Comparative Analysis Of The Efficiency Of Islamic Commercial Banks And Conventional Commercial Banks In Indonesia

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ABSTRACT

The purposive in this study to analyze efficiency of sharia banks and efficiency of conventional commercial banks and to compare the efficiency of sharia banks and conventional commercial banks in Indonesia in 2021. The research in this study is descriptive with a quantitative approach. The research sample was 46 banks 46 banks listed on the Indonesian Stock Exchange taken the purposive sampling method. The analysis method using Data Envelopment Analysis (DEA) which is sourced from input and output data for the financial reports of sharia commercial banks and conventional commercial banks in Indonesia in 2021, which is processed using DEAP 2.1 software. The results show that the findings show that of the 3 existing sharia commercial banks, there is 1 efficient bank and 2 inefficient banks with an average sharia bank efficiency of 85.267% and the least efficient sharia commercial bank is PT. Bank Panin Dubai Syariah, Tbk. The findings also show that of the 43 existing conventional commercial banks, there are 15 efficient banks and 28 inefficient banks with an average efficiency of conventional commercial banks of 85.153%.

ARTICLE INFO

1. Introduction

Banking is everything related to banks, including institutions, business activities, methods, and processes in carrying out business activities. Indonesian banking is based on economic democracy where its activities are carried out by the people, from the people, and for the people with the aim of improving the welfare of the people using the principle of prudence (Farchah and Kusmargiani, 2020).

A bank is a company or financial institution that is authorized by the government to collect and manage public funds in the form of savings, deposits and investments. These funds are then redistributed in various forms of credit, both consumptive and productive. The main role of banking in economic activities is to assist the movement of funds from fund owners to borrowers or those in need (Sugiarto and Lestari, 2017).

The role of the banking industry in this economy is very crucial because the existence of banks in the form of public trust is very important to maintain to increase the efficiency of intermediation and the efficiency of bank use and to prevent bank runs and panics (Dangnga & Haeruddin, 2018). The public gives good trust to banks to maintain their assets, banks can rotate and manage the money to be given to other parties and get results from it, so that it can have a sustainable impact on the economy as a whole where the wheels of the economy from production to consumption can run well (Dangnga & Haeruddin, 2018).

Broadly speaking, the role of banking in this economy is to carry out a transmission function where banking institutions have the ability to control the amount of money in circulation and banks also play a role in collecting and distributing funds from the community, so that the existence of the banking industry is one of the important milestones in the economy because the involvement of banks in collecting funds and distributing them back to the community will greatly help the development process and economic growth of the country (Simatupang, 2019). The sustainability of the Indonesian banking sector will depend on the ability of each banking institution to maintain high competitiveness.

This competitiveness can be reflected in the level of operational efficiency and the ability of banks to deal with any disturbances that arise, both internally and externally and the efficiency and resilience of the banking industry have an important role in supporting the economy (Muljawan, et al. 2014). A bank is a business entity whose activities are as an intermediary institution, namely collecting funds from the public in the form of deposits and redistributing them in the form of credit or other forms related to fulfilling the needs and desires of the community (Farchah and Kusmargiani, 2020). According to the Indonesian Sharia Banking Law No. 21 of 2008, it explains that banks consist of two types, namely Islamic commercial banks and conventional commercial banks. Islamic banks are banks that carry out their business activities based on sharia principles and according to their type consist of Islamic commercial banks and Islamic rural credit banks (Indonesian Sharia Banking Law No. 21 of 2008).

Furthermore, according to Munandar, et al. (2022), Islamic commercial banks are banks that carry out business activities based on sharia principles, namely the principles of Islamic law in banking activities based on fatwas issued by institutions that have the authority to determine fatwas in the sharia field that operate without relying on interest in providing financing and other services in payment transactions.

Then in the Indonesian Sharia Banking Law No. 21 of 2008 it is explained that conventional banks are banks that carry out their business activities conventionally, consisting of conventional commercial banks and people's credit banks. Meanwhile, according to Munandar, et al. (2022) that this conventional bank carries out its business activities conventionally, where in seeking profit and determining prices for its customers it uses the interest rate determination method. Munandar, et al. (2022) explained that the risks faced by Islamic banks and conventional banks are relatively the same, but Islamic banks have different levels of risk which will affect the value of weighted assets against the capital they have because they follow sharia principles.

The risks faced by Islamic commercial banks include credit risk, market risk, liquidity risk and operational risk because the contents of the balance sheet of Islamic commercial banks are different from the balance sheet of conventional commercial banks. The results of Miranti and Sari's (2016) research found that out of eleven Islamic commercial banks, only five Islamic commercial banks were able to achieve the efficient category during the research period and overall, Islamic commercial banks in Indonesia are still categorized as inefficient or not optimal in managing their resources. However, the average efficiency level in the last three years has increased. Research conducted by Rahmawati, et al. (2019) who in their research found that there was a difference in efficiency between conventional commercial banks and Islamic commercial banks during the 2013-2017 period and overall each bank achieved an efficiency level of 93.67% (conventional commercial banks) and 99.99% (Islamic commercial banks) which shows that Islamic commercial banks are more efficient than conventional commercial banks. Meanwhile, based on data from the Central Statistics Agency (BPS), the number of conventional commercial banks and Islamic commercial banks can be seen in Table 1.

Table 1 Number of Conventional Commercial Banks and Islamic Commercial Banks

No	Bank Name	2019	2020	2021
1	Conventional Commercial Bank - Limited Liability Bank	4	4	4
2	Conventional Commercial Bank - Regional Development Bank	24	25	25
3	Conventional Commercial Bank - National Private Bank	60	**58**	58
4	Conventional Commercial Bank - Foreign Bank Branch Office	8	8	8
5	Islamic General Bank - Regional Development Bank	2	2	2
6	Islamic General Bank - National Private Bank	12	12	**10**
	Number of Commercial Banks	**110**	**109**	**107**

Table 1 explains that there has been a decline in the number of conventional commercial banks and Islamic commercial banks in the last 3 years. The phenomenon that occurred in 2020 was a decline in the number of conventional commercial banks and in 2021 there was a decline in the number of Islamic commercial banks.

This indicates the inefficient performance of banks in Indonesia and this is an indication of a decline in financial performance that occurs in the banking world because banking efficiency can be seen from its performance. The performance of Islamic banking in several indicators shows better performance than conventional banking.

The growth of Islamic banking assets in 2022 was 15.63% higher than conventional banking of 9.50% during 2022 and Likewise, the growth of Islamic banking financing showed a better positive trend compared to conventional banking by recording growth of 20.44% in December 2022, higher than conventional banking of 10.72% (Financial Services Authority, 2022). One way to find out banking performance is by assessing efficiency. Efficiency assesses the ability to produce maximum output with existing input. The level of efficiency achieved is a reflection of good performance quality (Farchah and Kusmargiani, 2020). A bank financial system that runs efficiently will show an increase in bank profits, the amount of funds flowing from capital owners to borrowers and better bank services.

Therefore, various profitability analyses are needed to be achieved to avoid liquidity problems and even the possibility of business bankruptcy that can be detected early on. The higher the bank's profitability, the better the bank's financial performance (Sugiarto and Lestari, 2017). Measurement of banking efficiency can be carried out using various methods, but in the study, the efficiency analysis used the Data Envelopment Analysis (DEA) method because DEA has several advantages compared to other efficiency and productivity measurement methods, such as being able to consider many different inputs and outputs, including inputs and outputs that are difficult to measure financially. This method can also consider variations in the output produced by the company. Therefore, through this study, it is necessary to conduct a study on the comparison of the efficiency of Islamic commercial banks and conventional commercial banks in Indonesia in 2021 using the DEA method.

2. Method, Data, and Analysis

The type of research is descriptive research with a quantitative approach. Sekaran (2017) explains that descriptive research is a research method that is carried out with the main objective of creating a picture or description of a situation objectively and the descriptive research method is used to answer the problems being faced in the current situation. Meanwhile, Effendi (2012) said that descriptive research is intended for careful observation of certain system phenomena because in descriptive research, researchers develop concepts and collect facts. Meanwhile, according to Sugiyono (2017), the quantitative research method is a scientific method because it has met scientific principles, namely concrete, objective, measurable, rational and systematic. Quantitative research according to Sekaran (2017) is a scientific method whose data is in the form of numbers or figures that can be processed and analyzed using mathematical or statistical calculations. So through this study, the efficiency of Islamic commercial banks and the efficiency of conventional commercial banks will be described as well as a comparison between the efficiency of Islamic commercial banks

and the efficiency of conventional commercial banks in Indonesia in 2021. The type of data used in this study is secondary data taken from the financial statements of Islamic commercial banks and conventional commercial banks in Indonesia in 2021 which are registered with the IDX and the financial statements on the websites of each bank studied or used as a sample. The population of this study is Islamic commercial banks and conventional commercial banks registered with the IDX in 2021, totaling 55 banks. The sample in this study was taken from Islamic commercial banks and conventional commercial banks registered with the IDX as many as 55 banks. However, at the time of the study, only 3 Islamic commercial banks were found, only 43 conventional commercial banks had complete financial reports on the IDX in 2021, so the sample in this study was 46 banks. The sample in this study was taken using the purposive sampling method. The criteria for selecting samples based on research considerations are as follows:

1. Islamic commercial banks and conventional commercial banks listed on the IDX.
2. Islamic commercial banks and conventional commercial banks have complete financial report data (input and output).
3. Islamic commercial banks and conventional commercial banks have financial report data for the 2021 period.

The research analysis method was carried out to calculate the level of efficiency using the DEA analysis method. Sourced from the processing of input and output data from financial reports of Islamic commercial banks and conventional commercial banks in Indonesia in 2021. In its processing, DEAP software version 2.1 was used which is output-oriented. DEA, which is a method used to evaluate the productivity of a decision-making unit that is responsible for using a number of inputs to obtain a targeted output (Fatimah & Mahmudah, 2017). In order to obtain data on a level of efficiency, data processing using the DEA method is required first. The DEA method has two models, namely the Variable Return to Scale (VRS) model where the addition of input and output does not have similarities, which means that the addition of one input will not be followed by the addition of one output and the Constant Return to Scale (CRS) model where the addition of one input will also be followed by the addition of one output. Efficiency measurement using the DEA method must first determine the input and output variables that will be used to evaluate the efficiency of the research object. According to Huri & Susilowati (2002) there are three benefits of using efficiency measurements using the DEA method, as follows: Measuring various information about efficiency between economic activity units in order to identify the causal factors. As a benchmark for obtaining efficiency that is useful in facilitating comparisons between economic units of the same type. Determining policy implications that will increase their level of efficiency. According to Lestari (2015) there are limitations to using efficiency measurements using the DEA method, as follows:

a. All inputs and outputs must be specific and measurable.
b. The DEA method assumes that each input and output unit is identical to other units in the same type or kind.
c. The DEA method assumes the existence of CRS.
d. The weights of the input and output variables produced by the DEA method are difficult to interpret in economic value.

A financial report can be said to be efficient if it has a residual value close to one or equal to one (100 percent efficiency), and conversely if it has a residual value less than one, then the financial report is

considered inefficient in its performance (William et al. 2006). After conducting an efficiency analysis using the DEA method, a descriptive analysis was then carried out to see or compare the efficiency between sharia general and conventional general banks in Indonesia.

3. Result and Discussion

Efficiency of Islamic Commercial Banks

Table 2 Efficiency of Islamic Commercial Banks in 2021

No	Islamic General Bank	Score	Information
1	PT Bank Aladin Syariah Tbk	1	Efficient
2	PT Bank Syariah Indonesia	0.865	Not efficient
3	PT Bank Panin Dubai Syariah Tbk	0.693	Not efficient
Average		**85.267%**	**Not efficient**

Source : Research Results , 2024

Table 2 explains Of the 3 existing Islamic banks, there is 1 bank that is efficient because of score 1 and 2 bank no efficient because of score not enough from 1. From the data shows the average Islamic bank efficiency of 85.267%.

Efficiency of Conventional Commercial Banks

Research result general bank efficiency conventional 2021 based on DEA analysis , as following :

Table 3 Efficiency of Islamic Commercial Banks in 2021

No	Conventional Commercial Bank	Score	Information
1	PT Bank Central Asia Tbk	1	Efficient
2	PT Bank IBK Indonesia Tbk	1	Efficient
3	PT Bank Amar Indonesia Tbk	1	Efficient
4	Bank Jago Tbk.	1	Efficient
5	PT Bank MNC International Tbk.	0.801	Not efficient
6	PT Bank Capital Indonesia Tbk	1	Efficient
7	PT Bank Central Asia Tbk	0.913	Not efficient
8	PT Allo Bank Indonesia Tbk	1	Efficient
9	PT Bank KB Bukopin Tbk	0.782	Not efficient
10	PT Bank Mestika Dharma Tbk.	0.812	Not efficient
11	PT Bank Negara Indonesia (Persero) Tbk	0.975	Not efficient
12	PT Bank Rakyat Indonesia (Persero) Tbk	1	Efficient
13	PT Bank Bisnis Internasional Tbk.	1	Efficient
14	PT Bank Tabungan Negara (Persero) Tbk	1	Efficient
15	PT Bank Neo Commerce Tbk.	0.582	Not efficient
16	PT Bank JTrust Indonesia Tbk.	0.547	Not efficient
17	PT Bank Danamon Indonesia Tbk	1	Efficient
18	PT Banten Regional Development Bank Tbk	0.459	Not efficient
19	PT Bank Ganesha Tbk	0.696	Not efficient
20	PT Bank Ina Perdana Tbk	0.708	Not efficient
21	Regional Development Bank of West Java and Banten Tbk	0.95	Not efficient
22	East Java Regional Development Bank Tbk	0.756	Not efficient
23	PT Bank QNB Indonesia Tbk	0.705	Not efficient
24	PT Bank Maspion Indonesia Tbk.	0.744	Not efficient

25	PT Bank Mandiri (Persero) Tbk	1	Efficient
26	Bank Bumi Arta Tbk	0.716	Not efficient
27	PT Bank CIMB Niaga Tbk	0.828	Not efficient
28	PT Bank Maybank Indonesia Tbk	0.805	Not efficient
29	Bank Permata Tbk	0.807	Not efficient
30	Bank Sinarmas Tbk	0.718	Not efficient
31	Bank of India Indonesia Tbk	0.954	Not efficient
32	PT Bank BTPN Tbk	1	Efficient
33	Bank Victoria International Tbk	0.866	Not efficient
34	PT Bank Oke Indonesia Tbk	1	Efficient
35	Bank Artha Graha International Tbk	0.71	Not efficient
36	PT Bank Multiarta Sentosa Tbk	0.803	Not efficient
37	PT Bank Mayapada International Tbk	0.793	Not efficient
38	PT Bank China Construction Bank Indonesia Tbk	0.732	Not efficient
39	Bank Mega Tbk	1	Efficient
40	PT Bank OCBC NISP Tbk	0.895	Not efficient
41	PT Bank Nationalnobu Tbk.	0.724	Not efficient
42	Bank Panin Indonesia Tbk	0.835	Not efficient
43	PT Bank Woori Saudara Indonesia 1906 Tbk	1	Efficient
	Average	**85.153%**	**Not efficient**

Table 3 explains from 43 public banks existing conventional banks , there are 15 efficient banks because of score 1 and 28 banks that do not efficient because of score not enough from 1. From the data shows the average general bank efficiency conventional by 85.153%.

Comparison Efficiency of Islamic Commercial Banks and Conventional Commercial Banks

Research result show efficiency Islamic general banks and general banks conventional use approach *input* and *output* with DEA method in 46 *Decision Making Unit* (DMU) , presented as following

Table 4 Description Efficiency of Islamic Commercial Banks and Conventional Commercial Banks

No	Bank	Bank Type	Score	Note
1	PT Allo Bank Indonesia Tbk	Conventional	1	Efficient
2	PT Bank BTPN Tbk	Conventional	1	Efficient
3	PT Bank Rakyat Indonesia (Persero) Tbk	Conventional	1	Efficient
4	PT Bank Amar Indonesia Tbk	Conventional	1	Efficient
5	PT Bank Mandiri (Persero) Tbk	Conventional	1	Efficient
6	PT Bank Tabungan Negara (Persero) Tbk	Conventional	1	Efficient
7	PT Bank Woori Saudara Indonesia 1906 Tbk	Conventional	1	Efficient
8	PT Bank IBK Indonesia Tbk	Conventional	1	Efficient
9	PT Bank Business International Tbk .	Conventional	1	Efficient
10	Bank Mega Tbk	Conventional	1	Efficient
11	PT Bank Aladin Syariah Tbk	Sharia	1	Efficient
12	PT Bank Central Asia Tbk	Conventional	1	Efficient
13	PT Bank Danamon Indonesia Tbk	Conventional	1	Efficient
14	PT Bank Oke Indonesia Tbk	Conventional	1	Efficient
15	PT Bank Jago Tbk .	Conventional	1	Efficient
16	PT Bank Capital Indonesia Tbk	Conventional	1	Efficient

17	PT Bank Negara Indonesia (Persero) Tbk	Conventional	0.975	Not efficient
18	Bank of India Indonesia Tbk	Conventional	0.954	Not efficient
19	Regional Development Bank of West Java and Banten Tbk	Conventional	0.950	Not efficient
20	PT Bank Central Asia Tbk	Conventional	0.913	Not efficient
21	PT Bank OCBC NISP Tbk	Conventional	0.895	Not efficient
22	Bank Victoria International Tbk	Conventional	0.866	Not efficient
23	PT Bank Syariah Indonesia	Sharia	0.865	Not efficient
24	Bank Panin Indonesia Tbk	Conventional	0.835	Not efficient
25	PT Bank CIMB Niaga Tbk	Conventional	0.828	Not efficient
26	PT Bank Mestika Dharma Tbk .	Conventional	0.812	Not efficient
27	Bank Permata Tbk	Conventional	0.807	Not efficient
28	PT Bank Maybank Indonesia Tbk	Conventional	0.805	Not efficient
29	PT Bank Multiarta Sentosa Tbk	Conventional	0.803	Not efficient
30	PT Bank MNC International Tbk .	Conventional	0.801	Not efficient
31	PT Bank Mayapada International Tbk	Conventional	0.793	Not efficient
32	PT Bank KB Bukopin Tbk	Conventional	0.782	Not efficient
33	East Java Regional Development Bank Tbk	Conventional	0.756	Not efficient
34	PT Bank Maspion Indonesia Tbk .	Conventional	0.744	Not efficient
35	PT Bank China Construction Bank Indonesia Tbk	Conventional	0.732	Not efficient
36	PT Bank Nationalnobu Tbk .	Conventional	0.724	Not efficient
37	Bank Sinarmas Tbk	Conventional	0.718	Not efficient
38	Bank Bumi Arta Tbk	Conventional	0.716	Not efficient
39	Bank Artha Graha International Tbk	Conventional	0.710	Not efficient
40	PT Bank Ina Perdana Tbk	Conventional	0.708	Not efficient
41	PT Bank QNB Indonesia Tbk	Conventional	0.705	Not efficient
42	PT Bank Ganesha Tbk	Conventional	0.696	Not efficient
43	PT Bank Panin Dubai Syariah Tbk .	Sharia	0.693	Not efficient
44	PT Bank Neo Commerce Tbk .	Conventional	0.582	Not efficient
45	PT Bank JTrust Indonesia Tbk .	Conventional	0.547	Not efficient
46	PT Banten Regional Development Bank Tbk	Conventional	0.459	Not efficient
Average			**0.851**	**Not efficient**

Then Table 4 shows the measurement results of 46 Islamic commercial banks and conventional commercial banks, there are 16 efficient banks and 30 inefficient banks with an average efficiency score of 46 banks in 2021 of 0.852. This means that the financial performance of Islamic commercial banks and conventional commercial banks has a relative efficiency level of 85.2%, so on average

there is an inefficiency of 14.8%. Then the results of the DEA analysis provide recommendations for 30 inefficient banks to conduct benchmarks (references) to efficient banks (peers).

Table 5 *Peers* **and number of Banks**

FIRM	Bank	Total Benchmark	Peer Bank DMU Inefficient
11	PT Allo Bank Indonesia Tbk	23	1. PT Bank Mestika Dharma Tbk , 2. PT Bank Negara Indonesia (Persero) Tbk, 3. PT Bank JTrust Indonesia Tbk , 4. PT Bank Pembangunan Daerah Banten Tbk, 5. PT Bank Ganesha Tbk , 6. PT Bank Ina Perdana Tbk, 7. Bank of West Java and Banten Tbk, 8. Bank of West Java and Banten Tbk, 9. PT Bank Maspion Indonesia Tbk., 10. Bank Bumi Arta Tbk , 11. PT Bank CIMB Niaga Tbk ,12. PT Bank Maybank Indonesia Tbk,13. Bank Permata Tbk,14. Bank Sinarmas Tbk , 15. Bank of India Indonesia Tbk, 16. Bank Victoria International Tbk , 17. Bank Artha Graha International 18. PT Bank Multiarta Sentosa Tbk, 19. PT Bank Mayapada International Tbk,20. PT Bank China Construction Bank Indonesia Tbk,21. PT Bank OCBC NISP Tbk ,22. PT Bank Nationalnobu Tbk.,23. Bank Pan Indonesia Tbk
35	PT Bank BTPN Tbk	18	1. PT Bank Mestika Dharma Tbk ., 2. PT Bank Neo Commerce Tbk ., 3. PT Bank JTrust Indonesia Tbk ., 4. PT Bank Ina Perdana Tbk , 5. West Java and Banten Regional Development Bank Tbk , 6. PT Bank QNB Indonesia Tbk , 7. PT Bank Maspion Indonesia Tbk . 8. Bank Bumi Arta Tbk , 9. PT Bank Maybank Indonesia Tbk , 10. Bank Permata Tbk , 11 Bank Victoria International Tbk , 12. Bank Artha Graha International 13. PT Bank Multiarta Sentosa Tbk 14. PT Bank Mayapada International 15. PT Bank China Construction Bank Indonesia Tbk16. PT Bank OCBC NISP Tbk17. PT Bank Nationalnobu Tbk ., 18. Bank Panin Indonesia Tbk
15	PT Bank Rakyat Indonesia (Persero) Tbk	12	1. PT Bank Negara Indonesia (Persero) Tbk , 2. PT Bank Ganesha Tbk 3. PT Bank Ina Perdana Tbk 4. Regional Development Bank of West Java and Banten Tbk 5. Regional Development Bank of East Java Tbk 6. PT Bank CIMB Niaga 7. PT Bank Maybank Indonesia Tbk 8. Bank Permata Tbk 9. Bank Sinarmas Tbk 10. PT Bank Multiarta Sentosa Tbk 11. PT Bank OCBC NISP Tbk 12. Bank Pan Indonesia Tbk
6	PT Bank Amar Indonesia Tbk	8	1. PT Bank Neo Commerce Tbk . 2. PT Bank JTrust Indonesia Tbk . 3. PT Bank Pembangunan Daerah Banten Tbk 4. Bank Pembangunan Daerah Jawa Barat dan Banten Tbk 5. PT Bank QNB Indonesia Tbk 6. Bank Sinarmas 7. Bank Victoria International Tbk 8. Bank Artha Graha International Tbk
28	PT Bank Mandiri (Persero) Tbk	8	1. PT Bank Mestika Dharma Tbk ., 2. Bank Bumi Arta Tbk. 3. PT Bank Maybank Indonesia Tbk. 4. PT Bank Mayapada International 5. PT Bank China Construction Bank Indonesia Tbk 6. PT Bank OCBC NISP Tbk 7. PT Bank Nationalnobu 8. Bank Panin Indonesia Tbk
17	PT Bank Tabungan Negara (Persero) Tbk	4	1. PT Bank Negara Indonesia (Persero) Tbk , 2. PT Bank CIMB Niaga 3. PT Bank Maybank Indonesia Tbk 4. Bank Panin Indonesia Tbk
46	PT Bank Woori Saudara Indonesia 1906 Tbk	4	1. PT Bank JTrust Indonesia Tbk . 2. PT Bank Pembangunan Daerah Banten Tbk. 3. PT Bank QNB Indonesia Tbk. 4. PT Bank Maspion Indonesia Tbk .
5	PT Bank IBK Indonesia Tbk	2	1. PT Bank Negara Indonesia (Persero) Tbk 2. Bank Victoria International Tbk
16	PT Bank Business International Tbk .	2	1. PT Bank Pembangunan Daerah Banten Tbk , 2. Bank of India Indonesia Tbk
42	Bank Mega Tbk	2	1. PT Bank Neo Commerce Tbk . 2. Bank Victoria International Tbk.
1	PT Bank Aladin Syariah Tbk	1	1. Bank of India Indonesia Tbk
4	PT Bank Central Asia Tbk	1	PT Bank Negara Indonesia (Persero) Tbk
20	PT Bank Danamon Indonesia Tbk	1	Bank Artha Graha International Tbk
37	PT Bank Oke Indonesia Tbk	1	PT Bank JTrust Indonesia Tbk .

7	PT Bank Jago Tbk .	0
9	PT Bank Capital Indonesia Tbk	0

Tabel 6 *Radial Movement Output* (%) Bank Umum Syariah dan Bank Umum Konvesional

Bank	Skor	Radial Muvement (%)		
		PO	KPN	ROA
Islamic Commercial Bank				
PT Bank Syariah Indonesia	0.865	15.6314%	15.6314%	15.6317%
PT Bank Panin Dubai Syariah Tbk.	0.693	44.2067%	44.2067%	44.2098%
Average	**77.9000%**	**29.9191%**	**29.9191%**	**29.9207%**
Conventional Commercial Bank				
PT Bank Negara Indonesia (Persero) Tbk	0.975	2.5513%	2.5513%	2.5514%
Bank of India Indonesia Tbk	0.954	4.8690%	4.8690%	4.8690%
Bank Pembangunan Daerah Jawa Barat dan Banten Tbk	0.950	5.2938%	5.2938%	5.2938%
PT Bank Central Asia Tbk	0.913	9.5431%	9.5431%	9.5423%
PT Bank OCBC NISP Tbk	0.895	11.7154%	11.7154%	11.7169%
Bank Victoria International Tbk	0.866	15.4810%	15.4810%	15.4810%
Bank Pan Indonesia Tbk	0.835	19.7573%	19.7573%	19.7577%
PT Bank CIMB Niaga Tbk	0.828	20.7778%	20.7778%	20.7786%
PT Bank Mestika Dharma Tbk.	0.812	23.1068%	23.1070%	23.1054%
Bank Permata Tbk	0.807	23.9642%	23.9642%	23.9649%
PT Bank Maybank Indonesia Tbk	0.805	24.2472%	24.2472%	24.2476%
PT Bank Multiarta Sentosa Tbk	0.803	24.6032%	24.6032%	24.6035%
PT Bank MNC Internasional Tbk.	0.801	24.8466%	24.8466%	24.8464%
PT Bank Mayapada Internasional Tbk	0.793	26.1284%	26.1284%	26.1266%
PT Bank KB Bukopin Tbk	0.782	27.8583%	27.8583%	27.8611%
Bank Pembangunan Daerah Jawa Timur Tbk	0.756	32.2445%	32.2445%	32.2455%
PT Bank Maspion Indonesia Tbk.	0.744	34.3897%	34.3896%	34.3920%

PT Bank China Construction Bank Indonesia Tbk	0.732	36.5526%	36.5527%	36.5516%
PT Bank Nationalnobu Tbk.	0.724	38.1023%	38.1022%	38.1017%
Bank Sinarmas Tbk	0.718	39.2857%	39.2857%	39.2871%
Bank Bumi Arta Tbk	0.716	39.6232%	39.6203%	39.6197%
Bank Artha Graha Internasional Tbk	0.710	40.8949%	40.8949%	40.8944%
PT Bank Ina Perdana Tbk	0.708	41.2985%	41.2985%	41.2981%
PT Bank QNB Indonesia Tbk	0.705	41.8711%	41.8711%	41.8762%
PT Bank Ganesha Tbk	0.696	43.7499%	43.7498%	43.7528%
PT Bank Neo Commerce Tbk.	0.582	71.9300%	71.9300%	71.9292%
PT Bank JTrust Indonesia Tbk.	0.547	82.8488%	82.8489%	82.8447%
PT Bank Pembangunan Daerah Banten Tbk	0.459	117.8918%	117.8917%	117.8947%
Rata Rata	**77.2000%**	**33.0509%**	**33.0508%**	**33.0512%.**

Table 7 shows that the average for Islamic banks radial movement output 1 (operational income) of 29.9191%, output 2 (credit) loan customers) of 29.9191% and output 3 (ROA) of 29.9207%. While in general conventional banks average radial movement output 1 (operational income) of 33.0509%, output 2 (credit) loan customers) of 33.0508% and output 3 (ROA) of 33.0512%. This is show that the general conventional banks need increase percentage radial movement larger compared to general Islamic banks. Therefore, in order for banks that are not efficient can become efficient, then need to increase the percentage of operational income, credit loan customers, ROA according to reference from results analysis DEA application. Therefore, the bank that is least efficient own reference marks the largest radial movement.

Efficiency of Islamic Commercial Banks

Findings show Of the 3 existing Islamic general banks , there is 1 efficient bank and 2 banks that are not. efficient on average efficiency of Islamic banks is 85.267%. In Islamic general banks , the least efficient PT. Bank Panin Dubai Syariah, Tbk . According to Rambe (2021) explains that efficiency is related to the relationship between *output* (in the form of goods or services) that produced with *inputs* (resources). used to generate *output* . In line with the opinion Azwari et al (2020) said that performance finance is indicator important in evaluate activity operations carried out by a company because of functioning For see how far is the ability company in produce profit and gain specific cash position in a way effective and efficient . Meanwhile , Siudek (2008) explains efficiency as an indicator that shows the ability of company managers and staff to maintain the rate of increase in revenue and profit above the rate of increase in operational costs.

Efficiency of Conventional Commercial Banks

Findings show from 43 public banks existing conventional banks , there are 15 efficient banks and 28 inefficient banks. efficient on average general bank efficiency conventional by 85.153%. In general banks conventional the most efficient PT. Allo Bank Indonesia, Tbk . From the data shows the

average general bank efficiency conventional by 85.153%. According to Muazaroh et al. (2012) explains that efficiency is the ability of an organization to maximize *output* using certain *inputs* or to use minimal *inputs to produce certain outputs* Azwari et al (2020) explained performance finance in banking in a way general shown through report finance and analysis ratios finance For see to what extent a company has carry out using rules implementation finance in a way good and right . More carry on Muazaroh et al. (2012) said efficiency is the ability of an organization to maximize *output* using certain *inputs* or to use minimal *inputs to produce certain outputs* . Siudek (2008) explains efficiency as an indicator that shows the ability of company managers and staff to maintain the rate of increase in revenue and profit above the rate of increase in operational costs.

Comarison Efficiency of Islamic Commercial Banks and Conventional Commercial Banks

Findings show that mark greater efficiency of Islamic commercial banks big compared to general banks conventional referred to by 23 inefficient banks and the least efficient banks efficient is PT. Bank Pembangunan Daerah Banten Tbk with a score of efficiency only 0.459. Of the 46 Islamic general banks and general banks conventional There are 16 banks that are efficient and 30 banks that are not efficient with score the average efficiency of 46 banks in 2021 was 0.852. This means performance Islamic general bank finance and general banks conventional own level relatively efficiency by 85.2%, then on average happen inefficiency of 14.8%. Meanwhile , seen from from average the efficiency of Islamic general banks is 77.9000%, while in Islamic general banks conventional by 77.2000%, this show average efficiency of Islamic general banks is greater tall from a public bank conventional . Then the average for Islamic banks *radial movement output* 1 (income operational) of 29.9191%, *output* 2 (credit) loan customers) of 29.9191% and *output* 3 (ROA) of 29.9207%. While in general banks conventional average *radial movement output* 1 (income operational) of 33.0509%, *output* 2 (credit) loan customers) of 33.0508% and *output* 3 ROA of 33.0512%. This is show that the general bank conventional need increase percentage *radial movement* more large compared to general Islamic banks . Therefore , in order for banks that do not efficient can become efficient , then need increase percentage income operational , credit loan customers and ROA according to the reference from results analysis DEA application . Therefore , the bank that is at least efficient own reference mark the largest radial *movement* . Study it also found a public bank conventional need increase percentage *radial movement* more large compared to general Islamic banks . Therefore , in order for banks that do not efficient can become efficient , then need improve and achieve efficient bank *output* in accordance *peer* , and vice versa If they No try increase *output* nya , then will happen *the output gap* is getting wider big with other banks . Low bank efficiency naturally must made into attention For improved , because efficiency This No can improved and become decrease so will impact happen risk liquidity . Risk liquidity can appear in various form and situation . One of them is the bank's inability to access sufficient cash funds when required , which can happen consequence various factor like dependence on funding term short , or change economy that is not unexpected . Efficiency of Islamic commercial banks and general banks conventional in producing maximum *output with existing input* is a reflection of good performance quality. The bank's financial system runs efficiently in term short Of course have an impact on increasing bank profits , the amount of funds flowing from capital owners to borrowers and in the long term long can increase trust in society and ultimately can increase the image of the bank itself . For increase performance of Islamic general banks and general banks conventional can improved by

doing efficiency efforts so that every assets used in operation can produce profit as expected and in giving credit to customers For reduce amount bad and problematic credit. Findings study This according to the study Rahmawati et al.'s research (2019) found that there was a difference in efficiency between conventional commercial banks and Islamic commercial banks during the 2013-2017 period and overall each bank achieved an efficiency level of 93.67% (conventional commercial banks) and 99.99% (Islamic commercial banks) which shows that Islamic commercial banks are more efficient than conventional commercial banks . Then study This is also supported by the results study Argarina and Kamaliah (2016) found this that there is a significant difference between Islamic banks and conventional banks in the ROA ratio, (*Debt Equity Ratio*) (DER), Operating Expenses to Operating Income (BOPO), *Net Performing Loan* (NPL) and *Loan To Deposit Ratio* (LDR). Study This This is also in line with research conducted by Lestari and Huda (2020) which found that level efficiency of Islamic general banks owned by government area more low from the average efficiency of national Islamic commercial banks Good in terms of CRS and VRS technically and the differences efficiency between Islamic general banks owned by government areas with national Islamic general banks 2015-2019 period no significant . More carry on Azwari et al (2020) in his research find a spec profitability , Islamic commercial banks have better ROA quality good compared to conventional commercial banks and the CAR ratio of Islamic commercial banks is smaller compared to the average CAR of Islamic banks. general conventional in other words CAR of general banks conventional more Good compared to Islamic general banks . However the average value of both Already in accordance Bank Indonesia's provisions are: above 8% and ratio *Non Performing Financing* (NPF/NPL) of general banks conventional own NPL quality is better Good compared to Islamic general banks. Study This depart behind with research Santano (2018), conventional commercial banks are superior in NPL, GCG, ROA, and CAR ratios and Islamic commercial banks are superior in LDR ratios . Meanwhile , research by Munandar, et al. (2022) in his research found that there were significant differences for each financial ratio between Islamic commercial banks and conventional commercial banks listed on the Indonesia Stock Exchange for the period 2014-2018 .

Furthermore , in a study conducted by Miranti and Sari (2016), out of 11 Islamic commercial banks, only 5 were able to achieve the efficient category in the research period and overall , where Islamic general banks in Indonesia are still categorized as inefficient in managing their resources , although the average efficiency level has increased in the last three years. Farchah and Kusmargiani (2020) found that there is difference performance between owned banks government and private banks national foreign exchange from level efficiency , private banks national foreign exchange more superior compared to government banks and variables private bank *input* and *output* national foreign exchange more A little in operate function its intermediation compared to owned banks government . The implementation of the ASEAN economic community in 2015 and the integration of ASEAN banking has caused competition in the banking sector in Indonesia to become increasingly tight and estimates using quantitative methods can identify which variables/factors have a positive and negative effect on banking efficiency and the calculation of bank credit interest rates is influenced by many factors, both internal and external (Muljawan , et al. 2014). Marsondang et al (2019) found that bank size, *Capital Adequacy Ratio* , and *Loan to Deposit Ratio* are proven to have a significant positive influence on the efficiency of banks listed on the Indonesia Stock Exchange and internal factors such as *Non Performing Loans* have been proven to have a significant negative impact on the efficiency of banks listed on the IDX. and external factors such as the rupiah exchange

rate, BI interest rates and gross domestic product have been shown not to have a significant positive influence on the efficiency of banks listed on the IDX in the period of 2015-2018. 2013 -2017. The consensus that comes from microeconomic theory, namely producer theory and consumer theory , Producer theory states that producers try to maximize profits and minimize costs, while consumer theory states that consumers try to maximize their level of utility or level of satisfaction. (Lestari and Huda, 2020). Azwari et al (2020) explained theory *signal* explain reason company For give information report finance on the part external related to the existence of asymmetry information between party management company with party outside . Party management company own more Lots information as well as know prospects company in the future come . Information the Can in the form of report finance , information policy company and also other information that is done in a way voluntary by management company . *Signal theory* to put forward about How should A company give *signal* to user report finance . This signal in the form of information about what has been done by management For to realize desire owner. general banks and commercial banks conventional which is not efficient can become efficient , then need increase percentage income operational , such as increase amount ATM transactions by means of place the ATM at the point strategic , improve *volume* For reduce burden bank reserves , increase composition amount savings in low-cost funds , such as savings or current accounts , and maximize assets owned For maximize profit. If This can done , then the bank will have a chance become more efficient that will impact on the image of the bank in the community and the bank can more can compete with other banks .

4. Conclusion and Suggestion

Conclusion study this , as following :

1. From 3 Islamic general banks there is 1 bank that is efficient and 2 banks that are not efficient . In Islamic general banks , the least efficient PT. Bank Panin Dubai Syariah, Tbk.
2. From 43 public banks existing conventional banks , there are 15 efficient banks and 28 inefficient banks. efficient . In general banks conventional the most efficient PT. Allo Bank Indonesia, Tbk.
3. efficiency value of Islamic general banks is higher big compared to general banks conventional referred to by 23 inefficient banks and the least efficient banks efficient is PT. Regional Development Bank of Banten Tbk.

Advice to Islamic commercial banks and general banks conventional which is not efficient need increase efficient , according to the bank that becomes recommendations to be able to become efficient and for for those who have efficient expected can maintain and more increase Again performance his finances , so that can the more Good in the future .

Then the general Islamic banks and general banks conventional which is not efficient can increase percentage *output* income operational , credit loan customers , and ROA accordingly recommendation *radial movement.* Study This only researching 1 year period that is period 2021 and in the period 2021 there are several banks registered with the IDX but No own report finance , so that No can be *downloaded* and not can made into sample in study This .

To further researchers need to conduct research with additional the year studied is at least 5 years , so that can know *trend* efficiency that occurs in Islamic commercial banks and general banks

conventional from year to year . Next also needed to be done research to conduct a t-test for see variable *input* or *output* that has a significant influence on value bank efficiency.

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