

## EFFICIENCY ANALYSIS OF GOLD PAWN IN ISLAMIC COMMERCIAL BANKS IN INDONESIA

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### **Abstract**

*Sharia pawnshops serve the lower middle class community by providing financial services. Furthermore, during the Covid-19 pandemic, sharia pawnshops were among the most popular financial institutions among those in need of short-term loans. Because of its high value and consistent demand, a pawnable asset, such as gold, is required to guarantee the loan. Furthermore, as competition in the sharia pawn industry grows, so does the presence of Islamic banking in the Indonesian gold pawn industry. The goal of this study was to examine the efficiency of the gold pawning product at five Islamic Commercial Banks (BUS) using a non-parametric Data Envelopment Analysis approach (DEA). In this study, an intermediate approach was used to determine input and output variables. The wadiah deposit bonus, general and administrative expenses, salaries and allowances, and other expenses are the input variables in this study. Meanwhile, the output variables are qardh loans, murabahah margin income, and other service income. According to the study's findings, the efficiency of sharia gold pawn products at BUS in Indonesia fluctuates between 2015 and 2020, with the average bank increasing efficiency during the COVID-19 pandemic. This study also looks into the possibility of improving inefficient programmes based on input and output variables; however, the results show that no potential improvement is needed because the initial data and projection are identical. This research can also be used to help other DMUs improve their efficiency.*

**Keywords:** *Islamic Bank, Efficiency, DEA Analysis, Sharia Gold Pawn.*

### **Abstrak**

*Pegadaian syariah melayani masyarakat menengah ke bawah dengan menyediakan jasa keuangan. Selain itu, di masa pandemi Covid-19, pegadaian syariah menjadi salah satu lembaga keuangan yang paling banyak diminati oleh masyarakat yang membutuhkan pinjaman jangka pendek. Karena nilainya yang tinggi dan permintaan yang konsisten, aset yang dapat digadaikan, seperti emas, diperlukan untuk menjamin pinjaman tersebut. Selanjutnya, seiring dengan semakin ketatnya persaingan di industri gadai syariah, kehadiran perbankan syariah di industri gadai emas Indonesia juga semakin meningkat. Tujuan dari penelitian ini adalah untuk mengkaji efisiensi produk gadai emas pada lima Bank Umum Syariah (BUS) dengan menggunakan pendekatan Data Envelopment Analysis (DEA) non parametrik. Dalam penelitian ini digunakan pendekatan antara untuk menentukan variabel input dan output. Bonus simpanan wadiah, biaya umum dan administrasi, gaji dan tunjangan, serta biaya lainnya merupakan variabel input dalam penelitian ini. Sedangkan variabel outputnya adalah pinjaman qardh, pendapatan margin murabahah, dan pendapatan jasa lainnya. Berdasarkan temuan kajian tersebut, efisiensi produk gadai emas syariah pada BUS di Indonesia berfluktuasi antara tahun 2015 dan 2020, dengan rata-rata bank meningkatkan efisiensi selama pandemi COVID-19. Kajian ini juga melihat kemungkinan untuk memperbaiki program yang tidak efisien berdasarkan variabel input dan output; namun, hasil menunjukkan bahwa potensi peningkatan tidak diperlukan karena data awal dan proyeksi identik. Penelitian ini juga dapat digunakan untuk membantu DMU lain meningkatkan efisiensinya.*

**Kata Kunci:** *Bank Syariah, Efisiensi, Analisis DEA, Gadai Emas Syariah.*

## **INTRODUCTION**

For 2 years, Indonesia has been hit by the coronavirus (Covid-19) pandemic. Since the first case was announced, the surge in positive patients has continued to occur and continues to increase until it reaches 57,770 as of August 2020. Covid-19 has caused the economic situation around the world to deteriorate, even the world financial institution, the International Monetary Fund (IMF) projects global growth in 2020. reached -4.9 percent (IMF, 2020). While in Indonesia, economic data is usually in the range of 5%, but the realization in the first quarter of 2020 was only 2.97%. The decline continued into the second quarter of which the realization was minus 5.32%, so that Indonesia is currently experiencing a recession due to the Covid-19 outbreak, which is increasingly uncertain in terms of completion and the number of sufferers is still increasing (BPS, 2020). In Indonesia, the coronavirus (Covid-19) has a negative impact, especially for people with a lower middle class economy, such as the occurrence of Termination of Work Rights (PHK) for both formal and informal workers, and small entrepreneurs who are unable to maintain their business.

Referring to the current conditions due to the coronavirus (Covid-19), the sharia pawnshop is an alternative financing for the community based on sharia rules. Sharia pawnshops have the task of providing loan funds to customers by using pawned goods as collateral for the debt. Furthermore, sharia pawnshops are shown to people with weak (small) economic groups by providing access to convenience, speed, and security in lending. Basically sharia pawnshops have a modeling contract that has a productive purpose, such as *rahn*, *mudharabah*, *ba'i muqayyadah* and *musyarakah* contracts. Thus, sharia pawnshops can be used to mobilize SMEs (Small and Medium Enterprises) to be able to grow and develop, so that the real sector can grow well and quickly (Said Mokhtar & Mellett, 2013).

According to research (Aziz, 2016; Sharif et al., 2013) assets that can be pawned in sharia pawnshops are only in the form of gold and jewelry. The pawnshop only accepts gold bullion or jewelry that has a guarantee as a guarantee due to the strong and stable value of gold and jewelry. In its management, pawning gold has two concepts, namely conventional and sharia. Islamic pawnshops are a financing product, where sharia pawnshops provide loan facilities to customers with the qard principle which guarantees goods in the form of gold, then the sharia pawnshop will collect returns on the loans provided (Kadim & Ismail, 2021). Along with the development of the Islamic finance industry in Indonesia, the sharia pawnshop business is not only owned by non-bank entities such as sharia pawnshops, but competition in the sharia pawnshop industry is increasing with the emergence of several competitors from the sharia banking industry as well as individual players such as gold shops that can be found in various locations. With the appearance

of several competitors, the market share of sharia pawnshops in Indonesia fluctuates. The factors that determine customers in choosing a sharia pawnshop are because they have friendly services, massive promotions, fast and easy procedures, various facilities, strategic locations, and the system used in accordance with applicable regulations in Indonesia (Roikhan, 2017).

Sharia pawnshops have a fairly simple procedure and there is no need to open an account. In addition, flexible installment payments and implementing sharia contracts make people interested in obtaining loans from pawnshops. Therefore, in the midst of the Covid-19 pandemic situation, the measurement of efficiency is very important because it is one of the benchmarks that underlies the company's overall performance by optimally maximizing output for the utilization of its input resources. Islamic financial institutions, especially Islamic pawnshops, are responsible for their overall performance as shown in the annual report as a tool in assessing the company's performance over a period of one year. Not only that, the importance of measuring efficiency is also beneficial for various stakeholders including regulators, bank management, shareholders, consumers and customers. Therefore, based on these problems and potentials, this study aims (1) to determine the average development of the efficiency of gold pawn products in the five BUS (Islamic Public Banks) in Indonesia for the 2015-2020 period, (2) to determine the efficiency of pawning gold against the five BUS (Sharia Commercial Banks) in Indonesia during the 2015-2020 period of the Covid-19 Pandemic, (3) To find out the Potential Improvement of the five BUS (Sharia Commercial Banks) in Indonesia for the 2015-2020 period, (4) To determine the efficiency value of DMU (Decision Making Unit) of the five BUS (Sharia Commercial Banks) in Indonesia for the 2015-2020 period.

The Covid-19 outbreak started in Wuhan, China. On December 31, 2019, the WHO China Country Office reported a case of pneumonia of unknown etiology in Wuhan City, Hubei Province, China. Then on January 30, 2020, WHO has declared it a *Public Health Emergency of International Concern* (KKMMD/PHEIC). The increase in the number of Covid-19 cases is happening quite quickly and has already spread between countries (Neufeld, Dorothy, 2020). Many parties, ranging from individual experts and credible institutions, are concerned that the Covid-19 pandemic will not only have an impact on the economic crisis, but the economic depression with a stronger and larger impact magnitude greatly affects, so that it can last longer than the 1997-1998 crisis. In addition, the Covid-19 pandemic has also had a tremendous impact on the world economy, especially Indonesia, as well as the threat of a recession and even depression that has hit many affected countries (Junaedi, 2020).

According to (Boyce et al, 2018), an increase in unemployment and a decrease in income is one aspect that triggers an economic recession, this can happen because in the long term unemployment and a decrease in income will result in a large decrease in welfare. The major impact of a prolonged economic recession will result in a decline in mental health in the population of a country. This decline in mental health is a reflection of society facing extreme difficulties in the distribution of welfare. The potential for an economic recession that occurred in the Covid-19 era is a form of recession that began with a health crisis that requires each country to take more responsive policies such as regional quarantine and so on. This health crisis subsequently resulted in a decline in economic activity which was marked by a number of problems that had characteristics similar to those that occur in an economic recession. In this case, if the economic problems that arise as a result of this pandemic last for a long time, it is feared that an economic recession will occur.

## **METHODOLOGY**

### ***Data***

This study uses a non-parametric quantitative approach with the *Data Envelopment Analysis* (DEA) method. Initially Dea was developed by Charnes, Cooper & Rhodes (1978) and later expanded by Banker, Charnes, & Cooper (1984) to measure the efficiency and productivity of business units. This allows some *outputs* (weighted) and some *inputs* (weighted) to measure efficiency or productivity which is usually referred to as the weighted level of *output resulting from the given input* .

### **Model Development**

In the literature study on efficiency, DEA is widely used to measure technical efficiency, including the efficiency of financial institutions (Sharma et al., 2013). In addition, the DEA method can also provide information about the *Decision Making Unit* (DMU). In this context, Islamic commercial banks in Indonesia are inefficient in the use of inputs and what are the variables that cause inefficiency. Finally, this method can produce information about how much input and output must be adjusted to achieve a relatively maximum efficiency value

A business unit is said to be efficient if it can produce maximum output for a certain level of production (input), or if a unit can minimize costs for a certain level of output. Ozcan (2008) divides efficiency into several aspects: technical efficiency, scale efficiency, cost efficiency, and allocation efficiency. The process of converting inputs into outputs is known as

technical efficiency. Because this research only applies to the internal technical relationship between inputs and outputs, a company is considered economically effective if it can reduce production costs to produce certain outputs.

### Method

There are two basic models in DEA, namely the Charnes, Chopper & Rhodes (CCR) model and the Bankers, Charnes & Rhodes (BCR) model. The CCR model is used with the assumption that changes in the output value produced by the DMU will always be the same as the proportion of adding a certain output value. This is in line with the Constant Return to Scale (CRS) assumption that the production function is fixed. Meanwhile, the BCR model assumes that changes in the output value produced by the DMU are different for each proportion of changes in certain input values. This is in line with the Variable Return to Scale (VRS), which means that each input does not necessarily produce the same output. Therefore, in this study on the efficiency of banks that have a sharia gold pawn business, it is calculated by comparing the CRS and VRS models, with an intermediation approach to reflect the activities of these Islamic banks.

### Sources and Methods of Data Collection

This study uses Islamic Commercial Banks in Indonesia registered with Bank Indonesia and the Financial Services Authority which has gold pawn product services during the 2015-2020 period. The following are the names of the BUS that are the object of this research, including Mandiri Syariah Banks, Bukopin Syariah Banks, BRI Syariah Banks, BNI Syariah Banks, and Mega Syariah Banks. Furthermore, the input variables used in this study are the wadiah deposit bonus, promotion expenses, labor costs, and other expenses. Meanwhile, the output variables used are total murabahah margin revenue and service revenue. The selection of input-output variables is in line with Roikhan's research (2017). Data related to the input and output variables used were obtained from the financial statements and annual reports of each bank.

**Table 1. Operational Variables**

<b>Input</b>	<p><b>X1. Wadiah deposit bonus expense</b> : cost incurred the company for the cost of wadiah care, in this case the cost of gold deposit.</p> <p><b>X2. Promotional expenses</b> : expenses incurred by company for the purpose of product promotion of the relevant BUS.</p>
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<b>Output</b>	<p><b>X3. Labor expenses :</b> company expenses such as employee salaries and other benefits</p> <p><b>X4. Other expenses:</b> work and office service costs and operating expenses</p> <p><b>Y1. Murabaha margin income :</b> revenue margin murabaha activities.</p> <p><b>Y2. Service revenue :</b> service revenue resulting from services on the sharia company</p>
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## RESULTS AND DISCUSSION

### Analysis of Sharia Pawn Product Efficiency

The sharia pawnshop is one of the sharia service units carried out by the Pegadaian Public Company (Perum) in addition to the conventional service unit. The establishment of this sharia service unit is based on a profit sharing agreement between Bank Muamalat Indonesia (BMI) and Perum Pegadaian with the principle of musharaka. In the Musyarakah Agreement Number 446/SP300.233/2002 and Number 015/BMI/PKS/XII/2002. BMI as the owner of capital provides funds to Perum Pegadaian for the establishment of Sharia Pawnshops throughout Indonesia and processes them. Meanwhile, income is divided into two, namely 45.5% for BMI and 54.5% for Perum Pegadaian Syariah. The definition of pawn in Islam is called *rahn* , which is an agreement to hold something as debt. The word *rahn* according to language means "to stay", "to continue" and "to endure". Meanwhile, according to the term means to make something of value according to the view of *syara'* as a debt dependent; with the existence of a debt liability, all or part of the debt can be accepted. According to the Civil Code (KUHPdt) article 1150, Pawn is a debt agreement with movable property as collateral, the guarantee is so that the goods that are the object of the guarantee can be under the authority of the pawn holder (Nasution, 2016).

According to (Rais, 2008), in Indonesia pawnshops have had a long history. Improving the community's economy by providing loan money based on the law of pawning to small communities, in order to avoid the practice of borrowing money at unreasonable interest is the mission of the pawnshop. Affirmed in the Decree of the Minister of Finance No. Kep 39/MK/6/1/1971 dated January 20, 1970 with the following tasks: 1) Fostering the economy of the small people by channeling credit on the basis of the law of pawning to: (a) Farmers, fishermen, small traders, small industries, which are productive, (b) Workers / civil servants whose economy is weak and consumptive. 2) Participate in preventing improper lending, illicit pawnshops and other usury practices. 3) In addition to channeling credit, as well as other businesses that are beneficial, especially for the government and the community. 4) Fostering credit patterns so that they are truly directed, useful and if necessary expand the area of operation.

According to (Sasli, 2005), the nature of the pawnshop business in principle is to provide services for the public benefit, and at the same time to cultivate profits based on management principles. Therefore, the pawnshop has the following objectives and functions: 1) Participate in implementing and supporting the implementation of government policies and programs in the field of economy and national development in general through the distribution of loan/financing money on the basis of the law of pawning. 2) This is to prevent people who are in need of money from falling into the hands of moneylenders or bondholders, or moneylenders whose interest is relatively high. 3) Preventing illicit pawnshops and unreasonable lending.

Meanwhile, the main functions of pawnshops (Hadi, 2003) are as follows: 1) Manage the distribution of loan money on the basis of pawn law in an easy, fast, safe, and economical way. 2) Creating and developing other profitable businesses for the Pawnshop and the community. 3) Manage finances, equipment, personnel, and training, 4) Manage the organization, work procedures, pawnshop management and 5) Conducting research and development, as well as supervising the management of Pawnshops.

According to (Yuli, 2009) the definition of efficiency in terms of economic theory, it is divided into two types, namely technical efficiency and economic efficiency. Technical efficiency has a microeconomic point of view and its measurement tends to be limited to technical and operational savings in the process of converting *inputs* to *outputs*. Meanwhile, in terms of economic efficiency, it has a macroeconomic point of view and prices can be considered *given*, because prices can be influenced by macro policies. In addition, the general definition of efficiency is the ratio of *output* to *input*. The concept of efficiency begins with the concept of microeconomic theory, namely the theory of producers tends to maximize profits and minimize costs. Meanwhile, on the other hand, consumer theory states that consumers tend to maximize their utility or level of satisfaction.

**Table 2. Research Gap**

No	Researcher Name	Research Title	Methodology	Research result
1.	Silvi Aprillia Devi et al (2022)	Sharia Banking Efficiency in Indonesia 2015- 2020 Period	DEA (Data Emploiment Analysis)	Each bank has a different efficiency score. The number of banks that have experienced efficiency is 9 banks and 4 banks still have not achieved efficiency. Then the average efficiency scores of

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				BUS and UUS are 65.17% and 66.34%, respectively.
2.	Syahrul Wahyudi & Andri Soemitra (2022)	Dynamics of Selection of Input-Output Variables in Islamic Banking Efficiency Research in Indonesia.	Bibliometrics and Content Analysis	There is a tendency of research on the efficiency of Indonesian Islamic banking which leads to the selection of a particular approach, input variable and output variable, namely the intermediary approach.
3.	Abdul Mujib et al (2021)	Analysis of Islamic Banking Efficiency During the Covid-19 Pandemic Using Data Emvelopment Analysis (DEA).	DEA (Data Emplotment Analysis)	Several banks initially experienced 100% efficiency and during the pandemic experienced inefficiency with the CRS model and VRS model in June, July, August, and November 2020. Among them were BRI Syariah, BJB Syariah, BCA Syariah, and Bank Syariah Bukopin.
4.	Evandri Notalin et al (2021)	The Impact of Covid-19 on the Financial Performance Efficiency of Islamic Commercial Banks in Indonesia Using the Data Emplotment Analysis (Dea) Approach.	DEA (Data Emplotment Analysis)	There are 7 Sharia Commercial Banks that have an efficiency level that reaches 100% in the period before the 2019 COVID-19 pandemic and in the 2020 COVID-19 pandemic period there are 7 Sayriah Commercial Banks that reach 100% efficiency levels and individually there is 1 Sharia Commercial Bank that during the 2 research periods did not reach the level of efficiency, namely Mandari Syariah Bank.



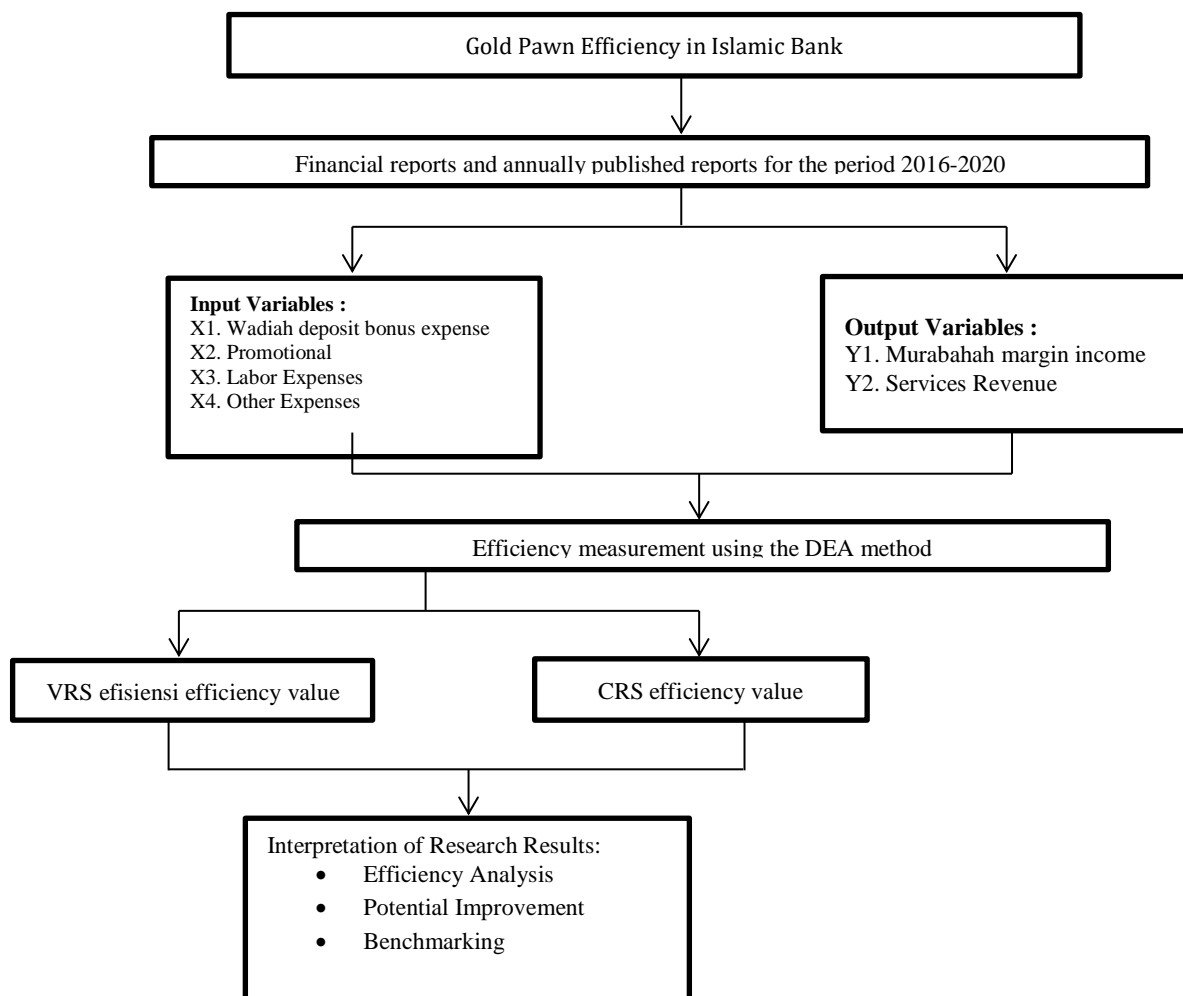
5. Fadia Ayu Ningrum et al (2021) Profitability Analysis on Operational Efficiency in Islamic Banking. Multiple Linear Regression Partially ROA (Return on Equity) has a negative and significant effect on operational efficiency, ROE has a positive but not significant effect on operational efficiency.
6. Desmy Riani & Denia Maulani (2020) Determinants of Islamic Banking Efficiency : Two Stage Data Envlopnent Analysis. DEA (Data Employment Analysis) and Tobit regresi Regression Model Analysis From 2014-2018 Islamic banks experienced a decrease in efficiency levels, and there were three banks that during that period always achieved a 100% technical efficiency level, namely Bank Syariah Mandiri, BJB Syariah, Bank Victoria Syariah.
7. Fitri Sagantra (2020) Banking Efficiency Analysis Using Data Employment Analysis (DEA) Methods and Islamic Values. DEA (Data Employment Analysis) Islamic values during the research period, namely 2010-2016, fluctuated. The results of the analysis of the efficiency level with Islamic values can affect the efficiency level of Banak Syariah, where the Islamic Bank that has the best level of efficiency is Bakn Syariah Y.
8. Rizka Amelia Sumardi (2020) Comparative Analysis of Efficiency of Islamic Banking and Indonesian Conventional Banking. DEA (Data Employment Analysis) with Intermediatio n approach This research shows that there is no significant difference in efficiency values between Islamic banking and conventional banking.
9. Zahrina Qurrota a'yun (2018) Efficiency and Prospects for the Development of Indonesian Sayriah Banks in DEA (Data Employment Analysis) The efficiency of the two Indonesian Islamic banks has a higher average efficiency score with a score of 1 in 2016 and Malaysia's Islamic banking has the highest score of 0.99 in 2014. The

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	the Financial Sector 2020 (Comparative Study: Indonesian Islamic Banks and Malaysian Islamic Banks 2011-2016 Period.		inefficiency value is caused by the slack movement of each variable.
10. Rezki Syahri Rakhmadi (2010)	Analysis of Indonesian Islamic Banking Efficiency and Productivity	DEA (Data Employment Analysis) with an analytical approach using the Malmquis index and followed by Spearman correlation	Islamic banking in Indonesia has experienced an increase in productivity caused by technological factors. In addition, this study also found a negative correlation between assets and efficiency, where the greater the asset, the lower the efficiency and found a positive correlation between the input and output variables, where increasing inputs will result in increased output.

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**Table 3. Research Framework**



Efficiency is used to measure the ability to use or manage the company's production assets. Efficiency measurement is needed in the context of business development. In addition, efficiency is a measure of how appropriate the use of assets (inputs) in production activities. Thus, in essence efficiency limits the company's unnecessary expenses. Theoretically, efficiency is one of the performance parameters that underlies all organizational and operational performance. Calculation of the efficiency of gold pawning products at the five BUS in Indonesia including Bank Syariah Mandiri, Bank Syariah Bukopin, Bank BRI Syariah, Bank BNI Syariah, and Bank Mega Syariah using four input variables and two output variables. Table 1.2 provides an overview of the input and output variables used in this study. The table shows descriptive statistics of the

input and output of the gold pawn product variable in Islamic Commercial Banks (BUS) for the 2015-2020 period.

**Table 4. Descriptive Statistics**

Variable	mean	Std. Dev	Max	Min
<b>Input</b>				
Wadiah deposit bonus burden	47,187	57,873.09	277,538	0
Promotional expenses	38,971	34,583.85	114,244	1.595
Labor load	745,433	707,672.06	2,375,667	71,978
Miscellaneous expenses	569,753	487 . 671.33	1,856,062	64,566
<b>Output</b>				
Murabaha margin income	1,765,201	1,509,707.66	4,808.050	109.481
Service revenue	1,492,442	1,232,587.50	4,539,934	242,372

**Efficiency Level**

The efficiency of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia has been checked using the DEA method every year by investigating using a *common frontier* . Table 1.3 below is the average *Technical Efficiency* (TE), *Pure Technical Efficiency* (PTE), and *Scale Efficiency* (SE) of the five BUS for 2015 (Panel A), 2016 (Panel B), 2017 (Panel C) , 2018 (Panel D), 2019 (Panel E), 2020 (Panel F), and overall (Panel G) .

**Table 5. Summary of Gold Pawn Product Efficiency Scores at BUS from Year on Year**

Years/ Type of Efficiency	mean	Min	Max	SD
<b>Panel A (2015)</b>				
TE	0,981	0,905	1,000	0,038
PTE	0,989	0,946	1,000	0,021
SE	0,991	0,957	1,000	0,017
<b>Panel B (2016)</b>				
TE	0,978	0,923	1,000	0,030
PTE	1,000	1,000	1,000	0,000
SE	0,978	0,923	1,000	0,030
<b>Panel C (2017)</b>				
YOU	0.962	0.852	1,000	0.055

ETP	0.991	0.955	1,000	0.018
SE	0.970	0.893	1,000	0.039
<b>Panel D (2018)</b>				
YOU	0.970	0.874	1,000	0.049
ETP	0.999	0.994	1,000	0.003
SE	0.972	0.874	1,000	0.049
<b>Panel E (2019)</b>				
TE	0.944	0.825	1,000	0.072
PTE	0.999	0.993	1,000	0.003
SE	0.945	0.831	1,000	0.070
<b>Panel F (2020)</b>				
TE	0.960	0.822	1,000	0.070
PTE	1,000	1,000	1,000	0,000
SE	0.960	0.822	1,000	0,070
<b>Panel G (All Years)</b>				
TE	0,966	0,822	1,000	0,056
PTE	0,996	0,946	1,000	0,012
SE	0,970	0,822	1,000	0,052

From the table above, it is known that the highest TE score for gold pawn products from Islamic Commercial Banks (BUS) in Indonesia was in 2015 (0.981) and the highest PTE scores were in 2016 (1,000) and 2020 (1,000). Meanwhile, the lowest TE score was in 2019 (0.944) and the lowest PTE score was in 2015 (0.989). Based on the results of the s analysis , the efficiency scores of the five banks tend to fluctuate from year to year.

**Table 6. Efficiency Score**

DMU	CRS					
	2015	2016	2017	2018	2019	2020
BNI Syariah Bank	1,000	1,000	1,000	0.999	1,000	1,000
BRI Syariah Bank	0.905	0.970	0.983	0.874	0.825	0.981
Mega Syariah Bank	1,000	1,000	0.989	0.979	1,000	1,000
Bukopin Islamic Bank	1,000	0.923	0.852	1,000	1,000	1,000

Independent Islamic Bank	1,000	1,000	0.987	1,000	0.894	0.822
<b>VRS</b>						
<b>DMU</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
BNI Syariah Bank	1,000	1,000	1,000	1,000	1,000	1,000
BRI Syariah Bank	0.946	1,000	1,000	1,000	0.993	1,000
Mega Syariah Bank	1,000	1,000	1,000	0.994	1,000	1,000
Bukopin Islamic Bank	1,000	1,000	0.955	1,000	1,000	1,000
Independent Islamic Bank	1,000	1,000	1,000	1,000	1,000	1,000

**Table 7. Average Efficiency Score**

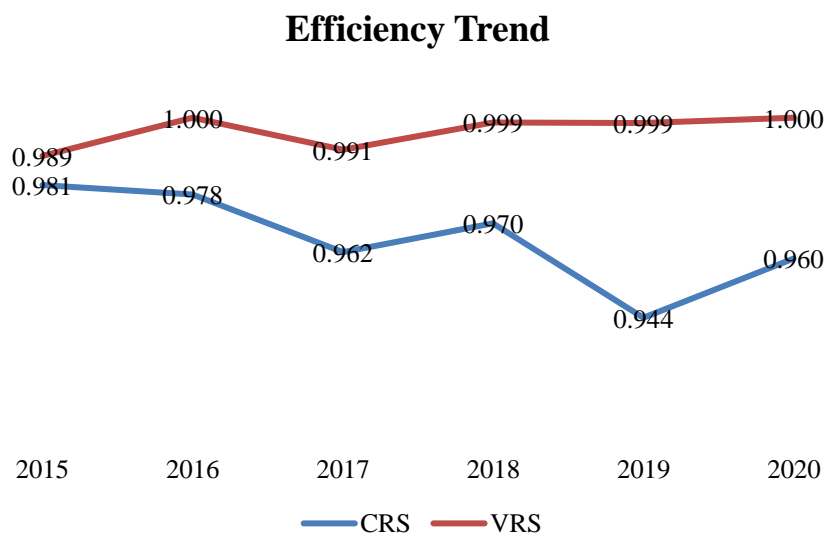
NO	DMU	CRS	VRS
1.	BNI Syariah Bank	1,000	1,000
2.	BRI Syariah Bank	0.923	0.990
3.	Mega Syariah Bank	0.995	0.999
4.	Bukopin Islamic Bank	0.962	0.992
5.	Independent Islamic Bank	0.950	1,000

When viewed from the average CRS results each year on the efficiency of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia, it is known that only BNI Syariah banks obtained maximum efficiency (1,000) during the six-year observation period. Furthermore, based on the VRS assumption, it is known that the BPD of BNI Syariah banks and Mandiri Syariah Banks obtained maximum efficiency (1,000) . Meanwhile, based on observations during the research period, the average efficiency value of the five Islamic commercial banks in Indonesia fluctuates every year.

**Results of the Analysis of the Average Development of the Efficiency of the Fifth Gold Pawn Products of BUS**

The analysis of the first findings of this study is shown by graphs of CRS and VRS scores which show the average development of the efficiency of gold pawn products at BUS in Indonesia from each year. From the graph, it can be seen that the average efficiency of gold pawn products at BUS in Indonesia fluctuates from year to year. The inefficiency that occurs in gold pawn products at Islamic Commercial Banks (BUS) can be caused by the less than optimal use of inputs and outputs from the five Islamic Commercial Banks. In measuring bank efficiency, it is usually only limited to the relationship between technical and operational in the process of

converting inputs into outputs. Thus, improving technical efficiency only needs to use internal micro policies by controlling and allocating resources optimally. Furthermore, other causes of inefficiency can come from the use of inputs, namely the labor load that is not appropriate or greater than that required by the banking sector in paying labor wages. Then the increase in the number of workers who are not matched with qualified skills will cause Islamic banks to experience a decrease in productivity (Sutawijaya & Lestari, 2009).



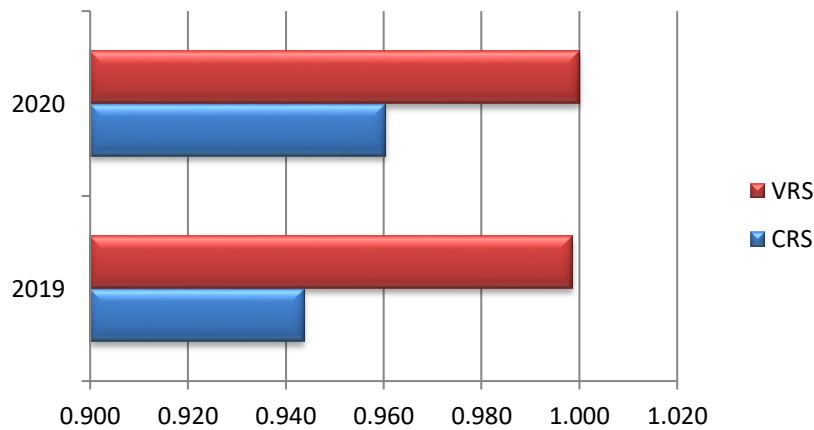
**Figure 1. Efficiency Trend**

the trend of efficiency of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia from 2015 to 2020. Based on observations during the research period, it is known that the average efficiency value of the five banks tends to fluctuate every year. The efficiency value of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia decreased in 2017 and then increased again in 2018. Furthermore, in the following years it experienced a similar pattern, decreased again in 2019 and increased again in 2020.

### **Results of the Efficiency Analysis of the Gold Pawn on the Five BUS during the Covid-19 Pandemic**

The analysis of the second finding from this study concerns the efficiency of gold pawn products at BUS in Indonesia during the Covid-19 pandemic, namely the 2019-2020 period. Based on the results of the efficiency analysis of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia, there has been an increase in Technical Efficiency (TE) and Pure Technical Efficiency (PTE) during the pandemic period, from 2019 to 2020. This indicates an

increase in efficiency. BUS which has a sharia gold pawn business in managing its resources to produce maximum output. This result is in contrast to the pandemic effect which has a negative impact on business sustainability in general. During the Covid-19 pandemic, there was indeed a decrease in the total number of customers who made pawn transactions, but economic reasons were the biggest reason behind customers' decisions to make gold pawn transactions. Pawning gold is one of the alternative financing for people who need funds in order to meet their economic needs (Fatalbari et al, 2021).



**Figure 2. Efficiency of BUS (Sharia Gold Pawn) during the Covid-19 Pandemic**

Based on Figure 1.2 above, it is known that the efficiency of gold pawn products from Islamic Commercial Banks (BUS) in Indonesia has increased in Technical Efficiency (TE) and Pure Technical Efficiency (PTE) during the pandemic period, namely from 2019 to 2020. For TE in In 2019, there was an increase from 0.944 in 2019 to 0.960 in 2020. In addition, PTE also increased from 0.999 in 2019 to 1,000 in 2020. This indicates an increase in the efficiency of BUS which has a sharia gold pawn business in managing its resources. to produce maximum output. This result is in contrast to the pandemic effect which has a negative impact on business sustainability in general.

**Analysis Results *Potential Improvement* Against the five BUS in Indonesia**

To find out the source of inefficiency from gold pawn products at Islamic Commercial Banks (BUS) in Indonesia, it can be seen through *potential improvements*. Potential improvement provide a general description related to the input and output variables in Islamic banking which are considered inefficient. The model that explains the *potential improvement* of each DMU is to use VRS analysis and only analyzes in 2020. DMUs that have reached a perfect efficiency level



(100%) have no *potential improvement* because the *actual data* value and the *projection value* have the same amount, which has a perfect efficiency value of 100%.

The analysis of the third findings from this research is related to the *potential improvement* of gold pawn products at Islamic Commercial Banks (BUS) in Indonesia in the 2020 dataset. each input and output in each bank. The slack variable is used to identify the source of inefficiency. If a variable tends to be low, then the sharia pawn product at the BUS is not fully efficient because the input can be reduced without reducing the output. Based on the results of the analysis that has been carried out, sharia pawn products at Islamic Commercial Banks (BUS) in Indonesia do not require *potential improvement* due to the variable wadiah deposit bonus expense, promotion expenses, labor expenses, other expenses, total murabahah margin income, and service income. service has reached the target of 100%.

### Results of the *Benchmarking* Analysis of the Five BUS in Indonesia

**Table 8. BUS (Sharia Pawn Products) Benchmarking Results every year**

No	DMU	Benchmarking
1.	2015	4
2.	2016	5
3.	2017	6
4.	2018	6
5.	2019	4
6.	2020	5

This section shows the DMU, namely the BUS which is the reference for other DMUs that are still in an inefficient condition. From the results of the Max DEA analysis, it shows that the DMU used as a reference in 2015 was 4 DMU, then in 2016 it increased to 5 DMU. Furthermore, in 2017 and 2018 there were 6 DMUs that were used as references. In 2019 the referral DMU fell to 4 DMU, and in 2020 it increased again to 5 DMU. Based on the results of the analysis of data processing, it is known that DMUs are the most *benchmarking* , namely in 2017 and 2018.

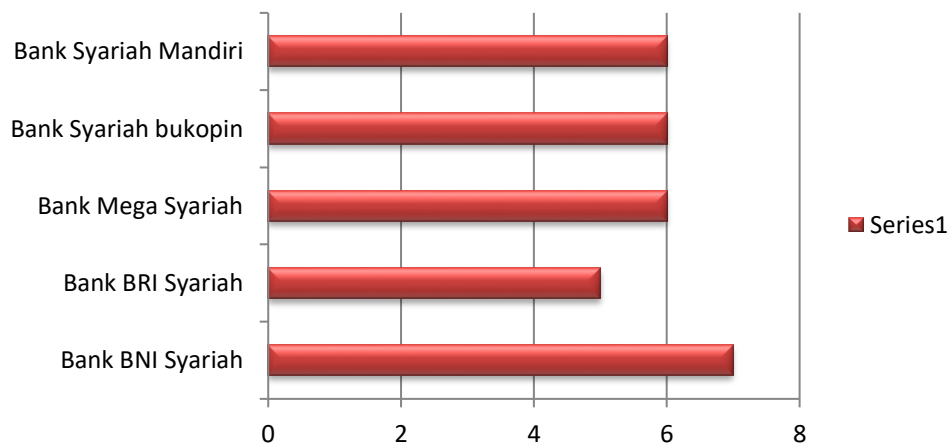


Figure 3. Analisis Benchmarking BUS (Gadai Emas Syariah)

The analysis of the fourth finding of this study is related to *Benchmarking*. The DMU that is used as a benchmark is a DMU that has an efficiency value of 100% or more. From the frontier analysis calculation, it shows that the Islamic gold pawn product at Islamic Commercial Banks (BUS) in Indonesia that is most widely referenced is BNI Syariah Bank, which is 7 DMU. Then related to the year, the most DMU *benchmarks* were in 2017 and 2018.

## CONCLUSIONS

This study aims to analyze the efficiency of gold pawn products at Islamic Commercial Banks (BUS) in Indonesia during the 2015-2020 period using the Data Envelopment Analysis (DEA) method. The results of this study indicate that there is a fluctuating trend in the efficiency of gold pawn products at BUS in Indonesia. Furthermore, when viewed from the CCR and BCC scores, the average efficiency of sharia pawn products at BUS in Indonesia in 2020 experienced an increase which in that year was the year the Covid-19 pandemic began to spread throughout the world, including in Indonesia. Furthermore, based on the results of the analysis of potential improvements in the 2020 dataset, it shows that the results of sharia pawn products at Islamic Commercial Banks (BUS) in Indonesia do not require *potential improvement* due to the variable burden of wadiah deposit bonuses, promotion expenses, labor costs, other expenses, total margin income, murabahah, and service revenue has reached the target of 100%. Then based on the results of the benchmarking analysis shows the Islamic gold pawn product at Islamic Commercial Banks (BUS) in Indonesia, the most referenced is BNI Syariah Bank, which is 7 DMUs and the year the most used as *benchmarking* is in 2017 and 2018.

## **SUGGESTION**

There are several recommendations from this research that are shown to related parties ranging from regulators, practitioners, and academics. The recommendations for the regulator include the need for the government's role to restore the economy through the stimulus provided through Islamic financial institutions in Indonesia, both banks and non-banks, one of which is a sharia pawnshop. Furthermore, for practitioners, the role of banking management is needed to continue to evaluate performance efficiency so that banks can achieve the maximum level of efficiency and can maintain this level of efficiency. In addition, in recruiting workers, it must be balanced with qualified skills in order to increase the productivity of the institution concerned. No less important thing in improving the performance of Islamic gold pawning at BUS in Indonesia is by digitizing services, or can also collaborate with Fintech in order to reach a wider market share. Finally, recommendations for academics include continuing to conduct further research on the efficiency of sharia pawn products in both bank and non-bank institutions such as sharia pawnshops. Further researchers can also use the MPI method in measuring the productivity of sharia pawn products in Indonesia.

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