

Impact of Liquidity, Ownership, Global Financial Crisis, and Capital Adequacy Ratio on Indonesian Banking Profitability Period 2007-2016

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Abstract - The purpose of the research was to analyse the effect of liquidity, ownership, and global financial crisis on Indonesian Banking profitability. The research focused on conventional bank exclude sharia-bank and rural bank/BPR, owned by foreign-party, local-party or mixed-party, period 2007 to 2016. Data were retrieved from Indonesia Bank regulator which is Otoritas Jasa Keuangan's website. For liquidity, liquidity ratio, loan to funding ratio, and cash ratio were used. Meanwhile ownership and global financial crisis used dummy variable. The research divided bank to foreign and mixed party, and local bank in the years of crisis that were 2008 and 2009. Ordinary Least Square method were used with Net Interest Margin as dependent variable, a control variable, and capital adequacy ratio. The result finds that there is no significant connection between liquidity and ownership on profitability, while crisis has significant connection on profitability.

Keywords: liquidity, ownership, global financial crisis, profitability, Indonesian banking

I. INTRODUCTION

The level of banking liquidity is one of the factors that affects bank profitability. In general, the level of banking liquidity has a negative relationship with bank profitability. Despite having a negative relationship, the level of liquidity must properly be managed to avoid the risk of bankruptcy in the banking system. The key to banking is the existence of trust from customers to banks in matters of liquidity. If the customers know that a bank has a liquidity

problem, for example, difficulties in returning money to the customer, it is likely to cause chaos or bank rush that eventually leads to bankruptcy. In addition to liquidity, banking ownership is one way to measure bank profitability. The bank owner will certainly bring a different culture, for example the culture of foreign banks will differ from local banks. The same thing happens with banks owned by the government and with banks owned privately. Different corporate cultures will shape the way companies work which results in profitability. In addition, the bank's owner will also determine the workings and directly monitor the managers under him, who administers the bank. Indonesia has various types of bank ownership, both foreign and local-owned, owned by government or private.

The world was struck again by the economic crisis in 2008. At that time, many banks suffered huge losses, large banks had to close, such as Lehman Brothers and Sterns Banks. Banking in Indonesia has not been able to avoid the impact of the crisis, especially in terms of profitability. There is also not much research on the impact of the global crisis in Indonesia. Therefore, it is necessary to include a global financial crisis to provide a comparison between the profitability of banks during the crisis and the normal conditions. Rengasamy (2014) has examined the impact of the Loan to Deposit Ratio (LDR) on the profitability of eight private banks in Malaysia. The results of this research show that there is a positive yet not significant relationship between LDR and Return on Asset (ROA) at five banks. Meanwhile there is one bank that has a negative and significant relationship, and there is one bank that has a positive and significant relationship between LDR and ROA. Abraham (2013)

has examined the performance of foreign banks in Saudi Arabia and has found surprising results where foreign banks failed to provide a good performance in Arabia, even though they have a stronger capital structure and loan portfolio capabilities than local banks. Kramaric, Cipic and Miletic (2017) have found that the 2007 crisis dummy variable has greatly affected the profitability of banks in Croatia. Hartwell (2015) has conducted a research on the impact of the crisis on 1,600 banks from 30 countries using the Bayesian model average, fixed-effect, IV-GMM methodology. From his research, it is known that non-aggressive banking tends to survive to face the crisis that occurred. In addition, government factors also played a role in the profitability of banks during the crisis.

Seeing what has been given, the researchers are encouraged to combine the three main variables into a joint research by adding a control variable, which is the capital adequacy ratio. The problem formulations to be raised in this research are: (1) How is the relationship between the level of liquidity with the level of profitability of the banking sector in Indonesia?; (2) How is the relationship between banking ownership and the level of profitability of the banking sector in Indonesia?; (3) What is the relationship between the global financial crisis and the level of profitability of the banking sector in Indonesia?

From the formulation of the problem, the hypothesis is given:

- H_{01} : The level of liquidity has no effect on bank profitability.
- H_{a1} : The level of liquidity affects the profitability of banks.
- H_{02} : Banking ownership does not affect bank profitability.
- H_{a2} : Banking ownership affects the profitability of banks.
- H_{03} : The global financial crisis has an effect of reducing banking profitability.
- H_{a3} : The global financial crisis has an effect on increasing bank profitability.

II. METHODS

The research applied a quantitative method (data processing in the form of numbers) using secondary data (obtained from other sources). The object used in this research is a conventional banking company operating in Indonesia from 2007 to 2016. Conventional banks are selected since this type of bank has a greater contribution to the Indonesian economy than any other type of bank (Sharia banks or Bank Perkreditan Rakyat (BPR)/Rural Credit Banks). Banks are companies that must be able to maintain an optimal level of liquidity since most of the funds are loans from other parties. In addition, ownership of banks is also quite diverse, ranging from foreign and local owners. Bank is also one of the companies that is

quite sensitive to the crisis and economic conditions in the country where it operates, so a research is needed to see the relationship of this condition. Data used in the research come from the Bloomberg Terminal and from the official website of the Otoritas Jasa Keuangan (OJK)/Financial Services Authority. The sampling technique uses purposive sampling where the samples used as research objects are determined based on certain criterias: (1) Banking that operates in Indonesia; (2) Conventional banking (not a Sharia Bank or BPR); (3) Conventional banking companies that have been operating for at least 10 years (starting from 2007).

The research uses panel data (combining cross-section and time-series data) since the advantage that the data entered does not need to use the classical assumption test (Gujarati, 2004). The use of panel data is suitable, especially for banking data which usually tends to be abnormal because interbank financial statements tend to differ from one another, as in size and ability. It starts with descriptive statistical analysis and correlation to analyze the data used. For the model types, Chow Test, Hausman Test and Langrange Multiplier Test are selected and performed. Finally, the selected models will be analyzed by the R2 test, F test and t test. The model used in this research is given:

$$NIM = \alpha + \beta_1 LIQ + \beta_2 LFR + \beta_3 CHR + \delta_1 OWN + \delta_2 CRISIS + \beta_4 CAR + e \quad (1)$$

Information:

- Y : Profitability (NIM)
- α : Constanta
- β, δ : Coefficient Multiple Regression (Independent, Dummy, Control Variable)
- LIQ : Liquidity
- LFR : Loan to Funding Ratio
- CHR : Cash Ratio
- OWN : Ownership (1 = Foreign & Mixed; 0 = Local)
- CRISIS : Global Financial Crisis (1 = 2008 – 2009; 0 = 2007 and 2010 – 2016)
- CAR : *Capital Adequacy Ratio*

More information is provided in Table 1:

Table 1 Variable Operationalization

Variable Type	Variable	Scale
Dependent	<i>Net Interest Margin</i>	Ratio
Independent	<i>Liquidity</i>	Ratio
	<i>Loan to Funding Ratio</i>	Ratio
	<i>Cash Ratio</i>	Ratio
	<i>Bank Ownership</i>	<i>Dummy</i>
	<i>Financial Global Crisis</i>	<i>Dummy</i>
Control	<i>Capital Adequacy</i>	Ratio

Source: Author

III. RESULTS AND DISCUSSIONS

Before conducting research, a descriptive statistical analysis has been carried out with the results provided in Table 2. Based on Table 2, some conclusions are drawn: (1) Table 2 illustrates the overall results of descriptive statistics consisting of net interest margin, liquidity, loan to funding ratio, cash ratio, ownership, crisis and capital adequacy ratio variables. (2) The highest Net Interest Margin variable held by ANZ Bank in 2007 was 29,43% and the lowest was Bank Artos Indonesia in 2010, which was -6,25%. In addition, the average Net Interest Margin is 5,904% with a standard deviation of 0,035. (3) In the independent variable, there is liquidity. The highest number of Liquidity obtained by Bank Amar Indonesia in 2016 was 7,609x and the lowest was Bank J Trust Indonesia in 2007. The average Liquidity was 1,49x with a standard deviation by 0,8. (4) In the loan to funding ratio, the highest value is at the Bank of Bangkok in 2011 at 5,168x and the lowest at Bank of America in 2007 at 0,04x. The average of this variable is 0,946x with a standard deviation by 0,502. (5) In cash ratio, the highest value obtained by Bank Amar Indonesia in 2016 was 8,648x and the lowest was at Bank OKE Indonesia in 2013 with 0,155. The average for this variable is 0,947x with a standard deviation of 0,91. (6) In CAR variable, the highest value obtained

by Bank ICBC Indonesia in 2008 was 2,034x and the lowest was at Bank Bumi Arta in 2015 with a value of 0,06x. The average CAR is 0,312x with a standard deviation by 0,282x.

While for correlation analysis data are obtained as seen in Table 3. The results of Table 3 show the correlation that occurs between variables. In the independent variable NIM, the strongest correlation occurs in the crisis and CAR. In addition, LiQ, LFR and ownership have a negative relationship with Indonesian Banking NIM. This research uses a random effect model (REM), with the results as seen in Table 4.

Based on Table 4, the value of R-square is 0,22473 or equal to 22,473%. These figures show that the ability of the model that can be explained by LIQ, LFR, CHR, OWN, CRISIS and CAR variables is 22,473%. Meanwhile, the remaining 77,527% is explained by other variables outside of these variables. This is reasonable, since bank profitability is not only described by some of these variables. There remain other variables outside that can describe profitability, both internal and external banking factors. In the p-value testing model of F statistics of 0,00000, all independent variables in this model, which are liquidity [LIQ, LFR, CHR], ownership, crisis and control variables have an influence on the dependent variable (NIM).

Table 2 Descriptive Statistic Analysis

Date : 03/16/18
Time : 12:12
Sample : 1 730

	NIM	LIQ	LFR	CHR	OWN	CRISIS	CAR
Mean	0,059044	1,492917	0,947201	1,239381	0,492154	0,188302	0,312296
Median	0,050600	1,236213	0,852786	1,034388	0,000000	0,000000	0,209800
Maximum	0,294300	7,609972	5,163825	8,684249	1,000000	1,000000	2,034100
Minimum	-0,062500	0,543100	0,040003	0,154647	0,000000	0,000000	0,060000
Std. Dev.	0,034803	0,800214	0,502589	0,910309	0,500295	0,391233	0,282717

Source: Author

Table 3 Correlation Results

	NIM	LIQ	LFR	CHR	OWN	CRISIS	CAR
NIM	1,000000	-0,013566	-0,059778	0,064542	-0,068454	0,220299	0,310948
LIQ	-0,013566	1,000000	0,725416	0,279684	0,297798	-0,037186	0,393462
LFR	-0,059778	0,725416	1,000000	0,033027	0,230972	-0,084010	0,173960
CHR	0,064542	0,279684	0,033027	1,000000	-0,183541	0,099466	0,382579
OWN	-0,068454	0,297798	0,230972	-0,183541	1,000000	0,036753	0,034858
CRISIS	0,220299	-0,037186	-0,084010	0,099466	0,036753	1,000000	0,170611
CAR	0,310948	0,393462	0,173960	0,382579	0,034858	0,170611	1,000000

Source: Author

Table 4 Model Test Result

Dependent Variable: NIM
 Method: Panel EGLS (Cross-section random effects)
 Date: 03/16/18 Time: 14:15
 Sample: 2007 2016
 Periods included: 10
 Cross-sections included: 73
 Total panel (unbalanced) observations: 701
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LIQ	-0,002925	0,002622	-1,115301	0,2651
LFR	-0,000895	0,003918	-0,228479	0,8193
CHR	-0,000745	0,001559	-0,477793	0,6329
OWN	-0,004484	0,005296	-0,846701	0,3975
CRISIS	0,012014	0,002509	4,788793	0,0000
CAR	0,055819	0,004960	11,25482	0,0000
C	0,047194	0,004717	10,00584	0,0000

Effects Specification		S.D.	Rho
Cross-section random		0,020455	0,4076
Idiosyncratic random		0,024658	0,5924

Weighted Statistics			
R-squared	0,224737	Mean dependent var	0,021302
Adjusted R-squared	0,218034	S.D. dependent var	0,028033
S.E. of regression	0,024825	Sum squared resid	0,427685
F-statistic	33,52995	Durbin-Watson stat	0,861715
Prob(F-statistic)	0,000000		

Unweighted Statistics			
R-squared	0,127512	Mean dependent var	0,059044
Sum squared resid	0,739754	Durbin-Watson stat	0,498196

Source: Author

Table 5 t-test Result

Variable	α	Sig	Conclusion
LIQ	-0,002925	0,2651	No Effect
LFR	-0,000895	0,8193	No Effect
CHR	-0,000745	0,6329	No Effect
OWN	-0,004484	0,3975	No Effect
CRISIS	0,012014	0,0000	Effect
CAR	0,055819	0,0000	Effect
C	0,047194	0,0000	Effect

Source: Author

Based on Table 5, the multiple regression equation is obtained:

$$NIM = 0,047 - 0,003 LIQ - 0,001 LFR - 0,001 CHR - 0,004 OWN + 0,012 CRISIS + 0,056 CAR + \varepsilon \quad (2)$$

It can be explained that if the LIQ, LFR, CHR, OWN, CRISIS, and CAR variables are zero, the CAR

variable will have a value of 0,047. (1) The variable liquidity (LIQ) has a significance value of $0,2651 > 0,05$, so it can be concluded that LIQ partially has no effect on the NIM variable. It can be said that LIQ does not affect NIM. (2) Loan to funding ratio (LFR) variable has a significance value of $0,8193 > 0,05$, it can be concluded that LFR partially does not affect the NIM variable. Thus, it is concluded that LFR does not affect NIM. (3) The cash ratio variable (CHR) has a significance value of $0,6329 > 0,05$, so it can be concluded that the CHR variable partially has no effect on NIM. Hence it can be said that CHR does not affect NIM. (4) The ownership variable (OWN) has a significance value of $0,3975 > 0,05$, so it can be concluded that the OWN variable partially has no effect on NIM. So, it can be said that OWN does not affect NIM. (5) The variable global financial crisis (CRISIS) has a significance value of $0,0000 < 0,05$ so it can be concluded that CRISIS partially influences the NIM. The CRISIS variable has a coefficient value of 0,012 which indicates that CRISIS has a positive influence on NIM. If the CRISIS variable increases by

one unit, then the NIM variable will increase by 0,012 assuming the LIQ, LFR, CHR, and CAR variables remain constant. (6) The capital adequacy ratio (CAR) variable has a significance value of $0,000 < 0,05$ so it can be concluded that CAR partially influences the NIM. CAR variable has a coefficient value of 0,056 which indicates that CAR has a positive influence on CAR. If the CAR variable increases by one unit, the CAR variable will increase by 0.056 assuming the LIQ, LFR, CHR and CRISIS variables remain constant.

Based on Table 4, the overall p-value of liquidity in the model studied is greater than 0,05, indicating that the overall model (liquidity) does not have a significant effect on bank profitability in Indonesia. Liquidity does not, in fact, have a significant effect on the profitability of banks in Indonesia. Profitability is not significantly determined by how liquid assets are available, but how banks use them (in terms of lending, placement of securities, and other forms of investment).

The research is supported by several previous research. Rengasamy (2014) examines banking liquidity in Malaysia and finds that bank profitability is not necessarily influenced by the level of liquidity. At that time, he used a sample from a private bank in Malaysia. In Indonesia, it has been started by from Makaombohe, Ilat and Sabijono (2014) pointing out that Indonesian banking liquidity from 2011 to 2014 had no influence on its profitability at that time. Widowati (2014) also takes a sample of Indonesian banks from 2010 to 2013 and finds out that liquidity has no effect on profitability. These results differ from liquidity research conducted abroad where Waleed (2016) states that banking liquidity in Pakistan has had a strong relationship with profitability during 2010 to 2015. In addition, Chen et al. (2018) examines private banking from 12 developed countries during 1994 to 2006 and points out that liquidity can reduce bank profitability.

Ownership focuses on foreign banks operating in Indonesia (the dummy variable is given the number 1, while local banks are given the number 0). The results found are the research model shows the p-value above the 0,05 significance level that is equal to 0,4. That way, banking ownership can be said to have no significant effect on the profitability of banks in Indonesia, both tested against the NIM as the dependent variable.

The research is in line with Aymen (2014) who also examines the impact of banking owners in Tunisia on the resulting profitability. Aymen (2014) has stated that banking ownership in Tunisia had no influence on the resulting profitability. Similar thing occurs in this research, which takes samples from Indonesian Banking for the past ten years. However, Tiwary and Thampy (2015) finds that private and foreign banks in India are more profitable than private banks. This research is supported by Ghosh (2015) saying that state-owned bank had lower profitability than foreign bank. Other is Abraham (2013), who examines banking ownership in Saudi Arabia on

various profitability variables. As a result, banking ownership has a significant effect on NIM, but not on banking ROA in Saudi Arabia.

On the other hand, the global financial crisis, which occurred in late 2007, turned out to have an influence on the profitability of banks in Indonesia. This is indicated by the p-value below the significance value of 0,05 on the NIM of 0,000. Speaking of Indonesia, the actual impact of the crisis that occurred in 2008 and 2009 is not as severe as what happened in the United States and Europe. This is also strengthened by the lack of exports from Indonesia to America, thus minimizing the impact of the crisis. In addition, the profitability of banks in Indonesia has also been growing in times of crisis since the government was active in continuing to maintain the health of banks at that time. One of them is how Bank Indonesia continued to reduce interest rates from the end of December 2008 by 9,25% to August 2009 reaching 6,25%. With lower interest rates, it is expected that banking conditions in Indonesia will remain healthy. This golden opportunity is used by banks to spur their businesses to produce good profitability, even better in non-crisis periods.

Another factor that has kept the banking NIM in check during the crisis is the change in the bank to be selective in extending credit only to debtors who are truly considered to have the ability to pay. Besides, the interest given by banks to debtors in times of crisis is much higher than in normal times. The aim is to encourage the spread of lending and funding interest even further, in order to minimize the risk of default on debtors (credit risk). Eventually, the banking NIM remained stable during the crisis period.

The research is in line with the research conducted in Croatia by Kramaric, Cipic and Miletic (2017) where banks in Croatia experienced a significant increase in profitability. According to Kramaric, Cipic and Miletic (2017), the upward trend in profitability does not only occur in Croatia, but also in several Eastern European countries. According to them, the role of the government and the opportunity to generate high interest income drives the profitability of banks in that country. Hartwell (2015) also conducts a research of the profitability of banking crises and non-crisis periods. From his research, banks that are spread throughout the world also tend to survive and increase their profitability in times of crisis since they have support of the local government.

CAR variable (controlling variable) apparently has a significant effect on Indonesian banking profitability with a significance value of 0,000. With the adequacy of CAR, banks have enough capital to carry out business activities or even expand. Therefore, bank profitability is increasingly driven strengthened banking CAR. From the previous model testing, it is found that CAR has significant influence (Zaghdoudi & Hakimi, 2017). Zaghdoudi and Hakimi (2017) use CAR as one of independent variable that influence profitability. They point out that the higher on CAR indicate stronger bank solvency, which is good to face

capital risk even bankruptcy.

From the research, it is known that the crisis and CAR have a significant influence on banks. It appears that Indonesian banks are good at dealing with the situation. No one expects a crisis to come, but if the crisis really happens then there is no need for the people to worry too much due to their experience. Indonesian banks are able to face the crisis and even get benefit from that period. Banks should better be prepared to face a crisis, especially with the active role of regulators, such as Bank Indonesia and Otoritas Jasa Keuangan.

On the CAR side, it is known that capital is an important aspect that supports bank profitability. Stronger bank's capital allows the bank to run its business activities and remarkably develop the business. In addition, strong capital will be a bank buffer, especially in the face of crisis conditions. OJK also supervises banks, especially in terms of capital, where the goal is that banks have enough capital in accordance with OJK regulations.

The researchers emphasize the importance of banks to maintain the capital they have by following the minimum capital requirements from the OJK to budgeting funds as capital for banks. In addition, banks need to conduct regular evaluations, especially to see how strong the capital that banks still have. Likewise, with a crisis, a crisis cannot be avoided, but banks can always prepare themselves for a crisis, from stress testing to periodic simulations for banks. As a result, banks will always be ready to face the possibility of a crisis that will occur.

In the future, it is expected that bank profitability will be stronger by considering the capital it has. In addition, it is hoped that banks will continue to be strong in facing various possible crisis in the future.

IV. CONCLUSIONS

The research finally leads to the conclusions. The first hypothesis in this research would like to know the relationship of the level of liquidity to the profitability of banks in Indonesia. The results finds that the level of liquidity does not have a significant effect on the profitability of banks in Indonesia. The second hypothesis wants to raise the topic of the effect of ownership on bank profitability. From the model that has been made, it shows that ownership also has no influence on the profitability of Indonesian banks. The third hypothesis discusses the impact of the global financial crisis on the profitability of banks in Indonesia. The outcome shows that if the crisis has a significant relationship to profitability, it even tends to increase the profitability of banks in Indonesia.

Finally, things that can be considered for further research are: (1) The next research is expected to add several other variables which is not involved in this research, such as non-performing loans, banking efficiency, interest rates and so on; (2) Future research are expected to increase the time interval, especially

adding to the 1998 monetary crisis to elaborate comparison of the impact of the 1998 crisis with 2008 on banking profitability; (3) It is suggested that the future research adds samples from banks in other conventional countries to be compared with the research results on Indonesian banking.

REFERENCES

- Abraham. (2013). Foreign ownership and bank performances metrics in Saudi Arabia. *International Journal of Islamic and Middle Eastern Finance and Management*, 6(1), 43-50.
- Aymen, B. M. (2014). Impact of ownership structure on financial performances of banks: Case of Tunisia. *Journal of Applied Finance & Banking*, 4(2), 1-11.
- Chen, Y-K., Shen, C-H., Kao, L. and Yeh, C-Y. (2018). Bank liquidity risk and performances. *Review of Pacific Basin Financial Markets and Policies*, 21(1), 1-40. <https://doi.org/10.1142/S0219091518500078>
- Ghosh, S. (2015). Macroprudential regulation and bank performances: Does ownership matter? *Journal of Banking Regulation*, 16(1), 22-36.
- Gujarati, D. N. (2004). *Basic Economics*. New Delhi: Tata McGraw Hill.
- Hartwell, C. (2015). Après le déluge: Institution, the global financial crisis, and bank profitability in transition. *Springer*, 26(3), 497-524.
- Kramaric, T. P., Cipcic, M. L. and Miletic, M. (2017). Has the financial crisis affected profitability of banks in Croatia. *Journal of Applied Finance & Banking*, 7(3), 21-45.
- Makaombohe, Y. N., Ilat, V and Sabijono, H. (2015). Rasio likuiditas dan jumlah kredit terhadap profitabilitas perbankan di Bursa Efek Indonesia. *Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 2(1), 617-626. <https://doi.org/10.35794/emba.v2i1.4376>
- Rengasamy, D. (2014). Impact of Loan Deposit Ratio (LDR) on profitability: Panel evidence from commercial bank in Malaysia. *Third International Conference on Global Business, Economics, Social Sciences. Mumbai, India (December 2014)*.
- Tiwary, M. K. and Thampy, A. (2015). Bank ownership, credit and local economic growth. *Journal of Finance, Accounting and Management*, 6(2), 1-33.
- Waleed, A., Pasha, A and Akhtar, A. (2016). Exploring The Impact of Liquidity on Profitability: Evidence From Banking Sector of Pakistan. *Journal of Internet Banking and Commerce*, 21(3), 1-12.
- Widowati, S. A. (2014). Pengaruh rasio keuangan terhadap profitabilitas perbankan di Indonesia. *Jurnal Penelitian Studi Manajemen & Organisasi*, 3(2), 46-58.
- Zaghdoudi, K. and Hakimi, A. (2017). The determinants of liquidity risk: Evidence from Tunisian bank. *Journal of Applied Finance & Banking*, 7(2), 71-81.