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ANALYSIS OF LIQUIDITY IN ISLAMIC BANKS IN INDONESIA: ANALYSIS OF CAPITAL ADEQUACY RATIO, RETURN ON ASSET, INFLATION, AND BI INTEREST RATE FACTORS FOR THE PERIOD 2015-2020

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Abstract

This study intends to explore the elements that affect the liquidity of Islamic banking in Indonesia. From 2015 to 2020, Bank Indonesia published consecutive monthly statistics that can be used in the research. Internal factors, such as Capital Adequacy Ratio (CAR), Return on Assets (ROA), and external factors, such as inflation and SBI Interest Rate, are the variables used in this study. This study used vector error correction model (VECM) as the research methodology. The results stated that CAR and inflation variables have a positive and significant effect on FDR in the short term, but other variables are not significant. Financing to Deposit Ratio is negatively affected by ROA and BI Interest Rate variables in the long term, while in the short term it is positively affected by CAR and Inflation (FDR) variables. In order to decide the future liquidity policy for Islamic banking, authorities in Indonesia can take significant benefits from this study. This research can be used as a comparison reference for Islamic banking to maintain its liquidity. There are still not many studies that examine research on Islamic banking liquidity in Indonesia with these variables, so this journal can be a reference for future research. However, it is limited to 2015 to 2020 and only uses Islamic banking as its research object.

Keywords: *Financing to Deposit Ratio, Capital Adequacy Ratio Liquidity, Return on Assets, Islamic Banks, Inflation, Interest Rate.*

THE INTRODUCTION

A nation's economy greatly benefits from the contribution of banks (Tongurai & Vithessonthi, 2018; Wang et al., 2019). That banks are financial organizations that serve as financial middlemen and bringing in monies from the general public and distributing them to individuals in need (Nuño & Thomas, 2017; Rampini & Viswanathan, 2019). Sharia banks are financial institutions that operate and create products in accordance with the Qur'an and the Prophet

SAW's Hadiths (Z. Iqbal & Mirakhor, 1987; Ismail, 2011; Shibani & De Fuentes, 2017). Islamic muamalah principles are used by sharia banks to run their businesses without relying on interest (Chong & Liu, 2009; Ramadani et al., 2016). To put it another way, Sharia banks were established as an alternative to usury and bank interest (Ali et al., 2018).

In a nation's economy, banks play a crucial strategic role (Brogi & Lagasio, 2019). Banks play a part in mobilizing public money that are used to finance investment activities and offer payment services as an entity that facilitates transactions (Allen et al., 2019; M. Iqbal & Molyneux, 2004; "Oxford Handb. Bank.," 2019). In addition to carrying out these two aims, banks serve as a conduit for the public to learn about monetary policy (Government) (J. Wu et al., 2022). The nature of banking business differs from that of manufacturing or other service organizations depending on the purpose of the bank (Karakaya et al., 2022). The majority of the bank's assets are liquid, and both assets and liabilities change hands often (Bawa & Basu, 2020; Peck & Shell, 2010). Trust, namely the public's trust as customers of financial services, is crucial to the banking business (Álvarez-Botas & González, 2021). The public will rush to withdraw their money from the bank if there is any unsound information about the bank's state, which will only exacerbate the problem (Guru & Yadav, 2019).

In order to serve its predominantly Muslim population, Indonesia has supported the establishment of an Islamic financial system over the past ten years. The Islamic financial system in Indonesia has been extended to include the capital market, insurance, mortgages, savings and lending institutions, banks, etc., (Rizvi et al., 2020). This will improve the Islamic system over the established system for evaluating performance and prospects for the future. According to Statistics of Islamic Banking, the number of Islamic banks is growing annually (Otoritas Jasa Keungan, 2017). A bank cannot be divorced from measures to maintain bank health in a safe condition since the rapid expansion of Islamic banks necessitates enhancing their performance. Five

metrics—referred to by the abbreviation CAMEL—consist of capital sufficiency, asset quality, management quality, earnings, and bank liquidity are used by Bank Indonesia to evaluate the health of banks (Forgione & Migliardo, 2018).

The existence of Islamic banks has revitalized business in this nation, particularly in the banking industry. Despite being still a relatively new player in the banking industry, Islamic Banks have managed to grow and develop despite difficult competition. The battle between conventional and Islamic banks will only get closer (Shawtari et al., 2018). As of August 2011, there were 11 Islamic Commercial Banks (BUS), according to figures provided by Bank Indonesia. 23 Sharia Business Units are present (UUS). Additionally, there are now 154 Islamic Rural Banks (BPRS), bringing the total number of Islamic offices to 1,877 (Wasiaturrahma et al., 2020). In order to function at their best, banks, one of the financial institutions, must maintain their performance. To thrive in the financial sector, Islamic banks in particular must compete with Indonesia's dominant and quickly growing conventional banks. The bank's financial performance is one of the aspects that it needs to pay attention to in order to survive. The financial report of the concerned bank is one of the primary sources of indicators used as the foundation for appraisal. Numerous financial ratios can be computed and utilized to forecast future events and conditions based on the banks financial report to determine the level of profit.

The state of a company's finances plays a significant role in assessing its ability to continue running smoothly without interruption (Liu et al., 2022). Analyzing the financial report is one method for figuring out a company's state or circumstance. The study of financial statements is a crucial tool for learning about the company's financial status and the outcomes associated with the chosen and implemented strategies. The leaders of a company can learn more about its status, financial progress, and past and present results by doing a financial statement study of the organization. Additionally, by performing financial analysis in the past, it is possible to identify the company's

shortcomings and its results, which are deemed acceptable, as well as its state of health. A bank's state of health can be determined by a number of factors. The financial report of the concerned bank is one of the primary indicators utilized as the foundation for appraisal (Tomy, 2019). Numerous financial ratios that are frequently used as a foundation for determining the degree of a bank's health can be derived based on the financial report. The outcomes of the financial report analysis will aid in the interpretation of a number of significant relationships and patterns that can serve as a foundation for thinking about the company's future prospects for success (Dimitras et al., 2018)

A bank's liquidity is a good indicator of how well it can handle its finances. Kasmir (2012) defined liquidity as a bank's capacity to pay short-term commitments when they are due. FDR is the proportion of funding provided by a bank to third-party money it has gathered. Because more assets are needed to finance the bank's financing, a higher FDR ratio means that the bank's liquidity position is relatively lower (Duan & Niu, 2020). In light of this, we want to examine the analysis of Sharia banking liquidity in Indonesia from 2015 to 2020 by taking a close look at the hypotheses made about the variables influencing it based on prior research literature, specifically the capital adequacy ratio, return on asset, inflation, and BI interest rate. The Financing to Deposit Ratio (FDR), which is calculated by dividing the amount of financing given by the bank by third-party funds, is a ratio used to assess a bank's ability to pay back withdrawals made by depositors while relying on the financing provided as a source of liquidity (DPK). The amount of money distributed to third-party funds increases as the financing to deposit ratio (FDR) rises (DPK). The bank's Return on Asset (ROA) will rise due to the substantial Third-Party Funds (DPK) disbursement, therefore the Financing to Deposit Ratio (FDR) has a favorable impact on the Return on Asset (ROA). The broad definition of liquidity, according to the Indonesian Dictionary (2016), relates to a company's cash position and its capacity to meet its commitments (pay debt) as they become due. When used in relation to a financial establishment, it refers to the

bank's capacity to settle its short-term liabilities whenever they become suddenly due from clients or other connected parties. Liquidity in this context therefore refers to how simple it is to convert assets into cash at each relevant bank. The ability of a business to meet its short-term commitments (debts) on time, including meeting a portion of its long-term liabilities that are due in the relevant year, is measured by its liquidity (Tan et al., 2017). The capacity of a bank to fulfill potential deposit or savings withdrawals from depositors or holders of trust funds, as well as the ability to provide credit to the general public, is known as liquidity (Sopan & Dutta, 2018).

As a result, a bank is considered liquid if it can satisfy all credit requests from qualified borrowers and pay off all of its debts, including savings accounts, savings, and deposits, when they are due to depositors. Liquidity imbalances and surpluses have an effect on the bank. The bank's profitability will suffer if it manages liquidity too cautiously, or if it holds too much cash, even though it will be secure in terms of the risk of a liquidity shortage. On the other hand, if the bank uses an aggressive strategy to liquidity management, it will likely be at danger of a liquidity shortage but will also have the chance to make significant profits. Risk of a liquidity deficit will significantly affect corporate sustainability and continuity. The financing to deposit ratio can be used to evaluate a bank's liquidity level (FDR). How far the bank can meet customer credit demands can be calculated using the liquidity ratio analysis with FDR, allowing the bank to balance its commitments and swiftly meet depositor demands.

LITERATURE REVIEW

Capital Asset Ratio (CAR)

The Capital Adequacy Ratio (CAR) serves as a mechanism for the bank to withstand potential loss risks. The bank is better able to manage the risk associated with each risky credit or productive asset the higher the CAR. Adequacy of capital is one of the elements of the capital factor (Davis et al.,

2020). The Capital Adequacy Ratio (CAR) ratio is used to determine whether a bank's capital is adequate (M. W. Wu & Shen, 2019). Kashmir (2016:46) defines CAR as the comparison of the capital ratio to risk-weighted assets and in compliance with governmental laws (Kashmir, 2016). According to definitions provided by experts, CAR is a bank performance ratio used to assess the capital sufficiency of a bank's holdings to sustain assets with or producing risk, such as consumer credit.

H1: Capital Asset Ratio is positive and significantly affects the liquidity of Islamic banks in Indonesia.

Inflation

A condition known as inflation occurs when the cost of commodities in a given area rises over a predetermined amount of time (Sumarlin, 2016). From one era to the next, prices rise due to inflation, and the pace of growth differs by location. All of the stated commodities experience price increases due to inflation, not just one or two. Therefore, if the price increase only affects one or two products, it is not considered inflation (Sukirno, 2012). The financial industry is likewise affected by inflation, in addition to the real sector (Ali et al., 2018). Consequently, the following theory is put forth:

H2: Inflation positively and significantly affects the liquidity of Islamic banks in Indonesia

Return on Asset (ROA)

In this study, ROA is used to describe the profitability of banking (Return on Asset). Bank Indonesia (BI) looks more to ROA than to ROE when assessing the health or performance of a bank (Return on Equity). ROA is thought to be more representative in gauging a bank's profitability because BI prioritizes the profitability of a bank measured by assets, whose funds are mostly drawn from

public savings. (2016) Avrita and Pangestuti As a result, the following theory is developed:

H3: Return on Assets is negative and significantly affects the liquidity of Islamic banks in Indonesia

Interest Rate (BI rate)

In this study, the profitability of the banking industry is measured using ROA (Return on Asset). Bank Indonesia (BI) looks more on ROA than ROE when assessing the performance or health of the banking sector (Return on Equity). ROA is said to be more representative in gauging the profitability of the banking industry since BI places a higher priority on a bank's profitability as measured by assets whose funding is mostly derived from consumer savings. 2016 (Avrita & Pangestuti). Consequently, the following theory is put forth:

H4: The BI Rate is negative and significantly affects the liquidity of Islamic banks in Indonesia

METHODOLOGY

The Vector Error Correction Model (VECM), which was processed using the statistical program Eviews 9.0, was the analysis technique employed in this study. The data comprises of time series covering the years 2015 to 2020 and contains each relevant variable. The tabular data is then gathered for each variable so that the Eviews 9.0 program may do a regression analysis. The Vector Error Correction Model (VECM), which is a variation of the Vector Auto Regression approach, is the next (VAR). When time series data is co-integrated rather than stagnant at the level, the VECM model is employed. This suggests that, other from the stationarity issue, the VECM model's prerequisite assumptions are the same as those for the VAR model. All variables in the VECM model have to be stationary at the first differentiated level (Basuki, 2015). Due

to co-integration, the VECM is referred to as a constrained VAR.

Panel regression analysis was the method of analysis used in this study. A permanent shock can have an impact on a variable's short-term behavior, and the VECM is an economic analytical model that can be used to explain this impact (Gujarati, 2009). The Vector Error Correction Model's formula is as follows:

$$\triangle \boldsymbol{FDR} = \boldsymbol{a_0} + \sum_{\boldsymbol{n=60}}^{\infty} \triangle \boldsymbol{CAR} + \sum_{\boldsymbol{n=60}}^{\infty} \triangle \boldsymbol{ROA} + \sum_{\boldsymbol{n=60}}^{\infty} \triangle \boldsymbol{Inflation} + \sum_{\boldsymbol{n=60}}^{\infty} \triangle \boldsymbol{Interest\ Rate}$$

The financing to deposit ratio (FDR) in billions of rupiah is the dependent variable in this study. The independent factors expected to affect the financing to deposit ratio (FDR) are carefully chosen based on prior research and the availability of data for the chosen timeframe. The CAR, ROA, inflation rate for macroeconomic stability, and BI-rate as the interest rate are the independent variables in our estimation. Where FDRt stands for the financing to deposit ratio of Islamic banks for the period t, CARt for capital asset ratio, ROAt for return on asset, and Suku Bungat for bid rate.

Our analysis extrapolates a number of probable determinant variables from the literature review that may have an impact on the Financing to Deposit ratio of Islamic banks in Indonesia. We group these variables into the following general categories:

Table 1. Sample Descriptive

Variable	Sources
FDR	Statistik Perbankan Syariah OJK
CAR	Statistik Perbankan Syariah OJK
ROA	Statistik Perbankan Syariah OJK
INFLATION	Statistik Perbankan Syariah OJK
RATE	Statistik Perbankan Syariah OJK

Source: Author

According to the data collected, our dataset consists of annual data from 2015 to 2020 of Bank Syariah Indonesia. The required data for the selected

analysis is obtained from the collection of Sharia Banking Statistics data from the Financial Services Authority (OJK) and Bank Indonesia.

RESULTS AND DISCUSSION

We will determine the long- and short-term relationships between the dependent variable (DFDR) and the independent factors based on the data that has been processed in the VECM model (DCAR, DROA, DINF, DSBI). The lag length requirements in this investigation led to the use of a 2-lag. There are three stages: Stationarity Test, Co-integration Test, Lag Test, VECM Test, Impulse Reaction Function Test, and Variance Decomposition Test. The following is how these three steps are presented:

Stationary Test

The stationarity test of the data in this study is a crucial prerequisite for time series data analysis in order to avoid spurious regression. The tendency for data to approach the mean and fluctuate around the mean provides insight into stationary data. The Augmented Dickey-Fuller (ADF), Phillips Perron (PP), and Dickey-Fuller (DF) tests can all be used to test for stationarity. By comparing the ADF statistic with the critical values of Mackinnon 1%, 5%, and 10% (Gujarati, 2003), the stationarity test results were used in this study to perform the Phillips Perron test to see if there is a unit root in the time series data. The values obtained are as follows:

Table 2. Stationary Test Results

Null Hypothesis: Unit root (individual unit root process)
Series: FDR, CAR, ROA, INF, SBI
Date: 05/11/22 Time: 23:33
Sample: 2015M01 2020M12
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0
Total (balanced) observations: 345
Cross-sections included: 5

Methode	Statistic	Prob.**
ADF - Fisher Chi-square	121.979	0.0000
ADF - Choi Z-stat	-9.79718	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results D(UNTITLED)				
Series	Prob.	Lag	Max Lag	Obs
D(FDR)	0.0001	0	11	69
D(CAR)	0.0000	0	11	69
D(ROA)	0.0001	0	11	69
D(INF)	0.0000	0	11	69
D(SBI)	0.0000	0	11	69

Source: Eviews 9.0 Data Processing

Lag Test

The Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC), and Hannan-Quinn Information Criterion (HQ) approaches are used to assess the appropriateness of the chosen lag for establishing the ideal lag length. Each criterion's ideal lag length is indicated by an asterisk () in the regression findings. The criterion with the most asterisks is used to determine the ideal lag length (). These values were obtained based on the Lag test results:

Table 3. Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
1	509.8893	NA	5.42e-13	-14.05476	-13.24530*	-13.73362*
2	538.5471	49.00893*	4.92e-13*	-14.16079*	-12.54187	-13.51851

*indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Eviews 9.0 Data Processing

Cointegration Test

The multivariate cointegration test used in the cointegration test is a method developed by Johansen. All of the non-stationary variables in a

cointegration must be integrated to the same degree. Cointegration is a mixture of linear relationships between non-stationary variables. In the long run, integrated variables show that the variables have the same stochastic trend and movement (Shen & Shafiq, 2020). The cointegration test is required to compare short-term and long-term behavior, and the outcomes are as follows:

Table 4. Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		**Trace**	**0.05**	
No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None*	0.455584	75.23013	69.81889	0.0173
At most 1	0.220981	33.88329	47.85613	0.5082
At most 2	0.111148	16.90232	29.79707	0.6473
At most 3	0.096532	8.890237	15.49471	0.3756
At most 4	0.028801	1.987248	3.841466	0.1586

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		**Max-Eigen**	**0.05**	
No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None *	0.455584	41.34685	33.87687	0.0054
At most 1	0.220981	16.98097	27.58434	0.5816
At most 2	0.111148	8.012078	21.13162	0.9029
At most 3	0.096532	6.902990	14.26460	0.5007
At most 4	0.028801	1.987248	3.841466	0.1586

Source: Eviews 9.0 Data Processing

VECM Test

The VECM approach is used to assess a variable's short-term behavior in relation to its long-term value. The short-term behavior of a variable with respect to its long-term value can be ascertained using VECM if a cointegrating relationship between a time series model VAR and its long-term value has been demonstrated. Additionally, VECM is used to estimate the long-term association by using the residual lag from the cointegrated regression and to derive the short-term link between variables using the standard coefficients (Gujarati, 2003). The value discovered from the VECM test results is as follows:

Tabel 5. Hasil Uji VECM Jangka Panjang

Variabel	Coefficient	T-Statistic	Information
CAR	4.636022	7.32006	Significant*
ROA	-13.62057	-4.58919	Significant*
INFLATION	423.7475	4.94580	Significant*
INTEREST RATE	-468.6592	-5.84992	Significant*

R-Square	0.256616
Adj. R-squared	0.110594
F-Statistic	1.757380

Source: Eviews 9.0 Data Processing.
Note: *,**,*** significant at the level of 1%, 5%, and 10%

The outcomes of the VECM test can be found in Table 5. According to the R-Square value of 0.25, the model can be explained by the variables by 25% and by other factors for the remaining 75%. The analysis of the problem by Fathurakhman and Rusdi in 2019 lends weight to this estimation (Fathurakhman & Rusdi, 2019). Additionally, it becomes significant over time when the t-statistic is higher than the t-table. As a result, the independent variables that affect FDR, such as Capital Adequacy Ratio (CAR), Return on Asset (ROA), inflation, and interest rate, all have significant values of > 5%, with specific values of 7.32006, -4.58919, 4.94580, and -5.84992, respectively. The fact that the t-statistic value is bigger than the t-table suggests that some independent variables have a long-term impact on the liquidity of Islamic Commercial Banks in Indonesia. The long-term estimation result demonstrates that the CAR and Inflation variables, with respective effects of 4.636022 and 423.7475 percent on FDR, have a positive and significant impact on FDR. Accordingly, a 1% increase in CAR and inflation will result in increases in FDR of 4.636022% and 423.7475%, respectively.

The FDR is positively impacted by the CAR variable at lag 1 by 4.636022. Accordingly, a 1% increase in CAR in prior years will result in a 4.636022 increase in FDR in the present year. The inflation variable at lag 1 has a favorable effect on FDR of 423.7475, which is the next variable. This means that if inflation rose by 1% in the prior year, the FDR for the current year would rise by 423.7475. The ROA variable is the next one. The ROA variable has a -13.62057 negative

influence on FDR in the long-term estimation. Accordingly, a 1% increase in the SBI interest rate from the prior year would result in a -13.62057 reduction in the FDR for the current year. SBI interest rate is the final factor. The SBI interest rate variable has a negative effect on FDR of -468.6592 in the long-term estimation. This indicates that a 1% increase in SBI interest rates in the prior year will result in a -468.6592 fall in FDR in the current year. As a result, the variables affecting the CAR, ROA, inflation, and SBI interest rate have a long-term effect. The outcomes of the long-term estimation demonstrate that the variables significantly affect FDR:

FDR = 4.636022 CAR - 13.62057 ROA + 423.7475 INF - 468.6592 SBI

Based on the long-term VECM estimation equation above, the long-term relationship between Financing to Deposit Ratio (FDR) has a positive significant value towards two variables.

Table 6. Short Term VECM Test Results

Variable	Coefisien	T-Stats	Description
CAR (-1)	0.377522	1.75015	Significant***
ROA (-1)	2.501839	-2.27456	Significant**
INFLASI (-1)	79.74719	1.91159	Significant***
SUKU BUNGA (-2)	93.10935	1.09872	Not significant

Source: Eviews 9.0 Data Processing

Note: ***,**,***** significant at the level of 1%, 5% and 10%

According to this research, the Capital Adequacy Ratio (CAR) variable significantly affects FDR in both the long and short terms. Previous investigations by Dao & Nguyen, (2020), Anggari & Dana (2020), and Ullah & Bagh (2019) support this estimation result. According to Kusumastuti & Alam (2019) and Ardiansari et al. (2016), CAR is a bank's capital capacity that meets its needs and absorbs the risks it faces, such as lending default risk (Abdillah, 2015).

This study demonstrated that, over time, the variable Return on Asset (ROA) has a negative and significant impact on FDR. While in the short run, ROA significantly and favorably impacts FDR. The research of Sopan and Dutta (2018),

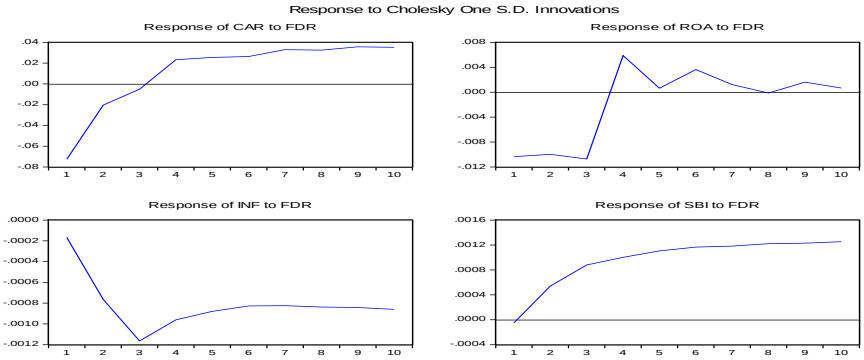
which discovered that ROA has a detrimental and large influence on liquidity, lends support to this estimation conclusion. Intense competition, ineffective management, a decline in profit or financial performance, and the emergence of problematic financing, which affects capital and will cause liquidity issues as the bank is unable to meet its short-term obligations, are the indications that cause ROA to have a negative impact on the liquidity of Islamic banks (Sopan & Dutta, 2018).

This study discovered that the inflation variable had a large and advantageous impact on FDR throughout the long and short terms. Research by Sopan and Dutta (2018), which demonstrates that inflation has a favorable and large impact on bank liquidity, supports this finding. The fact that Islamic banks' FDR increases as inflation does suggests that Islamic banks are not much impacted by inflation in terms of financing distribution. This is due to the fact that modest inflation was still in effect during the monitoring period, which ran from 2010 to 2018. (Sopan & Dutta, 2018). The State Bank of India (SBI) interest rate variable was found to have an impact on FDR over the long term, while the short-term impact of the SBI interest rate was not found to be significant or favorable.

Impulse Reaction Function Test

Impulse Response Function is a technique for assessing a variable's reaction to a shock from another variable over a predetermined period (IRF). IRF is used to track the duration of the shock caused by another variable. The purpose of IRF is to interpret each increment of one standard deviation in a change or shock, which then has an impact on the variable that reacts to the shock in the current or future period. 2009 in Gujarati IRF tracks the effect of an innovation on one endogenous variable on another endogenous variable that is equal to one standard error. The cointegration test's outcomes yielded the following numbers:

Table 7. *Impulse Reaction Function Test Result*



Source: Eviews 9.0 Data Processing

In accordance with Table 7, the impulse response function is illustrated using 60 monthly measurements from 2015 to 2020 following the shock. The increasing parameters of the CAR and SBI variables show that the impact of the shock on the Financing to Deposit Ratio (FDR) on Capital Asset Ratio (CAR) and BI Interest Rate increases, as can be observed from the observation. Then, until the third period, the impact of the shock on the financing to deposit ratio (FDR) on return on asset (ROA) and inflation initially declines, and then grows and varies until regaining equilibrium. In accordance with the findings of Fajri et al. (2022), the FDR between internal factors such as ROA and CAR is demonstrated by the work of profit loss sharing systems, which necessitates a minimum profit generated from financing ratio for Islamic banks. Refers to Suprayitno & Hardiani (2021) FDR is used to determine a bank's ability to repay withdrawals made by depositors using credit extended as a source of liquidity. FDR refers to a bank's capacity to repay withdrawals made by depositors using credit extended by the bank, using funds received by the bank (Badria & Marlius, 2019).

Variance Decomposition Test

In the VECM model, an analysis called variance decomposition is used to explain the variance (%) that changes in one variable contribute to changes in the other, under the presumption that the shock variables are not associated

with one another. The FEVD seeks to offer information on the migration of the influence of a shock on one variable to the shock of other variables in the current period and future periods. The values are obtained as follows from the cointegration test results:

Table 8. *Variance Decomposition Test Result*

Period	S.E.	FDR	CAR	ROA	INF
1	1.171928	100.0000	0.000000	0.000000	0.000000
2	1.411095	97.11835	0.091191	1.221924	1.560390
3	1.666307	95.40380	0.778969	1.217347	2.020096
4	1.889329	92.28605	2.118928	1.113109	2.119645
5	2.109171	89.46428	3.956916	2.033183	1.702113
6	2.332280	86.45561	5.633721	2.919195	1.406704
7	2.516545	85.55584	6.173595	3.377588	1.266684
8	2.687759	85.19718	6.375609	3.722519	1.146941
9	2.836103	85.48650	6.277969	3.709913	1.032117
10	2.973758	85.88052	6.131103	3.666110	0.938806

Source: Eviews 9.0 Data Processing

According to the data in Table 8, when evaluated, the Financing to Deposit Ratio (FDR) is significantly influenced by its own contribution at 100% in the first period. In the first period, the Financing to Deposit Ratio (FDR) in Indonesian Islamic Banks has not yet been impacted by the Capital Asset Ratio (CAR), Return on Asset (ROA), Inflation, or Interest Rates. The Financing to Deposit Ratio (FDR) starts to drop gradually from the second period and continues to do so until the tenth, with the fourth and fifth periods showing the biggest drop from the start to the finish. The Capital Asset Ratio (CAR) then contributes 2.11% in the third period, rises significantly to 6.37% in the eighth period, then declines to 6.13% in the tenth period. The second period's results of the VDC study revealed that the Return on Asset (ROA) variable contributed 1.2%, dramatically growing each period with a high increase of 3.72% in the eighth period before significantly declining until the tenth period, when it decreased to 3.66%. The VDC analysis' findings for the second period revealed that the inflation variable contributed 1.56%, increasing slightly until each fourth period, then declining from 2.11% in the previous period to 1.70% in the fifth period, and then experiencing a significant decrease in influence until the

tenth period, decreasing to 0.93%. These empirical results in line with Bella & Himmawan (2021) it is essential to maximize the utilization of technology in the banking sector that particularly in the practice of financial services, because it can reduce operating costs and increase bank income and solvency. When the return on assets increases in proportion to the quantity of financing provided, Islamic banks will become more efficient which essential for them to develop digital-based services that will allow them to maximize profits and reduce operational expenses (Ninglasari et al., 2023).

CONCLUSION

An important finding of this study is that the Financing to Deposit Ratio (FDR), which is a measure of liquidity in Indonesian Islamic banks, is positively and significantly impacted by the Capital Adequacy Ratio (CAR) in both the long- and short-term. The findings of this study support the premise that the capital adequacy ratio (CAR) affects the financing to deposit ratio (FDR) of Islamic banks in Indonesia in a good and substantial way which is in line with the research conducted by a Aprilia & Handayani (2018) and Fathurrahman & Rusdi (2019).

Additionally, over time, Return on Assets (ROA) has a negative and significant impact on Islamic banks in Indonesia's Financing to Deposit Ratio (FDR). The hypothesis that asserts that ROA has a positive and substantial effect on the Financing to Deposit Ratio (FDR) of Islamic banks in Indonesia is supported by the fact that ROA has a positive and significant effect on FDR in the short run. Additionally, both long-term and short-term inflation have a favorable and considerable impact on the financing to deposit ratio (FDR), which is a measure of liquidity in Indonesian Islamic banks. The idea that the Capital Adequacy Ratio (CAR) has a favorable and significant impact on the Financing to Deposit Ratio (FDR) of Islamic banks in Indonesia (Nugroho et al., 2021; Permataningayu & Mahdaria, 2019) is not supported by this study. The

Financing to Deposit Ratio (FDR) of Islamic banks in Indonesia is significantly impacted over the long term by the SBI interest rate variable. The idea that the SBI interest rate has a negative and significant impact on the Financing to Deposit Ratio (FDR) of Islamic banks in Indonesia is supported by the fact that the SBI interest rate does not have a significant impact on FDR in the short run.

According to the study, Islamic banks in Indonesia should aim to maintain a good ROA to improve their short-term Financing to Deposit Ratio (FDR), but they should not rely solely on it as this strategy has a negative impact on FDR in the long run. Low inflation rates can have a positive effect on the liquidity of Islamic banks, and the government should work towards maintaining them to encourage growth in the industry. Additionally, the government could consider reducing the SBI interest rate to promote long-term FDR in Islamic banks. The Capital Adequacy Ratio (CAR) does not significantly influence FDR, which means that Islamic banks can explore other areas to improve their liquidity. Lastly, Islamic banks should diversify their investment portfolios to avoid dependence on a single source of income, which could affect their FDR in the long run. By implementing these strategies, Islamic banks in Indonesia can improve their financial stability and support the growth of the Islamic banking industry.

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