Indonesian Development of Economics and Administration Journal

ISSN (*online*) : 2963-5896 & ISSN (*print*) : 2964-0482

**Vol. 1 • No. 3 • April 2023**
Pege (*Hal.*) : **262 – 271**

**ISSN (*online*) : 2963-5896**
**ISSN (*print*) : 2964-0482**

DOI No : -
Website : https://ojs.ideanusa.com/index.php/idea


Darmaguna IDEA Nusantara Foundation
Jl. Pendowo, Limo No. 69, Depok, Indonesia
Telp. 0875 8655 3215
*Email* : ideajournal@ideanusa.com



**Article info :** *Received:* January 2023 ; *Revised*: February 2023 ; *Accepted*: March 2023

# Comparative Analysis of Indonesian Bank's Soundness During and Following COVID-19 Pandemic

**Nanang Anduwidagdo[1]; Nardi Sunardi[2]**

[1-2]*Universitas Pamulang,e-mail: nanang.aw@gmail.com; dosen01030@unpam.ac.id*

**Abstract.** Indonesian banking industry was marginally impacted by the COVID-19 pandemic and is necessary to assess the safety and soundness of banks. The purpose of this study is to empirically prove the differences of bank's soundness in Indonesia during and following the COVID-19 pandemic using CAMELS method. The study was conducted using comparative method through quantitative approach to 19 banks listed on the Indonesia Stock Exchange (IDX) in 2020-2022. Data were analyzed using descriptive statistical tests, normality tests and paired difference tests. According to the findings, the probability value of capital adequacy measured with Capital Adequacy Ratio (CAR), asset quality measured with Non-Performing Loans (NPL), management quality measured with Operating Expenses to Assets Ratio (OER), earnings ability measured with Return-on-Equity (ROE), liquidity measured with Loan-to-Deposit Ratio (LDR), and sensitivity to market risks measured with Economic Value of Equity (EVE) are greater than significance value (0,05). This study concludes that there is no substantial difference in banks' soundness during and following the pandemic.

**Keywords:** *Bank's Soundness; CAMELS; Comparative analysis; Financial performance; Indonesia*.

## A. INTRODUCTION

Financial institutions, particularly the banking industry, were vulnerable from external shock. The Covid-19-induced economic downturn threatens bank profitability, lowers bank income, and produces losses from debtor defaults. The growth predictions of international institutions and banks have to be lowered (Marcu, 2021). The banking industry is critical to the economic development of a country; hence any country requires a healthy and stable banking system. Bank insolvency may wreak havoc across the economy since banks are prone to recurring crises; consequently, recovering from the impacts of the Covid-19 epidemic is the most challenging issue (Altameemi & Flayyih, 2021).

The degree of banking performance can be assessed by a number of indicators known altogether as CAMELS (Capital Adequacy, Assets Quality, Management Quality,

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

Earnings Capacity, Liquidity and Sensitivity to Risks). It is a ratio-based approach that evaluates bank performance and grades banks based on the rating criteria. CAMELS is used to assess the efficiency and soundness of banking operations, as well as to evaluate a bank's overall financial, managerial, operational, and compliance performance (Sanni, 2010). Additionally, CAMELS is thought to be more effective at creating a transparent risk assessment system, creating and monitoring excellent performances, discovering issues, and addressing deficiencies (Nair & Asghede, 2015).

Considering the recent financial crisis induced by COVID-19, CAMELS is a helpful tool to assess the safety and soundness of banks and mitigates any possible risks that might result in bank collapses, as recommended by IMF and the World Bank (Roman & Şargu, 2013). Law Number 10 of 1998 concerning Banking also states in order to reflect the overall condition and performance, banks must maintain their health. Based on this, this research utilized the CAMELS approach to assess the performance of the banking sector during the pandemic.

Several research were conducted to evaluate banking performance. Nugroho et al. (2020) measured bank soundness and found CAMELS ratio affected share prices. Noviani and Somantri (2021) concluded that there are significant differences in the assessment of the soundness of banks before and after COVID-19 pandemic. Faozi et al. (2022) found that bank health measure related to indicators of CAMELS. However, prior research didn't examine the disparities in the importance of banks financial performance during and following COVID-19 pandemic. Therefore, this study aims to answer, “if there are any notable differences between the financial performance of Indonesian banking industry during and following COVIS-19 pandemic as measured by CAMELS. Considering what was stated in the preceding sentences, the researchers want to perform empirical study on the effect of COVID-19 pandemic to Bank's Soundness due to the rarity of this research in Indonesia.

## B. LITERATURE REVIEW

### Bank Soundness

A bank soundness refers to one in which the majority of the banks, or those responsible for the majority of the assets and liabilities of the system, are solvent and are expected to stay so (Lindgren et al., 1996). It also refers to a bank's capacity to endure financial difficulties. To analyze bank soundness, seven sets of financial indicators are contemplated, that is Financial Soundness Indicator (FSI), Basel Core Principles (BCP), CAMELS, Moody’s, Fitch, Standard and Poor’s (S&P) and Bank Financial Strength Rating (BFSR) (Ayadurai & Eskandari, 2018).

### CAMELS

The term CAMELS refers to six components of bank soundness, namely, **capital** as an indicator of a bank’s financial health, **asset** as a key indicator of a bank’s strength to utilize its assets, **management** measures bank management’s capability and/or efficiency, **earnings** measures bank’s capacity to generate income, **liquidity** determine bank’s ability to meet its financial obligation, and **sensitivity to the market risk** evaluate market risk associated with its business environment (Rivai et al., 2007). To analyze bank soundness using the CAMELS approach, financial ratios are utilized, since fluctuations in the internal conditions of the banks might detect early indicators of decline (Hane, 1998). Bank performance ratios comprise capital, assets, equity, liquidity, and risks.

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

**Capital**

Capital adequacy determined by Capital Adequacy Ratio (CAR) (Hussein & Al-Dulaimi, 2022; Nugroho et al., 2020; Susanti et al., 2023), that is defined as a ratio that compares capital to risk-weighted assets in accordance with government regulations (Kasmir, 2019). As such, CAR may also be referred to as a ratio indicating the level to that banks can compensate for decreasing assets with equity. The greater the bank's CAR value, the better its condition (Susanti et al., 2023). CAR can be calculated by dividing capital with risk-weighted assets (RWA) (Rivai et al., 2007).

**Asset**

Asset quality is measured with Non-Performing Loans (NPL) (Noviani & Somantri, 2021; Satti et al., 2022; Susanti et al., 2023). NPL is a comparison of the size of the loan that has been identified for having difficulties (90 days past due or there is considerable uncertainty over future payments) with the total amount of the loan granted by the bank (Kasmir, 2014). This ratio is crucial for banks since it corresponds to a bank's excessive or minimal amount of nonperforming loans and has been recognized as a factor that hinders bank's effectivity (Boudriga et al., 2009). NPL calculated by dividing the loan's nett value as reported on the balance sheet with the entire loan portfolio (Financial Services Authority, 2020).

**Management**

Management quality is often hard to measure, despite its importance in ensuring the health and stability of banks (Roman & Şargu, 2013). However, efficiency in cost management can be used as proxy for management quality (Boateng, 2019; Kumar & Alam, 2018; Nguyen & Dang, 2020). Banks with better management quality are able to maintain the same amount of loans with lower operating costs (Berger & DeYoung, 1997). Operating expenses to total assets ratio are used to measure efficiency, since this ratio measures how well banks manage their expenditures in relation to their assets and revenues. The lower the ratio, the more efficient bank management (Nguyen & Dang, 2020).

**Earnings**

Earnings and related financial ratios could be determined using Return-on-Equity (ROE) (Hussein & Al-Dulaimi, 2022; Nguyen & Dang, 2020; Roman & Şargu, 2013). ROE is an equation that compares net profit after taxes to capital invested. This ratio demonstrates the efficiency of bank's own capital (Kasmir, 2019). ROE is used to describe the bank's capacity to generate revenue from a certain source of capital and to turn it to a profit and outlines a direct method for determining the financial return on a shareholder's investment (European Central Bank, 2010). ROE compares the amount of net income to the total amount of shareholder's equity (Rivai et al., 2007).

**Liquidity**

Loan-to-Deposit Ratio (LDR) represents for the liquidity (Faozi et al., 2022; Nair & Asghede, 2015; Susanti et al., 2023). LDR defined as composition of the amount of credit disbursed in relation to the amount of investment funds and capital utilized (Kasmir, 2019). LDR describes the bank's liquidity since it can show its capacity to provide loans based on deposits (Yoon et al., 2022). To calculate LDR, total amount of loans granted by the bank divided by the total amount of deposits (Rivai et al., 2007).

**Sensitivity To Market Risk**

Sensitivity to market risk relates to exposure to interest rate risk (Gomez et al., 2020; Nguyen & Dang, 2020; van den Heuvel, 2002). Banks are cautious that a banking profile with a significant interest rate risk might result in possible losses and decrease bank equity

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

capital in the case of unexpectedly severe fluctuations in interest rates (Nguyen & Dang, 2020). Interest Rate Risk in The Banking Book (IRRBB) is the present or foreseeable risk to the bank's capital and earnings resulting from changes in interest rates that have an affect on its banking book (Indonesian Financial Services Authority, 2017). Banks typically measures IRRBB with change of Economic Value of Equity (ΔEVE), because it models how financial assets and liabilities might be affected by interest rate fluctuations. EVE examines the cash flow calculation that is produced by subtracting the present amount of all projected asset cash flows from the present amount of the projected cash flows on liabilities (Alhusaini, 2022).

Bank capital adequacy has remained stable during the COVID 19 pandemic. However, credit quality is declining, reflecting the state of the actual economy (Siregar et al., 2021). As an integral part of the financial system, banks are particularly susceptible to external shocks. Due to the lockdown and company closures, banks were susceptible to insolvency issues and cash management problems, which affected the demand for goods and services during the COVID 19 pandemic (Borio et al., 2020). This argument empirically proven that shown significant differences in banks performance during and following COVID 19 pandemics (Gazi et al., 2022; Noviani and Somantri 2021; Purwanto et al., 2023), but other studies found little to no significances (Anita, 2021; Ningsih et al., 2023; Ratri et al., 2022). According to aforementioned explanation, the research hypotheses are given below.

$H_1$ : There are substantial differences in Indonesian bank's soundness in regards of capital adequacy during and following the COVID-19 pandemic.
$H_2$ : There are substantial differences in Indonesian bank's soundness in regards of asset quality during and following the COVID-19 pandemic.
$H_3$ : There are substantial differences in Indonesian bank's soundness in regards of management quality during and following the COVID-19 pandemic.
$H_4$ : There are substantial differences in Indonesian bank's soundness in regards of earning ability during and following the COVID-19 pandemic.
$H_5$ : There are substantial differences in Indonesian bank's soundness in regards of liquidity during and following the COVID-19 pandemic.
$H_6$ : There are substantial differences in Indonesian bank's soundness in regards of sensitivity to market risk during and following the COVID-19 pandemic.

## C. RESEARCH METHODOLOGY

This study used descriptive comparative method with quantitative approach to answer prior research hypotheses. It relied on secondary data, namely annual financial statements from banks listed on the Indonesia Stock Exchange (IDX) obtained from bank's official website or IDX's website. The annual financial statements for 2020 and 2021 will be examined to assess the bank's performance throughout the COVID-19 pandemic, whereas 2022 financial statements will be used for evaluating post-pandemic performance. According to Circular Letter of The Financial Services Authority Number 12 /SEOJK.03/2018, banks with over five trillion rupiahs in tier 1 capital are obliged to employ IRRBB to measure interest rate risk. Therefore, 19 of the 47 banks listed on IDX that employed IRRBB are used as a sample, with the exception of Bank Syariah Indonesia as it just established in 2021.

Data were analyzed using descriptive statistics to obtain maximum, minimum, and standard deviation. To address research hypotheses, a normality test using Jarque-Bera Test was initially used to verify that data is distributed normally. Then, paired difference test is conducted with parametric analysis technique using Independent T-Test if normality test

Indonesian Development of Economics and Administration Journal
ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

results are normally distributed, while non-parametric analysis technique using Wilcoxon T-Test if otherwise.

Variables and their operational definition are compiled in table 1.

**Table 1. Variables and Operational Definition**

| No. | Variables | Indicator | Measurement |
|---|---|---|---|
| 1. | Capital | Capital Adequacy Ratio (CAR) | $\frac{Capital}{RWA} \times 100\%$ |
| 2. | Asset | Non-Performing Loans (NPL) | $\frac{Agg.\ Nonperforming\ Loans}{Total\ Loans} \times 100\%$ |
| 3. | Management | Operating Expenses to Assets Ratio (OER) | $\frac{Operating\ Expenses}{Total\ Assets} \times 100\%$ |
| 4. | Earnings | Return-on-Equity (ROE) | $\frac{Net\ Income}{Shareholder's\ Equity} \times 100\%$ |
| 5. | Liquidity | Loan-to-Deposit Ratio (LDR) | $\frac{Total\ Loans}{Total\ Deposits} \times 100\%$ |
| 6. | Sensitivity to Market Risk | Economic Value of Equity (ΔEVE) | $\Delta\ Market\ Value\ of\ Assets - \Delta\ Market\ Value\ of\ Liabilities$ |

**Source: Author's Elaboration**

## D. RESULTS AND DISCUSSION

### Descriptive Statistics

Desciptive statistics result is presented in Table 2. It depicts the highest, lowest, and average values of each indicator to help explain banking performance.

**Table 2. Desciptive Statistics**

| | CAR | NPL | OER | ROE | LDR | ΔEVE |
|---|---|---|---|---|---|---|
| Mean | 28,79 | 1,28 | 3,65 | 4,80 | 84,77 | 8,25 |
| Median | 23,52 | 0,90 | 2,99 | 7,47 | 82,02 | 6,83 |
| Maximum | 169,92 | 4,95 | 10,88 | 23,49 | 146,06 | 46,69 |
| Minimum | 9,52 | 0 | 0,85 | -82,58 | 41,07 | 0 |
| Std. Dev. | 23,93 | 1,13 | 1,99 | 18,50 | 24,65 | 7,90 |

**Source: Data Processed**

CAR as capital adequacy indicator has resulted in a mean value of 28,79%, with maximum value of 169,92 accomplished by Bank Jago, and minimum value of 9,52 achieved by Bank Pan Indonesia. This means that by merely toward CAR ratio, the Indonesian banking industry can be characterized as healthy, since its CAR value is above 8% as mentioned in Bank Indonesia Regulation Number 13/PBI/2011.

The average value of NPL as indicator for assets quality is 1,28%. Minimum value of NPL is 0%, an achievement by Bank Jago, while the highest value is 4,95% by Bank KB Bukopin. These numbers are below maximum NPL of 5%, as stated in Bank Indonesia Regulation Number 15/2/PBI/2013.

Indonesian Development of Economics and Administration Journal
ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

Operating Expenses to Assets Ratio as a measure of management quality resulted an average value of 3,65%. The most efficient bank management according to these numbers is Bank Pan Indonesia with OER score of 0,85 and the least efficient is Bank Jago, which has OER score of 10,88.

ROE as proxy for earning ability revealed a mean value of 4,80. Bank Mega consistently gave the highest ROE in banking industry for three consecutive years, with 23,49% being the maximum value. The least profitable bank is Bank KB Bukopin, which recorded consecutive losses with the minimum number of ROE is -82,58.

Liquidity measured with LDR showed a mean value of 84,77%, maximum value of 146,06 achieved by Bank Oke Indonesia, and minimum value of 41,07 by Bank Sinarmas. Industry average values still comply with Bank Indonesia Regulation Number 15/7/PBI/2013, stating that the limit of LDR is 78-92%. However, several banks have below limit of LDR (under 78%), indicates its illiquid and unhealthy condition.
Finally, sensitivity to market risk with change of Economic Value of Equity (ΔEVE) as proxy generates mean value of 8,25% and maximum value of 46,69% by Bank Jtrust Indonesia. Banks with 0% of ΔEVE means interest rate fluctuations have negligible exposure on their financial assets.

**Bank's Soundness During and Following COVID-19 Pandemic**

The normality test unveils that none of the data are normally distributed. The probability value of each indicator was lower than the significance value resulted from Jarque-Bera Test. Therefore, the Wilcoxon T-Test is performed, and the results are shown in Table 3.

**Table 3. Wilcoxon Method for Test for Equality**

| Model | Description | Value | Probability |
|---|---|---|---|
| Pair 1 | CAR during and following pandemic | 0,2793 | 0,7800 |
| Pair 2 | NPL during and following pandemic | 0,7279 | 0,4667 |
| Pair 3 | OER during and following pandemic | 0,6094 | 0,5423 |
| Pair 4 | ROE during and following pandemic | 1,0326 | 0,3018 |
| Pair 5 | LDR during and following pandemic | 0,4655 | 0,6416 |
| Pair 6 | ΔEVE during and following pandemic | 0,7702 | 0,4412 |

**Source: Data Processed**

Because these values are greater than the significance level (> 0,05), all hypotheses are rejected and indicating no substantial differences of bank's soundness during and following the COVID-19 pandemic. The absence of significant differences in CAR, NPL, and LDR comes as no surprise, because banks are mandated to maintain these numbers by the authorities. OER as proxy for management quality also shows no differences, since bank's management are forced to keep efficiency at the highest level to remain competitive, especially during financial downturn. The bank's profitability after the pandemic hasn't changed significantly as shown by ROE. However, average ROE is below the country's average ROE in 2016-2019 at 16,30% (theglobaleconomy.com, 2022), indicating the banking industry is unable to recover its profitability to pre-pandemic level. ΔEVE, as measurement for sensitivity to market risk, also shows no significant differences, since there was low volatility ini exchange rate during this period. It also indicates the bank's ability to manage its rate during the pandemic.

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

## E. CONCLUSIONS AND SUGGESTIONS

This study found no significant differences in financial performance of banking in Indonesia during and following the COVID-19 pandemic. Measurement of equality for capital adequacy, asset quality, management quality, earnings ability, liquidity, and sensitivity to market risks resulted above significant value.

It may indicate that the banking industry is able to withstand economic shock and maintain good financial performance. Capital adequacy and asset quality have been properly sustained at the minimum necessary levels. Additionally, management effectiveness can continue to make profits, although at lower level than pre-pandemic period. Liquidity is also in good performance, albeit it can be better since the economy is recovering and businesses are taking more loans. The bank's exposure to market risks was also unaffected during this period. It may also suggest that government policies to strengthen this industry against this economic setback are working, namely giving credit stimulus, lowering interest rates, and depositing government funds.

This study implies the importance of maintainin bank's soundness in any given conditions, either by management or by government. Management must take sufficient action to improve its effectiveness, thus increasing the bank's performance. The government must adopt suitable policies and procedures to assist the banking industry, particularly in sustaining their liquidity and capital adequacy.

The findings of the study may be included as reference material for future studies while considering some of its deficiencies. Regarding the deficiencies in this study, there are several other indicators that need to be examined to get more complete and accurate conclusions. More data also needs to be incorporated by extending the research period and including other corporations as research objects.

## REFERENCES

Alhusaini, M. (2022). Economic Value of Equity (EVE): Protection from Rising Interest Rates. Retrieved May 8, 2023, from CFA Institute Enterprising Investor website: https://blogs.cfainstitute.org/investor/2022/07/07/economic-value-of-equity-eve-protection-from-rising-interest-rates/

Altameemi, A. H., & Flayyih, H. H. (2021). A comparative Study in the Role of Private Sector in Relationships Analysis between Economic Sustainability and COVID-19: Evidence from Iraq and Russia. *Estudios de Economía Aplicada*, *39*(11), 3–13. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=8153274

Anita, A. (2021). PENGUKURAN TINGKAT KESEHATAN PERBANKAN SYARIAH DI MASA PANDEMI COVID-19. *Tazkiya*, *22*(1), 57–78. Retrieved from https://jurnal.uinbanten.ac.id/index.php/tazkiya/article/view/4925

Ayadurai, C., & Eskandari, R. (2018). Bank Soundness: A PLS-SEM Approach. *Partial Least Squares Structural Equation Modeling*, *267*, 31–52. https://doi.org/10.1007/978-3-319-71691-6_2

Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, *21*(6), 849–870. https://doi.org/10.1016/s0378-4266(97)00003-4

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

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. Retrieved from https://ssrn.com/abstract=3358873

Borio, C., Drehmann, M., & Xia, F. D. (2020). Forecasting recessions: the importance of the financial cycle. *Journal of Macroeconomics*, *66*, 1–27. https://doi.org/10.1016/j.jmacro.2020.103258

Boudriga, A., Boulila Taktak, N., & Jellouli, S. (2009). Banking supervision and nonperforming loans: a cross-country analysis. *Journal of Financial Economic Policy*, *1*(4), 286–318. https://doi.org/10.1108/17576380911050043

European Central Bank. (2010). *BEYOND ROE – HOW TO MEASURE BANK PERFORMANCE: Appendix to the report on EU banking structures*. Retrieved from https://www.ecb.europa.eu/pub/pdf/other/ beyondroehowtomeasurebankperformance201009en.pdf

Faozi, S., Sudiyatno, B., Puspitasari, E., & Poerwati, R. T. (2022). Bank Compliance Factors in Implementing Regulation Provisions on Bank Performance in Indonesia. *Academic Journal of Interdisciplinary Studies*, *11*(1), 317. https://doi.org/10.36941/ajis-2022-0028

Gazi, Md. A. I., Nahiduzzaman, Md., Harymawan, I., Masud, A. A., & Dhar, B. K. (2022). Impact of COVID-19 on Financial Performance and Profitability of Banking Sector in Special Reference to Private Commercial Banks: Empirical Evidence from Bangladesh. *Sustainability*, *14*(10), 1–23. https://doi.org/10.3390/su14106260

Gomez, M., Landier, A., Sraer, D., & Thesmar, D. (2020). Banks' exposure to interest rate risk and the transmission of monetary policy. *Journal of Monetary Economics*, *117*, 543–570. https://doi.org/10.1016/j.jmoneco.2020.03.011

Hane, G. (1998). *The Banking Crises of the 1980s and Early 1990s: Summary and Implications*. Federal Deposit Insurance Corporation. Retrieved from Federal Deposit Insurance Corporation website: https://www.fdic.gov/bank/historical/ history/3_85.pdf

Hussein, E. H. N., & 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. Retrieved from https://agbioforum.org/menuscript/index.php/agb/article/view/122

Kasmir. (2014). *Manajemen perbankan*. Jakarta: Raja Grafindo Persada.

Kasmir. (2019). *Analisis Laporan Keuangan*. Depok: Rajawali Pers.

Kumar, A., & Alam, M. (2018). Analysis of The Performance of Selected Public Sector Banks using Camels' Approach. *International Journal of Management Studies*, *V*(3), 145–153. https://doi.org/10.18843/ijms/v5i3(9)/18

Lindgren, C.J., Garcia, G. G., & Saal, M. I. (1996). *Bank Soundness and Macroeconomic Policy*. INTERNATIONAL MONETARY FUND. https://doi.org/10.5089/9781557755995.071

Marcu, M. R. (2021). The Impact of the COVID-19 Pandemic on the Banking Sector. *Management Dynamics in the Knowledge Economy*, *9*(2), 205–223. Retrieved from https://www.ceeol.com/search/article-detail?id=965978

Nair, S. T. G., & Asghede, S. Y. (2015). CAMELS and Bank Performance Measurement: A Case Study of Bank of Baroda. *International Journal of Banking, Risk and Insurance*, *3*(1). https://doi.org/10.21863/ijbri/2015.3.1.001

Nguyen, H. D. H., & Dang, V. D. (2020). Bank-Specific Determinants of Loan Growth in Vietnam: Evidence from the CAMELS Approach. *The Journal of Asian Finance, Economics and Business*, *7*(9), 179–189. https://doi.org/10.13106/jafeb.2020.vol7.no9.179

Ningsih, H. T. K., Barus, M. J., & Polem, I. (2023). Penilaian tingkat kesehatan sebelum dan sesudah Covid-19 pada bank umum syariah dengan menggunakan Metode Camels. *Proceeding of National Conference on Accounting & Finance*, *5*, 105–114. https://doi.org/10.20885/ncaf.vol5.art13

Noviani, E., & Somantri, Y. (2021). ANALISIS PERBANDINGAN TINGKAT KESEHATAN BANK RAKYAT INDONESIA (BRI) SEBELUM DAN SETELAH TERDAMPAK COVID-19 MENGGUNAKAN METODE CAMELS DAN RGEC. *JURNAL EKONOMI PERJUANGAN*, *3*(1), 49–62. https://doi.org/10.36423/jumper.v3i1.829

Nugroho, M., Halik, A., & Arif, D. (2020). Effect of CAMELS Ratio on Indonesia Banking Share Prices. *The Journal of Asian Finance, Economics and Business*, *7*(11), 101–106. https://doi.org/10.13106/jafeb.2020.vol7.no11.101

Purwanto, S., Perkasa, D. H., & Abadi, F. (2023). Assessment of Banking Conditions on Financial Distress During the Period of COVID-19 in Indonesia. *WSEAS Transactions on Business and Economics*, *20*, 467–474. https://doi.org/10.37394/23207.2023.20.42

Ratri, A. M., Suwandaru, A., Brimantyo, H., Nugraha, G. I. K., & Rasyid, A. (2022). Comparison of Indonesian Banking Performance Pre and Post Pandemic Covid-19. *Jurnal Bisnis Dan Manajemen*, *9*(1), 109–118. https://doi.org/10.26905/jbm.v9i1.7637

Rivai, V., Veithrizal, A. P., & Idroes, F. N. (2007). *Bank and financial institution management*. Jakarta: Raja Graffindo Persada.

Roman, A., & Şargu, A. C. (2013). Analysing the Financial Soundness of the Commercial Banks in Romania: An Approach based on the Camels Framework. *Procedia Economics and Finance*, *6*, 703–712. https://doi.org/10.1016/s2212-5671(13)00192-5

Sanni, M. R. (2010). Short Term Effect of Consolidation on Profitability of Nigerian Banks. *African Research Review*, *4*(1), 322–337. https://doi.org/10.4314/afrrev.v4i1.58232

Satti, A. H., Kanwal, S., Khalid, M., & Solangi, A. Q. (2022). Banks Soundness in Pakistan: SEM-PLS Approach. *Kashmir Economic Review*, *31*(1), 65–77. Retrieved from https://www.ker.org.pk/index.php/ker/article/view/409.

Siregar, R. Y., Gunawan, A. H., & Saputro, A. N. (2021). IMPACT OF THE COVID-19 SHOCK ON BANKING AND CORPORATE SECTOR VULNERABILITIES IN INDONESIA. *Bulletin of Indonesian Economic Studies*, *57*(2), 147–173. https://doi.org/10.1080/00074918.2021.1956397

Otoritas Jasa Keuangan. (2017). Standar Interest Rate Risk in The Banking Book (IRRBB). Retrieved from ojk.go.id website: https://ojk.go.id/id/kanal/perbankan/implementasi-basel/Documents/Pages/Consultative-Papers/Consultative%20Paper%20IRRBB.PDF

Susanti, Putra, R., & Bahtiar, M. D. (2023). Banking performance before and during the Covid-19 pandemic: Perspectives from Indonesia. *Cogent Economics & Finance*, *11*(1), 1–15. https://doi.org/10.1080/23322039.2023.2202965

ISSN (online) : 2963-5896 & ISSN (print) : 2964-0482

TheGlobalEconomy.com. (2022). Return on equity by country, around the world. Retrieved from theglobaleconomy.com website: https://www.theglobaleconomy.com/rankings/bank_return_equity/

van den Heuvel, S. J. (2002). Does bank capital matter for monetary transmission? *Economic Policy Review*, *8*(May), 259–265. https://doi.org/10.2139/ssrn.831946

Yoon, K., Sembel, R., & Malau, M. (2022). The Effect Of Return On Equity, Net Interest Margin, Loan To Deposit Ratio, Total Assets Turnover, And Assets To Equity On Price Earnings Ratio In Top Five Banks Of Indonesia And Korea: A Moderating Effect Of Interest Rate. *International Journal of Business, Economics and Law*, *27*(1), 71–84. Retrieved from http://repository.uki.ac.id/id/eprint/10117

Husain, T., & Sunardi, N. (2020). Firm's Value Prediction Based on Profitability Ratios and Dividend Policy. *Finance & Economics Review*, *2*(2), 13-26.

Nardi Sunardi Et Al (2020). Determinants of Debt Policy and Company's Performance, International Journal of Economics and Business Administration Volume VIII Issue 4, 204-213

Kadim, A., & Sunardi, N. (2022). Financial Management System (QRIS) based on UTAUT Model Approach in Jabodetabek. *International Journal of Artificial Intelligence Research*, *6*(1).

Sunardi, N., & Tatariyanto, F. . (2023). The Impact of the Covid-19 Pandemic and Fintech Adoption on Financial Performance Moderating by Capital Adequacy . *International Journal of Islamic Business and Management Review*, *3*(1), 102–118. https://doi.org/10.54099/ijibmr.v3i1.620

Sunardi, N. (2022). Liquidity and Asset Growth on Telecommunications Companies Value. *Jurnal SEKURITAS (Saham, Ekonomi, Keuangan dan Investasi)*, *5*(3), 299-307.

Widarnaka, W., Sunardi, N., & Holiawati, H. (2022). Pengaruh Pertumbuhan Perusahaan, Ukuran Perusahaan Dan Likuiditas Terhadap Nilai Perusahaan Dengan Kebijakan Hutang Sebagai Variabel Moderasi. *Jurnal Syntax Admiration*, *3*(10), 1341-1352.