels is complex and can negatively affect financial performance if not managed effectively.

Ogunode, Awoniyi, and Ajibade (2022) evaluated the impact of sufficient capital on the corporate performance of publicly traded non-financial companies in Nigeria. Their findings showed a negative impact of capital adequacy ratio on corporate performance, which concurs with the current study. This suggests that higher capital adequacy requirements can impose financial burdens, reducing the overall performance of firms, including SACCOs.

Adeyemi (2019) investigated the causes of Nigerian bank collapse, identifying lack of capital as a significant factor. While Adeyemi's study highlighted the importance of adequate capital for financial stability, it found no direct link between capital adequacy and financial performance. This contrasts with the current study, which found a negative relationship, suggesting that while adequate capital is necessary for stability, excess capital might hinder performance.

Mwangi (2020) examined the challenges faced by Kenyan SACCOs in implementing capital adequacy standards. The study found that these standards reduced operational risks and enhanced public confidence but did not directly link capital adequacy to financial performance. This partially supports the current study, as maintaining capital adequacy appears to have mixed effects, providing stability but potentially hindering performance.

Ngui and Jagongo (2017) studied the impact of capital sufficiency on the financial performance of Kenyan SACCOs. Their findings indicated that capital adequacy positively affected financial performance, which contradicts the current study. This discrepancy may arise from different methodologies or time frames, highlighting the complexity of the relationship between capital sufficiency and financial performance.

Sangmi (2019) pointed out that factors such as branch expansion and company diversification are influenced by capital sufficiency. The study used capital sufficiency ratio and interest margin ratio to assess capital sufficiency, finding that a higher ratio is preferred as it indicates a sufficient risk buffer. This aligns with the current study's use of these metrics, though the negative impact on financial performance suggests that maintaining high capital levels might impose financial constraints on SACCOs.

Ongore and Kusa (2018) found that capital sufficiency significantly influenced the efficiency of Kenyan commercial banks, supporting the current study's findings. However, they did not explore its impact on financial performance as a potential indicator of financial distress, leaving a gap that the current study addresses.

Song (2018) and Karles (2019) investigated how banks handled Basel's capital sufficiency requirements, finding a negative relationship between market risk and capital buffer. These findings support the current study, indicating that higher capital requirements can negatively impact financial performance by increasing the financial burden on institutions.

On the contrary, Ikpefan (2018) examined Nigerian banks and found no association between capital sufficiency and return on assets (ROA). This contradicts the current study, which found a negative relationship between capital sufficiency and financial performance, suggesting that the impact of capital sufficiency may vary across different financial environments.

Amina (2016) studied the impact of core capital ratio on cooperative societies' performance in Nairobi, concluding that core capital adequacy significantly affects performance by managing credit risk and fostering public confidence. This aligns with the current study's findings that capital sufficiency impacts financial



performance, though the negative relationship suggests that excessive capital requirements might hinder performance.

Overall, the literature presents mixed findings on the relationship between capital sufficiency and financial performance. While some studies align with the current results, indicating a negative impact, others show positive or no significant relationships. These discrepancies highlight the complexity of this relationship and suggest that the impact of capital sufficiency on financial performance may vary depending on the specific context and financial environment.

The negative statistical significance between capital sufficiency and the financial performance of deposit-taking SACCOs aligns with Wrecker's financial distress theory. According to Wrecker's theory, financially distressed firms often experience adverse outcomes due to a series of negative shocks, such as excessive withdrawals and high non-performing loans, leading to diminished financial stability and performance. This aligns with the observed negative impact of capital sufficiency, indicating that when SACCOs are in distress, their financial performance deteriorates. This could be due to shareholders prioritizing private benefits, extracting resources, and creating liquidity issues that hinder the SACCOs' operational efficiency and profitability. Essentially, the findings support Wrecker's hypothesis that financial distress creates a downward spiral, adversely affecting a firm's overall financial health.

## 5. Conclusions and Recommendations

### Summary

Capital sufficiency was analyzed using the ratios of core capital to total assets and core capital to total deposits over a five-year period. The core capital to total assets ratio showed an increasing trend, peaking in 2022 and reaching its lowest point in 2019, likely due to the impact of the COVID-19 pandemic. Similarly, the core capital to total deposits ratio also increased consistently from 2018 to 2022, indicating higher shareholder investment relative to deposits. The composite capital sufficiency ratio reflected this upward trend, despite a dip in 2019. The study's fifth objective was to examine the relationship between capital sufficiency and financial performance, revealing that capital sufficiency significantly predicted financial performance. However, this relationship was negative, indicating that increases in capital sufficiency were associated with decreases in financial performance for deposit-taking SACCOs in Kenya.

### Conclusions

Capital sufficiency was analyzed using core capital to total assets and core capital to total deposits ratios. The findings showed an increasing trend in these ratios from 2018 to 2022, despite a dip in 2019 due to the pandemic. This trend indicated higher shareholder investment and improved financial stability. However, the study concluded that capital sufficiency had a negative relationship with financial performance. Increases in capital sufficiency were associated with decreases in financial performance, suggesting that while capital sufficiency is crucial, other factors might offset its potential benefits on the financial outcomes of SACCOs.

### Recommendations

Study recommends that SACCOs focus on optimizing their capital structure by balancing capital adequacy with profitability. Despite the negative relationship between capital sufficiency and financial performance, maintaining adequate capital sufficiency is essential for regulatory compliance and financial stability. SACCOs should encourage shareholder investments and retain earnings to build a strong capital base. Additionally, exploring innovative financial instruments and partnerships can help SACCOs enhance their capital without adversely impacting financial performance.

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