An Analysis of Regional Development Banks' Health Assessment Before and During the COVID-19 Pandemic Using the RGEC Method

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Abstract
Purpose: The objective of this study is to analyze composite ratings and identify variations in bank health levels, as measured by the RGEC method, pre-pandemic and pandemic periods at regional development banks over the 2018-2022 period.
Methodology/approach: This study employs a comparative approach, utilizing the RGEC method to evaluate the composite rating of bank health. The statistical tests applied include the Wilcoxon Difference Test and the Paired Sample T-Test, processed using SPSS software version 23. The analysis is based on annual financial statements from 2018 to 2022 for 27 regional development banks in Indonesia.
Results/findings: The results indicate that the health of regional development banks, both before and during the pandemic, falls within the healthy composite rating category (PK-2). Significant differences were found in LDR, NIM, and CAR, while GCG did not exhibit substantial differences following the t-test analysis.
Limitations: This study only examined two years both pre-pandemic and pandemic periods. This was done to ensure consistent comparisons between the years.
Contribution: The findings of this study directly implicate bank management to pay more attention to its performance, especially in terms of bank health as one of the signals for investors who invest in the bank. this research also provides a signal to the government as the majority owner of the regional development bank as well as to bank customers who deposit their funds in the bank.
Novelty: The study examines 27 regional development banks across Indonesia, focusing on the impact of the COVID-19 pandemic, with RGEC analysis and using a different test statistical data test.

Keywords: *Bank Health, Covid-19, RGEC, Regional Development Bank*

1. Introduction

One of the key economic sectors that influences Indonesia's economic growth is the banking sector. Banks serve as intermediaries, facilitating the flow of funds by connecting individuals or entities with surplus capital to those requiring financing. This role helps ensure that available resources are efficiently allocated within the economy, supporting both savings and lending activities. To enhance the overall living standards of the population, banks gather and allocate these funds through loans to those requiring financial support. Therefore, the effectiveness of banks in their role as financial intermediaries is crucial for fostering economic growth in Indonesia (Otoritas Jasa Keuangan, 2019).

Regional Development Bank is a bank whose ownership element is majority owned by the provincial government to the city district government. its establishment was based on Law No. 13 of 1962 and further refined by Law No. 10 of 1998 concerning banking. Currently, each province has a BPD bank that serves as a partner of the local government in managing the flow of funds in their region. As a commercial bank, PT Bank Pembangunan Daerah is majority-owned by local and/or provincial governments. The name BPD reflects its significant role in supporting the work programs of the LGs, particularly in the aspect of financial services and banking in general. BPD Bank acts as a financial institution that distributes the fund assets it manages to the community, with the aim of continuously

increasing its contribution in supporting economic development in the region (Abdullah & Wahjusaputri, 2018).

Regional Development Banks have a major role in regional economic growth. The intermediary role of BPD significantly encourages regional economic growth. The collection of third party funds channeled by BPD through BPD credit used for both consumptive and productive in all districts and cities has a significant effect on the growth of real GRDP per capita (Berly et al., 2022). The composition of BPD share ownership by local governments as a whole averaged 94.69% in 27 banks spread throughout Indonesia in the 2022 financial year, this makes it so important to see in the aspect of operational health that must run well because the capital owned is mostly obtained from local governments and government funds must be accountable to the general public.

The government officially declared covid-19 as a national pandemic disaster by President Joko Widodo on April 13, 2020 in Presidential Decree No. 12 of 2020. After more than three years of the pandemic in Indonesia, president Joko Widodo in presidential decree number 17 of 2023 decided to end the status of the covid-19 pandemic from its pandemic status to an endemic disease based on the decline in cases that occurred. The COVID-19 pandemic has posed substantial challenges for the Indonesian economy, with the banking sector being particularly affected. According to reports from the Financial Services Authority (OJK), Indonesia's economic growth saw a notable downturn beginning in the second quarter of 2020. This period marked the start of economic disruptions, as the pandemic severely impacted financial operations and broader economic activity across the nation (Otoritas Jasa Keuangan, 2021). This economic downturn was primarily driven by the implementation of Large-Scale Social Restrictions (PSBB), which curtailed community activities and mobility across various sectors, leading to decreased consumption and investment. Many individuals, whose livelihoods were disrupted some even facing layoffs became increasingly reliant on credit from banks (Yamali & Putri, 2020). This situation heightened credit risk as the ability of debtors to meet their repayment obligations diminished, potentially impacting the overall performance of banks. According to the OJK's banking industry profile report, credit growth in the sector contracted by -2.41%. This decline was exacerbated by a drop in credit demand, even as Third Party Funds (DPK) grew by 11.11%. As a result, the Loan to Deposit Ratio (LDR) fell to 82.24%, slightly restricting the banks' ability to fulfill their role as financial intermediaries. Despite these challenges, the banking sector maintained adequate capital levels, with a strong Capital Adequacy Ratio (CAR) of 23.81%, ensuring overall resilience (Otoritas Jasa Keuangan, 2021).

In reaction to the effects of the Covid-19 pandemic, OJK introduced a policy to stimulate the National Economy through Countercyclical Measures, outlined in POJK Number 11/POJK.03/2020. As the pandemic diminished customers' ability to fulfill their financial obligations, the government implemented this credit relaxation policy. The objective of this policy is to ensure the continuity of credit operations. This policy adjustment aims to support credit recovery, which in turn helps maintain the overall health of the banking sector.

The Covid-19 outbreak has negatively impacted the performance of Indonesia's banking sector. In this challenging environment, only banks with strong performance have been able to endure. The pandemic has contributed to a decline in the overall health of banks. Strong bank performance is typically indicated by a high level of financial health. However, during the Covid-19 pandemic, most economic activities came to a halt, which significantly affected the flow of money to and from banks. This situation raised the risk of a decline in bank health to potentially critical levels. Maintaining a healthy bank is crucial for sustaining public trust, as it encourages more people to use banking services for managing their finances. Trust in a bank's good management reassures customers that their funds will

be handled responsibly. As a result, evaluating the health of a bank is of utmost importance. (Otoritas Jasa Keuangan, 2019).

Bank Indonesia implemented new rules under regulation number 13/1/PBI/2011, setting revised criteria for evaluating the financial health of banks using the RGEC approach, which stands for Risk Profile, Good Corporate Governance (GCG), Earnings, and Capital. In parallel, the Financial Services Authority (OJK), via a circular from Bank Indonesia, introduced regulation number 13/24/DPNP/2011 to provide detailed instructions on how to apply the health assessment. The RGEC framework officially came into effect on January 1, 2012. The assessment of bank health is broken down into four key components: first, the Risk Profile, which examines the various risks a bank faces in its operations, requiring careful management. The second component is Governance, which deals with how the bank is managed, focusing on policies, oversight, and transparency for stakeholders. The third element, Earnings, measures the bank's ability to generate profits, especially from its lending activities. Lastly, Capital ensures that the bank has sufficient capital reserves to support its operations within regulatory standards, with findings communicated in a clear manner.

In this context, various studies have been conducted to evaluate the health levels of banks pre-pandemic and pandemic periods. For instance, research by Alfaroqi et al., (2023) indicated a difference in the risk profile between the pre-pandemic and pandemic periods, while Sosrowidigdo (2022) found no significant difference in the risk profile after conducting a similar analysis. Emmanuela & Widianingsih (2022) discovered that indicators of good corporate governance (GCG) differed between the two periods, whereas D. D. Puspitasari & Dinuka (2022) observed no significant differences in GCG indicators before and during the pandemic.

In addition, research that has been conducted by Arifin (2022) found differences in earnings while in research conducted by Ibrahim et al. (2024) found no difference in the earnings indicator from before and during the pandemic. In research on capital indicators before and during the pandemic by Siswantoro (2022) found differences in capital indicators, while in research Sari & Cerya (2023) proves there is no difference in the aspect of capital indicators from before the pandemic and during the pandemic.

Findings indicate that there are discrepancies among studies regarding the assessment of changes in bank health conditions using the RGEC method. This research focuses on examining the health levels of Regional Development Banks for the years 2018 and 2019 (pre pandemic) and 2021 and 2022 (pandemic periode). The selection of these years corresponds with the annual financial reporting cycle. In this study, the pandemic period is defined strictly as 2021 and 2022, thereby excluding 2020 and 2023, since they do not complete a full annual cycle as per the government’s classification of the COVID-19 pandemic. To assess the banks' conditions, the study employs the four RGEC indicators through a composite rating and conducts a t-test to compare the health levels of regional development banks in the pre-pandemic and pandemic periods.

The novelty of this research lies in the use of a sample that includes all Regional Development Banks in Indonesia. Previous studies have focused on various samples, including Conventional Commercial Banks (BUK) categorized by ownership and business groups, as well as research on Islamic banks and Regional Development Banks (BPD). However, studies on BPD have typically been limited to specific regions rather than covering all of Indonesia. The focus on Regional Development Banks in research is based on their crucial role in managing government funds for regional development, making them accountable to both customers and the broader public. Additionally, it is important to examine how BPDs most of which are predominantly owned by local governments can withstand challenging conditions, such as the recession triggered by the Covid-19 pandemic. Based on the background that

has been explained, the researcher determines the title "An Analysis of Regional Development Banks' Health Assessment Using the RGEC Method Before and During the COVID-19 Pandemic".

2. Literature review and hypothesis/es development

2.1. Literature Review

2.1.1. Risk Profile

According to Ambarita & Tristiarto, (2024) A risk profile provides an overview of the risks involved in banking operations. To effectively manage these risks, banks must carefully oversee their risk profiles. As specified in Bank Indonesia's regulation No. 13/1/PBI/2011 concerning the evaluation of a bank's Health Level, the Risk Profile Factor Assessment involves analyzing the various risks a bank encounters, along with the effectiveness of management strategies in mitigating risks from its operational activities. This assessment covers eight main risk categories: Credit Risk, Market Risk, Operational Risk, Liquidity Risk, Legal Risk, Strategic Risk, Compliance Risk, and Reputational Risk. Liquidity Risk holds particular significance in shaping the overall risk profile. In this research, the risk profile is specifically evaluated using the Loan to Deposit Ratio (LDR), adhering to Bank Indonesia's guidelines (refer to Equation 1 and Table 1)

$$\text{LDR} = \frac{\text{Total Loans Outstanding}}{\text{Third Party Funds}} \text{ x } 100\% \quad \text{..... 1}$$

2.1.2. Good Corporate Governance (GCG)

Ibrahim et al., (2024) defines Good Corporate Governance (GCG) serves as a framework for overseeing corporate governance, evaluated by how well GCG principles are incorporated into a company's management practices. Bank Indonesia (BI) requires all banks in Indonesia to implement GCG indicators as part of their bank soundness assessments. To achieve a sound governance rating, banks must ensure the stability of their banking system. GCG implementation requires regular evaluation by banks, following the guidelines of SE BI No.15/15/DPNP/2013, to continuously improve its quality. This assessment is carried out through a self-assessment process by the banks themselves and is reported periodically in both annual and ongoing reports, in accordance with the GCG rating standards outlined in Table 2.

2.1.3. Earning

According to Nurdin & Yulianti, (2020) The Earning aspect evaluates a bank's capability to generate profits and enhance its business income. It also serves as a measure of operational efficiency and the level of profitability that the bank achieves. Profitability represents a bank's ability to produce financial gains. In this research, the earnings metric is assessed through the Net Interest Margin (NIM), a ratio used to gauge the profit-generating efficiency of Regional Development Banks (BPD). The NIM ratio (refer to Equation 2 and Table 3) is used as a key indicator to evaluate this aspect.

$$\text{NIM} = \frac{\text{Net Interest Income}}{\text{Average Earning Assets}} \text{ x } 100\% \text{..... 2}$$

2.1.4. Capital

According to Bank Indonesia's regulations, the evaluation of the capital factor includes both capital management adequacy and the level of capital itself. According to (Emmanuela & Widianingsih, 2022) Capital represents the capital adequacy ratio, created to account for potential losses in relation to a bank's risk profile. This ratio reflects how well the bank manages its capital, tailored to its operational characteristics, size, and complexity. The bank's capital health is assessed through the Minimum Capital Adequacy Ratio (CAR) as outlined in Equation 5 and Table 6. As a result, this study uses the CAR ratio as the capital variable.

$$CAR = \frac{\text{Capital}}{\text{Risk Weighted Assets}} \text{ x } 100\% \quad \ldots\ldots 3$$

Table 1. Rating Standard for LDR Composite Rating

Composite Ranking	Percentage	Predicate
1	50% < LDR ≤ 75%	Very Healthy
2	75% < LDR ≤ 85%	Healthy
3	85% < LDR ≤ 100%	Healthy Enough
4	100% < LDR≤ 120%	Less healthy
5	LDR > 120%	Unhealthy

Source: Bank Indonesia

Table 2. Assessment Standards for Determining GCG Rating

Composite Ranking	Percentage	Predicate
1	Composite Score < 1.5	Very good
2	1.5 < Composite Score < 2.5	Good
3	2.5 < Composite Score < 3.5	good enough
4	3.5 < Composite Score < 4.5	less good
5	Composite Value > 4.5	Not good

Source: Bank Indonesia

Table 3. Rating Standard for NIM Composite Rating

Composite Ranking	Percentage	Predicate
1	NIM > 3%	Very Healthy
2	2% < NIM ≤ 3%	Healthy
3	1.5% < NIM ≤ 2%	Healthy Enough
4	1% < NIM ≤ 1.5%	Less healthy
5	NIM ≤ 0%	Unhealthy

Source: Bank Indonesia

Table 4. Rating Standard for CAR Composite Rating

Composite Ranking	Percentage	Predicate
1	CAR ≥ 12%	Very Healthy
2	9% ≤ CAR < 12%	Healthy
3	8% ≤ CAR < 9%	Healthy Enough
4	6% ≤ CAR < 8%	Less healthy
5	CAR ≤ 6%	Unhealthy

Source: Bank Indonesia

$$PK = \frac{\text{Total Composite Value}}{\text{Total All Composite Score}} \text{ x } 100\% \quad \ldots\ldots 4$$

Table 5. Determination of Composite Rating

Composite Rating	Percentage	Predicate
1	86 - 100%	Very Healthy
2	71 - 85%	Healthy
3	61 - 70%	Healthy Enough
4	41 - 60%	Less healthy
5	< 40%	Unhealthy

Source: Bank Indonesia

The descriptive analysis integrates all RGEC components from 2018 to 2022 to evaluate and assess the financial condition of the bank. Each component's composite score, linked to a composite rating (PK), is presented as follows.:

1. Rank 1 = indicators rated as 1 are given a value of 5.
2. Rank 2 = indicators rated as 2 are given a value of 4.
3. Rank 3 = indicators rated as 3 are given a value of 3.
4. Rank 4 = indicators rated as 4 are given a value of 2.
5. Rank 5 = indicators rated as 5 are given a value of 1.

After determining the composite score for each indicator, it is computed using a specific formula, with the weight value based on percentages. Table 5 is utilized to assess the total components.

2.2. Hypothesis Formulation

The Loan to Deposit Ratio (LDR) is a metric used to gauge a bank's risk profile by assessing its capability to fulfill short-term liabilities (Saleh & Winarso, 2021). Basically, if the LDR increases, it shows that the bank's finances are not liquid. This aspect of the indicator plays an important role for investors and external parties because the distribution of existing information can be spread properly and later can make important points in making investment decisionsA drop in the Loan to Deposit Ratio (LDR) is seen as favorable for investors, as it can strengthen their trust in the company. A lower LDR ratio suggests that a bank has higher liquidity, which in turn influences its overall financial health.

During the COVID-19 pandemic, bank performance, particularly their financial health, became a key factor of interest for stakeholders. The reason is that the restriction policy during a pandemic causes a decrease in economic activity which can have an impact on the liquidity capacity of the bank itself. Therefore, banks must maintain their liquidity so that the bank's health condition is maintained during a pandemic. Research conducted by Alfaroqi et al. (2023), Suripto et al. (2022) and Nurfitriana & Yuniar (2022) indicates a notable difference in risk profiles, particularly concerning the Loan Deposit Ratio, before and during the Covid-19 pandemic. Then the hypothesis made is:

H1 : The evaluation of the Risk Profile through the Loan to Deposit Ratio (LDR) at regional development banks has varied significantly between the pre- pandemic and pandemic period.

Effective corporate governance involves a framework of rules and principles designed to ensure that the decisions and actions of the board members and executives are in line with the interests of stakeholders. It establishes a framework for ethical behavior and decision-making within the organization (Mukhtaruddin et al., 2019). The scope of corporate governance includes various important aspects, such as business ethics, transparency in information disclosure, and strong accountability (Ismail et al., 2022). Strong corporate governance can affect the financial performance of banks. Developments in the view of corporate governance began with agency theory. This theory states that when ownership and management are separated, agency problems can arise. To address this issue, the application of good corporate governance principles is the solution. The use of GCG to assess the health of banks is necessary because many companies have experienced poor financial health due to inadequate management practices.

The unpredictable economic conditions during the pandemic, which affected various businesses, including banks, highlighted the potential impact on bank management. It is crucial to assess whether a bank has been managed effectively, especially during times of crisis like the pandemic. These results can provide peace of mind for parties with an interest in the bank. They can ensure that the capital they have is well managed or not by monitoring the health condition of the bank. Research by Ayla (2023), Emmanuela & Widianingsih (2022) and Aisyah (2023) which shows that there is a difference in GCG with a self-assessment value before and during the Covid-19 pandemic. Then the hypothesis made is:

H2 : The evaluation criteria for Good Corporate Governance, measured by self-assessment scores, have shown significant differences at regional development banks between the pre-pandemic and pandemic period.

Corporate Earning as measured by Net Interest Margin (NIM), is a ratio to assess the income and interest earned by banks when lending to debtors and deducted by deducting interest costs on these loans (E. Puspitasari, Sudiyatno, Aini, et al., 2021). NIM ratio indicates the costs linked to the bank's intermediation services as well as its operational efficiency. However, behind the high interest margin

income is the practice of lending to high risk sectors, this is also related to the provision for large loan losses if the lending has a high risk profile (Mariam et al., 2021). The NIM ratio was selected to evaluate a bank's health because it reflects the bank's ability to effectively serve as an intermediary between asset owners and those in need of financing, which in turn impacts profitability. The difference in interest income, known as NIM, represents this profitability (Aiffa & Nadhifah, 2024; Dewi & Nahar, 2020).

During the pandemic, economic activity declined due to social restrictions, which led to reduced profits for banks, as expenses remained constant or even increased while revenue declined due to reduced lending and funding activities. A higher NIM value indicates that the bank has successfully managed its interest-earning assets, resulting in greater profits and positively affecting its overall financial health, and vice versa. (E. Puspitasari, Sudiyatno, Hartoto, et al., 2021). In the research conducted by Arifin (2022), Fatimah et al. (2023) and Sari & Cerya (2023) found significant changes in the NIM ratio during the pandemic. Then the hypothesis made is:

H3 : The evaluation of the Earning through the Net Interest Margin (NIM) at regional development banks has varied significantly between the pre- pandemic and pandemic period.

Capital assessment is conducted using the Capital Adequacy Ratio (CAR), a key regulatory tool for monitoring banks. Most global regulators, including those following the Basel Accord, use CAR, which is calculated by dividing a bank's capital by the required capital (Luong & Nguyen, 2021). This ratio helps determine how much capital a bank has to cover potential credit losses. CAR is used to assess a bank's health because it measures the bank's capacity to absorb losses.

During the pandemic, banks prioritized preserving their capital to mitigate future risks, as the uncertain environment increased the risks to capital. A high CAR ratio indicates that a bank is well-prepared to handle potential losses, reducing the likelihood of non-performing loans (Suroso, 2022). The higher the CAR ratio, the stronger the bank's ability to manage its capital and generate profits, positively impacting its overall financial health. In research conducted by Siswantoro (2022), Yolanda et al. (2024) and Sosrowidigdo (2022) discovered a difference in the Capital Adequacy Ratio (CAR) between the pre-pandemic and pandemic phases. Then the hypothesis made is:

H4 : The evaluation of the Capital through the Capital Adequacy Ratio (CAR) at regional development banks has varied significantly between the pre- pandemic and pandemic period.

3. Methodology

This research is included in comparative research, which is research that aims to compare one or more variables between two different sample groups, or at different time periods (Sugiyono, 2016). This research adopts a quantitative approach, utilizing analysis techniques based on the RGEC method in line with Article 6 of PBI No. 13/1/PBI/2011, which concerns the assessment of bank health levels. The study employs both the Wilcoxon Test and the Paired Sample T-Test to validate its hypotheses, focusing on assessing the financial performance of Indonesia's Regional Development Banks (BPDs) before and during the COVID-19 pandemic. It relies on secondary data, using annual reports from 2018 to 2022 sourced from the banks' official websites. The research includes all 27 BPDs across Indonesia, encompassing the entire population. Data analysis was performed using SPSS version 23.

Descriptive statistics were used to analyze the dataset through metrics like mean, standard deviation, variance, maximum and minimum values, sum, range, kurtosis, and skewness. To evaluate the overall health of the banks, the average health ratios were calculated for both the pre-pandemic and pandemic periods. For data normality testing, the Kolmogorov-Smirnov test was employed, given the sample size exceeded 50.

Two statistical tests were applied: the Paired Sample T-Test, used for data that met normality criteria, and the Wilcoxon Test, used for non-normally distributed data. The Paired Sample T-Test aimed to identify significant differences in the means between paired samples, whereas the Wilcoxon Test was suitable for data that deviated from normality (Ghozali, 2018). The hypothesis testing criteria were defined as follows:

1. A significance value below 0.05 indicates that the hypothesis is supported.
2. A significance value above 0.05 indicates that the hypothesis is not supported.

4. Results and discussion

This study analyzes four main variables to assess bank health: Risk Profile, Good Corporate Governance (GCG), Earnings, and Capital. The Risk Profile is determined using the Loan-to-Deposit Ratio (LDR), GCG is measured through a self-assessment process, Earnings are examined via the Net Interest Margin (NIM), and Capital is evaluated by the Capital Adequacy Ratio (CAR). Data shows that prior to the pandemic, the average LDR was 1.069131, which decreased to 0.930522 during the pandemic, highlighting changes in banks' liquidity and lending behavior during this time. This 12.96% decrease in the LDR ratio during the COVID-19 outbreak indicates that regional development banks became more liquid. Based on Bank Indonesia regulations, an LDR ratio below 75% is considered very healthy, while an LDR above 120% is considered unhealthy. Therefore, before the pandemic, the LDR variable of BPD banks was categorized as unhealthy, but during the pandemic, it improved to a fairly healthy level..

Table 6. Descriptive Statistical Test Results

Rasio	Periode	N	Min	Max	Mean	Std. Deviation
LDR	Before the Covid-19 Pandemic	54	0.7370	1.8424	1.069131	0.2449594
	During the Covid-19 Pandemic	54	0.4911	1.4556	0.930522	0.1910358
GCG	Before the Covid-19 Pandemic	54	2.00	3.00	2.30	0.461
	During the Covid-19 Pandemic	54	1.00	3.00	2.19	0.479
NIM	Before the Covid-19 Pandemic	54	0.0134	0.1922	0.097894	0.0285331
	During the Covid-19 Pandemic	54	0.0170	0.1310	0.091352	0.0216831
CAR	Before the Covid-19 Pandemic	54	0.0900	0.3580	0.218981	0.0452421
	During the Covid-19 Pandemic	54	0.0840	0.4360	0.244889	0.0574603

Source: Researcher Data Processing, SPSS 23

The self-assessment of GCG implementation indicates a score of 2.30 before the pandemic and 2.19 during the pandemic. On average, GCG implementation in regional development banks increased by 4.78% during the Covid-19 pandemic, suggesting that GCG has been effectively applied. According to Bank Indonesia's policy on GCG, a composite score below 1.5 is considered healthy, while a score above 4.5 is deemed unhealthy. Therefore, the GCG scores of regional development banks before and during the pandemic can be categorized as healthy.

The average Net Interest Margin (NIM) ratio before the pandemic stood at 0.097894, which decreased to 0.091352 during the pandemic, reflecting a 6.68% decline. As per Bank Indonesia's guidelines, a NIM ratio above 3% is categorized as very healthy, while a ratio below 0% is deemed unhealthy. Thus, despite the decline, the NIM ratios of regional development banks remained within the very healthy range throughout both the pre-pandemic and pandemic periods..

Before the Covid-19 pandemic, the average CAR ratio was 0.218981, which increased to 0.244889 during the pandemic, reflecting an 11.83% rise in most regional development banks. Bank Indonesia's regulations state that a CAR ratio above 12% is considered very healthy, while a ratio below 6% is

deemed unhealthy. Therefore, regional development banks were categorized as very healthy both before and during the pandemic.

4.1. Bank Composite Rating

Table 7. BPD Bank Composite Ranking Results

Period	Component Factors	indicator	Ratio %	Ranking 1	2	3	4	5	Predicate	Composite Ranking
2018	Risk Profile	LDR	111,69				✓		Less healthy	healthy
	Good Corporate Governance	GCG	2,30		✓				Good	
	Earning	NIM	10,19	✓					Very Healthy	
	Capital	CAR	22,07	✓					Very Healthy	
	Composite Score			10	4		2		(16/20) x 100%	80%
2019	Risk Profile	LDR	102,13				✓		Less healthy	healthy
	Good Corporate Governance	GCG	2,30		✓				Good	
	Earning	NIM	9,39	✓					Very Healthy	
	Capital	CAR	21,73	✓					Very Healthy	
	Composite Score			10	4		2		(16/20) x 100%	80%
2021	Risk Profile	LDR	90,98			✓			Healthy Enough	healthy
	Good Corporate Governance	GCG	2,19		✓				Good	
	Earning	NIM	9,00	✓					Very Healthy	
	Capital	CAR	23,85	✓					Very Healthy	
	Composite Score			10	4	3			(17/20) x 100%	85%
2022	Risk Profile	LDR	95,12			✓			Healthy Enough	healthy
	Good Corporate Governance	GCG	2,19		✓				Good	
	Earning	NIM	9,28	✓					Healthy Enough	
	Capital	CAR	25,13	✓					Good	
	Composite Score			10	4	3			(17/20) x 100%	85%

Source: Researcher Data Processing, 2024

According to the data in Table 7, the performance of Indonesian regional development banks in 2018 and 2019, before the Covid-19 pandemic, achieved a composite rating of 2 overall. For specific

indicators, NIM and CAR were rated 1, indicating a very healthy status, while the GCG indicator received a rating of 2, categorized as healthy. However, the LDR was rated 4, signifying a less healthy condition. The average overall composite rating for both years was 80%, which is classified as healthy.

During the Covid-19 pandemic, the performance of Indonesian BPD banks improved compared to the pre-pandemic period. Overall, the banks maintained a composite rating of 2, which is healthy, with a percentage increase to 85%. As with the pre-pandemic period, NIM and CAR indicators continued to be rated 1, indicating a very healthy status, while the GCG indicator remained at 2, classified as healthy. The notable difference was in the LDR, which improved to a rating of 3, indicating a fairly healthy condition. This improvement demonstrates the bank's resilience and its capacity to endure adverse shifts in business conditions and external factors. After the bank's health was assessed using the composite rating, an additional test was carried out to examine the formulated hypothesis.

4.2. Data Normality Test

According to the data analysis in Table 8, two variables are normally distributed, while the other two are not. For the normally distributed variables, the Paired Sample T-Test is applied. In contrast, for the variables that do not follow a normal distribution, the Wilcoxon Test is used as an alternative to the Paired Sample T-Test. Specifically, LDR and GCG are the non-normally distributed variables, while NIM and CAR are classified as normally distributed.

Table 8. Kolmogorov-Smirnov Normality Test Results

Ratio	Period	Kolmogorov-Smirnova			Information
		Statistic	df	Sig.	
LDR	Before the Covid-19 Pandemic	0.133	54	0.019	Non-normally Distributed Data
	During the Covid-19 Pandemic	0.087	54	0.200*	Normally Distributed Data
GCG	Before the Covid-19 Pandemic	0.444	54	0.000	Non-normally Distributed Data
	During the Covid-19 Pandemic	0.428	54	0.000	Non-normally Distributed Data
NIM	Before the Covid-19 Pandemic	0.095	54	0.200*	Normally Distributed Data
	During the Covid-19 Pandemic	0.110	54	0.151	Normally Distributed Data
CAR	Before the Covid-19 Pandemic	0.103	54	0.200*	Normally Distributed Data
	During the Covid-19 Pandemic	0.110	54	0.153	Normally Distributed Data

Source: Researcher Data Processing, SPSS 23

4.3. Hypothesis Test

From the results of the hypothesis testing using the Wilcoxon Test and the Paired Sample T-Test, the table indicates that out of the four variables tested, three hypotheses are supported, while one is not. Specifically, the LDR, NIM, and CAR variables are supported by the test results, whereas the GCG variable is not supported.

Table 9. Wilcoxon test and paired sample T-Test results

Hypothesis	Measurement Indicator	Sig	Conclusion
Risk Profile	LDR	0.000	Supported
Goog Corporate Governance	GCG	0.109	Not Supported
Earning	NIM	0.008	Supported
Capital	CAR	0.013	Supported

Source: Researcher Data Processing, SPSS 23

4.4. Risk Profile

4.4.1. Loan to deposit Ratio (LDR)

Based on the data in Table 9, with a significance value of 0.000, which is below the 0.05 threshold, Hypothesis 1 is supported. The Risk Profile, assessed through the Loan to Deposit Ratio (LDR) of Regional Development Banks (BPD), reveals a significant difference between the periods before and during the COVID-19 pandemic. This difference in liquidity risk metrics highlights considerable shifts in the performance of BPD banks. For example, Bank Nagari experienced a substantial decline of 40.83%, while Bank South Sumatra and Bangka Belitung saw only a slight decrease of 0.11%. This variation is mainly due to a reduced LDR ratio, driven by weakened credit demand that was not matched by a proportional rise in third-party funds (DPK). Consequently, the intermediary function of these banks weakened, reflecting their more conservative lending practices during the pandemic. A lower LDR ratio can send a positive signal to external stakeholders, such as investors, as it may influence their investment decisions. However, it also highlights the banks' challenges in extending credit, which can lead to lower interest income. While a declining LDR ratio may suggest stability, it can adversely affect a bank's profitability due to reduced lending activities. These findings are consistent with research by Alfaroqi et al., (2023) and Suripto et al., (2022) which also identified significant differences in LDR ratios during the pandemic.

4.5. Good Corporate Governance (GCG)

The data from Table 9 shows a significance value of 0.109, which is greater than the 0.05 threshold, indicating that Hypothesis 2, concerning Good Corporate Governance (GCG) before and during the pandemic, as evaluated through self-assessment at BPD banks, is not supported. This means that there is no significant difference in GCG practices between the pre-pandemic and pandemic periods, as the significance value exceeds 5%. For example, Bank BPD Sulutgo experienced a decline in its GCG health, while the Maluku and North Maluku banks showed improvements compared to their pre-pandemic levels. Despite the challenges brought by the COVID-19 pandemic, the overall composite values suggest that corporate governance management remained fairly stable. This stability is attributed to the banks' ability to sustain effective corporate governance practices even amid uncertain global economic conditions. A healthier bank, reflected by better governance, can enhance management performance, providing valuable insights to external parties, such as investors, for making informed investment decisions. These findings align with research by D. D. Puspitasari & Dinuka, (2022) and Arifin, (2022) which also did not find significant differences in GCG aspects during the pandemic.

4.5. Earning (Profitability)

4.5.1. Net Interest Margin (NIM)

According to the data in Table 9, with a significance level of 0.003, which falls below the 0.05 threshold, Hypothesis 3 is confirmed. This indicates that Earnings, as measured by the Net Interest Margin (NIM) in BPD banks, showed a significant difference during the pandemic. On average, all BPD banks experienced a decline in NIM, with Jambi BPD being the most affected, seeing a decrease of 4.17%, while Bank Nagari managed to increase its NIM by 2.19%. The variation in NIM ratios during the COVID-19 pandemic can be attributed to a reduction in bank interest income, largely due to a slowdown in lending activities. This decline is understandable, given that many economic policies during the pandemic were unfavorable, disrupting economic circulation and significantly impacting banks, which play a critical role in the financial system. The fluctuation in the NIM ratio can affect external stakeholders, such as investors, as it reflects the bank's profitability from interest income, influencing their decision to invest. These findings are consistent with research by Arifin, (2022) and Fatimah et al., (2023) which also identified significant differences in NIM ratios during the pandemic.

4.6. Capital

4.6.1. CAR (Capital Adequacy Ratio)

Table 9 presents a significance value of 0.013, which is below the 0.05 threshold, indicating support for Hypothesis 4. This hypothesis suggests that the Capital Adequacy Ratio (CAR) in regional development banks (BPD) varies between the periods before and during the COVID-19 pandemic. The CAR data reveals a significant difference in capital levels across these periods, primarily due to BPD banks adopting a more conservative strategy during the pandemic. They reduced lending activities, which allowed them to bolster their capital reserves, resulting in a higher CAR. Bank BPD Banten exhibited the largest increase, with a rise of 33.12%, while Bank BPD Papua experienced a decrease of 11.75%. Additionally, the increase in capital formation, as banks set aside more funds to mitigate potential risks, contributed to the stronger capital levels. In response to the uncertain economic environment, banks reserved a larger portion of issued credit to account for the heightened risk of non-performing loans. A high CAR ratio serves as a positive signal to external parties, such as investors, by demonstrating financial stability, which can influence their investment decisions. These findings align with the research of Siswantoro, (2022) and Yolanda et al., (2024) which also found differences in CAR levels before and during the pandemic.

5. Conclusion

5.1. Conclusion

The overall condition of regional development banks before and during the COVID-19 pandemic was considered stable, receiving a composite PK-2 rating. The pandemic-induced recession led to notable changes in the Loan to Deposit Ratio (LDR), Net Interest Margin (NIM), and Capital Adequacy Ratio (CAR). Despite these changes, Good Corporate Governance (GCG) remained largely stable throughout the pandemic. These findings offer important insights for investors and debtors when evaluating investment opportunities with the bank. For the banks, these results offer positive indicators for implementing new policies to attract and retain investors. For the government, the study highlights its responsibility for managing public funds that contribute to the bank's capital.

5.2. Limitation

This study focused on the two years before and during the COVID-19 pandemic to ensure a consistent comparison across those periods.

5.3. Suggestion

The researchers recommend exploring additional ratios within the RGEC framework, such as NPL for Risk Profile and ROA and BOPO for Earnings. Researcher also suggest distinguishing between conventional regional development banks, those with sharia business units, and fully sharia-compliant regional development banks, as the financing contracts differ, potentially affecting financial performance. Additionally, using data from all quarters during the pandemic in Indonesia would provide more comprehensive insights. Future studies should consider examining the periods before, during, and after the pandemic to better assess the overall impact of COVID-19 on the banks' health.

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