Assets Quality and Capital as Risk and Profitability Determinants in Banking Industry

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Abstract: Assets quality and capital in Indonesian banking industry have increased every year. However, this increase is not accompanied by an increase in profitability. Although the determinant of unstable profitability is not easy to predict, the quality of assets and capital are two important components in the ongoing business of banks to deal with credit risk and to increase profitability, both in conventional and Islamic banks. This study was conducted to determine whether assets quality and capital have an effect on credit risk and profitability in both conventional and Islamic banks in Indonesia. The population of this study was 115 banks in Indonesia. The research used purposive sampling technique and obtained 39 banks as samples, consisting of 29 conventional banks and 10 Islamic banks. The data were analyzed using path analysis technique. The results show that assets quality has a positive and significant effect on credit risk in both conventional and Islamic banks. On the other hand, capital has no effect on credit risk in both types of banks. Assets quality has a positive and significant effect on profitability in conventional banks, but has a negative effect on Islamic banks. Capital has a positive and significant effect on profitability in conventional banks. Meanwhile, credit risk has a negative and significant effect on profitability in both banks.

1 INTRODUCTION

The banking industry in Indonesia uses dual banking system, which are conventional banks and Islamic ones. Indonesian banking industry gradually grows year by year. As of December 2017 there were 102 conventional banks and 13 Islamic banks with a total of 32,285 offices spread throughout Indonesia (Keuangan, 2017). The growth in the number of banks and offices has a positive impact on the performance of banks in providing financial services to public and influencingthe growth of their assets and capital. Total assets and capital in both conventional and Islamic banks have increased every year. However, there is still a large gap in total assets and capital between these two kinds of banks.

Maintaining the assets quality of a bank is very important to keep the continuity of its business. Based on the Indonesian Banking Booklet, in order to maintain its business, a bank must manage credit risk exposure at an adequate level, among others, by maintaining the assets quality (Keuangan, 2016). Similarly, in running its business as an intermediary, a bank must always be prepared to face the risk of loss. With the existing capital, the bank will be able to absorb losses

that may arise in the future (Siamat, 2005). In addition, adequate amount of bank capital is needed to improve resilience and efficiency in the recovery period due to banking crisis (Latumaerissa, 1999).

As an intermediary, the conventional and Islamic banks still rely on credit or financing as the main income in running their businesses. Distributing credit is their most important activity in generating profits, but the biggest risk in banks also comes from the provision of credit (Firmansyah, 2014). Credit risk is one of the bank's business risks resulting from uncertainty in the return or the non-repayment of credit given by the bank to the debtor (Siahaan and Asandimitra, 2018). High credit risk will worsen the quality of the bank credit, which will increase the number of non-performing loans and cause losses.

Both conventional and Islamic banks are established to make profit. The amount of profit is one of the important things for the banking industry. The role of banks as intermediary institutions requires them to maintain investors' trust, whose funds are managed by the banks (Indonesia, 2013). Profitability is one of the most appropriate indicators to measure the performance of a company because the higher the profit generated, the better the company's finan-

cial performance (Sholihah and Sriyana, 2013). Bank Indonesia as the supervisor of banks in Indonesia prioritizes the value of profitability of a bank as measured by assets or what is known as ROA (return on assets) which mostly come from public savings funds (Kasmir, 2005). The greater the ROA of a bank shows the success of management in generating profits and the bank can be included in the healthy category if it has a minimum ROA ratio of 1.5% (No,).

Based on the publication of Indonesian banking statistics, there was a fluctuation on the profitability of conventional and Islamic banks in the period of 2010-2017 measured using Return On Assets (ROA). A significant decline occurred in Islamic banks in 2015, which amounted to 2.29% and touched the value of -1.38%. The conventional banks also experienced a decline in 2016 but not as big as the Islamic banks. It amounted to 0.79%. In 2016 the Islamic banks began to rise again with an increase in ROA of 0.24% and this number continued to increase until 2017.

The determinants of unstable profitability in conventional and Islamic banks are not easy to predict. The different principles between these two types of banks cannot determine whether they have similar determinants. However, from the similarities of activities carried out, such as collecting and channeling funds, it can be assumed that there are no different determinants of profitability between these two types of banks (Zarrouk et al., 2016). In addition to increasing profitability, managing risk efficiently is also important to maintain the bank stability. These two important objectives of managing risk efficiently and increasing profitability will help management to manage risk and increase profitability (Trabelsi and Trad, 2017). The study of credit risk management has attracted the attention of many, investigating the factors that encourage credit risk in the banking industry is not only important for bank management but also for the government (Misman et al., 2015). Taking into consideration research gap, the study was conducted in order to determine whether the quality of assets and capital determine or influence the risk and profitability of the banking industry, both conventional and Islamic banks.

2 LITERATURE REVIEW

Performance is how well a company can achieve the economic goals, while the purpose of the economy is to maximize economic welfare (Sukarno and Syaichu, 2006). Good bank performance is characterized by a high level of profitability (Kuncoro et al., 2002). The most appropriate measure of banking performance is

to measure the ability of banks to generate profits from various activities they do, as in general the purpose of a company is to achieve high values in which it has to be able to efficiently and effectively manage various types of activities (Syofyan, 2003). A bank performance can be measured by analyzing the financial aspects, one of which is profitability (Mardiyanto, 2009). Profitability ratio is used to measure a bank's ability to generate profits. Therefore, higher profitability ratio is always associated with better performance (Trabelsi and Trad, 2017).

2.1 The Effect of Asset Quality on Credit / Financing Risk

The results of (Trad et al., 2017) research cannot find a significant relationship between these two components. However, (Fitrianto and Mawardi, 2006) stated that the assessment of asset quality is conducted to see the condition of bank assets to face the risk of loss by maintaining the quality of its productive assets. The same thing happens in the study of (Ariyanti, 2010) who explained that productive assets means placing the bank funds to reach the expected level of income and allow risk. Therefore, observations and analyses should be carried out to see how asset quality affects the credit risk. So, asset quality influences credit/financing risk. Based on this explanation, the following hypothesis can be developed:

Hypothesis 1: Asset quality influences credit/financing risk

2.2 The Effect of Capital on Credit / Financing Risk

The stipulation of capital is intended so that banks have sufficient capital to reduce the possibility of risk arising as a result of the development of asset expansion, especially the assets that are categorized as profitable and at the same time risky (Pamungkas, 2016). Capital refers to the amount of available funds owned by a bank to support its business and it is expected to be a safeguard if there is a loss (Athanasoglou et al., 2008). Adequate amount of capital becomes a safeguard to deal with unexpected losses and incident (Trad et al., 2017). Research on capital aspects shows whether it will be able to absorb bank losses as a result of investing funds or decreasing assets in the future (Muljono, 1986). Bank capital is the main indicator in reducing credit risk in Islamic banks (Trad et al., 2017). The research conducted by (Trabelsi and Trad, 2017) states that capital is negatively and significantly correlated with credit risk because adequate amount of capital will provide better protection

against the banking crisis. Based on this explanation, the following hypothesis can be developed:

Hypothesis 2: Capital has a negative effect on credit/financing risk

2.3 The Effect of Asset Quality on Profitability

Asset quality is a comparison between classified assets (substandard credit, doubtful credit, bad credit) and the total credit provided (Siahaan and Asandimitra, 2018). The assessment of asset quality can reflect the ability of bank management in managing its productive assets. The placement of bank fund in the form of productive assets aims to achieve the expected level of income (Ariyanti, 2010). However, in a bank research in Malaysia, asset quality has a negative effect on profitability (Wasiuzzaman and Tarmizi, 2010) (Mun and Thaker, 2016). It also occurs in 94 Islamic banks operating in 18 countries (Trabelsi and Trad, 2017). Asset quality negatively affects the profitability of banks in Indonesia (Siahaan and Asandimitra, 2018). However, different things happen to 51 banks operating in MENA where profitability is positively affected by the asset quality (Zarrouk et al., 2016). Based on this explanation, the following hypothesis can be developed:

Hypothesis 3: Asset quality has a negative effect on profitability.

2.4 The Effect of Capital on Profitability

Adequate amount of capital becomes the safeguard and guarantees bank profitability and stability (Trad et al., 2017). Capital refers to the amount of available funds owned by a bank to support the its business (Athanasoglou et al., 2008). The higher the bank capital, the lower the need for external funding and therefore it will increase profitability (Wasiuzzaman and Tarmizi, 2010). On the other hand, low capital of a bank causes a decrease in public trust which in turn can reduce profitability (Sukarno and Syaichu, 2006). Bank capital has a positive and significant influence on the profitability of domestic banks in the UK (Kosmidou et al., 2005), 96 Islamic banks operating in 18 countries (Trad et al., 2017), and Islamic as well as conventional banks in Malaysia (Mun and Thaker, 2016). The same thing happens in the study of (Zarrouk et al., 2016) which shows that profitability is positively influenced by the bank's capital level, because the higher the capital, the lower the external funding needed and therefore the higher the profitability. However, different thing happens to Islamic banks

in Malaysia, where capital has a negative influence on bank profitability (Wasiuzzaman and Tarmizi, 2010). Based on this explanation, the following hypothesis can be developed:

Hypothesis 4: Capital has a positive effect on profitability.

2.5 The Effect of Credit / Financing Risk on Profitability

Credit risk arises from the inability of the borrowers to fulfill the obligation (Fayed, 2013). Problematic financing results in the loss of the opportunity to earn income from the financing provided so that it affects earnings and adversely affects ROA (Pamungkas, 2016). Credit risk has a negative impact on the profitability of Islamic banks in Indonesia (Dodi et al.,) and 78 Islamic banks in 12 MENA countries and Pakistan (Trad et al., 2017). Research by (Ali et al., 2011) states that credit risk also has a negative influence on profitability as measured by returns on assets and returns on equity. The higher the credit risk, the higher the bank's capacity to absorb loan losses (Fayed, 2013).It will give impact on bank productivity and negatively effect bank profitability. Based on this explanation, the following hypothesis can be developed:

Hypothesis 5: Credit/financing risk has a negative effect on profitability.

3 RESEARCH METHOD

Variable type	Description
Dependent	
Profitability (Y)	Income after bank net tax/total assets.
Intervening	
Credit Risk or Financing Risk (X3)	Problematic credit or financing/the total credit or financing.
Independen	
Asset Quality (X1)	Classified productive assets/total earning assets.
Capital (X2)	Capital ratio/risk-weighted assets.

Figure 1: Operationalization of Research Variables.

The population in this study was 115 banks in Indonesia, consisting of 103 conventional banks and 12 Islamic banks. This study used purposive sampling technique with the following criteria: (1) banks that regularly publish complete annual financial statementsas of December 31, 2010 until December 31, 2017; and (2) conventional banks listed on the Indonesia Stock Exchange (IDX) no later than December 31, 2010 and recorded until December 31, 2017.

Based on these criteria, a sample of 39 banking industries was obtained consisting of 29 conventional banks and 10 Islamic banks. Thus, the total observation of all research samples were 312 observations obtained from 39 banks multiplied by 8 years of observation. The explanation of the variables is explained in Figure 1 Operationalization of Research Variables. This research used regression equation model in handling panel data, namely Pooled Regression Model (Command Effect). This model assumes that the intercept and regression coefficient (slope) are constant for all companies over the period of time (years) analyzed. The data were analyzed using path analysis. This study used random procurement method, namely the PLS SEM method. Therefore, the assumption of normality will not be a problem and PLS does not require a minimum number of samples. PLS is a multivariate statistical technique that can handle many independent variables, even if multicollinearity occurs between these variables. The program used as a tool is the WarpPLS 6.0 program.

4 RESULT

A structure model is said to be fit if supported by empirical data. Goodness of fit test results using WarpPLS 6.0 based on WarpPLS User Manual: Version 6.0 obtained the following data in Figure 2.

Figure 2 shows that almost all indicators measuring the adequacy of models in both conventional and Islamic banks state that the model is fit. There are only four indicators of model adequacy stating that the model is not fit in conventional banks, which are Average VIF block, Average full collinearity VIF, Sympson's paradox ratio, and R-squared contribution ratio. Whereas, in Islamic banks there are only three indicators of model adequacy which state the same, which are Average block VIF, Average full collinearity VIF and Nonlinear bivariate causality direction ratio. Thus, it can be concluded that the model formed matches the empirical data and can be used for further discussion.

Criteria	Conventional Bank			Islamic Bank		
	Value	P-Value	Description	Value	P-Value	Description
APC	0,564	<0,001	Model fit	0,401	<0,001	Model fit
ARS	0,692	<0,001	Model fit	0,898	<0,001	Model fit
AARS	0,687	<0,001	Model fit	0,894	<0,001	Model fit
AVIF	14,069	-	Model isn't fit	32,070	-	Model isn't fit
AFVIF	24,828	-	Model isn't fit	23,606	-	Model isn't fit
GoF	0,832	-	Large	0,948	-	Large
SPR	0,600	-	Model isn't fit	1	-	Ideal
RSCR	0,804	-	Model isn't fit	1	-	Ideal
SSR	0,800	-	Model fit	1	-	Model fit
NLBCDR	1	-	Model fit	0,600	-	Model isn't fit

Figure 2: Analysis of the Goodness of Fit Model.

4.1 Hypothesis Testing

Complete results of hypotheses testing can be seen below.

Variabel		Conventional Bank			Islamic Bank		
		Value	P-Value	R^2	Value	P-Value	R^2
H1	Asset Quality => Credit/Financing Risk	0.98	<0.01	0.98	0.99	<0.01	0.98
H2	Capital => Credit/Financing Risk	0.02	0.37		-0.00	0.50	
H3	Asset Quality => Profitability	0.49	<0.01		-0.58	<0.01	
H4	Capital => Profitability	0.19	<0.01	0.40	0.13	0.11	0.82
H5	Credit/Financing Risk => Profitability	-1.14	<0.01		-0.30	<0.01	

Figure 3: Path Analysis Results.

Based on Figure 3, the results of hypothesis testing can be explained as follows:

1. Hypothesis 1
   The test result on the effect of asset quality on credit risk in conventional banks shows a coefficient of 0.98 and significance of < 0.01. Whereas in Islamic banks, the test result shows a coefficient of 0.99 and significance of < 0.01. It means that H1 is accepted; asset quality has a positive and significant effect on credit risk in both conventional and Islamic banks.

2. Hypothesis 2
   The test result of the effect of capital on credit risk in conventional banks shows a coefficient of 0.02 and a significance of 0.37. Whereas in Islamic banks, the test result shows a coefficient of -0.00 and a significance of 0.50. So, it means H2 is rejected; the capital has no impact on credit risk in both conventional and Islamic banks.

3. Hypothesis 3
   The test result of the effect of asset quality on profitability in conventional banks shows a coefficient of 0.49 and a significance of < 0.01. Whereas in Islamic banks, the test result shows a coefficient of -0.58 and a significance of < 0.01. It means that H3 is rejected in conventional banks and H3 is accapted in Islamic banks. Asset quality has a positive and significant effect on the profitability of conventional banks while in Islamic banks it has a negative and significant effect.

4. Hypothesis 4
   The test result of the effect of capital on profitability in conventional banks shows a coefficient of 0.19 and a significance of < 0.01. Whereas in Islamic banks, the result shows a coefficient of 0.13 and a significance of 0.11. Capital has a positive and significant effect on the profitability of conventional banks. It means that H4 is accapted in conventional banks and H4 is rejected in Islamic banks.

5. Hypothesis 5
   The test result of the effect of credit risk on profitability in conventional banks shows a coefficient

of -1.14 with a significance of < 0.01. As for Islamic banks, the result shows a coefficient of -0.30 with a significance of < 0.01. It means that H5 is accepted; credit risk has a negative effect on the profitability of both conventional and Islamic banks.

4.2 Discussion

The test result on the effect of asset quality on credit risk in conventional banks shows a coefficient of 0.98 and significance of < 0.01. Whereas in Islamic banks, the test result shows a coefficient of 0.99 and significance of < 0.01. It means that H1 is accepted; asset quality has a positive and significant effect on credit risk in both conventional and Islamic banks. The results of this study are not in accordance with (Trad et al., 2017) but in line with the theory put forward by (Fitrianto and Mawardi, 2006) who stated that the assessment of asset quality is conducted to see the condition of bank assets to face the risk of loss by maintaining the quality of its productive assets. Accordingly with (Ariyanti, 2010) who stated that most of the fund placements in productive assets are in the form of loans which may cause risk. The higher the placement of funds in productive assets, the bigger chance to increase credit risk. Therefore, it is still important for banks to maintain asset quality in order to reduce credit risk.

The test result of the effect of capital on credit risk in conventional banks shows a coefficient of 0.02 and a significance of 0.37. Whereas in Islamic banks, the test result shows a coefficient of -0.00 and a significance of 0.50. So, it means H2 is rejected; the capital has no impact on credit risk in both conventional and Islamic banks. The results of this study indicate that conventional and Islamic banks capital are not used for risk-bearing loans. It is confirmed by (Ismail et al., 2018) who states that capital is used to support assets that contain or cause risks such as financing. Thus, banks have the freedom to use capital because it will not affect their credit risk.

The test result of the effect of asset quality on profitability in conventional banks shows a coefficient of 0.49 and a significance of < 0.01. Whereas in Islamic banks, the test result shows a coefficient of -0.58 and a significance of < 0.01. Asset quality has a positive and significant effect on the profitability of conventional banks while in Islamic banks it has a negative and significant effect. It shows that conventional banks are far better at managing asset quality. This result is in accordance with (Zarrouk et al., 2016). Meanwhile, Islamic banks must focus more on credit risk, because if the improvement on

asset qualityis not accompanied with good management on credit risk, it will increase costs and reduce bank profitability (Wasiuzzaman and Tarmizi, 2010). The results are in accordance with (Wasiuzzaman and Tarmizi, 2010), (Mun and Thaker, 2016), (Siahaan and Asandimitra, 2018).

The test result of the effect of capital on profitability in conventional banks shows a coefficient of 0.19 and a significance of ¡0.01. Whereas in Islamic banks, the result shows a coefficient of 0.13 and a significance of 0.11. Capital has a positive and significant effect on the profitability of conventional banks. It is in accordance with (Trad et al., 2017) (Akhtar et al., 2011), (Zarrouk et al., 2016). Meanwhile in Islamic banks, capital does not have a significant effect on profitability and it is in accordance with (Akhtar et al., 2011). Capital condition in Islamic banks during the eight years of observation was very good, which averaged 25.19%. This condition reflects that Islamic banks rely more on financing as a source of income and do not use the potential of capital to increase profitability (Hutagalung et al., 2013). This statement is reinforced by (Sangmi and Nazir, 2010) in their research in banks in India which shows that high capital indicates that the bank is conservative and does not use all potential capital. It also shows that Islamic banks are lack of product development by using existing capital to obtain profitability.

The test result of the effect of credit risk on profitability in conventional banks shows a coefficient of -1.14 with a significance of < 0.01. As for Islamic banks, the result shows a coefficient of -0.30 with a significance of < 0.01. It means that H5 is accepted; credit risk has a negative effect on the profitability of both conventional and Islamic banks. The results of this study are in accordance with(Dodi et al.,), (Ali et al., 2011) (Trad et al., 2017). The higher the credit risk, the higher the bank's capacity to absorb loan losses (Fayed, 2013). It will give impact on bank productivity and will have a negative effect on bank profitability. Then the bank must maintain a high level of credit risk so as to reduce profits.

The magnitude of the effect of asset quality and capital on credit risk is 98%, while the magnitude of the influence of asset quality, capital, and credit risk on profitability is 40%. The magnitude of the effect of asset quality and capital on credit risk is 98%, while the magnitude of the influence of asset quality, capital, and credit risk on profitability is 82%. The implication of this research is the understanding that managing asset quality well is very important because it will affect credit risk. High asset quality will affect profitability, but the it must be managed properly so as not to cause losses. Increased asset quality is poorly

managed in Islamic banks, so it leads to a decrease in profitability. Likewise with credit risk that must be maintained so that it is not too high so as to reduce profits..

5 CONCLUSION AND LIMITATION

The main objective of this research is to find out the impact of asset quality and capital as determinants of credit risk and profitability in the banking industry. Overall the results of this study indicate that asset quality has a positive and significant effect on the risk of credit or financing in both conventional and Islamic banks. Meanwhile, capital does not have an influence on credit or financing risk in both conventional and Islamic banks. Asset quality has a positive and significant effect on the profitability of conventional banks. However, in Islamic banks, it has a negative and significant effect. Capital has a positive and significant impact on the profitability of conventional banks but has no influence on Islamic banks. Credit risk has a negative and significant impact on profitability in both conventional and Islamic banks. It is important for the management of both types of banks to find out the factors that influence credit or financing risk and profitability in the banking industry. This research is only limited to the banking industry listed on the Indonesia Stock Exchange in 2010 until 2017. It does not involve external factors that might have influence risk and profitability. The risks used is credit risk which is the biggest risk of the banking industry.

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