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## Cost Efficiency, Total Assets, and Profitability: Evidence from Islamic Bank

### Abstract

Inefficiency is one of the factors that can decrease the bank's health. Efficiency was very important for banking. Efficient banking will increase total assets and profitability. This study examined the cost efficiency of sharia banks and their effects on total assets and profitability. This study aimed to analyze the effect of cost efficiency and other financial ratios on total assets and profitability. By using a stochastic frontier approach, it was found that the average cost efficiency level in sharia bank was 85.18 percent. Furthermore, by using a panel regression method in 12 sharia banks, it was found that cost efficiency had a negative effect on total assets but did not affect the profitability of sharia banks. In addition to cost efficiency, CAR also had negative effects on total assets. FDR and NPF had a negative effect on profitability which proxied by ROA while profitability proxied by ROE negatively affected by NPF. Sharia banking should pay attention to the level of cost efficiency, capital adequacy, and financing quality in order to increase total assets and profitability.

**Keywords:** Cost Efficiency; Profitability; Sharia Banking; Stochastic Frontier Approach; Total Asset

**JEL Classification:** G31, G32, G34

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### Abstrak

*Inefisiensi merupakan salah satu faktor yang dapat menurunkan tingkat kesehatan bank. Efisiensi merupakan sesuatu yang sangat penting bagi perbankan. Perbankan yang efisien akan dapat meningkatkan total aset dan profitabilitasnya. Penelitian ini mengkaji tentang efisiensi biaya pada bank umum syariah dan pengaruhnya terhadap total aset dan profitabilitas. Penelitian ini bertujuan untuk menganalisis pengaruh dari efisiensi biaya dan rasio keuangan lainnya terhadap total aset dan profitabilitas. Dengan menggunakan pendekatan stochastic frontier, didapatkan hasil bahwa rata-rata tingkat efisiensi biaya pada bank umum syariah adalah 85,18%. Selanjutnya, dengan menggunakan metode regresi panel pada 12 bank umum syariah dihasilkan bahwa efisiensi biaya berpengaruh negatif terhadap total aset tetapi tidak berpengaruh terhadap profitabilitas bank umum syariah. Selain efisiensi biaya, CAR juga berpengaruh negatif terhadap total aset. FDR dan NPF berpengaruh negatif terhadap profitabilitas yang diproksikan dengan ROA sedangkan profitabilitas yang diproksikan dengan ROE dipengaruhi secara negatif oleh NPF. Pihak perbankan syariah harus memperhatikan tingkat efisiensi biaya, kecukupan modal, dan kualitas pembiayaan supaya dapat meningkatkan total aset dan profitabilitas.*

**Kata Kunci:** Efisiensi Biaya; Profitabilitas; Bank Umum Syariah; Stochastic Frontier Approach; Total Aset

Research on sharia banking financial performance has increased recently. Sharia banking financial performance, which is proxies through bank profitability, is a discussion of in-depth research. Previously, the research conducted by Oktavi & Nasution (2016) suggested that bank profitability was influenced by internal bank factors, namely financial ratios. The financial ratios include CAR, NPL, LDR, and BOPO. There are several differences between conventional banks and sharia banks. In conventional banks, the factors that influence banking financial performance are CAR and LDR, whereas in Islamic banks the factors that influence banking financial performance are NPF and BOPO (Oktavi & Nasution, 2016).

Sharia banking financial performance is seen from several indicators that show the growth and sharia banking development. According to OJK (the financial services authority), the performance of sharia banking experienced a slowdown in 2017 as reflected in the growth of assets (18.97 percent), DPK 19.83 percent, and financing disbursed (15.24 percent). At the end of 2016, the growth of Islamic banking reached 19.67 percent. End of January 2017, the total assets of Sharia banking had only reached 5.18 percent, up from the end of December which was recorded at 5.12 percent. Sharia banking market share reached a level of 5.12 percent since the joining of Bank Aceh into a sharia commercial bank. The transfer of Bank Aceh to a sharia commercial bank increased the number of sharia commercial banks in Indonesia to 13 banks in 2016 (OJK, 2017).

At the end of May 2017, the number of sharia commercial banks (13 banks) was less than conventional commercial banks (115 banks). However, the number of conventional commercial banks has decreased. It is different from Islamic banks which have increased. Therefore, although in total, sharia commercial banks lose compared to conventional commercial banks, Islamic commercial banks are far superior in quality (Rosyadi, 2017). The declining number of conventional commercial banks is alleged there is a bankrupt because it cannot fulfill short-

term obligations so that corporate action is carried out, namely merger (Kristiyana, 2017).

Inefficiency is basically the cause of the decline in banking performance which will eventually cause banks to experience rescue actions (Mongid & Muazaroh, 2017). Efficiency is very important for banks. An efficient banking system can provide better interest rates due to lower spreads. Higher net interest margin usually has implications that banking efficiency is low because banks have lower pressure for profit (Rahmawati, 2015; Mongid & Muazaroh, 2017).

Banking is declared efficient if it can produce a larger output by using the same or smaller input. According to Hidayat (2014), three factors cause efficiency. First, if can get larger output using same input. Second, if can get same output using smaller inputs. Third, if can get a larger output using larger inputs.

Efficient banks can increase their market share, generate high profits, and have cost efficiency even in competitive and low concentration businesses (Ngan, 2014). Sharia banking in Indonesia is one of the countries with the largest total Sharia banking assets in the world, amounting to IDR435.02 trillion (OJK, 2017). According to research results, in 2006-2009, Bank Mandiri Syariah became the most efficient sharia commercial bank with a cost efficiency level 96.31 percent (Wahab, 2015). Bank Mega Syariah became the most efficient bank in 2010-2013 with a cost efficiency level 92.38 percent (Rahmawati, 2015).

There are two kinds of efficiency measurement methods, namely the traditional approach using BOPO and the frontier approach. A frontier approach is an approach that uses input components as a basis for minimizing costs and output components as a basis for maximizing output. According to Mongid & Muazaroh (2017), efficiency is closely related to the bank size. Banks with large-scale operations tend to be efficient banks (Aiello & Bonanno,

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2013). Banks with large sizes have more total assets than small banks generally. It shows that efficiency is related to total assets and profitability. In contrast, banks with low-cost efficiency will increase non-performing loans so that they will reduce banking performance (Karim, Chan, & Hassan 2010).

Olson & Zoubi (2011) examined the efficiency of banks using measurements of both economics and accounting in 10 banks from 10 MENA (the Middle East and North Africa) regions in 2000-2008. Most banks in that region are smaller than the optimal size and have a positive relationship between total assets and efficiency. Efficiency is also related to capital strength. Instead according to Olson & Zoubi (2011), banks in MENA have lower cost efficiency levels than banks in Europe that are more efficient. All banks in MENA almost have an optimal cost efficiency level. However, the profitability of banks in MENA is higher than Europe banks. It shows that a low level of cost efficiency does not indicate low profitability.

Yuniarti (2008) examined the relative efficiency of banks stratified in accordance with the vision of the Indonesian Banking Architecture. In its vision, banks are categorized as much as the core capital owned by the bank. So, in 2010 banks were categorized as BPR, focus banks, national and international banks. Her research shows that banks with small core capital (IDR100 million-IDR10 trillion) have efficiency capabilities that are as good as banks with more core capital (more than IDR10 trillion).

Aiello & Bonanno (2013) examined the efficiency of profits and costs for Italian banks in 2006-2011. The average level of profits efficiency and costs in Italian banks ranges from 90 percent and is quite stable at all times. However, there were high differences in the results of the study. Differences are found when banks are classified according to size (efficiency tends to decrease by size), type of legal entity (legal entities that work together are better than others), and territories (the best banks are banks in the northeast)

**Table 1.** Variables Operational Definitions

Variable	Operational Definition	Formula	Source
Input:			Income statement
Personnel expenses	Labor load	$\text{Ln (P1)}$	
Operational Definition	Profit sharing expenses	$\text{Ln (P2)}$	
Other operational expenses	Other operational financing expenses	$\text{Ln (P3)}$	
Output:			Income statement
Operating income	Income from financing	$\text{Ln (Q1)}$	
Other operating income	Other operating income other than financing	$\text{Ln (Q2)}$	
Cost Efficiency	Technical efficiency with the SFA method	$\text{CE}_i = \exp(u_i)$	Output SFA
Total asset	Total company assets in rupiah	$\text{Ln total asset}$	Financial position report
Profitability	ROA and ROE	$\text{Net profit/ total equity}$	Financial ratio report
CAR	Capital Adequacy Ratio	CAR	Financial ratio report
FDR	Total Financing/Third Party Fund	FDR	Financial ratio report
NPF	Non-performing Financing	NPF	Financial ratio report

Wahab (2015) examined cost efficiency at Bank Syariah Mandiri in 2006-2009. The average level of cost efficiency is 94.67 percent. Only FDR has a positive effect on the cost efficiency of Bank Syariah Mandiri. ROA, CAR, BOPO, PPAP, and NPF did not significantly influence the level of cost efficiency in Bank Syariah Mandiri by using the SFA approach.

The study of cost efficiency in sharia banking is very limited. Aliyu & Yusof (2016) state that sharia banking is expected to generate higher profits which will further improve a system that is sustainable and can run operational activities efficiently in order to protect the interests and rights of shareholders. Shawtari et al. (2015) believe that efficiency is a necessary condition for banking performance. Therefore, a research hypothesis can be formulated that sharia banking is a bank that has good cost efficiency. The cost efficiency is expected to have a significant effect on total assets and profitability.

This study aims to examine cost efficiency in sharia banking and its effect on total assets and profitability.

## METHODS

This research is a quantitative study using secondary data. In this study the population studied was banking in Indonesia while the sample was a sharia commercial bank. The sharia commercial banks studied were 12 BUS out of 13 BUS because Aceh Bank was still new so that the bank data was incomplete. The sampling method is purposive sampling, namely by taking 12 sharia commercial banks that report their financial statements in 2011-2016.

In measuring the level of efficiency can use the DEA and SFA methods. In this study using the SFA method because it can be concluded on the results of the research conducted. The SFA method provides accurate information about input costs and other exogenous variables. Instead, the DEA method does not use a lot of information so that the data used can be limited, fewer assumptions and samples.

However, it cannot be used for conclusions (Rahmawati, 2015).

The SFA method was developed by Aigner, Lovell, & Schmidt (1977). The frontier efficiency formula is a function of input and output, which is formulated as follows:

$$\pi = f(p, q) \quad (1)$$

The function is transformed into the logarithmic function as follows:

$$\log \pi = f(\log p, \log q) + e_i \quad (2)$$

The  $e_i$  component is an error term consisting of controlled technical inefficiencies and uncontrollable random factors – processing data by using frontier software 4.1. The SFA method is used to answer the first problem statement regarding the level of cost efficiency in banks. The value of cost efficiency calculated using the SFA method is a percentage form. The percentage that shows efficient intent is the percentage with a weight of 100 percent. The closer it is to 100 percent, the more efficient the banks are in using their inputs to produce maximum output.

The analytical method used in this study is a panel data regression analysis. Panel data regression analysis is a regression analysis with data structures as panel data. This analytical method is used to answer the second and third problem formulations, namely the effect of cost efficiency on total assets and their profitability.

In panel data regression there are 3 (three) models, namely pooled OLS model (PLS), fixed effect model (FEM), and random effect model (REM). The testing procedure for choosing which model is the most appropriate as follows.

Chow statistical test, used to choose between PLS models or FEM models with the following formula:

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$$F = \frac{(SSR_1 - SSR_2)/(n - 1)}{SSR_2/(nT - n - k)} \tag{3}$$

Where:

- n : number of individuals
- T : number of periods
- k : number of parameters in the FEM model (not including intercept)
- SSR1 & SSR2 : sum square residual techniques without dummy variables (PLS) and FEM techniques with dummy variables

If the value of the probability of cross-section  $F > 0.05$ , the chosen model is a common effect or PLS, but if the probability of cross-section  $F < 0.05$ , the chosen model is the fixed effect.

The Lagrange Multiplier (LM) test, is used to choose between the PLS model or the REM model, with the following formula:

$$LM = \frac{nT}{2(T - 1)} \left[ \frac{\sum_{i=1}^n (\sum_{t=1}^T e_{it})^2}{\sum_{i=1}^n \sum_{t=1}^T e_{it}^2} - 1 \right]^2 \tag{4}$$

$$LM = \frac{nT}{2(T - 1)} \left[ \frac{\sum_{i=1}^n (T\bar{e}_i)^2}{\sum_{i=1}^n \sum_{t=1}^T e_{it}^2} - 1 \right]^2 \tag{5}$$

Where:

- n : number of individuals
- T : number of periods
- $e_{it}$  : is the residual PLS method

LM test is based on the chi-square distribution with free degrees (df) of the number of independent variables. If the LM value is calculated  $>$  chi-squared table, the chosen model is random effect or REM, and vice versa if the LM value is calculated  $<$  chi squared table, then the model chosen is the common effect (PLS).

The Hausman test, is used to choose between the FEM model or the REM model, with the following formula:

The Hausman test statistic follows the distribution of chi-square statistics with free degrees of k, which k is the number of independent variables. If the value  $> 0.05$ , the chosen model is the random effect, but if  $< 0.05$ , the chosen model is the fixed effect. The regression equation model that will be estimated is as follows:

$$Total\ asset = \alpha_0 + \alpha_1\pi + \alpha_2CAR + \alpha_3FDR + \alpha_4NPF + e \tag{7}$$

$$Profitabilitas = \beta_0 + \beta_1\pi + \beta_2CAR + \beta_3FDR + \beta_4NPF + \delta \tag{8}$$

Where:

$\pi$  = cost efficiency

Processing panel data regression used software E-views 8. In panel data regression there is an F-test, t-test and test coefficient of determination to test the effect and predict the variation of the independent variables on the dependent variable.

**RESULTS**

This study uses annual financial report data derived from banking publication reports that have been published through the OJK. The object of the research under study is a sharia commercial bank (BUS). BUS data were taken consists of 12 banks from 2011-2016 which are shown in Table 2.

**Table 2.** Research Samples

Sharia Commercial Bank	Type of Bank
Bank Muamalat	BUSN Foreign Exchange
BNI Syariah	BUSN Foreign Exchange
BSM	BUSN Foreign Exchange
BRI Syariah	BUSN Foreign Exchange
Mega Syariah	BUSN Foreign Exchange
Panin Syariah	BUSN Foreign Exchange
Victoria Syariah	BUSN Non-Foreign Exchange
BCA Syariah	BUSN Non-Foreign Exchange
Maybank Syariah	Mixed Bank
Bank Jabar Banten Syariah	BUSN Non-Foreign Exchange
Bukopin Syariah	BUSN Non-Foreign Exchange
BTPN Syariah	BUSN Non-Foreign Exchange

Source: OJK (2018)

**Table 3.** BUS Descriptive Statistics

	ROA	ROE	LNTA	EFF	CAR	FDR	NPF
Mean	0.842083	7.441528	15.30683	0.851823	21.66042	61.98875	2.07375
Median	1.005	4.935	15.60018	0.901444	16.055	55.26	1.81
Maximum	8.98	68.09	18.18283	0.983333	73.44	291.04	4.94
Minimum	-16.4	-49.05	0	0.241404	0	0	0
Std. Dev.	3.188515	17.6197	2.914374	0.143529	14.27181	45.63221	1.551185

The variables studied consisted of dependent variables namely cost efficiency (CE) which is the result of SFA output and independent variables in the form of inputs, namely labor load, profit sharing, other operating expenses, and output, namely income from costs and income from others operational. Production approach is used to select input and output components. In the production approach, banks use inputs such as capital and labor to produce multiple individual accounts and use operational costs in the process (Hartono, 2009). Furthermore, after obtaining the estimated cost efficiency from the SFA output, it can be seen the effect on total assets which is proxied by LnTA (ln total assets) and profitability which is proxied by ROA (return on assets) and ROE (return on equity). There were additional independent variables besides cost efficiency, namely CAR (capital adequacy ratio), FDR (financing to deposit ratio), and NPF (non-performing financing) to see the effect of these independent variables on total assets and profitability. The addition of this variable is needed in order to produce a good model that can be proven by the influence of the independent variable on the dependent variable that meets the BLUE assumption.

Based on Table 3, a sharia banking financial performance that is proxies by ROA and ROE has increased. The average ROA of sharia commercial banks is 0.84 percent. Minimum ROA is -16.4 percent on Maybank sharia while ROA is a maximum of 8.98 percent on BTPN Syariah. The average CAR BUS is 21.66 percent. On the sharia banks, data were constrained by unbalanced panel data. From 2011-2016, the Islamic BTPN began operations in 2013, so

that CAR, FDR, NPF, and total assets data were 0 percent because in 2011 and 2012 there were banks with no data. Maximum CAR was 73.44 percent at Maybank Syariah. The average level of problematic financing at sharia commercial banks is 2.07 percent with an average FDR of 61.9 percent. It is the duty of sharia commercial banks to improve the quality of financing in order to reduce the level of problematic financing.

This study used the Stochastic Frontier Approach (SFA) method to determine the cost efficiency level at sharia commercial banks. Based on the output from frontier, the cost efficiency level in sharia commercial banks is shown in Table 4.

**Table 4.** BUS Cost Efficiency

Sharia Commercial Banks	Average Cost Efficiency Rate
Bank Muamalat	0.946935
BNI Syariah	0.930046
Mandiri Syariah	0.919164
BRI Syariah	0.861936
Mega Syariah	0.798965
Panin Syariah	0.839256
Victoria Syariah	0.904624
BCA Syariah	0.870384
Maybank Syariah	0.559693
Bank Jabar Banten Syariah	0.734654
Bukopin Syariah	0.921078
BTPN Syariah	0.935136
BUS Average	0.8518226

The cost efficiency level in sharia commercial banks has not been optimal because it has not reached the value of 1. Cost efficiency is said to be optimal if the value of cost efficiency obtained from the SFA model is worth 1 (Muhari & Hosen, 2014). In sharia commercial banks in 2011-2016, it was 85.18

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percent. The highest cost efficiency is found in Bank Muamalat which is 94.69 percent. On the contrary, the lowest cost efficiency is found in Maybank Syariah at 55.97 percent. Bank Muamalat in 2010-2013 according to Rahmawati's research (2015) was classified as a less efficient bank with an efficiency rate of 83.28 percent. In contrast to Rahmawati's research (2015), research from Azaro (2014) shows the same results as the results of this study. In 2009-2012 the results of Azaro's (2014) research with the DEA method were the same as the results of this study with the period 2011-2016 which showed that banks that had the highest efficiency level were Bank Muamalat.

Rahmawati (2015) explained that Bank Muamalat had not managed funds efficiently because in the research period of Bank Muamalat's it was still beginning to innovate. The period of 2011-2016 Bank Muamalat began to improve itself by innovating in 2011 by issuing shar-e Gold Debit Visas which can be used as the first Islamic debit card in Indonesia. In December 2015, Bank Muamalat expanded by establishing 446 service offices including branch offices in Malaysia. Bank Muamalat also provides Islamic financing services through its subsidiary ALIF, DPLK Muamalat, and ZIS services through baitul maal muamalat (Bank Muamalat, 2016). In 2017 and 2018, Bank Muamalat received various awards including Best Islamic Finance Bank held in Singapore and Best Syariah Bank Tbk in Indonesia-2017, ranked 1 for the category Book 2 with assets of 25 trillion and above from the Indonesia Banking Award-VI 2017 (APBI) and with the first rank of the Indonesia-IV-2017 TBK Company Award (APTI-IV-2017). This award proves that Bank

Muamalat has the best performance and the best service as a sharia commercial bank in Indonesia (Bank Muamalat, 2017).

Based on data, Bank Muamalat has a good performance seen from several financial ratios such as the average NPF in 2011-2016 of 2.45 percent and FDR in 2016 of 99.11 percent. It shows that muamalat bank has high financing with a relatively low level of problematic financing. The high FDR and low NPF will make Bank Muamalat get higher cost efficiency compared to other banks.

Maybank Syariah has the lowest cost efficiency, one of which is that Maybank Syariah has not been able to reach the expected level of profit. Profitability proxies by ROA and ROE show the lowest value among all Islamic commercial banks. ROA shows Maybank Syariah's management ability in managing managerial and obtaining overall profitability. While ROE shows the ability of Maybank Syariah management in managing existing capital to obtain profitability/ net income. The ROA from Maybank Syariah had reached -16.4 percent while its ROE had reached -49.05 percent. This figure shows that Maybank Syariah cannot manage funds efficiently to obtain the expected level of profitability.

Based on the results of cost efficiency values at sharia commercial banks, it can be calculated the cost efficiency according to several groupings. The grouping of cost efficiency values on the SFA BUS into five categories using the percentile level  $\pm$  standard deviation (Rahmawati, 2015) is shown in Table 5.

Based on Table 5, it can be seen that the cost efficiency of sharia commercial banks is quite good. According to Table 5, several sharia commercial banks are included in very efficient banks. It means

**Table 5.** BUS Cost Efficiency Category

Cost Efficiency Level	Category	Number of Sharia Commercial Bank
0.2824 - 0.4259	Not efficient	-
0.4259 - 0.5694	Less efficient	9
0.5694 - 0.7129	Efficient enough	10
0.7129 - 0.8565	Efficient	5, 6
0.8565 - 1.0000	Very efficient	1, 2, 3, 4, 7, 8, 11, 12

that these banks can manage funds efficiently to increase their total assets and profitability. Conversely, the lowest cost efficiency in BUS is found in Maybank Syariah which has a less efficient level of cost efficiency.

In the BUS cost efficiency category, banks that are classified as highly efficient banks are banks with numbers 1, 2, 3, 4, 7, 8, 11, and 12. These banks are already good at managing their funds. However, there are banks that even though they are classified as highly efficient banks, but the level of profitability and the value of financial performance need to be repaired. Examples such as BTPN Syariah included in the new sharia commercial bank. At the beginning of this BUS, BTPN Syariah still had to learn in managing the products produced to customers. In addition, BTPN Syariah must also determine the competitive rate of return for profit so that the burden of profit sharing is not too burdensome and tends to reduce the cost efficiency of the BUS.

Based on Table 6, the model chosen with the dependent variable LnTA (total assets) is a random effect model. According to this model, the independent variables contribute 37.16 percent to explain the dependent variable. The independent variable that affects total assets is efficiency and CAR while FDR and NPF did not affect total assets. Cost efficiency had a negative and significant effect on total assets. Each increase in efficiency costs for 1 percent will reduce total assets by 31.19 percent. This value is quite large when compared to the coefficient

of the CAR variable 0.03 percent in influencing total assets. Every increase in CAR by 1 percent will decrease total assets by 0.03 percent.

Based on Table 6, the model chosen with the dependent variable is ROA, the random effect model seen from the LM test. Based on this model, the contribution of independent variables can explain the model is 25.44 percent. The independent variable that affects ROA is FDR and NPF while the efficiency variable and CAR do not effect on ROA. Both FDR and NPF have a negative and significant effect on ROA. Every increase in FDR by 1 percent will reduce ROA by 0.02 percent.

Based on Table 6, the model chosen with the dependent variable is ROE is the Random effect model. In this model, the contribution of the independent variable can explain the model is 36.98 percent. The independent variable that affects ROE is only NPF. NPF has a negative and significant effect on ROE; it means that any increase in NPF of 1 percent will reduce ROE by 6.18 percent.

## DISCUSSION

The cost efficiency level in BUS is not optimal, which is an average of 85.18 percent. Cost efficiency is said to be optimal if the value reaches 100 percent. This show that banks distribute funds well and efficiently (Muhari & Hosen, 2014). Based on the research results of 12 BUS in 2011-2016, Bank Muamalat is the bank with the highest cost efficiency level.

**Table 6.** Results of Panel Data Regression

Dependent Variable	Y = LnTA		Y = ROA		Y = ROE	
	Coefficient	Probability	Coefficient	Probability	Coefficient	Probability
Efficiency	-31.1972**	0.001	-26.6242	0.6784	-435.368	0.1963
CAR	-0.03081**	0	-0.01866	0.4449	-0.32028	0.0852
FDR	0.000461	0.6637	-0.01849**	0.0129	-0.04975	0.2017
NPF	0.009986	0.8053	-0.84907**	0.0006	-7.29031**	0
C	46.0581	0	29.3991	0.6305	447.0621	0.1634
R-squared		0.410265		0.300244		0.408613
Adjusted R-squared		0.371594		0.254358		0.369833

Description: \*\* Significant with alpha 5 percent

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The test results of panel data regression analysis indicated that the independent variables that affect total assets are efficiency and CAR while FDR and NPF do not effect on total assets. Cost efficiency has a negative and significant effect on total assets. It means that the higher cost of efficiency will reduce total asset. Sharia banks with large total assets have not always efficient (Rahmawati, 2015). It means that CAR is one of the important ratios that affect total assets (Olson & Zoubi, 2011). The higher CAR will have an impact on the lower total assets because sharia commercial banks need more money to meet the level of capital adequacy.

The independent variable that affects ROA is FDR and NPF while the efficiency variable and CAR do not affect ROA. Both FDR and NPF have a negative and significant effect on ROA. The higher financing, the lower the ROA because the margin from the FDR is allocated to buy fixed assets from the BUS. It will cause ROA to decrease. Generally, the relationship between FDR and ROA is a positive and significant effect; it means that the higher financing, the returns generated by sharia commercial banks will also be higher. However, if high funding is not followed by an increase in the financing quality, it will reduce ROA. It is seen from the relationship between NPF and ROA. The higher NPF is usually followed by a low ROA. Because high NPF will reduce BUS cost efficiency (Karim, Chan, & Hasan 2010).

The independent variable that affects ROE is only NPF. NPF has a negative and significant effect on ROE. The higher NPF will cause a low ROE because an increase in NPF will reduce the return of BUS to capital. BUS will need more costs to reduce NPF so that it will reduce ROE.

In Sharia commercial banks, the chosen model from three dependent variables, are total assets and profitability, is a Random Effect model. The random effect model does not require a classic assumption test in general such as the normality test,

heteroscedasticity test, multicollinearity test, and autocorrelation test. The random effect model has given weight to the panel regression. The independent variable needs to be considered in Sharia commercial banks is NPF variable because it has a negative and significant effect on BUS profitability. If BUS cannot minimize the problematic financing level, then the BUS profitability (ROA and ROE) will decrease. In addition, cost efficiency has a negative effect on total assets. If BUS uses too much cost, the total assets will decrease. Therefore, BUS needs to increase its competitiveness by managing funds efficiently in order to compete with other banks.

## CONCLUSION AND SUGGESTIONS

### Conclusion

Based on the results of a study it was concluded that in the bank's efficiency with the BUSN foreign exchange was quite efficient generally. Cost efficiency has a negative effect on total assets. The independent variable that effects on total assets other than cost efficiency is CAR. ROE is negatively affected by NPF while ROA is negatively affected by FDR and NPF. Cost efficiency, capital, financing, and problem financing are very important indicators for sharia banking financial performance. The amount of capital and cost efficiency will affect declining in total assets. Likewise, the higher the financing and problematic financing that exists in sharia commercial banks will trigger a declining in sharia banks profitability.

### Suggestions

The future research is needed which discusses cost efficiency, especially for banks with other samples with a longer time. This research provides strong evidence that the BUS cost efficiency level is good enough. Therefore, special attention is needed regarding cost efficiency, CAR, FDR, and NPF ratios which effect on total assets and profitability.

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