



Risks Management and Bank Performance: The Empirical Evidences from Indonesian Conventional and Islamic Banks

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ABSTRACT

The purpose of this study is to examine the influence of credit, liquidity, and operational risk management on performance of Indonesian banks performance. The sample used consisted of 26 conventional banks and 11 sharia banks in period 2012-2016. This study found that credit, and liquidity risks management positively influence Indonesian banks performance that measured by return on asset (ROA) and return on equity (ROE). Meanwhile, this study also found operational risks management positively influence Indonesian banks performance that measured by ROA, ROE, and net interest margin.

Keywords: Risk Management, Credit Risk Management, Liquidity Risk Management, Operational Risk Management and Bank Performance

JEL Classifications: G33, M21

1. INTRODUCTION

Banks are financial institutions that play a very important role in stability and development of economic growth. In order to carry out this role, banks must first ensure that they conduct their business well which has an impact on their ability to maximize stable and increasing profits. However, it is not easy for banks to always maintain maximum profits due to the large number of business risks that will be faced by banks including credit risk, liquidity risk, and interest rate risk. The diversity of risks faced by banks requires management to be able to implement effective risk management because the higher the expected performance achievement, the higher the level of risk it faces. This is because banks face a dynamic business environment. Al Tamimi and Al-Mazrooei (2007); Hussain and Al-Ajmi (2012) conclude that the commercial banks face credit risk and operating risk as the part of the most important risks.

Considering that banks face various risks that have an impact on their performance, it is important for management to mitigate these

risks by implementing effective risk management. Managers can apply comprehensive risk management principles to each type of risk such as credit risk, liquidity risk, and operational risk, because each risk contributes to the bank's performance. Attar et al. (2014) and Soyemi et al. (2014) found that there was a significant influence of the risk management effectiveness on bank performance. While, Olamide et al. (2015) found that there was no relationship between risk management and bank performance. AL-Omar and AL-Mutairi (2008) divided bank's risk into credit risk and liquidity risks. Unfortunately, their study showed that those risks were not influence profitability.

Alkassim (2005), conclude that liquidity risk influence the profitability of both conventional and Islamic banks. Meanwhile, Srairi (2009) emphasized that better liquidity risk management followed by the higher profitability. Chaudhry et al. (1995) and Kosmidou et al. (2005) found liquidity risk influence performance, even when using different measurements for liquidity. However, Molyneux and Thornton (1992) found a weak inverse relationship between liquidity and bank performance.

The success of the risk management applied is inseparable from the type of risk, and the amount of risk faced by the bank. When banks have different business characteristics such as sharia banks and conventional banks, the types and magnitude of the risks will also be different, and the impact on performance is also different. Wasiuzzaman and Gunasegavan (2013) highlighted that conventional banks provide better performance than Islamic banks in terms of return on average assets, but Islamic banks perform better than conventional banks in terms of NIM.

On the basis above inconclusive results of previous studies, the purpose of this study is to examine the influence of credit, liquidity, and operational risk management on bank performance in terms of return on asset (ROA), return on equity (ROE), and NIM.

2. LITERATURE REVIEW

2.1. Credit Risk and Bank Performance

The bank's main activity is credit distribution which will generate income in the form of interest. Therefore, the greater the credit disbursed will be the greater the interest earned by the bank. However, the large loan disbursement caused banks to face even greater risks. According to Ali (2006) risks related to lending are the risk of possible bank losses as a result of non-repayment of loans. Meanwhile, Bank Indonesia regulation Number 11/25/PBI/2009 states that credit risk is a risk due to failure of the debtor and/or other parties to fulfill obligations to the bank. Credit risk occurs when a bank provides credit facilities to a debtor that there is a risk that the debtor will not repay the obligation which will then have an impact on the decline in the profitability of the bank. Therefore, credit risk management is important for a bank because credit risk management affects financial performance (Alshatti, 2015).

The effectiveness of a bank's credit risk management can be indicated by measuring the level of credit risk using the ratio of non-performing loans (NPL) because NPL is the main indicator in measuring credit risk of commercial banks. When a bank has a low NPL (<5%) means that the bank carries out credit risk management effectively, whereas banks that report high credit risk (NPL >5%) show the weakness of credit risk management applied.

Olamide et al. (2015) conducted a study on the impact of effective risk management on the financial performance of 14 banks listed on the Nigerian Stock Exchange for the period 2006-2012. They found that there was no relationship between credit risk as measured by NPL Ratio, and the bank's financial performance as measured by ROA. Attar et al. (2014) examined the effect of risk management implementation (credit, liquidity, and operations) on the financial performance of banks listed on the Indonesia Stock Exchange (IDX). Risk management is measured using NPL, loan to deposit ratio (LDR), and expenses on operating income (ETOI). While the financial performance of banks is measured by ROA and ROE. They found that the implementation of credit risk management, liquidity, and operations simultaneously affect the financial performance of banks. Alshatti (2015) conducted a study examining the effect of credit risk management on the financial performance of 13 conventional banks in Jordan during

2005-2013. He concluded that credit risk had a significant influence on the financial performance of conventional banks in Jordan. Buchory (2015) analyzes the effect of credit risk on the profitability of Indonesia's 26 Regional Development Banks. The results of the study found that credit risk had no significant effect on ROA. Gizaw et al. (2015) empirically tested the impact of credit risk on the profitability of eight conventional banks in Ethiopia. The results showed that credit risk (NPL, loan loss provisions, and capital adequacy) had a significant impact on the profitability of commercial banks in Ethiopia. Capriani and Dana (2016) conducted a study on the effect of credit risk, operational risk, and liquidity risk on the profitability of Rural Banks or Bank Perkreditan Rakyat (BPR) in Denpasar. They reported that credit risk had a positive and not significant effect on bank profitability. Soyemi et al. (2014) examined the relationship between risk management practices as measured by NPL ratio, liquidity ratio, cost to income ratio, and capital adequacy ratio and financial performance as measured by ROA and ROE on deposit money banks (DMBs) in Nigeria. The study used sample data of eight selected commercial banks. The results of the study found that there was a significant effect of bank risk management practices on banking financial performance.

2.2. Liquidity Risk and Bank Performance

Banks will face excess and lack of funds risks related to bank liquidity. Since a bank has an excess funds (an idle fund), the bank will face a high interest rate sacrifice. Conversely, when a bank experiences a lack of funds, the bank will have difficulty in meeting its short-term obligations. Thus, there will be a conflict of interest between seeking high profits or maintaining high liquidity, because when a bank expects high profits it will risk the level of bank liquidity that is low. Conversely, when the bank's liquidity level is high, the level of profit gained will also be low.

The liquidity risk management is expected to maintain its liquidity ratio to be at an ideal level. The indicator used to measure liquidity risk is the LDR (Ali, 2006). According to the Bank Indonesia Regulation (PBI) Number: 12/19/PBI/2010, the ideal level of LDR for commercial banks is between 78% and 100%.

Olamide et al. (2015) found that there was no relationship between liquidity risk as measured by LDR, and the bank's financial performance as measured by ROA for 14 banks listed on the Nigerian Stock Exchange for the period 2006-2012. Attar et al. (2014) conclude that liquidity risk management does not affect the financial performance of banks. Buchory (2015) also found that liquidity risk (LDR) did not have a significant negative effect on ROA. Ariffin (2012) found that liquidity risk affects the financial performance of the bank. The findings also show that liquidity risk management will be followed by ROA and ROE. Capriani and Dana (2016) liquidity risk had a significant positive effect on bank profitability. Soyemi et al. (2014) examined liquidity ratio and financial performance as measured by ROA and ROE. They found that bank risk management practices on banking financial performance. However, while credit risk and capital risk show a significant positive effect on ROA, only significant credit risk contributes to ROE.

2.3. Operational Risk and Bank Performance

Operational risk is the risk caused by insufficient and or non-functioning internal processes, human error, system failure, or the existence of external problems that affect bank operations (Rivai and Veithzal, 2007). Moreover, Abdullah et al. (2011) state that compliance risk, legal risk, and reputation risk are also risks related to operational risk. While, the Indonesian Bankers Association (2015), operational risk can cause direct and indirect losses and create potential opportunities lost to obtain benefits. If a bank is unable to overcome the operational risks it faces, then the level of banking profitability will decrease. Therefore, risk management related to operational risk can affect the level of banking profitability.

The ratio used in measuring operational risk is ETOI. Based on the Bank Indonesia regulation Number: 6/23/SEBI/2004, the ETOI ratio assessment criteria is 95%. The ETOI ratio that exceeds 95% indicates that the bank experienced a higher increase in operating costs compared to its operating income so that the operational risks faced by the bank are high. This shows that banks are less efficient in reducing their operating costs, thus affecting bank profitability. The lack of efficiency of a bank in reducing its operating costs shows that the bank has not been able to implement risk management effectively. Conversely, when the ETOI ratio is <95%, the level of banking operational risk is low, which indicates that the bank has been able to carry out operational risk management properly.

Attar et al. (2014) examined the effect of risk management implementation (credit, liquidity, and operations) on the financial performance of banks listed on the IDX. Risk management is measured using NPL, LDR, and ETOI. While the financial performance of banks is measured by ROA and ROE. The results of the study show that the implementation of credit risk management, liquidity, and operations simultaneously affect the financial performance of banks. However, partially only the application of liquidity risk management does not affect the financial performance of banks. Buchory (2015) analyzes the effect of credit risk on the profitability of Indonesia's 26 Regional Development Banks. He found that LDR did not have a significant negative effect on ROA, ETOI had a significant negative effect on ROA, and NPL had no significant positive effect on ROA. Capriani and Dana (2016) conducted a study on the effect of credit risk, operational risk, and liquidity risk on the profitability of Rural Banks (BPR) in Denpasar. They concluded that credit risk had a positive and not significant effect on bank profitability, operational risk had a significant negative effect on bank profitability, and liquidity risk had a significant positive effect on bank profitability. Soyemi et al. (2014) examined the relationship between risk management practices as measured by NPL ratio, liquidity ratio, cost to income ratio, and capital adequacy ratio and financial performance as measured by ROA and ROE on DMBs in Nigeria. The study used sample data of eight selected commercial banks. The results of the study found that there was a significant effect of bank risk management practices on banking financial performance. However, while credit risk and capital risk show a significant positive effect on ROA, only significant credit risk contributes to ROE.

3. EMPIRICAL RESULTS AND DISCUSSION

3.1. Sample and Data

The population used in this study is all Indonesian banks from 2012 to 2016. The samples were selected using purposive sampling method based on some criterias that have been determined in accordance with the research objectives. Based on those methods we selected 37 banks (185 banks-years observations) consists of 27 conventional banks and 10 Islamic banks. The number of samples based on criteria can be seen in Table 1.

Table 2 reports the descriptive statistics of all corresponding variables. The results show mean, standard deviation, maximum, and minimum of ROA, ROE, NIM, credit risk management (NPL), liquidity risk management (LDR), and operational risk management (ETOI).

3.2. Multiple Regression Results

The objective of this study is to examine the influencing of credit risk, liquidity risk, and operational risk management on bank performance using ROA, ROE, and NIM by running multiple regressions. The regression results are exhibited in Table 3 for all samples, Table 4 for conventional bank and Table 5 for sharia bank. The empirical findings in Table 3 shows NPL, LDR, and ETOI are statistically significant negatively influence on bank performance that proxied by ROA and ROE. Meanwhile, when bank performance is measured by NIM, only ETOI that influence on the performance. These results indicate that credit risk, liquidity risk and operational risk management positively influence on bank performance.

The empirical findings for conventional bank in Table 4 shows NPL is statistically significant negatively influence on bank performance that measured by ROA. Moreover, this study found LDR negatively significant influence on ROE. This study also gives an empirical evidence on the influencing of ETOI on bank performance for all proxies. These findings indicate that the credit risk, liquidity risk and operational risk management positively influence on bank performance.

In context of islamic banks, this study Table 5 shows only ETOI that statistically significant negatively influence on bank performance that proxied by ROA and ROE. This finding indicates that operational risk management positively influence on islamic bank performance.

Table 1: Sample selection

Indicator	Total
Conventional banks listed on the Indonesia Stock Exchange	42
All Islamic banks at Bank Indonesia	11
Banking companies that do not have complete reports and complete data in 2012-2016	16
The number of companies that meet the research criteria and are sampled	37
Observations based on years (number of companies × 5 years)	185

Table 2: Descriptive statistics

Variable	Mean	Standard deviation	Min.	Max.
ROA	0.0121	0.0235	-0.1115	0.0515
ROE	0.0808	0.2074	-1.4248	0.8379
NIM	0.0584	0.0544	0.0024	0.7099
NPL	0.0190	0.0137	0.0007	0.0545
LDR	0.8780	0.1168	0.5239	1.4072
Expenses to operating income (ETOI)	0.8899	0.2228	0.3328	2.3520

ROA: Return on asset, ROE: Return on equity, NIM: Net interest margin, NPL: Non-performing loan, LDR: Loan to deposit ratio, ETOI: Expenses to operating income

Table 3: Multiple regressions results for all samples

Variables	ROA			ROE			NIM		
	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value
Intercept	0.108	21.819	0.000	0.796	6.622	0.000	0.097	2.718	0.007
NPL	0.116	2.328	0.021	0.791	0.756	0.451	0.102	0.285	0.776
LDR	0.010	2.176	0.031	0.207	2.070	0.040	0.002	0.072	0.943
ETOI	0.095	31.023	0.000	0.583	9.011	0.000	0.174	1.921	0.056
R ²	0.889			0.433			0.036		
F	536.591			46.037			2.259		
P-value	0.000			0.000			0.083		

ROA: Return on asset, ROE: Return on equity, NIM: Net interest margin, NPL: Non-performing loan, LDR: Loan to deposit ratio, ETOI: Expenses to operating income

Table 4: Multiple regressions results for Conventional banks

Variables	ROA			ROE			NIM		
	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value
Intercept	0.107	23.841	0.000	0.769	6.291	0.000	0.100	2.244	0.027
NPL	0.111	-2.026	0.045	1.108	-0.718	0.474	-0.131	-0.242	0.809
LDR	0.009	-2,005	0.047	0.226	-1.839	0.068	-0.006	-0.136	0.892
ETOI	0.096	-34,103	0.000	0.569	-7.175	0.000	-0.044	-1.582	0.116
R ²	0.940			0.418			0.036		
F	652.995			30.162			1.575		
P-value	0.000			0.000			0.109		

ROA: Return on asset, ROE: Return on equity, NIM: Net interest margin, NPL: Non-performing loan, LDR: Loan to deposit ratio, ETOI: Expenses to operating income

Table 5: Multiple regressions results for Islamic banks

Variables	ROA			ROE			NIM		
	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value	Coefficient	t-statistic	P-value
Intercept	0.116	5.766	0.000	0.912	4.644	0.000	0.113	2.216	0.031
NPL	-0.138	-1.184	0.242	-0.444	-0.392	0.697	-0.233	-0.790	0.433
LDR	-0.025	-1.233	0.223	-0.234	1.206	0.233	-0.029	-0.585	0.561
ETOI	-0.089	-7.324	0.000	-0.672	-5.687	0.000	-0.025	-0.806	0.424
R ²	0.694			0.553			0.075		
F	36.623			21.012			1.370		
P-value	0.000			0.000			0.263		

ROA: Return on asset, ROE: Return on equity, NIM: Net interest margin, NPL: Non-performing loan, LDR: Loan to deposit ratio, ETOI: Expenses to operating income

4. CONCLUSION

The purpose of this study is to examine the influence of credit, liquidity, and operational risk management on performance of Indonesian banks performance. The sample used consisted of 26 conventional banks and 11 sharia banks in period 2012-2016. This study found that credit, and liquidity risks management positively influence Indonesian banks performance that proxied by ROA and ROE. Meanwhile, this study also found operational risks management positively influences Indonesian banks performance that proxied by ROA, ROE, and NIM.

Furthermore, This study also examine the effect of risk management implementation on bank performance for every sub-sample conventional dan Islamic banks. The results show that for conventional bank the credit risk management positively influence on bank performance for ROA proxy only. While, liquidity risk management positively influence on bank performance for ROA and ROE proxies. This study also found operational risk management positively influence on bank performance for all proxies (ROA, ROE, and NIM). In contrast for Islamic banks sub-sample, this study shows only operational risk management positively influence on islamic bank performance. These findings indicate that the influencing

of credit risk, liquidity risk, and operational risk management on Indonesian bank performance is not provided the conclusive results rather it depends on the sample, and the performance measurement used.

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