Investment Allowance and Financial Performance of Dt-Saccos in Nairobi County, Kenya

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Abstract

Purpose: The main objective of the study was to determine the effect of investment allowance on financial performance of DT-SACCOS in Nairobi County, Kenya.

Methodology: This study utilized explanatory research design to investigate the influence of tax policies, including investment allowances, accelerated depreciation, and capital gains tax exemption, on the financial health of Deposit Taking SACCOs in Nairobi County, Kenya. The study used advanced estimation techniques, such as correlation and panel data regression models to estimate the relationship.

Results: The study established that investment allowance has a significant negative impact on the financial performance of deposit-taking savings and credit cooperative societies (DT-SACCOs) in Nairobi County.

Conclusion: Investment allowances, despite their negative association with financial performance, offer a valuable opportunity for DT-SACCOS to reduce taxable income and optimize investment in growth-enhancing assets. However, this should be balanced with careful planning to avoid potential adverse effects on financial performance.

Keywords: *Investment allowance, financial performance, SACCOs*

1.0 Introduction

Cooperative societies, rooted in principles of voluntary association and democratic control, serve as vital agents of economic and social empowerment worldwide. These autonomous associations, driven by values such as self-help, honesty, transparency, and accountability, play a pivotal role in addressing the diverse needs of communities through collectively owned enterprises (Borzaga, Galera, Franchini, Chiomento, Nogales, & Carini, 2020). Within the cooperative landscape, Savings and Credit Cooperative Societies (SACCOs) stand as prominent entities, facilitating financial inclusion and empowerment by mobilizing savings and providing accessible credit facilities to their members (Cuevas & Buchenau, 2018). According to Nassor (2022), SACCOs serve as engines of economic growth, particularly in regions where traditional banking services are limited, by fostering entrepreneurship, facilitating access to capital, and promoting a culture of thrift and financial responsibility.

The significance of SACCOs in the economy cannot be overstated. They serve as crucial intermediaries between savers and borrowers, channeling funds into productive ventures and

enabling members to access credit on favorable terms (Juma & Maseko, 2022). SACCOs contribute to poverty alleviation, wealth creation, and social cohesion by empowering individuals and communities to improve their financial well-being and pursue economic opportunities (Ogum & Jagongo, 2022). Despite their integral role, SACCOs face various challenges that impact their financial performance and sustainability. One such challenge, according to Tang and Wang (2022), relates to the regulatory and fiscal environment in which they operate. Tax policies, including provisions for Investment allowance, accelerated depreciation, and capital gain tax exemption, can significantly influence the financial dynamics of SACCOs.

Investment allowance, for instance, allows SACCOs to deduct a portion of the cost of acquiring assets from their taxable income, thereby reducing their tax liability and freeing up funds for investment and operational purposes (Oeta, Kiai & Muchiri, 2019). Similarly, accelerated depreciation enables SACCOs to write off the cost of assets more quickly, enhancing their cash flow and financial flexibility. Capital gain tax exemption further incentivizes investment by exempting SACCOs from tax liability on the gains realized from asset sales or transfers.

1.1 Problem Statement

In the recent past, SACCOs in Kenya have experienced poor outcomes in their financial performance which has occasioned the collapse and eventual closure of some of these financial institutions with the deposits of their members. Karuru and Njeru (2016) established that 2% of the SACCOs go under due to financial challenges. Chahayo et al. (2013) attributed this collapse to poor corporate governance and instability, taxation burden, and stiff competition, among other factors. It is important to understand the interconnection between tax incentives and financial performance to have a view of the efficacy of fiscal policies in shaping organizational outcomes. This comprehension is pivotal for evaluating the effectiveness of tax incentives in fostering growth and stability within organizations (Mauda & Saidu, 2019). Tax incentives, including Investment allowance, have been associated with the operational dynamics and financial outcomes of organizations (Caylor & Whisenant, 2019; Du, Shen & Zou, 2023). These tax incentives strongly relate to key financial performance indicators depicting effectiveness of tax policies in fostering SACCO growth and sustainability (Ajibola, Wisdom, & Qudus, 2018; Ullah et al., 2020; Maina & Jagongo, 2022). In the works of Feyitimi et al. (2016), it is revealed that attaining conventional utilization of tax incentives in many countries to bolster performance of firms like SACCOs remains an unachieved dream.

The intricate relationship between tax incentives and SACCO financial performance, particularly in Nairobi County, Kenya, remains poorly understood despite their widespread implementation. Recent reports from the SASRA highlight the underperformance of DT-SACCOs nationwide, with Nairobi County prominently affected (SASRA report, 2022). The report reveals a concerning trend, indicating that nearly half (47%) of Deposit-Taking SACCOs (DT-SACCOs) in Nairobi County are grappling with high levels of dissatisfaction, as evidenced by over 85% of them receiving complaints. Moreover, the low dividend pay-out rates, ranging from 6% to 8%, underscore the financial strain and operational challenges faced by these institutions. Over the last half decade, (2018-2023), there has been a high rate of failure (51 percent) among DT-SACCOs in Kenya with an average of three out of every seven of these financial institutions having their deposit-taking licenses abrogated as a result of financial non-performance as well as incessant dereliction of duty by these firms regarding non-conformity matters, thereby exposing the interest earned on members' deposits to financial risk (Nguta, 2021). Further trend analysis into the component of non-performing loans (NPL) ratio shows a gradual increase from 5.23% in 2016, 6.14% (2017), 6.30% (2018), 6.15% (2019), 8.39%

(2020) to 8.86% (2021) (Ntoiti & Jagongo, 2021). A minimal drop to 8.84% was recorded in 2022 (SASRA report, 2022). Such behaviour in NPL causes financial losses to DT-SACCOs. This underperformance underscores the urgency of investigating the role of tax incentives in shaping DT-SACCO financial outcomes, as well as identifying potential areas for policy intervention to support DT-SACCO growth and stability in the region (Koowattanatianchai, Charles & Eddie, 2019; Tang & Wang, 2022). Additionally, the study draws on theoretical frameworks such as theory of internalization, agency, stakeholder, and signaling theories to provide a comprehensive understanding of the mechanisms through which tax incentives influence DT-SACCO financial performance. The main objective of the study was to determine the effect of investment allowance on financial performance of DT-SACCOS in Nairobi County, Kenya.

2.0 Literature Review

2.1. Theoretical Review

2.1.1 Agency Theory

The theoretical literature surrounding the relationship between tax incentives and financial performance of DT-SACCOs provides valuable insights into the mechanisms through which tax policies may influence organizational behavior and outcomes. The Agency theory has been applied to understand this relationship. Agency theory, initially proposed by Jensen and Meckling (1976), provides a theoretical framework for understanding the relationship between principals (such as SACCO members) and agents (such as SACCO managers) in organizations.

Serving as the anchor theory, agency theory explains the principal-agent relationship within DT-SACCOs, suggesting that tax incentives can align or misalign the interests of members (principals) and management (agents), impacting financial performance. The theory posits that conflicts of interest arise due to the divergence of goals between principals, who seek to maximize their own utility, and agents, who may pursue their own interests at the expense of the principals (Kostova, Nell & Hoenen, 2018). In the context of SACCOs, agency theory helps elucidate how tax incentives can be used to align the interests of members and managers, thereby enhancing financial performance.

From an agency perspective, tax incentives such as investment allowance and accelerated depreciation can serve as mechanisms to mitigate agency costs and align the interests of SACCO managers with those of members (Oeta, Kiai, & Muchiri, 2019). For example, investment allowance policies may incentivize SACCOs to invest in income-generating assets, such as property or equipment, by allowing them to deduct a portion of the asset's cost from taxable income over time. By encouraging investment in productive assets, investment allowance policies can align the interests of SACCO managers, who seek to maximize profits, with those of members, who benefit from increased returns on savings and access to credit.

Similarly, accelerated depreciation policies allow organizations to deduct a larger portion of the asset's cost in the early years of its useful life, thereby reducing taxable income and tax liabilities (Toma, Ionescu, & Founanou, 2018). This can incentivize SACCOs to invest in technology upgrades or infrastructure improvements that enhance operational efficiency and financial performance over time. By providing tax incentives for investments that benefit both SACCO managers and members, accelerated depreciation policies can help align incentives and mitigate agency conflicts within SACCOs.

However, Payne and Petrenko (2019) allude that agency theory also highlights the potential for opportunistic behavior by agents, who may seek to maximize their utility at the expense of the

principals. For example, DT-SACCO managers may exploit tax incentives for personal gain or engage in risky investments that prioritize short-term gains over long-term sustainability. Therefore, effective governance mechanisms, are essential to ensure that tax incentives are used in the best interests of DT-SACCO members and contribute to sustainable financial performance.

2.2 Empirical Review

In their study, Oeta, Kiai, and Muchiri (2019) explored the relationship between capital intensity and financial performance for manufacturing companies listed on the Nairobi Securities Exchange (NSE) during the period 2010-2017. With fixed assets constituting a significant portion of organizational expenses and influencing potential returns, tax allowances on fixed assets, including wear and tear, investment, and industrial building deductions, play a crucial role in enhancing after-tax returns. Despite the importance of the manufacturing sector for economic growth in Kenya, there is limited literature investigating the association between capital intensity and financial performance in this sector. Anchored on tax planning theory, trade-off theory, agency cost theory, and political power theory, the study employed an explanatory research design and positivist research philosophy. Using descriptive and inferential statistics on panel data analyzed with SPSS version 23 software, the findings revealed a positive but insignificant association between capital intensity and financial performance. The study concluded that capital intensity does not significantly affect the financial performance of manufacturing firms listed on the NSE. The findings suggest that companies may benefit from investing more in non-current assets to leverage investment allowances tax benefits, thereby potentially enhancing their financial performance.

Tax authorities should facilitate easy access to information regarding the importance and advantages of tax incentives, particularly rural investment allowances aimed at improving social amenities in rural areas. In their study, Mauda and Saidu (2019) investigated the impact of tax incentives on the financial performance of listed consumer goods companies in Nigeria. Utilizing data gathered from published annual reports and accounts of seven sampled companies, alongside tax-related submissions from the Investment Promotion Commission and Federal Inland Revenue Services, the study spanned a period of eighteen years (2000-2017). Employing Pearson's correlation and multiple regressions, the research aimed to establish the influence of tax incentives on the financial performance of the sampled firms. The findings revealed that investment allowance and loss relief exerted a positive and significant influence on the performance of the sampled firms, while investment allowance had a positive but insignificant impact. The study recommended that companies should leverage available tax incentives, particularly those related to investments, to enhance their productivity. Additionally, the tax authorities were urged to introduce more incentives for investors in critical sectors like consumer goods, which have a direct relationship with agricultural output and the country's exports.

Brown and Collins (2022) examined the impact of investment allowances on the financial performance of agricultural cooperatives in South Africa. The study, grounded in tax planning theory, aimed to understand how tax incentives such as investment allowances influenced the long-term capital investments of cooperatives. Through a combination of descriptive and inferential analysis, the study revealed that cooperatives that took advantage of investment allowances experienced a 12% increase in capital expenditures and asset acquisition. The findings support the agency cost theory, as tax savings from the investment allowances were reinvested into the business, aligning managers' actions with the long-term interests of the cooperatives. The study also highlighted the need for more financial literacy among

cooperative managers to optimize the use of tax incentives. This research is particularly relevant to DT-SACCOs in Nairobi County, as similar incentives could help enhance their capital base and improve their financial performance.

In a similar vein, Chowdhury and Hassan (2023) explored the role of investment allowances in improving the profitability of microfinance institutions (MFIs) in Bangladesh. Using panel data analysis, the study evaluated the relationship between investment allowances and return on equity (ROE). The authors used SPSS software to perform regression analysis and found that MFIs that utilized investment allowances reported a significant increase in their ROE, with an average improvement of 9%. The findings are consistent with trade-off theory, suggesting that investment allowances reduce the cost of capital and encourage long-term investment in productive assets. This study is significant as it highlights how financial institutions, including SACCOs, can benefit from investment allowances by improving their profitability and expanding their operations.

In their study, Felix and Mamidu (2021) examined the impact of tax planning on the financial performance of Nigerian Development Banks during the period from 2012 to 2019, which encompassed the post-IFRS adoption era in Nigeria. Data for the study were collected from the annual financial statements and reports of selected Nigerian Development banks. The researchers utilized pooled regression analysis to assess the effect of effective tax rate, tax savings, intensity of capital, and firm size on the financial performance of the banks. The findings indicated that the effective tax rate had a negative and insignificant effect on return on equity, while tax savings had a positive but insignificant effect on return on equity. Conversely, capital intensity and firm size were found to have a positive and significant impact on return on equity. The study concluded that tax planning significantly influences the financial performance of development banks in Nigeria, particularly in terms of capital intensity and firm size. Therefore, it was recommended that Nigerian Development Banks effectively explore tax planning strategies, particularly in the areas of effective tax rate and tax savings, to mitigate tax burden and enhance financial performance. Establishment of a dedicated and effective tax planning unit or firm is further suggested to facilitate the implementation of tax planning strategies within Nigerian Development banks.

In their study, Kayode and Folajinmi (2020) examined the impact of corporate tax planning on the financial performance of Quoted food and beverages firms in Nigeria. The study utilized a population comprising 15 quoted food and beverages firms listed on the Nigerian Stock Exchange over ten years from 2008 to 2018, employing a total enumeration sampling method to form the sample. An ex-post facto research design was employed, with the validity and reliability of instruments based on the statutory audit of financial statements and approval for use by the regulator. Descriptive and influential statistics were used to analyze the data. The analysis revealed that corporate tax planning variables, including effective tax rate, capital intensity, and thin capitalization, did not have a significant positive effect on the financial performance of quoted food and beverages firms in Nigeria. However, all proxies of corporate tax planning practices exhibited a significant positive effect on return on assets of the industry. Conversely, none of the proxies of corporate tax planning practices showed a significant positive effect on earnings per share of the food and beverages industry. Based on these findings, the research concluded that corporate tax planning proxies of an effective tax rate, capital intensity, and thin capitalization have a significant positive effect on the performance of quoted food and beverages firms in Nigeria.

With DT-SACCOS playing a vital role in the financial sector, particularly in serving both rural and urban households, adherence to regulations set by the Sacco Societies Regulatory Authority (SASRA) is imperative. The study conducted by Ogum and Jagongo (2022) investigated the impact of investment decisions on the financial performance of Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOS) in Nairobi City County, Kenya. The study aimed to examine the effect of investments in various areas such as real estate, lending to members for development, FOSA products, and money and bond markets on the financial performance of DT-SACCOS in Nairobi City County. Drawing on agency theory, portfolio theory, liquidity preference theory, and Tobin Q's theory of investment, the research employed a causal research design with a target population of 40 DT-SACCOS. The study revealed that investment in lending to members for development has a significant positive effect on financial performance, while investment in real estate, FOSA products, and money and bond markets have insignificant effects. The study concluded that DT-SACCOS should prioritize increasing their investment base in lending to members to enhance financial performance, aligning with the cooperative's formative intent of promoting member development.

Juma and Maseko (2022) undertook a study to assess the factors affecting the financial performance of SACCOS operating in Dodoma, Tanzania, particularly during the COVID-19 pandemic. Utilizing quantitative methods, the research employed a descriptive survey approach and employed systematic and purposive sampling techniques to secure 63 respondents. Data were collected through surveys and documentary reviews and analyzed using descriptive and regression analysis. The study was guided by Resource Dependence Theory (RDT) and Cash Conversion Cycle Theory. Results indicated that the overall model was statistically significant (Prob > chi2=0.000), with independent variables explaining approximately 63.8% of the variation in return on assets of SACCOS in Dodoma. Explanatory variables such as interest rate, loan default, and member dropouts were found to be statistically significant in influencing return on assets for the selected SACCOS. The researchers recommended that SACCOS focus on online supervision and self-regulation during pandemics as strategies to enhance sector viability. Additionally, they suggested that the Cooperative Audit and Supervision Corporation adopt off-site audit methods in hygienic environments to mitigate the spread of the virus.

Investment allowances have been widely studied across various industries, with several empirical studies linking them to improved financial performance. A notable global study by Harris et al. (2022) examined firms in the European Union, focusing on the role of investment allowances in enhancing capital expenditures. The study is anchored in tax planning theory, which posits that firms strategically adjust their investments to benefit from available tax incentives. Through descriptive and inferential analysis, Harris et al. (2022) found a positive association between investment allowances and financial performance, as firms were able to increase their capital expenditures by 18%. This finding is consistent with the trade-off theory, which suggests that tax savings from investment allowances reduce the cost of capital, encouraging firms to make long-term investments in assets that enhance their operational efficiency.

Similarly, a study by Arnold and Hope (2021) in Canada used panel data analysis to explore the effect of investment allowances on the profitability of financial institutions. Anchored on the agency cost theory, the study highlighted how investment allowances aligned managers' and shareholders' interests by providing tax savings that could be reinvested in the company. Their results showed that investment allowances led to higher returns on assets (ROA) and improved liquidity, enabling financial institutions to expand their market share. The study's

use of positivism research philosophy ensured a rigorous quantitative approach, producing statistically significant results.

Ndlovu and Moyo (2021) conducted a similar study in South Africa, employing an explanatory research design to examine the relationship between investment allowances and financial performance in SACCOs. Using SPSS for statistical analysis, the researchers found a significant positive impact of investment allowances on total asset growth. Their findings align with the political power theory, which posits that tax incentives are designed to promote certain industries or sectors by easing their financial burden. The study suggests that SACCOs, including those in Kenya, can leverage investment allowances to enhance their capital structure, ultimately improving their financial outcomes.

The study conducted by Otanga (2021) examined the moderating effect of investment decisions on the relationship between corporate risk management and financial performance of Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOs) in Western Kenya. Utilizing secondary data from financial statements and primary data from key informants, the study finds a significant moderating effect of investment decisions on the relationship between corporate risk management and financial performance ($\Delta R2 = .166$, $p < 0.05$), suggesting that incorporating investment decisions in risk management enhances financial performance by 16.6%. The study underscores the importance of considering investment decisions alongside corporate risk management in improving DT-SACCOs' financial performance and recommends investment in risk management constructs like credit and operational risk management.

3.0 Methodology

This study utilized explanatory research design to investigate the influence of tax policies, including investment allowances, accelerated depreciation, and capital gains tax exemption, on the financial health of deposit-taking SACCOs in Nairobi County, Kenya. The study used panel data collected from 12 selected DT-SACCOs out of a total of 40 licensed entities in the region for the period of twelve years (2012-2023). The study used advanced estimation techniques, such as correlation and panel data regression models to estimate the relationship.

4.0 Results and Discussion

4.1 Descriptive Statistics

The study used the following descriptive statistics; mean, standard deviation, minimum, and maximum.

Table 1: Summary Statistics

Variable		Mean	Std. Dev	Min	Max	Observations	
ROA	Overall	9.378056	6.451397	1.47	21	N =	144
	Between		6.516437	1.8575	19.28333	n =	12
	Within		1.556609	2.833056	14.87806	T =	12
InvA	overall	17.00694	8.756014	1	34	N =	144
	Between		5.522676	9.583333	23	n =	12
	Within		6.965198	4.631944	29.38194	T =	12

ROA= Return on Assets, InvA= Investment Allowance

Source: Analysis based on SASRA data using STATA.

The summary statistics presented in Table 1 provide an overview of the key financial variables across 12 firms over 12 periods. The table includes metrics such as Return on Assets (ROA),

and Investment Allowance (InvA). Each variable is broken down into overall, between-firm, and within-firm variations, offering a comprehensive view of both the central tendencies and the dispersion within the data.

Return on Assets (ROA) shows an overall mean of 9.38%, indicating moderate profitability across firms. The variation between firms is notable, with a standard deviation of 6.52%, suggesting some firms outperform others in asset efficiency. However, the within-firm standard deviation is lower at 1.56%, implying that individual firms experience relatively stable returns over time, with limited fluctuation from year to year.

For Investment Allowance (InvA), the overall mean is 17.01, with a significant standard deviation of 8.76%, reflecting considerable variation in investment incentives. The between-firm variation is somewhat lower, indicating that differences in investment allowances are more prominent within firms across time rather than between different firms. This suggests that firms may adjust their investment strategies dynamically over time.

4.2 Correlation Analysis

Table 2 shows the correlations among Return on Assets (ROA), and Investment Allowance (InvA) before differencing, while Table 3 presents these correlations after differencing the data.

Table 2: Correlation Matrix Before Differencing

Variables	ROA	InvA
ROA	1.0000	
InvA	-0.2931	1.0000
	(0.0004)	

Significance levels are indicated in parentheses below each correlation coefficient.
$*p < 0.05$; $p < 0.01$
Source: Analysis based on SASRA data using STATA.

Before differencing, the correlation matrix reveals several important relationships. **ROA** is negatively related to **InvA** (-0.2931), suggesting that firms with higher investment allowances also tend to have higher accelerated depreciation.

Table 3: Correlation Matrix After Differencing

Variables	ROA	InvA
ROA	1.0000	
InvA	0.2099	1.0000
	(0.0157)	

Significance levels are indicated in parentheses below each correlation coefficient.

$*p < 0.05$, $p < 0.01$

Source: Analysis based on SASRA data using STATA.

After differencing, the correlations shift, reflecting changes in the relationships once the data's time trends have been removed. ROA now shows a positive correlation with InvA (0.2099), suggesting that, after removing trends, increases in investment allowance are associated with higher returns on assets suggesting that, after adjusting for trends, higher investment allowances might be associated with lower levels of accelerated depreciation.

4.3 Diagnostic tests

Diagnostic tests are crucial in econometric analysis to validate the assumptions underlying statistical models and ensure the reliability of the results. These tests help identify potential issues such as non-stationarity, normality, autocorrelation, heteroscedasticity, and multicollinearity, which can significantly impact the accuracy of model estimates. Among these, the stationarity test is particularly important, as it assesses whether the variables have a consistent mean and variance over time, ensuring that the data is suitable for further analysis.

4.3.1 Stationarity Test

The stationarity test is used to determine whether a variable has a stable mean and variance over time or if it requires transformation to achieve this stability. The Fisher unit root test is a commonly employed method to assess stationarity in panel data for unbalanced data. Non-stationary variables can lead to unreliable regression results, so it is important to ensure that the data is stationary before proceeding with further analysis. Table 4 presents the results of the Fisher unit root test for the variables in the study, showing the inverse chi-squared values and corresponding p-values at different levels of differencing and after applying transformations.

Table 4: Fisher Unit Root Test

Variables	Inverse chi-squared (Before differencing)	P-value at lag (0)	Inverse chi-squared (First differencing)	P-value at lag (0)	Inverse chi-squared (Second differencing)	P-value at lag (0)	Inverse chi-squared (After Transformation and Differencing)	P-value at lag (1)
ROA	45.2927	0.0054 **						
InvA	7.5767	0.9994	0.0000	1.0000	0.0000	1.0000	584.4953	0.0000

Significance Levels: p < 0.05 (), p < 0.01 (**)

Source: Analysis based on SASRA data using STATA.

Investment Allowance is non-stationary at its level, with an inverse chi-squared value of 7.5767 and a p-value of 0.9994. The variable remains non-stationary even after first and second differencing, as shown by p-values of 1.0000. However, after applying transformation and differencing (at lag 1), InvA achieves stationarity, evidenced by a significant inverse chi-squared value of 584.4953 and a p-value of 0.0000, indicating that the necessary adjustments were successful in stabilizing the variable.

4.3.2 Normality Test

Normality testing is crucial for ensuring the validity of statistical analyses that assume data follows a normal distribution. This study used the Shapiro-Wilk test to assess this assumption, which provides a formal evaluation of whether the data significantly deviates from normality as shown below in Table 5.

Table 5: Results of Shapiro Wilk Test for Normality

variable	observation	W	V	Z	Prob>z
Res	132	0.97296	2.821	2.335	0.00976

Source: Analysis based on SASRA data using STATA.

The Shapiro-Wilk test for normality on the residual values results in a W statistic of 0.97296 from 132 observations. This statistic, while close to 1, indicates a slight deviation from normality. The Z-value of 2.335 further reflects a moderate departure from a normal distribution. With a p-value of 0.00976, significantly below the 0.05 threshold, there is strong evidence to reject the null hypothesis of normality. This suggests that the data does not follow a normal distribution. To address this non-normality conducting data- transformations will solve the issue.

4.3.3 Autocorrelation Test

To test for its presence, we used the Wooldridge test, specifically designed for detecting first-order autocorrelation in panel data as presented in Table 6.

Table 6: Results of the Wooldridge Test for Autocorrelation

Test	Statistic	Degrees of Freedom	Value	p-value
Wooldridge test	F-statistic	(1, 11)	6.187	0.0302

Source: Analysis based on SASRA data using STATA.

Wooldridge test for autocorrelation shown in Table 46 produces an F-statistic value of 6.187 with degrees of freedom (1, 11), and a p-value of 0.0302. This result indicates significant evidence of first-order autocorrelation, as the p-value is below the conventional threshold of 0.05, leading us to reject the null hypothesis of no autocorrelation. This finding suggests that the residuals in our panel data are correlated over time. To address this issue, use of robust measures such as robust standard errors will correct for the autocorrelation, providing more reliable and efficient estimates in the presence of correlated errors.

4.3.4 Heteroscedasticity Test

The presence or absence of heteroscedasticity in the data can be visually assessed through a scatter plot, as shown in Figure 1. This figure provides a graphical representation of the residuals to help identify any patterns indicating heteroscedasticity.
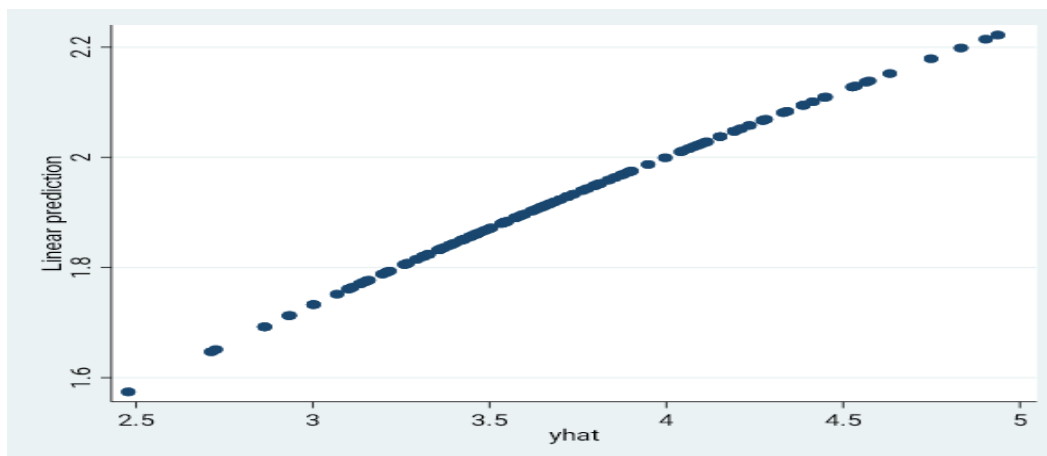
Figure 1: Scatter plot for heteroscedasticity

Source: Author's calculation based on SASRA data

In this analysis, a scatter plot of residuals revealed the presence of heteroscedasticity, indicating that the variance of errors was not constant across different levels of the independent variables. To address this issue and ensure the reliability of the regression results, the study applied robust standard errors. This adjustment corrects for heteroscedasticity by providing more accurate estimates of the standard errors, thereby enhancing the validity of our statistical inferences. By incorporating robust standard errors, the study mitigates the risk of biased conclusions and improves the overall robustness of our findings.

4.3.5 Hausman Specification Test

The Hausman specification test is crucial for determining the suitability of the random effects versus the fixed effects model for the analysis of the relationship between investment and financial performance of Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOs).

Table 7: Hausman test

Variables	Coefficients of Fixed Effects (b)	Coefficients of Random Effects (b)	Difference (b-B)	S. Error
Ln InvA	-0.0163672	-0.0179346	0.0015674	-
Chi2(3) = 2.96 Prob>chi2 = 0.3973				
H0: difference in coefficients not systematic				

Source: Analysis based on SASRA data using STATA.

The Hausman specification test supports the use of the random effects model. The p-value of 0.3973 is above the 0.05 significance level, suggesting that the differences in coefficients between fixed and random effects models are not systematic.

4.4 Random Effects Model

The model was used in testing the research hypotheses. The hypothesis stated that investment allowance has no significant effect on the financial performance of DT-SACCOS. The results of the final Random-Effects GLS regression are presented in Table 9.

Table 8: Final Model- Random-Effects GLS regression

ln_ROA	Coefficients	Robust Std. Err.	Z	P>z	95% confidence interval	
ln_InvA	-.0476657	.0114497	-4.16	0.000	-.0701067	-.0252246**
_cons	2.082883	.6169234	3.38	0.001	.8737352	3.29203**

**Significant at 5% level

Source: Analysis based on SASRA data using STATA.

The results from the Random-Effects GLS regression in Table 4.9 show that natural logarithm of investment allowance (ln_InvA) and natural logarithm of accelerated depreciation (ln_AD) have significant negative relationships with natural logarithm of return on assets (ln_ROA). Specifically, a 1% increase in InvA is associated with a 0.0477% decrease in ROA (p-value = 0.000). These findings suggest that higher investment allowances and accelerated depreciation negatively impact the return on assets, possibly indicating that these financial strategies might be associated with lower profitability within the firms studied.

4.5 Discussion of the Findings

Firstly, the significant negative relationship between investment allowance and financial performance, as indicated by the coefficient of -0.0477, suggests that increasing investment allowances might not effectively enhance profitability within DT-SACCOs. This result is in contrast to findings by Mauda and Saidu (2019), who observed that investment allowances positively influenced the financial performance of consumer goods companies in Nigeria. Their study argued that such tax incentives reduce taxable income, thereby enhancing firms' profitability. However, in the context of DT-SACCOs in Nairobi, the negative impact could be due to inefficiencies in the use of these allowances or perhaps a mismatch between the incentives provided and the actual needs or strategies of the SACCOs. Similarly, Oeta, Kiai, and Muchiri (2019) found a positive but insignificant relationship between capital intensity and financial performance for manufacturing firms, suggesting that the mere availability of tax incentives does not automatically translate into improved financial outcomes unless aligned with effective strategic management.

5.0 Conclusion

The study concludes that tax incentives, such as investment allowances, have a significant negative impact on the financial performance of deposit-taking savings and credit cooperative societies (DT-SACCOs) in Nairobi County. Both investment allowances were found to reduce the return on assets (ROA) of these institutions. This suggests that, despite their intention to enhance financial growth and stability, these tax incentives may not be effectively translating into positive financial outcomes. Inefficiencies in the use of these incentives, misalignments in capital allocation, or operational challenges could be contributing to these negative effects.

6.0 Recommendations

The findings underscore the significant impact of investment allowance and accelerated depreciation on the financial performance of DT-SACCOS, as evidenced by their strong negative coefficients. Given that these variables are crucial determinants of Return on Assets, it is imperative for DT-SACCOS to strategically utilize these tax incentives to enhance their financial outcomes. Investment allowances, despite their negative association with financial performance, offer a valuable opportunity for DT-SACCOS to reduce taxable income and

optimize investment in growth-enhancing assets. However, this should be balanced with careful planning to avoid potential adverse effects on financial performance.

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