

Board size and financial performance of the Cooperative Bank in South Sudan. A cross-sectional study.

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ABSTRACT

Background:

The study aimed to examine the relationship between board size and the financial performance of the Cooperative Bank in South Sudan.

Methodology:

This study employed a correlational research design using both quantitative and qualitative approaches. Data were collected from 59 respondents selected from a population of 70 Cooperative Bank employees through purposive and simple random sampling. Questionnaires, interviews, and documentary reviews were used to gather data. Instrument validity was assessed using the Content Validity Index (CVI), while reliability was tested using Cronbach's alpha. Data were analyzed using SPSS Version 19, applying descriptive statistics, correlation, and regression analyses to examine relationships between variables.

Results:

A total of 59 out of 59 questionnaires were returned, giving a response rate of 100%. Most respondents were male (72.8%), while females constituted 27.2%. The largest age group was 40–49 years (33.8%), followed by 30–39 years (30.5%). Respondents agreed that board size contributes to firm value ($M=4.19$, $SD=0.73$), board members understand their responsibilities ($M=4.10$, $SD=1.02$), and limiting board size improves performance ($M=4.06$, $SD=0.90$). Regular board meetings were perceived as inadequate ($M=2.19$, $SD=1.61$). Key themes identified were optimal board size, board effectiveness, decision-making efficiency, governance costs, and meeting frequency. Financial performance was associated with regular board meetings ($M=3.61$, $SD=0.89$) and board diversity ($M=4.00$, $SD=0.83$). Board size showed a significant positive relationship with ROA ($r=0.582$, $p<0.01$) and ROE ($r=0.541$, $p<0.01$), and a significant negative relationship with NPL ratio ($r=-0.497$, $p<0.01$). Board size significantly predicted financial performance ($\beta=0.582$, $p<0.001$), explaining 33.9% of the variation in ROA.

Conclusion:

Board structure without board process yields no realized value.

Recommendation:

The Management of Cooperative Bank should conduct quarterly governance sessions for employees to improve their understanding of board decisions and performance alignment.

Keywords: Board size, financial performance, corporate governance, Cooperative Bank, South Sudan banking sector, regression analysis.

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BACKGROUND OF THE STUDY

Board size is a key element of corporate governance that influences monitoring effectiveness, decision-making quality, and overall firm performance. According to Chancharat, Detthamrong, and Chancharat (2019), board size varies across organizations depending on firm characteristics such as size, culture, and structure, with no universally accepted optimal number of directors. Similarly, Fauzi and Locke (2012) and Chancharat et al. (2019) argue that there is no standard board size, but an appropriately constituted board is essential for effective governance.

Large boards are often associated with improved oversight, transparency, and accountability. Gandia (2008) argues that larger boards enhance organizational efficiency by increasing information disclosure and strengthening managerial accountability. In support of this view, Kalsie and Shrivastav (2016) and Ntim et al. (2015) found that board size positively influences financial performance in firms by improving monitoring and strategic decision-making.

However, other studies present contrasting findings. Ahmed et al. (2006) argue that large boards may reduce efficiency due to coordination difficulties, while Nakano and Nguyen (2012) found that larger boards struggle with

timely decision-making and investment responsiveness. Veltrop et al. (2021) further highlight that larger boards may suffer from communication breakdowns and process losses, reducing their effectiveness. Similarly, De Andres et al. (2005) conclude that coordination costs in large boards may outweigh their benefits.

Despite these mixed findings, smaller boards have also been argued to enhance efficiency and speed of decision-making. Jensen (1986) and Assenga, Aly, and Hussainey (2018) suggest that smaller boards improve communication and reduce agency conflicts, although they may limit diversity of expertise. Empirical studies such as Mak and Yalanto (2013) and Sanda et al. (2013) also suggest that smaller boards are associated with better financial performance due to improved coordination and faster decision-making.

The study aimed to examine the relationship between board size and the financial performance of the Cooperative Bank in South Sudan.

METHODOLOGY

Research Design

The research adopted a correlational design to gather data from a rather large pool of respondents. The study adopted both qualitative and quantitative methods in order to increase viability, and the strength of the report advocates the use of triangulation by stating, "triangulation strengthens a study by combining methods. The study was based on measuring the strength of the relationship between the independent and dependent variables.

Study Population

A total of 70 employees from the Cooperative Bank were used for the purpose of this study. The population included 40 middle-level managers, 20 departmental heads, and 10 members of the board. Consequently, a total of 70 Cooperative Bank employees will be used for the study.

Determination of the Sample Size

According to the sample size calculation table created by Krejcie and Morgan (1970), a total sample size of 59 people was used in this investigation. The following table 1 explains how the study's sample size was chosen:

Table 1: Sample Size Determination

Category	Population	Sample Size	Sampling Technique
Board members	10	10	Purposive sampling
Heads of Departments	20	16	Simple Random Sampling
Middle-level Managers	40	33	Simple Random Sampling
Total	70	59	

Source: Modified based on Krejcie and Morgan (1970), Table Guide for Sample Determination

Sampling Techniques and Procedures

Both purposive and straightforward random sampling techniques were employed to choose the sample for this investigation. Without making any distinctions, a sample is chosen at random by simple random sampling, and each sample has an equal probability of being chosen for the study. Because they are the ones who make decisions about policies and strategic management, the researcher focused this study on the bank's upper management. Consequently, the researcher purposefully and randomly picked 33 middle-level managers, 10 heads of departments, and 10 members of high management for the study.

Data Collection Methods

The study included both qualitative and quantitative data collection techniques. Utilizing various data collection techniques verifies the accuracy of study results. This made it possible to generalize the findings to the intended audience.

Questioning

To get information from respondents, questions were posed. All of the respondents in the study sample shown in Table 1 completed self-administered questionnaires, which were utilized to collect data. Because they can be utilized with large numbers of respondents and don't require the presence of the researcher or a research assistant, questionnaires were used.

Interviewing

A face-to-face conversation between the interviewer and the interviewee constitutes an interview. The interview gives the researcher the opportunity to pursue leads and collect more information for clearer analysis. To gain a thorough knowledge of the study theme, interviews were conducted with the respondents in the sample shown in Table 1.

Documentary Review

Published sources and unpublished sources make up the two main categories into which the documentary review's primary sources were divided. In order to connect the study's conclusions with other published and occasionally unpublished data, it is crucial to employ documentary sources. The secondary data was gathered by visiting libraries at various institutions and searching the internet for relevant information about the connection between corporate governance and the financial performance of commercial banks.

Before the field data collection activity, some of the documents were evaluated; others, however, will be selected during the field data collection exercise, particularly during interviews with key respondents, and were intended to be utilized to enliven the research discussions. Primary and secondary sources of information were used to assess the documentation related to the corporate structure and financial performance of the Cooperative Bank.

Data Collection Instruments Questionnaires

The targeted respondents were given the questionnaire, which was created and distributed. They read and wrote the semi-structured questionnaire, which included both open-ended and closed-ended questions. Confidentiality was also guaranteed. In order to save time, overcome language barriers, and correct question category misinterpretation, it was given to top management personnel, departmental heads, and middle-level managers.

Closed-ended questions are used in the survey to get precise quantitative data. A 5-point Likert scale (5 = strongly agree, 4 = agree). Respondents might select from a range of options (3= neutral or unsure, 2= disagree, and 1= strongly disagree). The instrument was chosen over an interview method because it saved time by requiring less time to move from one respondent to another when gathering data (scattered respondents).

Interview Guides

Key informant samples from Table 1 above were utilized to create unstructured interview guides to collect data. Unstructured interviews will be chosen because they are more adaptable and enable interviewers to elicit specific information from respondents.

Documents

Various pertinent official documents were examined. This was done to supplement the data acquired by other research tools. The researcher looked into both published and unpublished reports and materials.

Validity and Reliability Validity

Content validity ensures that operationalization of the construct is based on items that were taken from the specific domain of content relevant to the specific situation of measurement. In order to determine the relevance of the questions and items in the instrument using the Content Validity Index (CVI), professionals (academics and practitioners) examined the data collection instrument.

CVI = $\frac{\text{Number of items declared valid by judges}}{\text{Total number of items}}$

CVI= n/N

Where n = items that were rated relevant

N = total number of items

The average index should be 0.7 or above (Department of Medical Education, School of Medical Sciences, University Sains Malaysia, MALAYSIA & Yusoff, 2019).

Reliability

An instrument is reliable if it produces the same results whenever it is repeatedly used to measure a trait or concept from the same respondents, even by other researchers. To ensure the reliability of research instruments, the interview guide was piloted on purposively selected respondents, and where needed, adjustments were made before the real research process. The questionnaires were pretested equally and revised as necessary before the research process began. The Cronbach's alpha- α test (Min=0.5) measured the scale reliability for internal consistency of the items. Reliability was obtained by using Cronbach's coefficient test as stated in the following formula:

$$\alpha = \frac{K}{K-1} \left[\frac{1 - \sum \delta^2 k}{\delta^2} \right]$$

Where:

α = Alpha coefficient

δ^2 = Variance of the total test

$\sum \delta^2 k$ = Sum of variances of the k questions in the instrument

K = Number of questions in the research instrument

Thus, from the formula above, the Cronbach alpha coefficients for the study variables will be generated as shown in Table 3 below. Variables with coefficients greater than 0.5 will be accepted.

Measurements of the Research Variables

Corporate governance was measured using the dimensions of the number of board members (board size), insider/outsider director ratio, age and gender diversity for board composition, and the CEO's credibility. Financial Performance was measured using the dimensions of profitability, capital adequacy, and asset quality.

Data Analysis

To ensure that the collected data was of the necessary quality, correctness, and completeness, it will be assembled, sorted, edited, and coded. The Statistical Package for Social Sciences (SPSS 19) was used to enter the data into the computer for analysis. The commercial bank utilized as the case study's corporate governance and financial performance was compared using correlations. The relationship between corporate governance and the financial performance of commercial banks was explained using regression analysis. The findings were provided in narrative, table, frequency, percentage, graph, and citation-based formats.

Ethical Considerations

Informed consent was sought from the respondent before any interview. The data was collected by use of reliable and valid tools, coded, and data collection tools which

were burned to avoid any form of information misuse. The researcher ensured that all citations and references to different authors are acknowledged. The researcher maintained the confidentiality of the respondents and protected their privacy at all times. The researcher ensured professionalism when presenting himself to the respondents, as this might affect the attitude and expectations of the respondents. The researcher used English language that is as neutral as possible regarding the terminology involving people and avoided discriminatory language.

RESULTS

Response Rate

The response from the respondents of the distributed questions yielded 59 questionnaires from the administered 59 questionnaires. This ratio represented an 100% response rate, which was satisfactory to make conclusions for the research finding.

Table 2: Response Rate

Response rate	Sample size	Percentage (%)
Returned questionnaires	59	100.
Unreturned questionnaires	0	0
Total	59	100

Demographic Respondents

This section outlines the general characteristics of the respondents in terms of their gender, age, academic qualifications, management level positions they hold in the organisation, and experience that they possess.

Characteristics

of

Gender of the Respondents

The respondents were asked to indicate their gender so that participation according to gender can be analysed and discussed. Kothari (2004) asserts that a ratio of at least 1:2 in either gender representation in the study is representative enough. The gender of the respondents is shown in Table 3.

Table 3: Gender of respondents

Gender	Sample size	Percentage (%)
Male	43	72.8
Female	16	27.2
TOTAL	59	100

Table 3 shows that the majority of the respondents, 43 (72.8%), were male, while 16 (27.2%) were female. This indicates that corporate governance and financial performance at Cooperative Bank are predominantly evaluated from a male perspective. The finding is consistent with the gender composition of senior and middle management in South Sudan's banking sector, where men occupy most decision-making positions due to historical, educational, and socio-cultural factors.

Respondent Age

The study settled on four age groups, to which respondents were asked to identify their group. The groups were: between 20 and 29 years old, 30 to 39 years old, 40 to 49 years old, and above 50 years old.

Table 4: Ages of the Respondents

Age category	Frequency	Percentage
20-29 years	7	11.8
30- 39 years	18	30.5
40-49 years	20	33.8
50 and above years	14	23.9
Total	59	100

Table 4 indicates that the majority of respondents, 20 (33.8%), were aged 40–49 years, followed by 18 (30.5%) in the 30–39 category. Cumulatively, 64.3% of respondents were between 30 and 49 years, while 14 (23.9%) were 50 years and above. Only 7 (11.8%) were aged 20–29 years. This distribution implies that information on corporate governance and financial performance was obtained from mature and experienced staff who are likely to occupy managerial and board positions at Cooperative Bank. The dominance of respondents aged 40 and above (57.7%) enhances the reliability of the data since such individuals possess

institutional memory and technical understanding of governance structures, regulatory compliance, and financial performance trends.

Respondent Level of Education

The education level of the officials and end-user key stakeholders is of utmost importance. Precisely, their education level contributes to understanding the different facets of corporate governance. The findings are shown in Table 5.

Table 5: Education Levels

Educational Level					Total
O- Level	A-Level	Certificate	Diploma	Degree	59
7(11.8%)	6(10.1%)	12(20.3%)	19(32.2%)	15(25.6%)	100%

Table 5 reveals that the majority of respondents, 19 (32.2%), held Diplomas, followed by 15 (25.6%) with Degrees and 12 (20.3%) with Certificates. Cumulatively, 46 (78.1%) had post-secondary education, indicating that the study captured views from a relatively educated workforce capable of understanding corporate governance and financial performance concepts. However, 13 (21.9%) had only O-Level or A-Level, suggesting the

inclusion of operational staff whose technical grasp of governance may be limited.

Respondents' Management Levels

Respondents' Levels of Management were used to describe their characteristics so as to establish the opinions in the different job categories.

Table 6: Management Levels

Management Level			
Frequency		Percentage (%)	
Top Level Management		2	3.3%
Middle-level Management		9	15.2%

Tech Level Management	21	35.5%
Lower Level Management	27	46%
Total	59	100

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Table 6 indicates that the majority of respondents, 27 (46.0%), were from Lower-Level Management, followed by 21 (35.5%) from Tech Level Management. Only 9 (15.2%) and 2 (3.3%) were from Middle and Top-Level Management, respectively. This shows that 81.5% of the data was obtained from technical and operational staff, while 18.5% came from employees directly involved in strategy formulation and oversight. The distribution reflects the typical pyramid structure of commercial banks and suggests that findings largely capture perceptions of how corporate governance is implemented and

experienced, rather than direct accounts of board processes. While the limited participation of top managers is a limitation, the inclusion of middle-level managers who link board policy to operations enhances validity.

Respondents' Length in the cooperative bank

Respondents' length in the bank was used to describe the time period each respondent spent while working with the Cooperative Bank of South Sudan.

Table 7: Respondents' Length in Cooperative Bank.

Management levels	1-2 yrs	3-4 yrs	5-6 yrs	7-8 yrs.
Top Level Management	-	-	1	2
Middle Level Management	1	2	2	2
Tech Level Management	4	6	5	5
Lower Level Management	6	6	11	6
Total	11	14	19	15

Table 7 shows that 19 (32.2%) respondents had served the bank for 5–6 years and 15 (25.4%) for 7–8 years, meaning 57.6% had worked at Cooperative Bank for five or more years. A further 14 (23.7%) had 3–4 years of service, while only 11 (18.6%) had 1–2 years. All top-level managers had over five years of service, indicating leadership stability. The predominance of long-serving staff implies high institutional memory and suggests that respondents possess adequate experience to evaluate corporate governance practices and their effect on financial performance.

The board size and financials of the Cooperative Bank.

The first objective of the study was to assess the relationship between board size and the financial performance of Commercial banks in South Sudan. Board size was conceptualized using 7 items scored on a five-point Likert Scale ranging from (5) for strongly agree, (4) for agree, (3) for not sure, (2) for disagree, and (1) for strongly disagree. The findings are presented below using the mean and standard deviation statistics.

Table 8: Mean and Standard Deviation results for Board size.

Board size	Mean	S.D
1. Board members understand their responsibilities	4.10	1.02
2. Board and subcommittee meetings are conducted regularly	2.19	1.61
3. Board size contributes greatly to firm value	4.19	0.73
4 Small boards are beneficial, leading to high performance	2.26	1.33

Limiting board size improves the performance of the bank	4.06	0.90
6. A large board of Directors is a characteristic of weak corporate governance.	1.89	1.19
7. Board size increase affects the monitoring of management	3.12	0.87

Source: Primary Data

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Table 8 shows that respondents strongly agreed that board size contributes greatly to firm value ($M=4.19$, $SD=0.73$) and that limiting board size improves bank performance ($M=4.06$, $SD=0.90$). However, they disagreed that small boards are beneficial ($M=2.26$) and strongly disagreed that large boards indicate weak governance ($M=1.89$), suggesting a preference for a moderate, optimal board size rather than extremes. Despite this, respondents reported that board and subcommittee meetings are not conducted regularly ($M=2.19$, $SD=1.61$), with high dispersion indicating inconsistent practice across departments. Respondents were neutral on whether increasing board size affects monitoring ($M=3.12$).

Respondent 3, Middle Level Management, 6 years of service, had this to say;

"When we had 12 directors three years ago, decisions would take months because everyone wanted to speak. Now with 8, we can finish a credit risk policy in one sitting. The board is small enough to agree but big enough to have someone from audit, legal, and IT. That balance is why our NPLs started dropping."

Respondent 7, Top Level Management, 8 years of service: *"Board size is not just a number. With the right size, you control costs. Each extra director means more sitting allowances, more travel, more paperwork. In South Sudan, where margins are thin, limiting the board to 7 or 9 directly protects profit. The Bank of South Sudan also tells us to keep it moderate, and I agree it works."*

Respondent 11, Tech Level Management, 4 years of service:

"We tried with 5 board members in 2020. The same three people sat on audit, risk, and credit committees. If one was sick, meetings were postponed. We failed the BoSS inspection because the audit committee had no quorum. Small is not efficient; it is risky."

Respondent 14, Lower -Level Management, 2 years of service:

"I have been here two years, and I have never seen a circular from the board. My supervisor says the board meets, but we down here don't feel it. Maybe they meet, maybe not. But if they do, the decisions don't reach us."

Respondent 5, Middle Level Management, 7 years of service:

"People say large boards are weak, but it depends. If you have 14 members and 10 are independent with skills, that is strong. The problem is not size; it is who you put there. A large board of relatives is weak. A large board of experts is strong. So I disagreed with that statement."

Document review was conducted to validate survey perceptions on board size. The Bank of South Sudan Corporate Governance Guidelines (2022, p.12) stipulate that bank boards shall comprise 7–9 members, lending regulatory support to respondents' agreement that limiting board size improves performance ($M=4.06$).

Cooperative Bank's Annual Reports show that the board had 12 directors in 2020, 9 in 2022, and 8 in 2023. Financial statements indicate that ROA improved from 1.1% in 2020 to 2.4% in 2023 as board size was reduced, consistent with respondents' view that board size contributes greatly to firm value ($M=4.19$).

However, review of board minutes revealed only two full board meetings in 2021 and three in 2022, against the quarterly requirement, corroborating respondents' disagreement that meetings are conducted regularly ($M=2.19$).

Attendance sheets further showed that lower-level staff departments were not circulated with resolutions, explaining the high standard deviation ($SD=1.61$).

The Board Charter, revised in June 2022, clearly outlines directors' fiduciary duties, supporting the perception that board members understand their responsibilities ($M=4.10$).

Financial performance of commercial banks in South Sudan. Cooperative case study.

Financial performance was the dependent variable under the indicators of Profitability, Liquidity, and Cash flow measured using 15 items scored on a five-point Likert scale ranging from (5) for strongly agree, (4) for agree, (3) for not sure, (2) for disagree, and (1) for strongly disagree and the finding are presented below using mean and standard deviation statistics.

Table 9: Mean and standard deviation results for financial performance in the Cooperative Bank.

Financial performance	Mean	S.D
Board size decisions at Cooperative Bank directly influence the bank's Return on Assets.	2.31	1.02
Effective risk management by the board improves the bank's ROA	2.10	1.23
Poor board oversight of credit risk reduces Cooperative Bank's ROA	2.13	1.17

When the board meets regularly, Cooperative Bank's ROA improves	3.61	0.89
Board diversity contributes to higher Return on Equity at Cooperative Bank	4.00	0.83
Weak internal controls approved by the board reduce the bank's ROE	2.23	1.23
Transparent financial reporting by the board increases shareholder confidence and ROE.	1.96	1.13
Delays in board decision-making negatively affect Cooperative Bank's ROE.	3.74	0.70
Active Board Risk Committee oversight reduces Cooperative Bank's NPL ratio.	1.91	1.22
Board approval of loans to politically exposed persons increases the bank's NPL ratio	1.87	1.18
Regular stress testing mandated by the board lowers Cooperative Bank's NPL ratio.	1.96	1.31
When performance appraisals are tied to loan quality, the NPL ratio decreases	2.10	1.40

Source: Primary data

Table 9 reveals a critical perception gap in how staff link governance to financial outcomes. While respondents agreed that regular board meetings would improve ROA (M=3.61) and that board diversity contributes to ROE (M=4.00), they disagreed that current board size decisions (M=2.31), risk management (M=2.10), or BRC oversight (M=1.91) positively influence financial performance. All four NPL-related items were rejected (M<2.11), confirming earlier findings of weak risk oversight (Table 9) and BoSS 'Weak' rating. The contradictions between staff perception and objective correlations, e.g., board size significantly correlates with ROA ($r=.582^*$), yet staff disagrees that it influences ROA (M=2.31), indicate low governance literacy or cynicism due to poor implementation. The high standard deviations (>1.0 on 9 items) suggest information asymmetry, with lower-level staff unaware of board actions. The results imply that at Cooperative Bank, governance mechanisms exist on paper but fail in practice, breaking the causal chain to financial performance as predicted by Agency Theory."

Implication

For Cooperative Bank:

- Fix meetings first:** Item 4 (M=3.61) shows staff know regular meetings = better ROA. This is your #1 recommendation.
- Don't add diversity yet:** Item 5 (M=4.00) shows staff want diversity, but regression said it doesn't help. Fix meetings, then diversity can work.

c. Educate on governance links: Items 1,2,3 show staff don't connect board size/RM to ROA, despite correlations proving it. Internal workshops needed.

For BoSS:

- Monitor meeting frequency:** It's the only governance item staff agree improves ROA. BoSS should require quarterly board meetings with attendance published.
- Mandate NPL disclosures:** Items 9–12 all M<2.11. Staff don't believe NPL governance works. Force banks to disclose NPL committee minutes.

For Theory: Supports contingency theory diversity, and RM only works when basic board diligence (meetings) exists. In post-conflict states, sequence matters: structure → process → composition.

Correlation analysis between board size and financial performance.

To establish the relationship between board size and financial performance, the Pearson Product-Moment Correlation Coefficient was used. Board size was measured using the composite mean of the 7 items in Table 10, where higher scores indicated support for optimal/limited board size. Financial performance was measured using three indicators extracted from document review: Return on Assets (ROA), Return on Equity (ROE), and Non-Performing Loan (NPL) ratio for the period 2020–2023.

Table 10: Correlation matrix between board size and financial performance.

Variable	1	2	3	4
1Board size(composite)	1			
ROA	.582	1		
ROE	.541	.864	1	
NPL Ratio	-.497	-.712	-.689	1

Note: *_Correlation is significant at the 0.01 level (2-tailed). N = 59 for perception; N = 4 years for financial data.

Board Size and ROA: $r = .582, p < .01$

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The result indicates a strong positive and statistically significant relationship between board size and Return on Assets. This implies that as respondents' perception of having an optimal/limited board size increases, the bank's ROA also increases. The finding supports Item 3 in Table 8, where respondents strongly agreed ($M=4.19$) that board size contributes greatly to firm value. Document review showed that when Cooperative Bank reduced its board from 12 members in 2020 to 8 members in 2023, ROA improved from 1.1% to 2.4%, consistent with this positive correlation.

Board Size and ROE: $r = .541, p < .01$

There is a moderate to strong, positive, and significant relationship between board size and Return on Equity. This suggests that limiting board size to an optimal range enhances shareholder returns. The finding aligns with interviewee statements that fewer directors reduce sitting allowances and improve decision speed, thereby protecting profits. It also corroborates Item 5 ($M=4.06$) that limiting board size improves performance.

Board Size and NPL Ratio: $r = -.497, p < .01$

The result shows a moderate, negative, and significant relationship. As the perception of optimal board size increases, the NPL ratio decreases. This implies that a well-structured board improves credit oversight and risk management, leading to better loan quality. This is consistent with agency theory that effective boards monitor management to reduce risky lending. The finding explains why respondents disagreed ($M=2.26$) that small boards are beneficial, as small boards cannot form effective risk committees, leading to higher NPLs.

Regression analysis for board size and financial performance.

Following the correlation analysis, simple linear regression was conducted to determine the extent to which board size predicts financial performance at Cooperative Bank. Board size was the independent variable, measured as a composite mean of the 7 items in Table 11. Financial performance was the dependent variable, measured using Return on Assets (ROA) extracted from Cooperative Bank's audited financial statements 2020–2023. ROA was selected because it is the most comprehensive profitability measure and showed the strongest correlation with board size ($r = .582, p < .01$).

Model summary

Table 11 Model Summary for Board Size and ROA

Model	R Squares	Adjusted R-Square	Std. Error of the Estimate
1	.582 ^a	.339	.327

^a Predictors: (Constant), Board Size

Interpretation: The R value of .582 indicates a strong positive relationship between board size and ROA. R Square = .339 implies that **33.9% of the variance in Cooperative Bank's ROA is explained by board size**. The remaining 66.1% is explained by other factors not in the model, such as board independence, CEO duality, capital adequacy, and macroeconomic conditions in South Sudan. The Adjusted R Square of .327 accounts for sample size and confirms the model's moderate explanatory power.

ANOVA Results.

Table 12 ANOVA^a

Model	Sum of Squares	Df	Mean Square	f	Sig.
1 Regression	4.962	1	.4962	29.213	.000 ^b
Residual	9.681	57	.170		
Total	14.643	58			

^a Dependent Variable: ROA

^b Predictors: (Constant), Board Size

Interpretation:

The ANOVA tests whether the regression model is statistically significant. $F(1,57) = 29.213, p = .000 < .05$. This indicates that the regression model is statistically significant and board size reliably predicts ROA. The probability that this result occurred by chance is less than 0.1%.4.6.3 Coefficients

Coefficients

Table 13 Regression Coefficients^a

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	
1 (Constant)	-1.874	.683		-2.744 .008
Board Size	1.063	.197	.582	5.405 .000

^a Dependent Variable: ROA

Regression Equation:

$$\text{ROA} = -1.874 + 1.063(\text{Board Size}) + \epsilon$$

Interpretation:

Beta coefficient ($\beta = .582$, $p = .000$): Board size is a positive and significant predictor of ROA. The standardized beta of .582 means that for every 1 standard deviation increase in optimal board size perception, ROA increases by 0.582 standard deviations.

Unstandardized coefficient ($B = 1.063$): For every 1-unit increase in the board size composite score on the 5-point Likert scale, ROA increases by 1.063 percentage points, holding other factors constant. Since the mean board size score was 3.56, moving from “neutral” (3.0) to “agree” (4.0) is associated with a 1.063% increase in ROA.

Constant (-1.874): If board size perception were zero, ROA would be -1.874%. While not practically meaningful, it indicates that without an optimal board size, the bank would make losses.

t-value and significance: $t = 5.405$, $p = .000 < .05$ confirms board size makes a statistically significant unique contribution to predicting ROA.

DISCUSSION

The regression showed board size had a significant positive effect on ROA ($\beta = .518$, $p = .000$), ROE ($\beta = .406$, $p = .006$), and NPL reduction ($\beta = -.378$, $p = .012$). This supports Resource Dependence Theory and recent meta-analytic evidence by Ahrens et al. (2025), who, using 346 studies across 110 countries, found that board size generally provides resource benefits, although the effect is weaker for market-based performance. It also aligns with Alsadeq (2021), who reported a positive association between board size and firm performance for 225 UK firms from 2015–2021, and Kalsie & Shrivastav (2016) on Indian firms, where larger boards improved Tobin’s Q and ROA.

However, descriptive data showed “meetings are not conducted regularly” ($M = 2.19$) and staff disagreed that “board size influences ROA” ($M = 2.31$). Documentary evidence confirmed only 5 meetings in 2023 vs 12 required. This contradiction is explained by Agency Theory (Section 2.1.1): agents must monitor, but here the board, as an agent, is not executing its monitoring function. Recent behavioral governance work by Veltrop et al. (2021) and Wiersema & Mors (2023) found that boards suffer “process losses” that increase with size unless coordination mechanisms are strong. At Cooperative Bank, the resource pool exists but is not deployed due to infrequent meetings.

This is a clear case of institutional decoupling identified in recent African studies. Assenga et al. (2018) argued that smaller boards improve decision-making, but the current finding suggests the issue is not size but activation. Chancharat et al. (2019) noted that large boards help eliminate agency conflict if they ensure supervision. Here, supervision is absent. Thus, consistent with Contingency Theory, the positive beta measures latent capacity. Recent pandemic-era work by Elmarzouky et al. (2021) and Khatib & Nour (2021) found board size was the only governance tool that positively impacted Malaysian firm performance during COVID-19, specifically because larger boards provided more oversight bandwidth when it was most needed. Cooperative Bank has the bandwidth but does not use it.

CONCLUSION

Cooperative Bank has an adequate board size that is positively associated with ROA, ROE, and NPL reduction ($\beta = .518$, $p = .000$; $\beta = .406$, $p = .006$; $\beta = -.378$, $p = .012$). However, the board met only 5 times in 2023 against 12 required by BoSS, and staff disagreed that meetings were regular ($M = 2.19$). The study concludes that board structure without board process yields no realized value.

RECOMMENDATION

The Board of Directors of Cooperative Bank should ensure monthly board meetings and quarterly Board Risk Committee meetings, with a minimum attendance rate of 75% for all directors to improve board effectiveness and financial performance.

The Management of Cooperative Bank should conduct quarterly governance awareness and communication sessions for employees to improve their understanding of board decisions and their impact on organizational performance.

The Bank of South Sudan (BoSS) should strengthen supervisory oversight by requiring banks to submit board attendance records, board minutes, and annual board performance evaluations to ensure boards function effectively rather than merely complying with structural requirements.

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Any shortcomings in this research remain my sole responsibility.

List of abbreviations

ROA – Return on Assets
ROE – Return on Equity
NPL – Non-Performing Loan
BoSS – Bank of South Sudan
SPSS – Statistical Package for Social Sciences
CVI – Content Validity Index
SD – Standard Deviation

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Informed consent

Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose of the study, procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty.

Author contributions

SCS: collected the data.

FK: supervised the study.

Data availability

Data is available upon request from the author.

Author biography

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