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ANALYSIS OF THE HEALTH LEVEL OF COOPERATIVE FINANCIAL STATEMENTS WITH THE CAMELS METHOD

Samuel PD Anantadjaya [a*)], Renika Hasibuan [b)] , Irwan Moridu [c)] , Sumartono [d)] , Sufyati HS [e)]

[a*)] *IPMI Business School, Jakarta, Indonesia*
[b)] *Universitas Sari Mutiara Indonesia, Medan, Indonesia*
[c)] *Universitas Muhammadiyah Luwuk, Sulawesi Tengah, Indonesia*
[d)] *Universitas Yapis Papua, Jayapura, Indonesia*
[e)] *Universitas Pembangunan Nasional Veteran Jakarta, Depok, Indonesia*
[*)]*Corresponding Author: ethan.eryn@gmail.com*

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Abstract. The significance of health condition information regarding cooperatives for the management cooperative's continued existence or for third parties, including the general public and customers. By obtaining information regarding the cooperative's health condition, an assessment can be made of the cooperative's financial standing, whether it is deemed favorable or unfavorable, as well as its management and operational conditions. This data can then be utilized as a basis for future evaluations or decision-making by the cooperative. The present study employs the CAMELS method, which encompasses Capital, Asset Quality, Management, Earnings, Liquidity, and Sensitivity to Market Risk, to evaluate the soundness level of cooperatives. The objective of this study is to compare and contrast the cooperative health analysis method and the CAMELS method in terms of the health status of cooperatives. Descriptive comparative analysis was employed to examine a subset of cooperative financial reports spanning the years 2019 to 2022. This study employed descriptive statistics, a test for normality, and a paired sample t-test for analysis. Upon conducting an analysis utilizing descriptive statistics, normality tests, and paired sample t-tests, the distinction between the CAMELS method and the cooperative health analysis will become apparent. According to the results of the analysis test, the two approaches did not differ significantly. The fact that the acquisition of Sig. (2-tailed) is 0.881 indicates this. Where 0.881 is greater than 0.05. Consequently, no statistically significant distinction can be drawn between the two methods of cooperative health analysis.

Keywords: CAMELS, Cooperative Health, Comparative Analysis

I. INTRODUCTION

Permata Utama Saving and Loan Cooperative is one of the cooperatives engaged in the savings and loan industry. The funds for this cooperative are gathered from its members in an assortment of savings vehicles, including term deposits, prospective savings through savings programs such as TBS, TBS Plus, and Si Pundi, savings for religious ceremonies, and daily savings. Consumer Credit, Ultra Micro Credit, Motor Vehicle Credit (KKB), and Unsecured Small Trader Credit (KPK-TA) are additional loan types utilized by KSP Permata Utama in the course of channeling funds. The cooperative membership will increase from 830 individuals in 2019 to 936 individuals in 2020 to 1,193 individuals in 2021. In the past, KSP Permata Utama conducted an analysis of the cooperative's health by considering seven variables related to cooperative health assessment: capital, quality of productive assets, management, efficiency, liquidity, independence and development, and cooperative identity assessment. For this collaborative health assessment, being in a healthy predicate yielded the following ratio values: 94.95 in 2019, 83.70 in 2020, 81.70 in 2021, and 79.45 in 2022.

In addition to quantifying the state of health, the CAMELS method is employed as a predictive and ranking indicator for cooperative insolvency. Six facets of evaluation are incorporated into the CAMELS method: capital, asset quality, management, earnings, liquidity, and sensitivity to market risk. The elements comprising this health assessment of the cooperative are extracted from the financial statements of the cooperative. With respect to the health level of financial statements, research about Health Level Analysis in the Perspective of CAMELS ratios by [1]–[4] has been conducted. Based on an analysis of the bank's financial statements spanning three years (2017-2019), the study reveals that Bank Syariah Mandiri's health, while surpassing that of other Islamic banks in terms of total assets, does not yet qualify as "very healthy," despite the bank falling within the "healthy" category. Nevertheless, its development has varied in a number of ratios.

As an indicator for assessing and predicting cooperative insolvency, the CAMELS method not only assesses the level of health but also functions as such. Capital, Asset Quality, Management, Earnings, Liquidity, and Sensitivity to Market Risk were the six facets of evaluation that comprise the CAMELS method. Sourced from the financial statements of the cooperative, these components comprise the health assessment. Health Level Analysis in the Context of CAMELS Ratios, concerning the health level of financial statements, is the subject of the research described in [1] through [4]. Although Bank Syariah Mandiri has a greater total asset base than other Islamic banks, the analysis reveals

that its health is still not in the "very healthy" category, according to the findings of the study utilizing the bank's financial statements for the three-year period from 2017 to 2019. However, the bank is classified as "healthy." Despite the fact that its formulation has varied in numerous aspects.

Understanding the cooperative's health status is crucial for management in order to develop more precise policies [5]–[8]. When evaluating the operational status of the cooperative, various approaches may be utilized, including the CAMELS method. In addition to measuring the health of cooperatives, the CAMELS method is also employed as an indicator when rating them and forecasting their bankruptcy. The utilization of the CAMELS method to evaluate financial statements is anticipated to enhance and sustain public confidence, promote accountability [9], [10], and facilitate future decision-making to enable the cooperative to deliver superior service to its members and prospective members, as well as to increase transparency and accountability in the administration of savings and loan operations. Enhancing the overall health of a cooperative positively influences its future business continuity, thereby facilitating the establishment of enduring customer loyalty towards cooperative managers. By conducting a comparative analysis of cooperative health analyses using the CAMELS method and the existing cooperative health analysis, this study seeks to furnish the cooperative with information that will assist in determining its health level.

II. RESEARCH METHOD

Cooperative Health Level

Cooperative health measures the cooperative's financial health. Savings and loan cooperatives must measure their health to determine their financial health. Savings and loan cooperatives' health can be judged using numerous metrics [11]–[13]. Healthy cooperatives preserve loyalty or public trust and perform their intermediary job well. Processing different elements that affect cooperative performance determines cooperative health.

CAMELS Method

The approach utilized to evaluate the operational status of a cooperative that may have an impact on its financial performance. CAMELS comprises six evaluative dimensions: capital, asset quality, management, profitability, liquidity, and market risk sensitivity **[7], [13]–[16]**. The CAMELS method furnishes a comprehensive synopsis of the interconnections among financial statement accounts that represent the outcomes of cooperative activities. The assessment is conducted by employing pertinent financial ratios to characterize these facets. In accordance with Regulation No. 06/Per/Dep.6/IV/2016 of the Deputy for Supervision of the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia, the following criteria are used to determine the predicate for the health level of KSP and USP:

TABLE 1
CAMELS Method Assessment

Composite Value	Predicate
80.00 ⩽ x ⩽ 100	Healthy
66.00 ⩽ x < 80.00	Pretty Healthy
51.00 ⩽ x < 66.00	Under supervision
< 51.00	Under Special Supervision

Source: (Ministry of KUKM Regulation No. 07/Per/Dep IV/2016)

1. Modeling (Capital)

The assessment of capital aspects can be measured using the capital adequacy ratio (CAR), which is a comparison of own capital with risk-weighted assets (ATMR). The capital adequacy ratio (CAR) is the obligation to provide sufficient capital (minimum capital) which based on the risk of the assets it owns.

$$\text{Rasio CAR} = \frac{Weighted\ Capital}{ATMR} \text{ x } 100\% \quad (1)$$

The credit value from the CAR ratio is a maximum of 100. If the credit value from the formula calculation is less than 100, then the credit value used in calculating the factor credit value is the credit value of the ratio itself. If the credit value from the formula calculation is below more than 100, then the credit value obtained used in calculating the credit value factor is 100.

$$\text{NK CAR Ratio} = \frac{Ratio}{0{,}1\%} + 1 \quad (2)$$

TABLE2
CAR Rating Classification **[7]**

Weight	CAR Ratio Value	Predicate
30%	CAR > 12%	Very healthy
	9% ⩽ CAR < 12%	Healthy
	8% ⩽ CAR < 9%	Pretty Healthy
	6% ≤ CAR < 8%	Unwell
	CAR ≤ 6%	Not healthy

2. Asset Quality

Assets are assets or wealth, both tangible and intangible, that have value or can provide benefits to the company. The ratios used in assessing asset quality are the Productive Asset Quality (KAP) ratio and the Allowance for Productive Asset Losses (PPAP)[17], [18].

a. Asset Quality

Productive assets are assets as a source of income for a cooperative. This placement of funds is used to achieve the income level of a cooperative. Assessment of the Quality of

Productive Assets (KAP) is based on a comparison between the ratio of Classified Productive Assets and productive assets in the Cooperative[19], [20].

$$\text{KAP Ratio} = \frac{Classified\ Earning\ Assets}{Total\ Earning\ Assets} \text{x } 100\% \quad (3)$$

The KAP credit value is if the KAP ratio value is 15.5% or more then the credit value is 0, and for every decrease of 0.15 starting from 15.5% the credit value is added by 1 with a maximum value of 100. Calculation of Credit Value (NK) for the ratio The quality of Productive Assets (KAP) is as follows:

$$\text{NK KAP ratio} = \frac{22{,}5\% - KAP\ Ratio}{0{,}15\%} \quad (4)$$

TABLE 3
KAP Rating Classification **[7]**

Weight	KAP Ratio Value	Predicate
25%	KAP < 2%	Very healthy
	2% < KAP ⩽ 3%	Healthy
	3% < KAP ⩽ 6%	Pretty Healthy
	6% < KAP ⩽ 9%	Unwell
	KAP > 9%	Not healthy

b. Allowance for Productive Asset Losses (PPAP)

PPAP is the Allowance for Loss of Earning Assets which was created to cover possible risks in the event of a loss. Allowance for Losses of Productive Assets (PPAP) is used to calculate the comparison between the Allowance for Losses of Productive Assets Formed (PPAPYD) and the Allowance for Losses of Productive Assets Required to be Formed (PPAPWD)[21], [22].

$$\text{PPAP ratio} = \frac{PPAPYD}{PPAPWD} \text{ x } 100\% \quad (5)$$

The maximum credit value from the PPAP ratio is 100. If the credit value from the formula calculation is below more than 100, then the credit value will be set at 100. The Credit Value (NK) calculation for the Allowance for Productive Asset Losses (PPAP) ratio is as follows:

$$\text{NK PPAP ratio} = \frac{PPAP\ Ratio}{1\%} \quad (6)$$

TABLE4
PPAP Rating Classification**[7]**

Weight	PPAP Ratio Value	Predicate
5%	PPAP ⩾ 4%	Very healthy
	3% ⩽ PPAP < 4%	Healthy
	2% ⩽ PPAP < 3%	Pretty Healthy
	1% ⩽ PPAP < 2%	Unwell
	PPAP < 1%	Not healthy

3. Management

Management is a ratio that shows the net profit (profit) obtained by the cooperative with the income received from its operational activities. Assessment of management aspects can be measured using the Net Profit Margin (NPM) ratio, which is a comparison between net profit and cooperative operating income. The NPM ratio calculation can be calculated using the following formula:

$$\text{NPM ratio} = \frac{Net\ Profit}{Operating\ Income} \text{ x } 100\% \quad (7)$$

The credit value (NK) from management assessment uses the credit value of the management ratio itself, where the credit value of this ratio is the same as the management ratio value.

TABLE 5
NPM Ranking Classification**[7]**

Weight	Management Ratio Value	Predicate
20%	NPM ≥ 100%	Very healthy
	81% ≤ NPM < 100%	Healthy
	51% ≤ NPM < 81%	Pretty Healthy
	9% ≤ NPM <51%	Unwell
	NPM < 9%	Not healthy

4. Profitability

The profitability ratio (earnings) assessment is an assessment of the cooperative regarding the cooperative's ability to generate profits to cover risks as well as the level of efficiency each period and the profitability achieved. The assessment of profitability is measured by two ratios, namely the Return on Assets (ROA) ratio and the Operating Expenses to Operating Income (BOPO) ratio.[23].

a. Return On Assets (ROA)

ROA is a ratio that shows the ability of the capital that has been invested in all assets to provide profits as expected. According to[24]ROA is used to measure the company's ability to generate profits as a whole for the cooperative.

$$\text{ROA Ratio} = \frac{SHU\ before\ Tax}{Total\ Assets} \text{x } 100\% \quad (8)$$

The credit value from the ROA ratio is a maximum of 100. If the credit value from the formula calculation is below more than 100, then the credit value will be set at 100. The credit value calculation for the Return on Assets (ROA) ratio is as follows:

$$\text{NK ROA Ratio} = \frac{ROA\ Ratio}{0{,}015\%} \quad (9)$$

TABLE6
ROA Rating Classification**[7]**

Weight	ROA Ratio Value	Predicate
5%	ROA > 1.5%	Very healthy
	1.25% < ROA ≤1.5%	Healthy

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0.5% < ROA ≤ 1.25%	Pretty Healthy
0% < ROA ≤ 0.5%	Unwell
ROA ≤ 0%	Not healthy

b. Operating Expenses to Operating Income (BOPO)

According to[25]Assessments related to the ratio of operational expenses to cooperative operating income are used to measure the efficiency of cooperatives in managing expenses to cooperative income in a period. BOPO is a comparison between operational expenses and cooperative operating income.

$$\text{BOPO} = \frac{Operating\ Expenses}{Operating\ Income} \text{ x } 100\% \quad (10)$$

The maximum credit value from the BOPO ratio is 100. If the credit value from the formula calculation below is more than 100, then the credit value will be set at 100. The credit value calculation for the BOPO ratio is as follows:

$$\text{NK BOPO Ratio} = \frac{100\% - Ratio}{0{,}08\%} \quad (11)$$

Table7
BOPO Classification **[7]**

Weight	BOPO Ratio Value	Predicate
5%	BOPO ⩽ 83%	Very healthy
	83% < BOPO ⩽ 85%	Healthy
	85% < BOPO ⩽ 87%	Pretty Healthy
	87% < BOPO ⩽ 89%	Unwell
	BOPO > 89%	Not healthy

5. Liquidity

Liquidity is the total volume of credit provided by the cooperative with the total funds obtained by the cooperative from various sources. The higher the ratio obtained, the lower the cooperative's liquidity. The assessment of liquidity can be measured using two ratios, namely the cash ratio (CR) and the Loan on Deposit Ratio (LDR).[21].

a. Cash Ratio (CR)

Cash Ratio (CR) is part of the liquidity ratio which is used to measure or describe a company's ability to cover its short-term obligations with available cash, be it cash on hand or cash in bank savings or current accounts.[26]. The assessment uses a comparison between the cooperative's current assets and the cooperative's current liabilities, with the following calculation:

$$\text{CR ratio} = \frac{Current\ Assets}{Current\ Payables} \text{ x } 100\% \quad (12)$$

The credit value from the CR ratio is a maximum of 100. If the credit value from the formula calculation is below more than 100, then the credit value will be set at 100. The credit value calculation for the cash ratio (Cash Ratio) is as follows:

$$\text{NK Ratio CR} = \frac{CR\ Ratio}{0{,}05\%} \quad (13)$$

TABLE8
CR Rating Classification **[7]**

Weight	CR Ratio Value	Predicate
5%	CR ≥ 6%	Very healthy
	5.5% ≤ CR <6%	Healthy
	5% ≤ CR < 5.5%	Pretty Healthy
	4% < CR ≤ 5%	Unwell
	CR < 4%	Not healthy

b. Loon On Deposit Ratio (LDR)

Loan on Deposit Ratio (LDR) is a financial ratio related to the liquidity aspect, where this assessment shows the ability of a cooperative to provide funds to its debtors with funds sourced or collected from customers or the public. In determining the LDR value, a comparison is used between total costs and total funds from third parties using the following formula[27]:

$$\text{LDR} = \frac{Total\ Financing}{Total\ Third\ Party\ Funds} \text{ x } 100\% \quad (14)$$

The maximum credit value from the LDR ratio is 100. If the credit value from the formula calculation below is more than 100, then the credit value will be set at 100. The credit value calculation for the LDR ratio is as follows:

$$\text{NK LDR} = \frac{115\% - LDR\ Ratio}{1\%} \text{ x } 4 \quad (15)$$

TABLE9
LDR Rating Classification**[7]**

Weight	LDR Ratio Value	Predicate
5%	LDR ≤ 75%	Very healthy
	75% < LDR ≤ 85%	Healthy
	85% < LDR ≤ 100%	Pretty Healthy
	100% < LDR ≤ 120%	Unwell
	LDR > 120%	Not healthy

6. Sensitivity to Market Risk

According to [28] The assessment of the sensitivity ratio to market risk is based on the interest rate (Interest Expense Ratio). This ratio is a measure of the cost of funds collected by the cooperative which can show the efficiency of the cooperative in collecting its funding sources. If the Interest Expense Ratio (IER) value is greater, the condition of the cooperative will be worse, if it is smaller, the better. Based on Bank Indonesia standards in[24]The IER value is said to be healthy if the interest expense ratio value is below 5%. In calculating the IER ratio value is as follows:

$$\text{IER} = \frac{Interest\ Expense}{Total\ Deposit} \text{ x } 100\% \quad (16)$$

The credit value (NK) from management assessment uses the credit value of the management ratio itself, where the credit value of this ratio is the same as the management ratio value.

Table10
IER Rating Classification**[7]**

IER Ratio Value	Predicate
IER > 5%	Healthy
IER < 5%	Not healthy

III. RESULTS AND DISCUSSION

A. CAMELS analysis

Based on the calculations above, the calculation results from the 2019-2022 CAMELS method analysis on KSP. The main gems can be seen in the tables below.

TABLE11
2019 CAMELS Method Analysis Results

Year	Component	Ratio	Ratio Value	Ratio Weight	Credit Score	Factor Credit Score	Predicate
2019	*Capital*	CAR	23.73%	20%	100.00	20.00	Very healthy
	Assets Quality	HOOD	0.40%	10%	100.00	10.00	Very healthy
		PPAP	188.48%	10%	100.00	10.00	Very healthy
	Management	NPM	29.80%	15%	29.80	4.47	Unwell
	Earnings	ROA	3.51%	10%	100.00	10.00	Very healthy
		BOPO	69.70%	15%	100.00	15.00	Very healthy
	Liquidity	CR	197.66%	15%	100.00	15.00	Very healthy
		LDR	58.52%	5%	100.00	5.00	Very healthy
	Sensitivity to Market Risk	IER	11.01%	0%	0.00	0.00	Healthy
Total Value of CAMELS						89.47	
(Healthy)						80.00-100.00	

Based on the data results above, the assessment of the soundness of cooperative financial reports using the CAMELS method in 2019 for the CAR ratio was classified as being in a very healthy condition with a ratio value of 23.73%. The KAP ratio is classified as being in very healthy condition with a ratio value of 0.40%. The PPAP ratio is classified as being in very healthy condition with a ratio value of 188.48%. The NPM ratio is classified as unhealthy with a ratio value of 29.80%. The ROA ratio is classified as being in very healthy condition with a ratio value of 3.51%. The BOPO ratio is classified as being in very healthy condition with a ratio value of 69.70%. The CR ratio is classified as being in very healthy condition with a ratio value of 197.66%. The LDR ratio is classified as very healthy with a ratio value of 58.52%. The IER ratio is classified as in healthy condition with a ratio value of 11.01%. From the CAMELS analysis above, a total score of 89.47 was obtained with a healthy predicate.

TABLE12
2020 CAMELS Method Analysis Results

Year	Component	Ratio	Ratio Value	Ratio Weight	Credit Score	Factor Credit Score	Predicate
2020	*Capital*	CAR	25.94%	20%	100.00	20.00	Very healthy
	Assets Quality	HOOD	1.59%	10%	100.00	10.00	Very healthy
		PPAP	178.82%	10%	100.00	10.00	Very healthy
	Management	NPM	24.69%	15%	24.69	3.70	Unwell
	Earnings	ROA	2.87%	10%	100.00	10.00	Very healthy
		BOPO	75.09%	15%	100.00	15.00	Very healthy
	Liquidity	CR	217.68%	15%	100.00	15.00	Very healthy
		LDR	74.37%	5%	100.00	5.00	Very healthy
	Sensitivity to Market Risk	IER	16.28%	0%	0.00	0.00	Healthy
Total Value of CAMELS						88.70	
(Healthy)						80.00-100.00	

Based on the data results above, the assessment of the health level of cooperative financial reports using the CAMELS method in 2020 for the CAR ratio is classified as being in a very healthy condition with a ratio value of 25.94%. The KAP ratio is classified as being in very healthy condition with a ratio value of 1.59%. The PPAP ratio is classified as being in very healthy condition with a ratio value of 178.82%. The NPM ratio is classified as unhealthy with a ratio value of

24.69%. The ROA ratio is classified as being in very healthy condition with a ratio value of 2.87%. The BOPO ratio is classified as being in very healthy condition with a ratio value of 75.09%. The CR ratio is classified as being in very healthy condition with a ratio value of 217.68%. The LDR ratio is classified as very healthy with a ratio value of 74.37%. The IER ratio is classified as in healthy condition with a ratio value of 16.28%. From the CAMELS analysis above, a total score of 88.70 was obtained with a healthy predicate.

TABLE13
CAMELS Method Analysis in 2021

Year	Component	Ratio	Ratio Value	Ratio Weight	Credit Score	Factor Credit Score	Predicate
2021	*Capital*	CAR	31.23%	20%	100.00	20.00	Very healthy
	Assets Quality	HOOD	2.75%	10%	100.00	10.00	Healthy
		PPAP	64.09%	10%	64.09	6.41	Very healthy
	Management	NPM	18.61%	15%	18.61	2.79	Unwell
	Earnings	ROA	1.92%	10%	100.00	10.00	Very healthy
		BOPO	81.19%	15%	100.00	15.00	Very healthy
	Liquidity	CR	202.28%	15%	100.00	15.00	Very healthy
		LDR	54.08%	5%	100.00	5.00	Very healthy
	Sensitivity to Market Risk	IER	14.46%	0%	0.00	0.00	Healthy
Total Value of CAMELS						84.20	
(Healthy)						80.00-100.00	

Based on the data results above, the assessment of the health level of cooperative financial reports using the CAMELS method in 2021 for the CAR ratio is classified as being in a very healthy condition with a ratio value of 31.23%. The KAP ratio is classified as being in a healthy condition with a ratio value of 2.75%. The PPAP ratio is classified as being in very healthy condition with a ratio value of 64.09%. The NPM ratio is classified as unhealthy with a ratio value of 24.69%. The ROA ratio is classified as being in very healthy condition with a ratio value of 18.61%. The BOPO ratio is classified as being in very healthy condition with a ratio value of 81.19%. The CR ratio is classified as being in very healthy condition with a ratio value of 202.28%. The LDR ratio is classified as very healthy with a ratio value of 54.08%. The IER ratio is classified as in healthy condition with a ratio value of 14.46%. From the CAMELS analysis above, a total score of 88.70 was obtained with a healthy predicate.

TABLE14
CAMELS Method Analysis in 2022

Year	Component	Ratio	Ratio Value	Ratio Weight	Credit Score	Factor Credit Score	Predicate
2022	*Capital*	CAR	28.70%	20%	100.00	20.00	Very healthy
	Assets Quality	HOOD	2.44%	10%	100.00	10.00	Healthy
		PPAP	65.19%	10%	65.19	6.52	Very healthy
	Management	NPM	16.48%	15%	16.48	2.47	Unwell
	Earnings	ROA	1.59%	10%	100.00	10.00	Very healthy
		BOPO	83.52%	15%	100.00	15.00	Healthy
	Liquidity	CR	197.66%	15%	100.00	15.00	Very healthy
		LDR	69.55%	5%	100.00	5.00	Very healthy
	Sensitivity to Market Risk	IER	9.30%	0%	0.00	0.00	Healthy
Total Value of CAMELS						83.99	
(Healthy)						80.00-100.00	

Based on the data results above, the assessment of the health level of cooperative financial reports using the CAMELS method in 2019 for the CAR ratio was classified as being in a very healthy condition with a ratio value of 28.70%. The KAP ratio is classified as being in a healthy condition with a ratio value of 2.44%. The PPAP ratio is classified as being in very healthy condition with a ratio value of 65.19%. The NPM ratio is classified as unhealthy with a ratio value of 16.48%. The ROA ratio is classified as being in very healthy condition with a ratio value of 1.59%. The BOPO ratio is classified as in healthy condition with a ratio value of 83.52%.

The CR ratio is classified as being in very healthy condition with a ratio value of 197.66%. The LDR ratio is classified as very healthy with a ratio value of 69.55%. The IER ratio is classified as in healthy condition with a ratio value of 9.30%. From the CAMELS analysis above, a total score of 83.99 was obtained with a healthy predicate.

B. Descriptive Statistical Analysis

Descriptive statistical tests are used to explain the data description of the variables in the research. From the table below, it is known that each variable has 4 data, namely cooperative health data in 2019-2020. In the CAMELS analysis variable, the minimum value is 83.30, the maximum value is 89.47, the average is 86.59 with a standard deviation of 2.89. Meanwhile, for the variable analysis carried out by the cooperative, the minimum value was 79.45, the maximum value was 94.95, the average (mean) was 84.95 with a standard deviation of 6.88.

TABLE15
Descriptive Statistical Test

	N Statistics	Minimum Statistics	Maximum Statistics	Mean		Std. Deviation Statistics
				Statistics	Std. Error	
CAMELS analysis	4	83.99	89.47	86.59	1.45	2.89
Cooperative Analysis	4	79.45	94.95	84.95	3.44	6.88
	4					

C. Normality test

The normality test is used to determine whether data is normally distributed or not. The following is a normality test of the research data. The normality test in this study uses the Shapiro-Wilk normality test because the amount of data in this study is less than 30. If the Shapiro-Wilk test and significance are greater than 0.05, then the data is normally distributed, with the following hypothesis:

a. Ho :Cooperative health analysis with normal distribution.
b. HI :Analysis of the health of cooperative distribution is not normal.

TABLE16
Normality test

	Analysis Method	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistics	df	Sig.	Statistics	df	Sig.
Results	CAMELS analysis	0.295	4	-	0.88	4	0.118
	Cooperative Analysis	0.322	4	-	0.848	4	0.218

From the normality test table above, it is known that the Shapiro-Wilk value of the CAMELS analysis is 0.808 with a significance value of 0.118 > 0.05. This shows that the residual values of the CAMELS analysis are normally distributed. The Shapiro-Wilk value of cooperative analysis is 0.848 with a significance value of 0.218 > 0.05. This also shows that the residual value of the cooperative analysis is normally distributed. Thus it can be concluded that camels analysis and cooperative analysis have residual variables that are normally distributed and can be used in research.

D. Paired Sample t-Test

The mean difference test was carried out to find out whether there was a difference between the cooperative health analysis using the CAMELS analysis method, and the analysis carried out by the cooperative. The difference test in this research uses the paired sample t-test, with the following hypothesis:

1. Ho :There is a significant difference between the cooperative health analysis using the CAMELS method and the cooperative analysis method.
2. H1 : There is no significant difference between the cooperative health analysis using the CAMELS method and the cooperative analysis method.

Ho is accepted if the Sig (2-tailed) value is <0.05, then it can be concluded that there is a difference between the CAMELS analysis method and the cooperative analysis method. Ho is rejected if the Sig (2-tailed) value is > 0.05, then it is concluded that there is no difference between the

CAMELS analysis method and the cooperative analysis method. H1 is accepted if the Sig (2-tailed) value is > 0.05, it can be concluded that there is a significant difference between the CAMELS analysis method and the cooperative analysis method. H1 is rejected if the Sig (2-tailed) value is <0.05, it can be concluded that there is no significant difference between the CAMELS analysis method and the cooperative analysis method. If the Sig (2-tailed) value is > 0.05 then Ho is rejected and H1 is accepted. Meanwhile, if the Sig (2-tailed) value is <0.05 then Ho is accepted and H1 is rejected.

The table below shows the results of the pired sample T test where in pair 1 the Sig value was obtained. (2-tailed) is 0.549, where the value is 0.549 > 0.05, so H1 is accepted, it can be concluded that there is no significant difference between the cooperative health analysis using the CAMELS method and the cooperative health analysis carried out by the cooperative itself.

TABLE17
Paired Sample t-Test

		Paired Differences					t	df	Sig.(2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Defense				
					Lower	Upper			
Pair 1	CAMELS Analysis-Cooperative Analysis	1,640	4,869	2,434	-6,108	9,388	0.674	3	0.549

IV. CONCLUSIONS

]The following conclusions can be derived from the research analysis conducted using the CAMELS method, which comprises five assessment components: capital, asset quality, management, earnings, liquidity, and sensitivity to market risk. The balance sheet financial statements, the operating result calculation report, and the cooperative loan development report for the period 2019-2022 comprise the data utilized in this study. The CAMELS analysis yielded a cooperative health assessment for a duration of four years. The obtained analysis results have fluctuated annually in relation to the obtained analysis results. Despite experiencing fluctuations in value over the course of four years, the analysis continues to be classified as robust. The annual CAMELS analysis value is 83.99 (2022), 89.47 (2019), 88.70 (2020), and 84.20 (2021). The final scores for the cooperative assessment were as follows: 94.95 in 2019, 83.70 in 2020, 81.70 in 2021, and 79.45 in 2022. The relationship between the average value of the cooperative health analysis conducted using the CAMELS method and the analysis performed by the cooperative is examined using the Paired Sample t-Test test. It is possible to conclude that there is no significant difference in performance if the sig value in this test is greater than 0.05. However, if the sig value is less than 0.05, one can conclude that there is a significant difference in performance. The sig value derived from the above calculation of the Paired Sample t-Test is 0.549. Based on the findings, it can be inferred that the CAMELS method analysis of cooperative health does not yield a statistically significant distinction when compared to the analysis of established cooperative health. Each year, however, the outcomes of the evaluation of the two approaches were distinct.

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