MJIFM | MAJAPAHIT JOURNAL OF ISLAMIC FINANCE AND MANAGEMENT

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

COMPARATIVE ANALYSIS OF FINANCIAL PERFORMANCE OF SYARIAH AND CONVENTIONAL BANKS: A REVIEW FROM STATISTICS

Khairunnisa Khalida[1]
Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
Khairunnisakhalida03@gmail.com

Maulia Riska[2]
Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
mba.mauliarska@gmail.com

Nyak Angeli Ajianing[3]
Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
angeliajianing@gmail.com

Nurhasanah[4]
Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
nurhasanah@uinsu.ac.id

Abstract

Banking is an institution that has a significant impact on the real sector. The current banking system consists of different profit-sharing and interest-based systems, known in Islamic and conventional banks. Banking performance is an indicator of a country's economic performance. The financial performance of a bank or company can also be interpreted as a series of analyses conducted by the company to review the bank's compliance.Statistics makes a significant contribution to financial performance analysis. A statistical approach allows financial data to be processed objectively and generate reliable conclusions. The objective of this research is to analyze and compare the financial performance of Islamic banks and conventional banks in Indonesia.using a statistical science approach with indicators of Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin/Net Operating Margin (NIM/NOM).From the results of the analysis it is shown thatThere are significant differences in key profitability indicators (ROA and ROE) between conventional and Islamic banks, as confirmed by statistical hypothesis testing. This may be due to differences in

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

business models, risk management, and investment strategies between the two banking systems.

Keywords: Banking, Financial Performance, Conventional Banks, Islamic Banks, Statistics

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

INTRODUCTION

Banking is an institution that has a significant impact on the real sector (Ghoniyah and Hartono 2020; Adekola 2016). Banks play a role as capital providers to encourage business growth in the real sector, as explained in the theory of supply-led policy or supply-led finance (Zidan 2019; Supriyanto & Sasongko, 2025). The current banking system consists of different profit-sharing and interest-based systems, known in Islamic and conventional banks, which influence management behavior regarding earnings (Suripto 2023). Therefore, a study of earnings management in Islamic and conventional banks is necessary to address issues in controlling earnings (Lobo 2017).

Islamic banking is based on the principle of profit and loss sharing (PLS), while conventional systems rely on interest. Operationally, Islamic banking principles employ mudharabah and musyarakah techniques derived from classical jurisprudence to avoid usury (interest). Therefore, in their empirical studies, Prima Sakti and Mohamad (2018) and Suripto and Supriyanto (2021) state that real and distinct economic activities support business transactions in Islamic banking. Conventional banks operate debt-based and allow for risk transfer, while Islamic banks rely on asset intermediation and focus on risk sharing (Viphindrartin, Niken Wilantari, and Bawono 2022), Safiullah (2020), and Trinugroho, Risfandy, and Ariefianto 2018).

Banking performance is an indicator of a country's economic performance (Nurlatipah et al, 2023). According to Bank Indonesia, Indonesia's banking performance growth in December 2016 was considered quite good among ASEAN countries (Rinawati and Santoso 2019). Good performance is optimal performance (Maulidiyah 2020). The financial performance of a bank or

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

company can also be interpreted as a series of analyses conducted by the company to review the extent of the bank's compliance (Millah 2017). It also serves as a benchmark for the bank's strengths and weaknesses. By understanding the bank's strengths, these can be used for business development. Meanwhile, a bank's weaknesses can be used as a basis or benchmark for improving the bank's performance in the coming year (Anggraini Zareta, Ghafur, and Arifin 2024). Many tools are used to measure a company's financial performance, including ROI (Return on Investment), ROE (Return on Equity), and others, which are part of the profitability ratios (Wahyuni, Pasigai, and Adzim 2019).

Statistics are numbers derived from facts, while knowledge about these numbers is statistics (Pokhrel 2024). Statistics makes a significant contribution to financial performance analysis. A statistical approach allows financial data to be processed objectively and generates reliable conclusions (Margana et al. 2024). The use of methods such as t-tests, analysis of variance, and regression allows researchers to identify significant differences between the two types of banks based on empirical data.

Numerous studies have been conducted comparing the financial performance of conventional and Islamic banks. Research by Stefani (2017) found that financial performance indicators, including CAR, LDR/FDR, NPL/NPF, BOPO, and ROA, showed that only BOPO and ROA ratios exhibited significant differences, while the other three ratios showed no significant differences. A study by Umardani and Muchlish (2017) showed a significant difference in ROA between Islamic and conventional banks. However, overall, Islamic banking performed better than conventional banking during the study

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

period. Meanwhile, research by Komalasari and Wirman (2021) found no significant differences.

This study aims to analyze and compare the financial performance of Islamic banks and conventional banks in Indonesia using a statistical approach. The analysis focuses on key financial ratios over a specific period to determine whether there are significant differences that can be explained statistically. This study is expected to provide new insights for academics, financial practitioners, investors, and regulators in evaluating the national banking system. Furthermore, the results can serve as a reference in formulating financial policies and developing the banking industry going forward.

LITERATURE REVIEW

A theoretical framework contains several concepts, along with definitions and references to relevant scientific literature, as well as theories used in the study or research. A theoretical framework consists of concepts, definitions, and references to relevant scientific literature, as well as theories used in the study or research. The theoretical framework should demonstrate an understanding of theories and concepts relevant to the research topic and related to the broader field of knowledge being considered.

RESEARCH METHOD

The type of data used in this study is comparative descriptive data through a quantitative approach (Wahyuni, Pasigai, and Adzim 2019). The descriptive method is used to illustrate ratios, including Return on Assets (ROA) and Net Interest Margin/Net Operating Margin (NIM/NOM). The comparative

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

method is used to determine the results of the comparison between the two banks. A quantitative approach is also used to determine whether there are reasonable dissimilarities in financial performance across the financial ratios.

This study uses two stages of analysis techniques, namely (1) Descriptive analysis, according to (Sugiyono, 2017) which refers to a statistical approach used to examine data by providing detailed descriptions or depictions of collected information, without storing the intention to draw conclusions or general conclusions; and (2) Hypothesis testing in the form of independent sample difference tests. According to Ghozali, the t-test difference test is used to test whether there is a difference in the average of two unrelated samples (Iman Ghozali, 2016). The t-test difference test is carried out by comparing the average value of the two samples with the standard error of the difference in the average of the two samples. If the data is normally distributed, then use the Independent t-Test Difference Test; if not normally distributed, then use the Mann-Whitney Difference Test.

Kolmogorov-Smirnov Normality Test

The Kolmogorov-Smirnov test is a widely used normality test, especially since the advent of numerous statistical programs. The advantage of this test is its simplicity and the absence of differences in perception between observers, which often occurs with normality tests using graphs.

- $P < 0.05 \rightarrow$non-normal data distribution
- $P \geq 0.05 \rightarrow$normal data distribution

Mann-Whitney Test

Like the independent sample t-test, the Mann-Whitney test is also used by researchers to determine whether there is a difference in the means of two

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

unpaired samples. In this test, the samples used do not have to be equal in number. The advantage of the non-parametric statistical method, the Mann-Whitney test, is that it does not require the research data to be normally distributed. The hypothesis in this test is:

Hypothesis 1:

H0: There is no significant difference between the differences in financial performance with ROA indicators between conventional banks and Islamic banks.

H1: There is a significant difference between the differences in financial performance with ROA indicators between conventional banks and Islamic banks.

Hypothesis 2:

H0: There is no significant difference between the differences in financial performance with ROE indicators between conventional banks and Islamic banks.

H1: There is a significant difference between the differences in financial performance with ROE indicators between conventional banks and Islamic banks.

Hypothesis 3:

H0: There is no significant difference between the differences in financial performance with NIM/NOM indicators between conventional banks and Islamic banks.

H1: There is a significant difference between the differences in financial performance with NIM/NOM indicators between conventional banks and Islamic banks.

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

- P < 0.05→Reject H0
- P ≥ 0.05→Accept H1

RESULTS AND DISCUSSION

Descriptive Analysis

The conventional and Islamic banks sampled in this study comprised three relatively large banks: Bank BRI, Bank Mandiri, and Bank BNI. The following is a general overview of the average financial ratios of these three conventional and Islamic banks for the 2018-2022 period, comprising ROA, ROE, and NIM/NOM.

Tabel 1. Rata-Rata Rasio Keuangan Bank Konvensional

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
ROA	15	.50	3.76	38.44	2.5627	.91909
ROE	15	2.90	23.03	235.09	15.6727	5.51108
NIM	15	4.48	7.45	83.79	5.5860	.99961
Valid N (listwise)	15					

Based on Table 1. above, it can be seen that the average ROA of conventional banks during the 2018-2022 period was 2.5627, the average ROE of conventional banks during the 2018-2022 period was 15.6727, and the average NIM of conventional banks during the 2018-2022 period was 5.5860.

Tabel 2. Rata-Rata Rasio Keuangan Bank Syariah

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
ROA	15	.27	1.98	19.13	1.2753	.56907
ROE	15	1.45	16.84	148.55	9.9033	5.23569
NOM	15	.10	6.84	65.72	4.3813	2.53232
Valid N (listwise)	15					

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

Based on Table 2 above, it can be seen that the average ROA of Islamic banks during the 2018-2022 period was 1.2753, the average ROE of Islamic banks during the 2018-2022 period was 9.9033, and the average NOM of Islamic banks during the 2018-2022 period was 4.3813.

Normality Test

Tabel 3 Hasil Uji Normalitas ROA, ROE dan NIM/NOM Bank Konvensional dan Syariah
Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Jenis	Statistic	df	Sig.	Statistic	df	Sig.
ROA	Konvensional	.122	15	.200*	.953	15	.566
	Syariah	.272	15	.004	.851	15	.018
ROE	Konvensional	.141	15	.200*	.945	15	.451
	Syariah	.172	15	.200*	.904	15	.108
NIM/NOM	Konvensional	.193	15	.138	.882	15	.051
	Syariah	.301	15	.001	.770	15	.002

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3 shows that the variables were tested using the Kolmogorov-Smirnov method. The results show that not all indicators have a significance value of <5% or 0.05, indicating that the data is not normally distributed. Because the data is not normally distributed, the hypothesis will be tested using the Mann-Whitney test.

Mann-Whitney U Difference Test

Differences in ROA between Conventional Banks and Islamic Banks

Based on Table 4, the average ROA of conventional banks is higher than that of Islamic banks. The results of the difference test between the ROA of Conventional Banks and Islamic Banks show an Asymp. Sig. (2-tailed) value of 0.000 < 0.05, which means it is smaller than the sig level of 0.05. Therefore, the decision to reject H0 and accept H1 is taken. It can be concluded that there is a

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

significant difference between the ROA of Conventional Banks and Islamic Banks.

Differences in ROE between Conventional Banks and Islamic Banks

Tabel 4. Hasil Uji Beda *Mann-Whitney U* ROA Bank Konvensional dan Bank Syariah

Ranks

	Jenis	N	Mean Rank	Sum of Ranks
ROA	Konvensional	15	21.40	321.00
	Syariah	15	9.60	144.00
	Total	30		

Test Statistics[a]

	ROA
Mann-Whitney U	24.000
Wilcoxon W	144.000
Z	-3.677
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[b]

a. Grouping Variable: Jenis

b. Not corrected for ties.

Table 5.
Results of the Mann-Whitney U Difference Test for REO of Conventional Banks and Sharia Banks

Ranks

	Jenis	N	Mean Rank	Sum of Ranks
ROE	Konvensional	15	19.87	298.00
	Syariah	15	11.13	167.00
	Total	30		

Test Statistics[a]

	ROE
Mann-Whitney U	47.000
Wilcoxon W	167.000
Z	-2.720
Asymp. Sig. (2-tailed)	.007
Exact Sig. [2*(1-tailed Sig.)]	.006[b]

a. Grouping Variable: Jenis

b. Not corrected for ties.

Based on Table 5, the ROE value of conventional banks is also consistently higher. The results of the difference test between the ROE of

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

Conventional Banks and Sharia Banks show an Asymp. Sig. (2-tailed) value of 0.007 < 0.05, which means it is smaller than the sig level of 0.05, so the decision is taken to reject H0 and accept H1. It can be concluded that there is a significant difference between the ROE of Conventional Banks and Sharia Banks.

Differences between NIM/NOM of Conventional Banks and Sharia Banks

Table 6
Results of the Mann-Whitney U Difference in NIM/NOM of Conventional Banks and Sharia Banks

Ranks

	Jenis	N	Mean Rank	Sum of Ranks
NIM	Konvensional	15	16.40	246.00
	Syariah	15	14.60	219.00
	Total	30		

Test Statistics[a]

	NIM/NOM
Mann-Whitney U	99.000
Wilcoxon W	219.000
Z	-.561
Asymp. Sig. (2-tailed)	.575
Exact Sig. [2*(1-tailed Sig.)]	.595[b]

a. Grouping Variable: Jenis

b. Not corrected for ties.

Based on Table 6, the difference in NIM (for conventional banks) and NOM (for Islamic banks) is not too large. The results of the difference test between NIM/NOM of Conventional Banks and Islamic Banks show an Asymp. Sig. (2-tailed) value of 0.575 < 0.05, which means it is greater than the sig level of 0.05, so the decision is taken that H0 is accepted and H1 is rejected. It can be concluded that there is no significant difference between NIM/NOM of Conventional Banks and Islamic Banks.

Images, graphs, and photographs must be sharp and clear, and must cite the source from which they were taken or the process by which they were

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

obtained. All symbols must be explained. As with tables, captions for images, graphs, and photographs must be sufficient to present themselves independently. Images, graphs, and photographs must be reviewed in the manuscript.

Synthesis of Topic

Comparative analysis of the financial performance of Islamic banks and conventional banks is an important study for assessing the effectiveness and efficiency of each banking system. In statistical analysis, a quantitative approach is used to measure and compare financial performance indicators such as Return on Assets (ROA), Return on Equity (ROE), Non-Performing Financing (NPF)/Non-Performing Loan (NPL), liquidity ratios, and efficiency ratios.

Statistical tests such as the independent sample t-test, Mann-Whitney U test, or ANOVA can determine whether there are significant differences between the two types of banks over a given period. Furthermore, regression analysis and descriptive statistical analysis provide further insight into financial performance patterns and trends.

The results of this study generally indicate that differences in financial performance are not always significant, but there is a tendency for Islamic banks to be more stable in the face of crises due to their profit-sharing principles, while conventional banks tend to be more aggressive in pursuing profits. Using a statistical approach, this analysis is more objective and data-driven, aiding decision-making for investors, regulators, and bank management.

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

CONCLUSION

1. ROA (Return on Assets)

The average ROA of conventional banks is higher than that of Islamic banks. Based on statistical tests (the Mann-Whitney test), this difference is significant, indicating that conventional banks are more efficient at managing their assets to generate profits.

2. ROE (Return on Equity)

Conventional banks' ROEs are also consistently higher. Statistical tests show that the difference in ROE between conventional and Islamic banks is statistically significant, indicating that conventional banks are better able to maximize their returns on equity.

3. Student ID Number

The difference between NIM (for conventional banks) and NOM (for Islamic banks) is not significant. Statistical analysis shows an insignificant difference, indicating that the two types of banks' ability to generate income from intermediation activities is relatively comparable.

4. From a statistical point of view,

These results confirm that there are significant differences in key profitability indicators (ROA and ROE) between conventional and Islamic banks, as supported by statistical hypothesis testing. This may be due to differences in business models, risk management, and investment strategies between the two banking systems.

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

REFERENCES

Adekola, Omotayo Ajibike. 2016. "The Effect of Banks Profitability on Economic Growth in Nigeria." IOSR Journal of Business and Management

Anggraini Zareta, Dianalisa, Abd Ghafur, and Moh. Samsul Arifin. 2024. "Comparative Analysis of Financial Performance of Conventional Banks with Sharia Banks." Journal of Economics, Business, Management and Accounting (JEBMA). doi:10.47709/jebma.v4i1.3661.https://doi.org/10.47709/jebma.v4i1.3661

Ghoniyah, Nunung, and Sri Hartono. 2020. "How Islamic and Conventional Banks in Indonesia Contribute to Sustainable Development Goals Achievement." Cogent Economics and Finance 8(1).doi:10.1080/23322039.2020.1856458.https://doi.org/10.1080/23322039.2020.1856458

Komalasari, Ila, and Wirman Wirman. 2021. "Comparative Analysis of the Financial Performance of Conventional Banks and Sharia Banks for the Period 2015-2019." Journal of Business Accounting 14(2): 114–25. doi:10.30813/jab.v14i2.2511.https://doi.org/10.61132/pajamkeu.v1i4.436

Lobo, Gerald J. 2017. "Accounting Research in Banking – A Review." China Journal of Accounting Research. doi:10.1016/j.cjar.2016.09.003.https://doi.org/10.1016/j.cjar.2016.09.003

Margana, Marina Silvya, Muhammad Abdul Aziz Ramdhani, Muhammad Faizal Gitsni, Muhammad Rizki Haikal Kamil, Nahla Galuh Sandrina, and Mia Lasmi Wardiyah. 2024. "The Influence of Inferential Statistics in Investment Decision Making." Journal of Social Sciences, Management, and Accounting (JISMA) 3(2): 1307–14.

Maulidiyah, Nailin Nikmatul. 2020. "The Role of Organizational Culture in Increasing Job Satisfaction and Its Impact on Bank Indonesia Employee Performance." Journal of Business Management. doi:10.38043/jmb.v17i2.2383.https://doi.org/10.38043/jmb.v17i2.2383

Millah, Hayatul. 2017. "MEASUREMENT OF BANKING FINANCIAL PERFORMANCE BASED ON FINANCIAL RATIO ANALYSIS (Case Study of BSM, BMI and BNI Syariah Period." Iqtishodia 6(1): 33–48.

Nurlatipah, W. S., Rahman, F. ., & Toha, M. . (2023). Analysis of Financial Ratios on The Performance of Muamalat Indonesia Bank. *Majapahit Journal of Islamic Finance and Management*, *2*(1), 54–77. https://doi.org/10.31538/mjifm.v2i1.13

Pokhrel, Sakinah. 2024. "No TitleΕΛΕΝΗ." Αγαη 15(1): 37–48.

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

Prima Sakti, Muhammad Rizky, and Azhar Mohamad. 2018. "Efficiency, Stability and Asset Quality of Islamic Vis-à-Vis Conventional Banks: Evidence from Indonesia." Journal of Islamic Accounting and Business Research. doi:10.1108/JIABR-07-2015-0031.https://doi.org/10.1108/JIABR-07-2015-0031

Rinawati, Tri, and Aprih Santoso. 2019. "The Comparative Study of Islamic and Conventional Banks in Indonesia." Kodifikasia 13(2): 353. doi:10.21154/kodifikasia.v13i2.1772.https://doi.org/10.21154/kodifikasia.v13i2.1772

Safiullah, Md. 2020. "Bank Governance and Crisis-Period Efficiency: A Multinational Study on Islamic and Conventional Banks." Pacific Basin Finance Journal. doi:10.1016/j.pacfin.2020.101350.https://doi.org/10.1016/j.pacfin.2020.101350

Stefhani, Yosi. 2017. "Comparative Analysis of Financial Performance of Conventional Banks and Sharia Banks for the Period 2013-2016." Journal of Management 2(1): 21–32. doi:10.54964/manajemen.v2i1.102.https://doi.org/10.54964/manajemen.v2i1.102

Supriyanto, & Sasongko, F. N. (2025). The Connection Between Goals and Rewards in a Social Entrepreneurship. *Danadyaksa: Post Modern Economy Journal*, *2*(2), 134–153. https://doi.org/10.69965/danadyaksa.v2i2.116

Suripto. 2023. "Earnings Management Determinants: Comparison between Islamic and Conventional Banks across the ASEAN Region." Asia Pacific Management Review 28(1): 24–32. doi:10.1016/j.apmrv.2022.01.005.https://doi.org/10.1016/j.apmrv.2022.01.005

Suripto, and Supriyanto. 2021. "Characteristics of Banks as Determinants of Profit Management for Islamic and Conventional Banks in Asean." Accounting. doi:10.5267/j.ac.2021.2.020.

Trinugroho, Irwan, Tastaftiyan Risfandy, and Mochammad Doddy Ariefianto. 2018. "Competition, Diversification, and Bank Margins: Evidence from Indonesian Islamic Rural Banks." Borsa Istanbul Review. doi:10.1016/j.bir.2018.07.006.https://doi.org/10.1016/j.bir.2018.07.006

Umardani, Dwi, and Abraham Muchlish. 2017. "Comparative Analysis of the Financial Performance of Islamic Banks and Conventional Banks in Indonesia." Journal of Management and Services Marketing 9(1): 129–56. doi:10.25105/jmpj.v9i1.1438.

Viphindrartin, Sebastiana, Regina Niken Wilantari, and Suryaning Bawono. 2022. "The Comparison of The Islamic and Conventional Bank

Vol. 5 No. 2, 2025, 1840–1855 e-ISSN 2798-0170

Performance before and During Covid-19 Pandemic in Indonesia." Journal of Management and Business 21(1): 76. doi:10.24123/jmb.v21i1.574.https://doi.org/10.24123/jmb.v21i1.574

Wahyuni, Ika, Moh. Aris Pasigai, and Faidhul Adzim. 2019. "Profitability Ratio Analysis as a Tool to Measure Financial Performance at PT. Biringkassi Raya Semen Tonasa Group, Jl. Poros Tonasa 2 Bontoa Minasate'Ne Pangkep." Journal of Profitability, Faculty of Economics and Business 3(1): 22–35. https://journal.unismuh.ac.id/index.php/profitability.

Zidane, Khaled. 2019. "The Impact Of Banking Sector On Economic Growth: Empirical Analysis From Palestinian Economy." International Journal of Economics and Financial Issues. doi:10.32479/ijefi.7369.