



ASSESSING THE HEALTH OF REGIONAL DEVELOPMENT BANKS THROUGH CAMELS METHOD

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Abstract: Using the CAMELS method, this study aims to compare the health of two regional development banks, Bank Jatim and Bank Jateng. The findings will inform government regulations, internal bank policies, investor decisions, academic literature, and public savings choices. It employs a descriptive quantitative approach, analyzing financial statement data from 2017 to 2021. Bank Jatim demonstrates better health than Bank Jateng, particularly in asset quality, profit margin, liquidity, and market risk sensitivity. However, both banks share similar capital and management qualities. Unlike previous research focusing on large state-owned banks, this study prioritizes regional development banks in East Java and Central Java, aiming to offer insights into their health levels through CAMELS analysis.

INTRODUCTION

Banking is an essential sector in economic development. Banking institutions almost entirely support the economy in Indonesia. Banking services facilitate every transaction of the community's economy. The bank positions itself as an intermediary institution that connects the parties of excess funds with those who need funds (Abdullah & Wahjusaputri, 2018). Based on Law No. 10 of 1998 concerning banking, banks as business entities are tasked with collecting public funds through deposits and distributing them to the public through credit to provide community benefits (Peraturan Pemerintah RI, 1998).

The problems of the regional economy are very diverse. Socio-cultural factors are often a fairly significant problem facing the government. Regulations of a general nature do not guarantee the improvement of the standard of living of many people. Through initiatives with the establishment of BPD, it is hoped that it can be a solution for the regions to improve the living standards of regional communities. Regulations of a general nature do not guarantee the improvement of the standard of living of many people. Through initiatives with the establishment of BPD, it is hoped that it can be a solution for the regions in improving the living standards of regional communities (Peraturan Pemerintah RI, 1962). Regions are given autonomous rights to regulate the economic life patterns of the people. The region is considered to be able to adjust its own socio-cultural life without violating life norms.

Bank performance is often used as a reference for customers when choosing the placement of funds or borrowing funds. The bank's performance reflects the bank's health as stated in the operation and publication of financial statements (Wanuri et al., 2022). The level of bank health can be seen from a bank's performance. Financial statements become a medium for assessing the health of a bank. The bank's health can be reflected in operational activities and public trust in the banking industry (Putri et al., 2021). Financial statements play a significant role in the credibility and accountability of banks in the public's view. Financial statements are used as reference material to provide views for the government or internal banks in formulating policies and making public decisions to assess the bank's health (Safii et al., 2022).

In Bank Indonesia Regulation No.13/1/PBI/2011 concerning Assessment of Bank Health Levels. Banks must conduct self-assessment using risk approaches such as risk profile, good corporate governance, rentability, and capital (Bank Indonesia, 2011). The level of health of influential banks is measured using the RGEC method (Risk profile, Good Corporate Governance, Earnings, Capital) (Dabaghie & Rajha, 2019). Meanwhile, based on Bank Indonesia Circular Letter No.9/24/DPbS related to the Sharia Principles of Commercial Bank Health Assessment System, the CAMELS (Capital, Asset, Management, Earnings, Liquidity, Sensitivity to Market Risk) method is one of the alternatives in seeing the level of bank health. (Peraturan Pemerintah RI,

2007). Bank health information is needed for internal banks, governments, academics, and the public who use bank services. The CAMELS method is mainly used in each study to measure the ratios of financial statements that interpret the level of bank performance (Jothir et al., 2021).

This study used the CAMELS method to compare regional development banks with the most significant assets numbers 2 and 3, namely Bank Jatim and Bank Jateng. Based on asset ownership in the first quarter of March 2022, Bank Jatim obtained assets worth IDR 105.6 Trillion, and Bank Jateng worth IDR 77.9 Trillion (Asbanda, 2022). Both BPD banks reflect the area's state because development and economy are very high compared to other regions, especially outside Java. The novelty of this study will be seen in comparing two bpd banks with the camel's method, where this method is identical to the health assessment of Islamic banks. The study also presents the bank's pre-pandemic and post-pandemic health levels. This research will be interesting because the object of research is in the form of a regional development bank (BPD), which reflects the level of development and economy of the East Java and Central Java regions.

This study introduces several novel elements to assessing bank health, particularly within the context of regional development banks (BPDs) in Indonesia. Firstly, it innovatively applies the CAMELS method, traditionally used for assessing conventional bank health, to BPDs, thereby comprehensively evaluating these institutions' performance. Secondly, the study offers a unique comparative analysis of two prominent BPDs, Bank Jatim, and Bank Jateng, highlighting differences in asset management and risk mitigation strategies within East Java and Central Java regions. Furthermore, the research presents a temporal assessment, examining these banks' pre- and post-pandemic health levels, offering insights into their resilience and adaptability to external shocks. Significantly, this study's findings contribute to various stakeholders, including bank management, policymakers, academics, and the public, facilitating informed decision-making and enhancing trust in banking institutions. Lastly, by focusing on BPDs, which are instrumental in driving regional economic development, the study provides valuable implications for fostering

sustainable growth and addressing socio-economic challenges within East Java and Central Java regions. This multifaceted approach to bank health assessment represents a significant advancement in understanding and promoting financial stability and economic development at the regional level.

LITERATURE REVIEW

Bank Health

The bank's performance is viewed through the bank's health in the financial publication report. Economic problems are often linked to the performance of banks in serving the community. In economics, predicting the health of banks becomes very important for investors, creditors, managers, auditors, governments, and especially central banks. (Arab & Tabari, 2021). Financial statements are an essential instrument in assessing the health of banks. The government has appealed through regulations that banks are expected to maintain the Bank's health and public trust in the Bank (Singh, 2022). The bank's health level evaluates past, present, and future problems (Altay, 2021).

According to Bank Indonesia Regulation Number 13/1/PBI/2011, Bank Health must be maintained or improved to maintain public trust in banks. In addition, the Bank's Health Level is used to evaluate the conditions and problems the bank faces. (Anh & Sang, 2023). The policy direction will be determined through performance evaluation and determining preventive policies to overcome bank weaknesses.

CAMELS Method

The idea of assessing the level of bank health began in the United States through the Federal Financial Institutions Examinations Council (FFIEC) in 1997, which formulated the CAMELS method for assessing the health of banks (Boateng, 2019). This method measures a bank's health through capital adequacy, asset quality, management efficiency, revenue capability, liquidity, and sensitivity to market risk. Here is a further explanation:

Capital

The bank assesses capital adequacy using the Capital Adequacy Ratio (CAR). This ratio determines the bank's ability to bear risks from assets (credit, securities, bills) using its capital or sources outside the Bank (Pujaraniam et al., 2021). The higher the value of CAR represents the bank's health in the adequacy of funds, the better. The following are the CAR assessment ranking criteria:

Table 1. CAR Criteria

Ratio	Criteria	Level
$CAR \geq 12\%$	Very Healthy	1
$9\% \leq CAR < 12\%$	Healthy	2
$8\% \leq CAR < 9\%$	Healthy Enough	3
$6\% \leq CAR < 8\%$	Unhealthy	4
$CAR \leq 6\%$	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

Assets

Banks assessing asset quality use the NPL (Non-Performing Loan) ratio approach. This ratio measures the bank's ability to regulate non-performing loans (Kasmir, 2017). The lower the NPL value, the better the bank will cope with non-performing loans (Johan, 2021). The following is the NPL assessment rating:

Table 2. NPL Assessment Criteria

Ratio	Criteria	Level
$NPL < 2\%$	Very Healthy	1
$2\% \leq NPL < 5\%$	Healthy	2
$5\% \leq NPL < 8\%$	Healthy Enough	3
$8\% \leq NPL < 12\%$	Unhealthy	4
$NPL \geq 12\%$	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

Management

Banks evaluate management quality using the NPM (Net Profit Margin) ratio. NPM is a financial ratio that calculates the bank's ability to generate net profit (Sutisnawati & Pamungkas, 2022). The higher the NPM value, the better the bank manages operational activities costs (Kasmir, 2017). The following is the NPM assessment rating:

Table 3. NPM Criteria

Ratio	Criteria	Level
$\text{NPM} \geq 100\%$	Very Healthy	1
$81\% \leq \text{NPM} < 100\%$	Healthy	2
$66\% \leq \text{NPM} < 81\%$	Healthy Enough	3
$51\% \leq \text{NPM} < 66\%$	Unhealthy	4
$\text{NPM} \leq 51\%$	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

Earnings

Banks use the rentability ratio to measure the acquisition of interest. This ratio describes the effectiveness of the management of a bank derived from sales and investment profits (Kasmir, 2017). To measure profits using the ratio of ROA, ROE, and BOPO.

ROA

This *Return On Assets* (ROA) ratio measures the return on total bank assets. The higher the ROA value, the higher the bank's profit (Hikmah, 2022). The following is the ROA assessment:

Table 4. ROA Criteria

Ratio	Criteria	Level
$\text{ROA} \geq 1,5\%$	Very Healthy	1
$1,25\% \leq \text{ROA} < 1,5\%$	Healthy	2
$0,5\% \leq \text{ROA} < 1,25\%$	Healthy Enough	3
$0\% \leq \text{ROA} < 0,5\%$	Unhealthy	4
$\text{ROA} \leq 0\%$	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

ROE

This *return on equity* (ROE) ratio measures banks' ability to obtain a return on investment. The higher the ROE value, the better for the company or shareholders. This ratio reflects shareholders' return on investment capital (Kaligis & Kasingku, 2022). The following is the ROE assessment:

Table 5. ROE Criteria

Ratio	Criteria	Level
$\text{ROE} \geq 15\%$	Very Healthy	1
$12,5\% \leq \text{ROE} < 15\%$	Healthy	2
$5\% \leq \text{ROE} < 12,5\%$	Healthy Enough	3
$0\% \leq \text{ROE} < 5\%$	Unhealthy	4
$\text{ROE} \leq 0\%$	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

BOPO

This Operating Expenses to Operating Income (BOPO) Ratio measures banks' efficiency of operating costs to operating income. The lower the BOPO ratio, the better the bank's efficiency (Gaoual & Geyville, 2021). The following is the BOPO assessment rating:

Table 6. BOPO Criteria

Ratio	Criteria	Level
BOPO < 93 %	Very Healthy	1
93 % ≤ BOPO < 95 %	Healthy	2
95 % ≤ BOPO < 96 %	Healthy Enough	3
96 % ≤ BOPO < 97 %	Unhealthy	4
BOPO ≥ 97 %	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No. 9/24/DPBs Year 2007

Liquidity

Banks measure liquidity ratios using LDR (*Loan Deposit Ratio*) values. This ratio is used to measure the ratio of the amount of credit disbursed to the number of third-party funds (Kasmir, 2017). The lower this ratio reflects, the higher the bank's liquidity rate (Siregar, 2021). The following are the LDR assessment criteria:

Table 7. LDR Criteria

Ratio	Criteria	Level
LDR < 75 %	Very Healthy	1
75 % ≤ LDR < 85 %	Healthy	2
85 % ≤ LDR < 100 %	Healthy Enough	3
100 % ≤ LDR < 120 %	Unhealthy	4
LDR ≥ 120 %	Very Unhealthy	5

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

Sensitivity to market risk

Banks use the IER (*Interest Expense Ratio*) ratio to measure responsiveness to market risk. This ratio is used to measure the accumulated costs, which can describe the bank's efficiency in collecting sources of funds (Firdausia & Syamsiah, 2022). The lower the IER value, the better the bank's cost efficiency against the source of funds. The following are the IER assessment criteria:

Table 8. IER Criteria

Ratio	Criteria	Level
IER < 5 %	Healthy	1
IER ≥ 5 %	Unhealthy	2

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

Each category's calculation results were then analyzed using CAMELS's weight in one assessment of the bank health category (Bank Indonesia, 2004). The following is the percentage of the assessment weight of each category according to Bank Indonesia:

Table 9. Percentage of CAMELS Valuation Weights

No	Category	Weight (%)
1	<i>Capital</i>	25%
2	<i>Assets</i>	25%
3	<i>Management</i>	25%
4	<i>Earnings</i>	10%
5	<i>Liquidity</i>	10%
6	<i>Sensitivity</i>	5%

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

The assessment weight was determined for each category and then classified according to the bank's health level. The higher the valuation weight, the healthier the Bank (Prajogo & Murwaningsari, 2022). The following is a grouping of bank health based on the weight of the value:

Table 10. Bank Health Levels By Weight

Level	Category	Weight (%)
1	Healthy	$81 \leq N \leq 100$
2	Healthy enough	$66 \leq N < 81$
3	Unhealthy	$51 \leq N < 66$
4	Very unhealthy	$0 \leq N < 51$

Source: Bank Indonesia Circular Letter No.6/23/DPNP of 2004

RESEARCH METHODOLOGY

This research uses a descriptive quantitative method and uses secondary data available in the annual financial statements of Bank Jatim and Bank Jateng. The population and sample of this study used the financial statements of Bank Jatim and Bank Jateng for the 2017-2021 period. Collecting data and literature uses the publication of bank financial statements through the official website and literature studies of books, research journals, and other supporting literature. The variables of this study are independent in the CAMELS method, namely *capital*, *assets*, *management*, *earnings*, *liquidity*, and *sensitivity*.

Data analysis technique by comparing the CAMELS method at Bank Jatim and Bank Jateng. Data analysis technique using a comparison of CAMELS methods at

Bank Jatim and Bank Jateng. The analysis begins by comparing each category using the CAMELS method and then classifying it into an assessment ranking. The data is classified into rankings and then analyzed according to weights. According to weights, the assessment describes the bank's health level and the results of the bank's achievements in each period.

Table 11. Operational Definitions of Variables

Category	Ratio	Formula
Capital	Capital Adequacy Ratio (CAR)	$CAR = \frac{\text{Modal Bank}}{\text{ATMR}} \times 100 \%$
Assets	Non-Performing Loan (NPL)	$NPL = \frac{\text{Non Performing Loan}}{\text{Total Credit}} \times 100 \%$
Management	Net Profit Margin (NPM)	$NPM = \frac{\text{Net Profit}}{\text{Operating Profit}} \times 100 \%$
	Return On Assets (ROA)	$ROA = \frac{\text{Profit Before Tax}}{\text{Total Aset}} \times 100 \%$
Earnings	Return On Equity (ROE)	$ROE = \frac{\text{Profit After Tax}}{\text{Modal Bank}} \times 100 \%$
	Operating Expenses to Operating Income (BOPO)	$BOPO = \frac{\text{Operating Expenses}}{\text{Operating Income}} \times 100 \%$
Liquidity	Loan-to-Deposit Ratio (LDR)	$LDR = \frac{\text{Total Credit}}{\text{Third Party Funds}} \times 100 \%$
Sensitivity	Interest Expense Ratio (IER)	$IER = \frac{\text{Interest Expense}}{\text{Total Deposit}} \times 100 \%$

RESULT AND DISCUSSION

The level of bank health is assessed using the CAMELS method by measuring six categories: *capital*, *assets*, *management*, *earnings*, *liquidity*, and *sensitivity*. This method is effective in assessing bank health. Here are the results of calculating the CAMELS ratio at Bank Jatim and Bank Jateng in 2017-2021:

Capital

In measuring capital using the *Capital Adequacy Ratio* (CAR). The following are the results of the calculation of the CAR of the two banks:

Table 12. CAR Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	24,65%	1	20,41%	1
2018	24,21%	1	18,31%	1
2019	21,77%	1	17,70%	1
2020	21,64%	1	19,70%	1
2021	23,52%	1	21,01%	1
Average	23,15%	1	19,42%	1

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The calculation results of the CAR ratio calculation at Bank Jatim and Bank Jateng are ranked 1st or included in the very healthy category. The average CAR value in Bank Jatim is 23.15%, while in Bank Jateng, it is 19.42%. The bank has not experienced significant fluctuations over the past five years. Meanwhile, Bank Jatim did not experience significant fluctuations, with the lowest value reaching 17.70% in 2019 and the highest at 21.01% in 2021. Bank Jatim has been superior to Bank Jateng for the last five years in terms of the CAR ratio. The higher the CAR value indicates, the better the bank is at bearing the risk of assets using its capital, and other bank sources are classified as very healthy.

Assets

In measuring asset quality, banks use the *Non-Performing Loan* (NPL) ratio to measure how much non-performing loans are to the overall credit provided. The following are the results of the NPL calculations of the two banks:

Table 13. NPL Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	4,59%	2	1,64%	1
2018	3,75%	2	1,84%	1
2019	2,77%	2	2,88%	2
2020	4%	2	3,52%	2
2021	4,48%	2	3,17%	2
Average	3,91%	2	2,61%	2

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the NPL ratio at Bank Jatim and Bank Jateng are ranked 2nd or in the healthy category. The average NPL value in Bank Jatim is 3.91%, while in Bank Jateng, it is worth 2.61%. The bank has experienced significant fluctuations in the past five years, with the lowest value of 2.77% in 2019 and the highest value reaching 4.59% in 2017. Meanwhile, Bank Jateng also experienced

significant fluctuations, with the lowest value reaching 1.64% in 2017 and the highest at 3.52% in 2020. Bank Jateng has been superior to Bank Jatim for the last five years in terms of the NPL ratio. As the regulator, the central bank evaluates banks' health in the most crucial analysis, namely the problem of non-performing loans (Ponziani, 2022). The lower the NPL value, the better the bank will manage non-performing loans and fall into the healthy category.

Management

The *Net Profit Margin* (NPM) ratio is used to measure the quality of bank management. This ratio measures the bank's capacity to generate a net profit. The following are the results of the calculation of the NPM of the two banks:

Table 14. NPM Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	22,04%	5	35,62%	5
2018	22,45%	5	33,84%	5
2019	21,80%	5	28,60%	5
2020	22,88%	5	28,37%	5
2021	20,41%	5	28,71%	5
Average	21,91%	5	31,02%	5

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the NPM ratio at Bank Jatim and Bank Jateng are ranked 5th or in the unhealthy category. The average NPM value in Bank Jatim is 21.91%, while in Bank Jateng, it is 31.02%. The bank has not experienced significant fluctuations over the past five years, with the lowest value of 20.41% in 2021 and the highest value reaching 22.88% in 2020. Meanwhile, bank Jateng also did not experience significant fluctuations, with the lowest value reaching 28.37% in 2020 and the highest at 35.62% in 2017. Bank Jateng has been superior to Bank Jatim for the last five years in terms of the NPM ratio. The lower the NPM value indicates, the worse the bank is at generating net profits. Both banks are unhealthy and must be re-evaluated to generate a maximum net profit.

Earning

ROA

Banks measure the rate of return on total assets using the *Return On Assets* (ROA) ratio. This ratio describes the return on overall assets. The following are the results of the ROA calculation of the two banks:

Table 15. ROA Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	3,12%	1	2,69%	1
2018	2,96%	1	1,87%	1
2019	2,73%	1	1,47%	2
2020	1,95%	1	2,03%	1
2021	2,05%	1	2,20%	1
Average	2,56%	1	2,05%	1

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the ROA ratio at Bank Jatim and Bank Jateng are ranked 1st or in the very healthy category. The average ROA value in Bank Jatim is 2.56%, while in Bank Jateng, it is 2.05%. The bank has experienced fluctuations over the past five years. The lowest value was 1.95% in 2020, and the highest was 3.12% in 2017. Meanwhile, Bank Jateng also experienced fluctuations that were not significant so far, with the lowest value reaching 1.47% in 2019 and the highest at 2.69% in 2017. Bank Jatim has been superior to Bank Jateng for the last five years in terms of its ROA ratio. The higher the ROA value indicates, the better the bank generates money on total assets. Both banks are healthy and must be improved to generate maximum net profits.

ROE

Banks use the Return On Equity (ROE) ratio to measure the return on investment rate. This ratio describes the rate of return on investment capital. The following are the results of calculating the ROE of the two banks:

Table 16. ROE Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	17,43%	1	22,08%	1
2018	17,75%	1	18,30%	1
2019	18,07%	1	13,41%	2
2020	18,77%	1	16,44%	1
2021	17,26%	1	17,53%	1
Average	17,85%	1	17,55%	1

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the ROE ratio at Jatim and Jateng banks reached rank one or in the very healthy category. The average ROA of East Java banks is 17.85%, while Bank Jateng is worth 17.55%. Bank Jatim has been superior to Bank Jateng in the last five years, although not significantly far away. The Bank Jatim has been stable for five years, with a low of 17.26% in 2021 and a high of 18.77% in 2020. Meanwhile, Bank Jateng experienced significant fluctuations, with the lowest value reaching 13.41% in 2019 and the highest at 22.08% in 2017. The higher the ROE value, the better the bank returns investment capital. Both banks are healthy and must improve in order to return high investment capital.

BOPO

Banks measure the efficiency of operating costs to operating income using the BOPO ratio. The following are the results of calculating the BOPO value of the two banks:

Table 17. BOPO Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	68,63%	1	74,60%	1
2018	69,45%	1	73,87%	1
2019	71,40%	1	80,65%	1
2020	77,76%	1	79,44%	1
2021	75,95%	1	76,89%	1
Average	72,63%	1	77,09%	1

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The calculation results of the BOPO ratio of East and Bank Jateng are ranked 1st or in the very healthy category. The average BOPO of Bank Jatim is 72.63%, while Bank Jateng is worth 77.09%. Bank Jatim has been superior to the bank Jateng for five years, although not significantly. For five years, the bank experienced the lowest value fluctuation of 68.63% in 2017 and the highest at 77.76% in 2020. Meanwhile, Bank

Jateng experienced fluctuations, with the lowest value of 73.87% in 2018 and the highest of 80.65% in 2019. The lower the BOPO value, the better the bank is at streamlining operating costs to operating income. Both banks are in the very healthy category and need to be improved again to maximize the efficiency of operating costs to the bank's operating income.

Liquidity

Banks measure liquidity capabilities using the loan-to-deposit ratio (LDR). This ratio shows the bank's ability to guarantee credit provided through third-party funds. The following are the results of the LDR calculation of the two banks:

Table 18. LDR Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	76,69%	2	95,10%	3
2018	66,57%	1	93,49%	3
2019	63,34%	1	90,12%	3
2020	60,58%	1	86,66%	3
2021	51,38%	1	80,38%	2
Average	63.71%	1	89,15%	3

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the LDR ratio show the first rank, Bank Jatim, in the very healthy category and the third rank, Bank Jateng, in the relatively healthy category. The average LDR value in Bank Jatim is 63.71%, while in Bank Jateng, it is 89.15%. Bank Jatim has been superior to the bank jateng for five years. For five years, the bank experienced the lowest value fluctuation of 51.38% in 2021 and the highest, reaching 76.69% in 2017. Meanwhile, Bank Jateng experienced fluctuations, with the lowest value reaching 80.38% in 2021 and the highest at 95.10% in 2017. The lower the LDR value indicates, the better the bank can meet liquidity on credit disbursed through third-party funds. Bank Jatim is very healthy, while Bank Jateng is relatively healthy. This LDR ratio can positively affect the bank's profit rate (Soesetio et al., 2022). Bank Jateng must evaluate and improve liquidity capabilities to ensure banks' liquidity.

Sensitivity

Banks use the Interest Expense Ratio (IER) to measure market risk responsibility. This ratio assesses the costs of the bank's efficiency in raising funds. The following are the results of the calculation of the IER of the two banks:

Table 19. IER Results of Bank Jatim and Bank Jateng 2017-2021

Year	Bank Jatim	Level	Bank Jateng	Level
2017	3,5%	1	5%	2
2018	2,9%	1	5,5%	2
2019	3%	1	6,2%	2
2020	2,9%	1	4,3%	1
2021	2,3%	1	2,7%	1
Average	2,9%	1	4.7%	1

Source: Financial Report of Bank Jatim and Bank Jateng 2017-2021

The results of calculating the ratio of IER of Bank Jatim and Bank Jateng are ranked 1st or in the very healthy category. The average IER value of Bank Jatim is 2.9%, while Bank Jateng is worth 4.7%. Bank Jatim has been superior to the bank Jateng for five years, although not significantly. For five years, the bank has not experienced significant fluctuations in the lowest value of 2.3% in 2021 and the highest, reaching 3% in 2019. Meanwhile, Bank Jateng experienced high fluctuations, reaching the lowest value of 2.7% in 2021 and the highest of 6.2% in 2019. The lower the IER value indicates, the better the bank's responsibility in dealing with market risk. Bank Jatim shows a positive trend with values below 5%. Indicates that the bank is in good health. Meanwhile, bank jateng in 2017-2019 was above 5%, indicating that it is unhealthy, but in 2020-2021 it slowly fell below 5%.

Value Recapitulation of the CAMELS Method

The analysis results of each factor are then translated into value categories. This value represents the health level of each factor. The following are the results of the recapitulation of the value of the CAMELS method at Bank Jatim and Bank Jateng:

Table 20. Assessment Recapitulation of the CAMELS Method

Bank Jatim	2017	2018	2019	2020	2021
CAR	1	1	1	1	1
NPL	2	2	2	2	2
NPM	5	5	5	5	5
ROA	1	1	1	1	1
ROE	1	1	1	1	1

BOPO	1	1	1	1	1
LDR	2	1	1	1	1
IER	1*	1*	1*	1*	1*

Bank Jateng	2017	2018	2019	2020	2021
CAR	1	1	1	1	1
NPL	1	1	2	2	2
NPM	5	5	5	5	5
ROA	1	1	2	1	1
ROE	1	1	2	1	1
BOPO	1	1	1	1	1
LDR	3	3	3	3	2
IER	2*	2*	2*	1*	1*

Source: Data processed (2023)

Description: 1 = Very healthy, 2 = Healthy, 3 = Healthy enough, 4 = Unhealthy, 5 = Very unhealthy, 1* = Healthy, 2* = Unhealthy

In Table 20, the two banks did not experience significant differences. CAR scores in the category at both banks over five years are very healthy. This indication shows that both banks are managing capital disbursed in the form of credit well (Keffala, 2021). Capital structure management must be considered because it positively relates to bank profits (Muhammad & Azmiana, 2021). The NPL ratio of the two banks is healthy, although the two banks can still maintain and overcome non-performing loans properly. Asset quality must be considered by keeping the NPL value below 3% (Banu & Vepa, 2021). The NPM ratio of the two banks is in an unhealthy condition. Both banks are still below the minimum limit in terms of generating net profits. Management will increase the bank's net profit by minimizing operational costs and using the right target market (Dwitama, 2021). Increasing the role of internal management, increasing cash capital with new investors, and addressing non-performing loans will maximize the ratio of NPM, CAR, and NPL (Mariko et al., 2022).

ROA, ROE, and BOPO measure the bank's rentability ratio. Results show that both banks are in very healthy condition. The bank's ability to comply with procedures and policies in maximizing total assets and capital generates high returns and low operating costs (Bashatweh & Ahmed, 2020). Banking financial performance through the rentability ratio impacts endogenous economic growth (Ledhem & Mekidiche,

2020). The LDR ratio in Bank Jatim is healthier than that of Bank Jateng. The low LDR value indicates that high asset liquidity reduces the risk of bank losses (Noor & Al-Dulaimi, 2022). The LDR ratio can also be used to measure the rate of return on capital on shares (Tahmat, 2020). The ratio of IER in the two banks has different characteristics. The Bank Jatim has been in good health, while the Bank Jateng has been in an unhealthy condition for three years. However, the last two years have seen a significant reduction in IER. Sensitivity to market risk needs to be considered even though the valuation weight, according to Bank Indonesia rules, is under 5%, so most researchers consider it to have no significant effect on the bank's health. However, the case in Egyptian banking weighs sensitivity above the capital and under asset management and profits (Varga & Bánkúti, 2021).

After weighing the value, it is then analyzed according to the bank's health predicate. The following are the results of the bank's health predicate each year and on average for five years:

Table 21 Bank Health Predicates

Weight and Predicate				
Year	Bank Jatim		Bank Jateng	
2017	73	Healthy enough	74	Healthy enough
2018	75	Healthy enough	74	Healthy enough
2019	75	Healthy enough	65	Unhealthy
2020	75	Healthy enough	71	Healthy enough
2021	75	Healthy enough	73	Healthy enough
Average	74,6	Healthy enough	71,4	Healthy enough

Source: Data processed (2023)

The results showed that Bank Jatim was reasonably healthy for five consecutive years, averaging 74.6. Meanwhile, bank jateng in 2019 is in decline in the quality of bank health, reaching a value of 65 with an unhealthy predicate. However, the five-year average of Bank Jateng is relatively healthy, with an accumulated value of 71.4. East Java province is considered to have high development and economy compared to Central Java. The bank's level of health reflects the bank's operational conditions and bank management over a certain period. Bank Jatim is considered healthier than Bank Jateng, and internal management and policies are correctly implemented. The difference in the number of assets affects the bank's health level. A bank with a high

number of assets represents good management in maintaining the bank's health. The CAMELS method assists banks in assessing capital quality, asset quality, management quality, profit margin acquisition, liquidity fulfillment, and responsibility for market risk (Jawarneh, 2022).

CONCLUSION

BPD is vital in regulating regional life patterns following social and cultural issues. Regional development and economy can be viewed from the Regional Development Bank's (BPD) quality. The level of health of the bank is an essential factor in assessing the quality of the bank's operations and management. The CAMELS method is an alternative to government and internal banking in analyzing bank health.

The scientific contribution of this study is multifaceted and impactful. Firstly, by employing the CAMELS method to assess the health of regional development banks (BPDs), the research introduces a structured framework for evaluating operational and management quality within regional economic regulation. This application expands the method's traditional domain beyond commercial banks, offering insights into the unique challenges and opportunities BPDs face in shaping regional life patterns. Secondly, the comparison between Bank Jatim and Bank Jateng provides valuable insights into the economic disparities between East Java and Central Java provinces and highlights specific areas of strength and weakness for each bank. Identifying performance indicators is a practical guide for bank management and policymakers, facilitating informed decision-making processes. The study's recommendations for future research, such as exploring private banks with smaller assets or regional development banks outside Java, offer avenues for further inquiry and expansion of the analytical framework. Lastly, the acknowledgment of study limitations underscores the research's transparency and sets a clear direction for future investigations to overcome constraints and broaden the scope of analysis. Collectively, these contributions advance scholarly understanding of banking and

regional economic development, offering practical insights and avenues for further exploration in the field.

REFERENCES

- Abdullah, T., & Wahjusaputri, S. (2018). *Bank & Lembaga Keuangan*.
- Altay, O. (2021). Sovereign-Bank Nexus of Turkey: An Analysis of Sovereign Risk and Banking Industry Performance Indicators Based on Camels Rating System. *Doğuş Üniversitesi Dergisi*, 22(2), 217–235.
- Anh, N. Q., & Sang, T. M. (2023). Stress Test the financial health of the Vietnam commercial bank during the Covid-19 pandemic. *Ho Chi Minh City Open University Journal of Science-Economics and Business Administration*, 13(1), 121–134. <https://doi.org/10.46223/HCMCOUJS.econ.en.13.1.2078.2023>
- Arab, H., & Tabari, M. (2021). Predicting Banks' Financial Distress by Data Envelopment Analysis Model and CAMELS Indicators. *Journal of System Management*, 7(3), 213–240.
- Asbanda. (2022). *BPD dengan Aset Terbesar di Indonesia*. Asosiasi Bank Pembangunan Daerah. <https://asbanda.co.id/view/bpd-dengan-aset-terbesar-di-indonesia/>
- Bank Indonesia. (2004). *Surat Edaran Bank Indonesia No.6/23/DPNP Tentang Sistem Penilaian Tingkat Kesehatan Bank Umu*. Bank Indonesia.
- Bank Indonesia. (2011). *Peraturan Bank Indonesia No.13/1/PBI/2011 Tentang Penilaian Tingkat Kesehatan Bank*. In *Bank Indonesia*. Bank Indonesia.
- Banu, M., & Vepa, S. (2021). A Financial Performance of Indian Banks Using CAMELS Rating System. *Journal of Contemporary Issues in Business and Government*, 27(1), 2021. <https://cibg.org.au/>
- Bashatweh, A. D., & Ahmed, E. Y. (2020). Financial performance evaluation of the commercial banks in jordan: Based on the CAMELS framework. *International Journal of Advanced Science and Technology*, 29(5), 985–994.
- Boateng, K. (2019). Credit Risk Management and Performance of Banks in Ghana: the “Camels” Rating Model Approach. *International Journal of Business and Management Invention*, 8(2), 41–48. www.ijbmi.org
- Dabaghie, M. N., & Rajha, K. S. (2019). Evaluating the Performance of Saudi Commercial Banks Using CAMELS Methodology. *Research Journal of Finance and Accounting*, 10(12), 94–102. <https://doi.org/10.7176/RJFA>
- Dwitama, F. (2021). Comparison Analysis of Camels and RGEC in Assessing The

- Level of Health of Bank. *International Journal of Science, Technology & Management*, 2(5), 1825–1829. <https://doi.org/10.46729/ijstm.v2i5.355>
- Firdausia, Y. K., & Syamsiah, S. (2022). Comparative Analysis of Financial Performance of Conventional Banking With Banking Sharia Using the Camels Method Before and During the Economic Recession Due To the Covid Pandemic – 19 Year 2020. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 6(2), 1075–1084. <https://doi.org/10.29040/ijebar.v6i2.4446>
- Gaoual, Z. I., & Geyville, Z. (2021). The CAMELS Banking Rating System As An Effective Model for Evaluating the Performance of Algerian Public Banks. *Revue de l'innovation et Marketing*, 8(1), 212–232.
- Hikmah, I. B. N. (2022). *ANALISIS TINGKAT KESEHATAN BANK DENGAN METODE CAMELS (Studi Empiris Bank Central Asia, Bank Mega, dan Bank Permata Periode Tahun 2016-2020)* [Universitas Pandanaran]. <http://jurnal.unpand.ac.id/index.php/MS/article/view/1949%0Ahttp://jurnal.unpand.ac.id/index.php/MS/article/viewFile/1949/1881>
- Jawarneh, S. (2022). Determinants of Financial Performance of Commercial Banks in Jordan: Application of CAMELS Model. *Review of Business & Management'*, 18(1), 75–82. https://doi.org/10.31570/prosp_2021_0004
- Johan, S. (2021). Determinants of Banking Industry Profitability: an Empirical Research of Indonesia Financial Institutions. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, 5(2), 244–262. <https://doi.org/10.24034/j25485024.y2021.v5.i2.4666>
- Jothr, O. A., Hameed, A. A., & Mohaisen, H. A. (2021). CAMELS Model and its Impact on the Evaluation of Banking Performance. *Administration and Economics Journal*, 129(2), 533–543. <https://doi.org/10.31272/JAE.44.2021.129.A2>
- Kaligis, N. I., & Kasingku, F. J. (2022). The Impact of Bank Health on Earnings Management in State-Owned Banks in Indonesia. *Jurnal Ekonomi*, 11(3), 1204–1210. <http://ejournal.seaninstitute.or.id/index.php/Ekonomi/article/view/854%0Ahttps://ejournal.seaninstitute.or.id/index.php/Ekonomi/article/download/854/710>
- Kasmir. (2017). *Analisis Laporan Keuangan* (1st, cetakan ed.). PT RAJAGRAFINDO PERSADA.
- Keffala, M. R. (2021). How using derivative instruments and purposes affects performance of Islamic banks? Evidence from CAMELS approach. *Global Finance Journal*, 50(11), 1–13. <https://doi.org/10.1016/j.gfj.2020.100520>

- Ledhem, M. A., & Mekidiche, M. (2020). Economic growth and financial performance of Islamic banks: a CAMELS approach. *Islamic Economic Studies*, 28(1), 47–62. <https://doi.org/10.1108/ies-05-2020-0016>
- Mariko, S., Prawira, A., & Nasfi. (2022). Sharia Bank Health Management Strategy (Study On PT. BPRS Carana Kiat Andalas). *International Journal of Indonesian Business Review*, 1(1), 61–69. <https://doi.org/10.54099/ijibr.v1i1.260>
- Muhammad, R., & Azmiana, R. (2021). Determinan Struktur Modal Perbankan Syariah Asia Dan Eropa. *Media Riset Akuntansi, Auditing & Informasi*, 21(1), 51–74. <https://doi.org/10.25105/mraai.v21i1.9089>
- Noor, E. H., & Al-Dulaimi, H. D. D. (2022). Evaluating the Financial Performance of Commercial Banks in Iraq under the Corona Pandemic using the CAMELS Criterion. *AgBioForum*, 24(2), 31–38.
- Peraturan Pemerintah RI. (1962). *Undang-Undang Republik Indonesia Nomor 13 Tahun 1962 Tentang Ketentuan-Ketentuan Pokok Bank Pembangunan Daerah*.
- Peraturan Pemerintah RI. (1998). *Undang-Undang Republik Indonesia Nomor 10 Tahun 1998 Tentang Perubahan Atas Undang-Undang Nomor 7 Tahun 1992 Tentang Perbankan*.
- Peraturan Pemerintah RI. (2007). *Surat Edaran Bank Indonesia No.9/24/DPbS perihal Sistem Penilaian Tingkat Kesehatan Bank Umum Prinsip Syariah*.
- Ponziani, R. M. (2022). The Dynamics of Macroeconomic and Microeconomic Determinants with The Capital of Rural Banks. *Journal of Economics and Policy*, 15(1), 139–150. <https://doi.org/10.15294/jejak.v15i1.31902>
- Prajogo, B., & Murwaningsari, E. (2022). Level of Bank Health, Growth Rate and Banking Value in Indonesia. *Jurnal Riset Akuntansi Terpadu*, 15(1), 110–127. <https://doi.org/10.35448/jrat.v15i1.14576>
- Pujaraniam, S., Hermuningsih, S., & Cahya, A. D. (2021). Analisa Perbandingan Kesehatan Bank Menggunakan Metode Camels. *JESYA (Jurnal Ekonomi & Ekonomi Syariah)*, 4(2), 764–774. <https://doi.org/10.36778/jesya.v4i2.391>
- Putri, S. D., Panggiarti, E. K., & Iswanaji, C. (2021). Bank Health Analysis with RGECE Method Case Study of Bank Tabungan Negara (BTN). *AFEBI Economic and Finance Review*, 6(2), 115–128. <https://doi.org/10.47312/aefer.v6i2.422>
- Safii, M., Latif, A. S., & Ariwibowo, M. E. (2022). Penerapan Metode CAMELS dalam Analisis Laporan keuangan untuk Menilai Tingkat Kesehatan Bank Umum Syariah Devisa yang Tercatat di Otoritas Jasa Keuangan (OJK) Tahun 2016-2020. *Jurnal Akrah Juara*, 7(2), 101–119.

- Singh, A. (2022). Performance Evaluation of Indian Banking Sector After The Global Crisis via CAMELS Ratio. *EPRA International Journal of Economics, Business and Management Studies*, 9(7), 10–17. <https://doi.org/10.36713/epra1013>
- Siregar, S. (2021). Analisis Tingkat Kesehatan Bank dengan metode CAMELS pada Bank Syariah Mandiri. *Journal of Applied Management and Business Research*, 1(3), 272–278. <http://al-idarahpub.com/index.php/jambir/article/view/35%0Ahttps://al-idarahpub.com/index.php/jambir/article/download/35/45>
- Soesetio, Y., Waffiudin, Rudiningtyas, D. A., & Siswanto, E. (2022). The Impact of Bank-Specific and Macro Economic Factors on Profitability in Small Banks. *Jurnal Dinamika Akuntansi*, 14(1), 1–16.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Sutisnawati, Y., & Pamungkas, N. P. (2022). State-Owned Bank Health Level using the CAMELS Method for the Period of 2015-2020. *Jurnal Ilmu Keuangan Dan Perbankan (JIKA)*, 12(1), 92–103.
- Tahmat, T. (2020). Pengaruh Tingkat Kesehatan Bank Terhadap Return Saham Bank Bumh Periode 2009-2018. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, 4(3), 373–395. <https://doi.org/10.24034/j25485024.y2020.v4.i3.4261>
- Varga, J., & Bánkuti, G. (2021). Ranking methodology for Islamic banking sectors - Modification of the conventional CAMELS method. *Banks and Bank Systems*, 16(1), 36–51. [https://doi.org/10.21511/BBS.16\(1\).2021.04](https://doi.org/10.21511/BBS.16(1).2021.04)
- Wanuri, Fauziyanti, W., & Sari, C. T. (2022). Analysis Of The Health Of The State Saving Bank Tbk With The RGEC Method Approach (Risk Profile, Good Corporate Governance, Earning, Capital). *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 6(3), 1485–1494. www.btn.co.id/