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The Effect of CAR, NPF, ROA, ROE and BI Rate on Liquidity of Sharia Commercial Banks before Become BSI

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Abstract

Islamic Banks that continue to grow are caracterized by growing asset, ehere in 2019 the number of customers reached 31,9 million, which means that only 11.94% use islamic banks as a banks to save money and other banking transactions of the total population of 267 millions inhabitans. In early 2020, the government merged all state-owned Islamic banks. This study aims to analyze the effect of Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Return On Asset (ROA), Return On Equity (ROE) and BI Rate on Liquidity (FDR) of Islamic Commercial Banks. These ratios are to determine whether there is an influence between the CAR, NPF, ROA, ROE and BI Rate ratios on the Liquidity (FDR) of Islamic Commercial Banks. The data used are the financial statements of Islamic Commercial Banks (BUS) for the period 2010-2019 per semester. The data used in this study are secondary data, while the population of this study includes Islamic Commercial Banks (BUS) which have financial reports (Semesteran) from 2010-2019. The sampling method used in this study was purposive sampling, in which there are 4 Islamic commercial banks that fall into the criteria of this study. The data analysis technique used in this research is panel data regression analysis using the Eviews 10 program.

Keywords
CAR; NPF; ROA; ROE; BI rate; liquidity; FDR

I. Introduction

In the development of the sharia banking law contained in law number 7 of 1992 where Islamic banks are positioned as commercial banks and people's credit banks, where the government has given permission for the existence of Islamic banks or banks based on Islam to carry out all banking actions or activities. like a conventional bank.

The enactment of Law No. 21 of 2008 concerning Islamic banking is the government's acknowledgment of the specifics of Islamic banking in particular. With this regulation, it will be a new step for Islamic banking in every activity. The banking world is inseparable from human life, because all human activities involve finance and require banking facilities (Tarigan, 2020). Bank is a company engaged in the financial sector, meaning that the banking business is always related to financial matters (Rosmika, 2019). The bank is simply defined as a financial institution whose business activities are collecting funds from the public and channeling these funds back to the community and providing other bank services (Dianto, 2020). Because Law Number 21 of 2008 regulates the operational activities of Islamic

commercial banks to be in accordance with the sharia principles contained in the Qur'an and Sunnah. In addition, in its activities, Islamic commercial banks must follow the fatwa of the National Sharia Council-Indonesian Ulema Council (DSN-MUI). DSN-MUI will send a Sharia Supervisory Board (DPS) in every sharia commercial bank to oversee activities within the bank itself.

The development of Islamic banking in Indonesia can be seen in the publication of the 2018 Asian Development Bank report which states that Indonesia contributed 13.4% of all Islamic banking assets in Asia which reached $209.3 billion. The Global Islamic Finance Report 2018 also states that Indonesia together with the UAE, Kuwait, Bahrain and Qatar are grouped into emerging leaders as countries that have the potential to have an influence on global Islamic finance (ojk.go.id).

As of October 2019, the OJK recorded the number of Islamic banking accounts reached 31.89 million (ojk.go.id), which means that only 11.94% used Islamic banks as a place to store money and other banking transactions out of a total population of 267 million people (bps.go.id). Of the total 267 million people, almost 85% are Muslim and 15% are other religions. So it can be said that Muslims who already know and understand the magnitude of the sin of usury are only 11.94% who use Islamic banks, so it can be said that the market share of Islamic banks is still quite small although it will continue to grow.

Total assets of Islamic banks are very important for Islamic banks, because total assets will help in terms of liquidity of the Islamic bank itself, in addition to being supported by other factors such as third party funds and the financing channeled. Liquidity is useful for paying short-term obligations. Bank obligations must be fulfilled such as returning deposits, deposits, etc.

From the total assets above, the Capital Adequacy Ratio (CAR) will be achieved, where CAR is the capital adequacy ratio or the bank's ability to manage assets to cover bank losses caused by risks in Islamic banking.

One of the risks that arise in Islamic banking is the risk of Bad Financing or Non-Performing Financing which is also known as Non-Performing Financing (NPF), where this is caused by the inability of customers to pay their obligations which can come from internal or external factors of the debtor. This is what causes Islamic banks to continue to monitor the amount of NPF that occurs either monthly, quarterly, semester or yearly.

In addition, Return on Assets (ROA) is also one of the ratios that arise based on whether or not the assets of Islamic banks are good or not, which is a benchmark for the return of assets managed by Islamic banks. So it can be said that if asset management is good, it will show a good total of assets too.

And Return On Equity (ROE) is a net ratio to ordinary equity measuring the rate of return on investment of ordinary shareholders, it can be interpreted that ROE affects banks in terms of giving and returning short-term liabilities that affect the liquidity of Islamic banks both in terms of profit sharing/margin and dividends /stock profits.

Liquidity is important for Islamic commercial banks and conventional banks, because liquidity plays an important function to pay short-term obligations. Where the short-term obligations that must be paid include the management of public money which can be withdrawn at any time to be used in economic activities, such as fulfilling daily life, business activities and other economic activities. Liquidity is a very important thing for banks to be managed properly because it will have an impact on profitability as well as Business Sustainability and Continuity (Muhammad, 2015:157). In other words, Islamic commercial banks must have liquidity to pay off all their short-term obligations to support their activities in order to earn income. This makes liquidity very important for the sustainability of Islamic commercial banks and the country's economy, as well as very important for the operations of

Islamic commercial banks. Therefore, liquidity is an important ratio in Islamic commercial banks. Based on the provisions of Islamic commercial banks issued by Bank Indonesia (BI) in book 1, book 2 and book 3, where Islamic banks with assets above Rp. 20 trillion are said to be banks with the category of large Islamic Banks. Where assets until the end of 2018, there are 4 banks that have assets above Rp. 20 trillion with the following data:

Table 1. The Largest Islamic Commercial Bank Assets in 2019

No	Nama Bank	Aset tahun 2019
1	PT. Bank Syariah Mandiri	Rp. 112.290.000.000.000
2	PT. Bank Muamalat Indonesia	Rp. 50.566.000.000.000
3	PT. Bank Negara Indonesia Syariah	Rp. 49.980.000.000.000
4	PT. Bank Rakyat Indonesia Syariah	Rp. 43.120.000.000.000
5	PT. Bank Aceh Syariah	Rp. 25.121.063.000.000
6	PT. BTPN Syariah	Rp. 15.383.038.000.000
7	PT. Bank Panin Dubai Syariah	Rp. 11.135.825.000.000
8	PT. BPD Nusa Tenggara Barat Syariah	Rp. 8.640.000.000.000
9	PT. BCA Syariah	Rp. 8.634.400.000.000
10	PT. Bank Syariah Mega Indonesia	Rp. 8.007.675.910.000
11	PT. BJB Syariah	Rp. 7.723.201.000.000
12	PT. Bank Syariah Bukopin	Rp. 6.739.724.000.000
13	PT. Bank Victoria Syariah	Rp. 2.262.451.000.000
14	PT. Maybank Syariah Indonesia	Rp. 715.623.000.000

Source: (each bank's website)

From the above phenomenon, the researchers took research based on the analysis of the factors that affect the liquidity of Islamic commercial banks in Indonesia. because researchers believe that liquidity is very important for Islamic banking. where in this study there are internal factors or factors that can be controlled by the company and external or uncontrollable factors that affect the liquidity of Islamic banking which will be used as variables by researchers. Researchers take internal and external factors that affect the liquidity of Islamic commercial banks. These internal and external factors are the reference for researchers to conduct this research, because these internal and external factors are an indication for Islamic commercial banks, whether the bank is said to have good or bad liquidity.

Islamic banking liquidity is used as a research because researchers think that liquidity is very important, especially for Islamic commercial banks which continue to develop. From the description of the background above, the researcher also wants to know whether there is an influence of internal factors and external factors on the liquidity of Islamic commercial banks in 2012-2016 in Indonesia. This research was only conducted on Islamic commercial banks with assets of Rp. 20 trillion which can be said to be a large-scale bank based on the provisions of Bank Indonesia (BI) in Books 1-3.

II. Review of Literature

2.1 Grand Theory

In this study, the researcher took the grand theory, where the sources for this theory were taken from books and from previous research journals which can be described as follows:

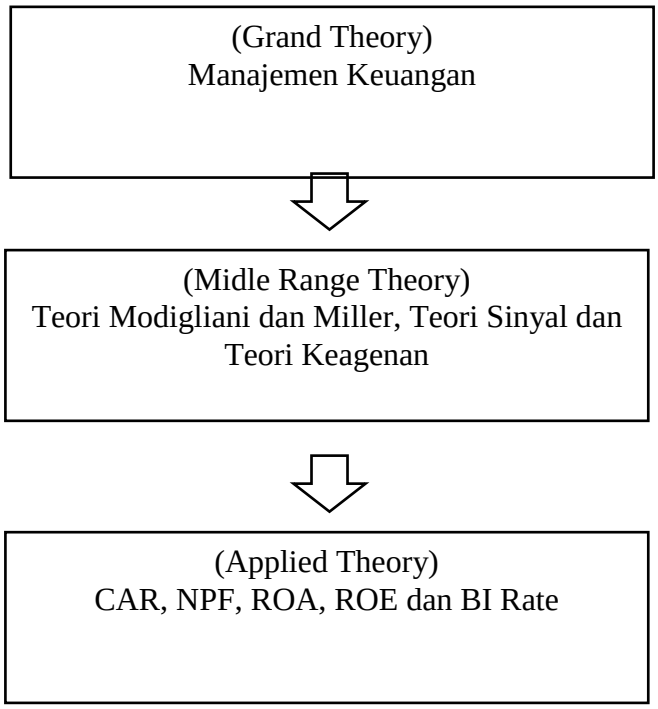

Figure 1. *Grand Theory Image*

b. Financial Management

Financial management or often called spending can be interpreted as all company activities with efforts to get company funds at low costs and efforts to use and allocate these funds efficiently (Sutrisno, 2009:121).

c. Modigliani and Miller Theory

The capital structure is irrelevant or does not affect the firm's value. Modigliani and Miller put forward several assumptions to build their theory (Modigliani and Miller, 1963:433-443), namely:

1) There is no agency fee.
2) No taxes.
3) Investors can borrow at interest rates with the company.
4) Investors have the same information, such as management of the company's prospects in the future.
5) No bankruptcy fees
6) Earning Before Interest and Taxes (EBIT) is not affected by the use of debt.
7) The investors are Price-takers.
8) In the event of bankruptcy, the assets will be sold at market value (market value)..

From the above theory it can be concluded that this theory, Islamic banks and their employees must work together in order to be able to provide Maslahah (benefits) for the Indonesian people in order to create Fallah, so that Islamic banks are expected to create public welfare and prevent the community from usury so that society will not only prosper in society. world but also in the hereafter according to the guidance of the Qur'an and Sunnah.

d. Signal Theory

Signal theory is an action taken by the management of a company to provide instructions to investors about how management assesses the prospects of the company (Brigham and Houston, 2011: 186).

e. Agency Theory

Agency theory is a contract between the manager (agent) and the owner (principal). In order for this contractual relationship to run smoothly, the owner will delegate decision-making authority to the manager (Jensen and Meckling, 1976: 305-360).

f. Liquidity

In general, Islamic bank liquidity can be defined as the ability of Islamic bank companies to pay off their short-term obligations. The definition of liquidity in the banking world is more complex, because it has two points of view. In terms of assets, liquidity is the ability to convert all assets into cash (Cash), while from the point of view of liabilities, liquidity is the ability of banks to meet funds through a portfolio of liabilities (Muhammad, 2015:157).

g. CAR

Capital Adequacy Ratio (CAR) is the ratio between the ratio of capital to risk-weighted assets in accordance with the provisions set by the government. (Kashmir, 2014:46).

h. NPF

Non-Performing Financing (NPF) or Credit Risk is the risk due to the failure of the customer or other party to fulfill obligations to the bank according to the agreed agreement, (Bambang, 2013:55). In general, NPF can be interpreted as the rate of return on financing that the customer cannot afford to return to the bank. Sharia distinguishes between two types of default or not being able to pay off obligations to the bank, (Bambang, 2013:55).

i. ROA

Understanding ROA is a ratio that shows the results (return) on the amount of assets used in the company (Kasmir, 2014: 210).

j. ROE

The definition of ROE is the ratio of net to common equity measuring the rate of return on investment by common stockholders. (Brigham and Houston, 2011:149).

k. Central Bank Interest Rate (BI Rate)

Central Bank Interest Rate is a policy issued by the central bank in which interest rates will be increased if future inflation is estimated to exceed the predetermined target, on the other hand the Central Bank will lower interest rates if future inflation is estimated to be below the predetermined target (www. .bi.go.id).

III. Research Method

This study uses a quantitative approach, where the data taken comes from secondary data obtained from the annual report originating from the web of each Islamic Commercial Bank. In this study used analysis using the Danel Data Regression method, Panel Data is a combination of time series data (time series) with cross-sectional data. Therefore, panel data has a combination of characteristics, namely data consisting of several objects and covering several times (Winarno, 2011:101).

Sources of data used in this study are secondary data, namely data obtained from reliable data sources such as bank financial statements, financial statements of OJK, books, theses and journals as well as other data sources related to this research, such as reports on total assets. , CAR, NPF, ROA and ROE of the bank which can be obtained from the official website of each bank or the OJK website (www.ojk.go.id) and the Central Bank Interest Rate (BI Rate) which can be seen on the Bank Indonesia website (www. .bi.go.id) as well as various other literatures such as previous research and books related to this research.

IV. Discussion

4.1 Brief History

a. Mandiri Syariah Bank

PT Bank Syariah Mandiri is present, appears and grows as a bank that is able to combine business ideals with spiritual values, which underlies its operational activities. This harmony between business ideals and spiritual values is one of the advantages of Bank Syariah Mandiri in its work in Indonesian banking. BSM is here to jointly build Indonesia towards a better Indonesia. (www.syariahmandiri.co.id).

b. Bank Muamalat

PT Bank Muamalat Indonesia Tbk ("Bank Muamalat Indonesia") started its business journey as the first Islamic Bank in Indonesia on November 1, 1991 or 24 Rabi'us Tsani 1412 H. The establishment of Bank Muamalat Indonesia was initiated by the Indonesian Ulema Council (MUI), the Association of Muslim Intellectuals Indonesia (ICMI) and Muslim entrepreneurs who later received support from the Government of the Republic of Indonesia. Since officially operating on May 1, 1992 or Syawal 27 1412 H, Bank Muamalat Indonesia has continued to innovate and issue sharia financial products such as Sharia Insurance (Takaful Insurance), Muamalat Financial Institution Pension Fund (DPLK Muamalat) and sharia multifinance (Al-Ijarah Indonesia Finance). all of which became a breakthrough in Indonesia. In addition, the Bank's product, Shar-e, which was launched in 2004, is also the first instant savings account in Indonesia. The Shar-e Gold Debit Visa product, which was launched in 2011, received an award from the Indonesian Record Museum (MURI) as a Sharia Debit Card with the first chip technology in Indonesia as well as e-channel services such as internet banking, mobile banking, ATM, and cash management. All of these products have become pioneers of Islamic products in Indonesia and have become important milestones in the Islamic banking industry.

c. Bank BNI Syariah

The forging of the 1997 monetary crisis proved the resilience of the Islamic Banking system, Sharia principles with 3 (three) pillars, namely fairness, transparency and benefit, are able to answer the communitiy's needs for a more just banking system. Based on Law No. 10 of 1998, on April 29, 2000, the BNI Syariah Business Unit (UUS) was established with 5

branch offices in Yogyakarta, Malang, Pekalongan, Jepara and Banjarmasin. Furthermore, UUS BNI continues to grow into 28 Branch Offices and 31 Sub-Branch Offices.

d. Bank BRI Syariah

Starting from the acquisition of PT. Bank Rakyat Indonesia (Persero), Tbk., against Bank Jasa Arta on 19 December 2007 and after obtaining permission from Bank Indonesia on 16 October 2008 through its letter o.10/67/KEP.GBI/DpG/2008, then on 17 November 2008 2008 PT. BRISyariah Bank is officially operating. Then PT. Bank BRISyariah has changed its business activities which were originally operational in a conventional manner, then converted into banking activities based on Islamic sharia principles.

e. Determination of the Estimation Model

In research using panel data regression, a study must have two main characteristics, namely, consisting of data that has a certain time span and has one or more objects. Data in the form of panels is considered stronger against the occurrence of heteroscedasticity and multicollinearity.

Panel data regression itself is required to pass four components of determining the method, namely the Classical Assumption Test, Coomon Effect (CE), Fixed Effect (FE) and Random Effect (RE. Therefore, before this research the regression method was determined. After performing the three tests above to determine The most appropriate model uses the Chow Test and Hausman Test, which obtain the following results:

4.2 Classic Assumption Test

a. Multicollinearity Test

Multicollinearity test aims to test whether the regression model found a correlation between the independent variables (independent), (Ghozali, 2016: 103). Where if there is a correlation coefficient whose value is greater than 0.9 it will be said to have symptoms of Multicollinearity, where the data obtained by the researcher after processing the data in the Eviews 10 application is as follows:

Table 2. Multicollinearity Test Results

	CAR	NPF	ROA	ROE	BIRATE
CAR	1.000000	0.009876	-0.298804	-0.361621	-0.120681
NPF	0.009876	1.000000	-0.292308	-0.418902	-0.004857
ROA	-0.298804	-0.292308	1.000000	0.718940	0.001848
ROE	-0.361621	-0.418902	0.718940	1.000000	0.119756
BIRATE	-0.120681	-0.004857	0.001848	0.119756	1.000000

Source: Output Results Eviews 10.

From the results of the Multicollinearity Test above, it can be concluded that the correlation coefficient is <0.9 so it can be concluded that there is no multicollinearity, so the research can be continued.

b. Heteroscedasticity Test

Table 3. Heteroscedasticity Test Results

Dependent Variable: RESABS
Method: Panel Least Squares
Date: 01/23/21 Time: 19:24

Sample: 2010S1 2019S2
Periods included: 20
Cross-sections included: 4
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.906138	4.109603	1.923820	0.0582
CAR	-0.158233	0.128952	-1.227071	0.2237
NPF	0.130223	0.488518	0.266567	0.7905
ROA	0.173943	0.471243	0.369115	0.7131
ROE	-0.004599	0.046155	-0.099641	0.9209
BIRATE	0.075366	0.453186	0.166302	0.8684

R-squared	0.031063	Mean dependent var	6.218222
Adjusted R-squared	-0.034406	S.D. dependent var	4.583346
S.E. of regression	4.661526	Akaike info criterion	5.988601
Sum squared resid	1608.007	Schwarz criterion	6.167253
Log likelihood	-233.5441	Hannan-Quinn criter.	6.060228
F-statistic	0.474471	Durbin-Watson stat	1.482687
Prob(F-statistic)	0.794157		

Source: Results of Output Eviews 10

From the results of the Heteroscedasticity Test, it can be concluded that all the values of the probabilities above are greater than = 0.05, so it can be concluded that the data does not experience heteroscedasticity, which means that the data is normally distributed.

c. Autocorrelation Test

Table 4. Autocorrelation Test Results
Dependent Variable: FDR
Method: Panel Least Squares
Date: 01/23/21 Time: 19:27
Sample: 2010S1 2019S2
Periods included: 20
Cross-sections included: 4
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	78.16643	7.065346	11.06336	0.0000
CAR	-0.509450	0.221698	-2.297945	0.0244
NPF	-1.286165	0.839874	-1.531379	0.1299
ROA	0.709040	0.810175	0.875169	0.3843
ROE	-0.063208	0.079351	-0.796561	0.4283
BIRATE	3.335423	0.779130	4.280955	0.0001

R-squared	0.286985	Mean dependent var	86.94813
Adjusted R-squared	0.238808	S.D. dependent var	9.185752

S.E. of regression	8.014228	Akaike info criterion	7.072352
Sum squared resid	4752.861	Schwarz criterion	7.251004
Log likelihood	-276.8941	Hannan-Quinn criter.	7.143979
F-statistic	5.956929	Durbin-Watson stat	0.956673
Prob(F-statistic)	0.000111		

Source: Output Results Eviews 10.

Where the Durbin Watson value obtained is 0.956673, where if calculated using the DW formula, namely 4-dL and 4-dU, the resulting data is 4-1.5070 = 2.493 and 4-1.7716 = 2.2284, the data will appear as follows:

Table 5. Durbin Watson table

Positive Autocorrelation	Do not know	No Auto Correlation	Do not know	Negative Autocorrelation
0	dL	dU	2	4-dU	4-dL	4
0,956673	1,5070	1,7716	2,2284	2,493

Source: Winarto, Wahyu (2009 : 527)

From the data above, the value obtained from the Durbin Watson test is 0.956673, which is smaller than the values for dU and dL, which means that there is a positive autocorrelation.

d. Normality Test

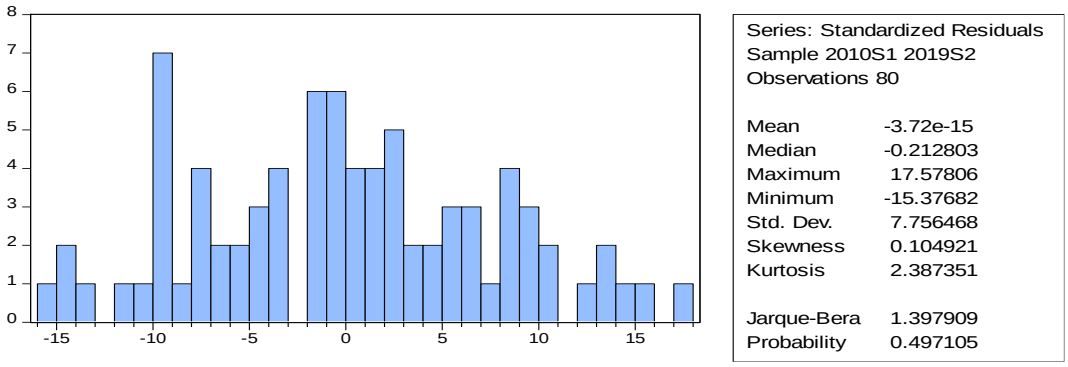

Figure 2. *Normality Test Results*
Source: Output Results Eviews 10.

From the results of the normality test above, the probability result is 0.497105 or greater than = 0.05, it can be concluded that the data is normally distributed.

e. Determination of the Estimation Model

In research using panel data regression, a study must have two main characteristics, namely, consisting of data that has a certain time span and has one or more objects. Data in the form of panels is considered stronger against the occurrence of heteroscedasticity and multicollinearity.

Panel data regression itself is required to go through three components of determining the method, namely Coomon Effect (CE), Fixed Effect (FE) and Random Effect (RE.

Therefore, before this research is determined the regression method, a comparison of the best method will be carried out as follows:

f. *Common Effect Model* or *Pooled Least Square* (PLS)

In the first stage, the researcher conducted a Common Effect Model or Pooled Least Square (PLS) test which got the following results:

Table 6. Common Effect/Pooled Least Square Test Results

Dependent Variable: FDR?
Method: Pooled Least Squares
Date: 01/23/21 Time: 13:41
Sample: 2010S1 2019S2
Included observations: 20
Cross-sections included: 4
Total pool (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAR?	1.107894	0.269708	4.107755	0.0001
NPF?	2.539314	1.238573	2.050193	0.0438
ROA?	1.864817	1.300097	1.434367	0.1556
ROE?	0.111839	0.125830	0.888814	0.3769
BIRATE?	9.409550	0.894583	10.51836	0.0000

R-squared	-0.892359	Mean dependent var	86.94813
Adjusted R-squared	-0.993285	S.D. dependent var	9.185752
S.E. of regression	12.96879	Akaike info criterion	8.023430
Sum squared resid	12614.21	Schwarz criterion	8.172306
Log likelihood	-315.9372	Hannan-Quinn criter.	8.083119
Durbin-Watson stat	0.981559		

Source : Output Source : Output Eviews 10.

g. Fixed effect Model (FEM)

After the researcher tested the Common Effect Model (FEM), the next researcher tested the Fixed Effect Model (FEM) and got the following results:

Table 7. Fixed effect Model (FEM .) test result

Dependent Variable: FDR
Method: Panel Least Squares
Date: 01/23/21 Time: 22:06
Sample: 2010S1 2019S2
Periods included: 20
Cross-sections included: 4
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	85.94047	6.640010	12.94282	0.0000

CAR	0.692777	0.230034	3.011631	0.3600
NPF	2.712644	0.929095	2.919664	0.4700
ROA	0.037645	0.754447	4.989892	0.9603
ROE	0.007074	0.079856	8.858012	0.9297
BIRATE	3.117978	0.696715	4.475257	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.467364	Mean dependent var	86.94813
Adjusted R-squared	0.407349	S.D. dependent var	9.185752
S.E. of regression	7.071545	Akaike info criterion	6.855688
Sum squared resid	3550.479	Schwarz criterion	7.123666
Log likelihood	-265.2275	Hannan-Quinn criter.	6.963128
F-statistic	7.787415	Durbin-Watson stat	1.209790
Prob(F-statistic)	0.000000		

Source: Output Eviews 10.

h. Random Effect Model (REM)

After testing the Common Effect Model and Fixed Effect Model (FEM), the researchers then used the Random Effect Model (REM) test and got the following results;

Table 8. Random Effect Model Test Results

Dependent Variable: FDR?
Method: Pooled EGLS (Period random effects)
Date: 01/23/21 Time: 14:16
Sample: 2010S1 2019S2
Included observations: 20
Cross-sections included: 4
Total pool (balanced) observations: 80
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	78.16643	5.734329	13.63131	0.0000
CAR?	-0.509450	0.179933	-2.831330	0.0060
NPF?	-1.286165	0.681653	-1.886833	0.0631
ROA?	0.709040	0.657549	1.078308	0.2844
ROE?	-0.063208	0.064403	-0.981454	0.3296
BIRATE?	3.335423	0.632353	5.274624	0.0000
Random Effects (Period)				
2010S1--C	0.000000			
2010S2--C	0.000000			
2011S1--C	0.000000			
2011S2--C	0.000000			
2012S1--C	0.000000			
2012S2--C	0.000000			

2013S1--C	0.000000
2013S2--C	0.000000
2014S1--C	0.000000
2014S2--C	0.000000
2015S1--C	0.000000
2015S2--C	0.000000
2016S1--C	0.000000
2016S2--C	0.000000
2017S1--C	0.000000
2017S2--C	0.000000
2018S1--C	0.000000
2018S2--C	0.000000
2019S1--C	0.000000
2019S2--C	0.000000

Effects Specification		
	S.D.	Rho
Period random	0.000000	0.0000
Idiosyncratic random	6.504454	1.0000

Weighted Statistics			
R-squared	0.286985	Mean dependent var	86.94813
Adjusted R-squared	0.238808	S.D. dependent var	9.185752
S.E. of regression	8.014228	Sum squared resid	4752.861
F-statistic	5.956929	Durbin-Watson stat	0.956673
Prob(F-statistic)	0.000111		

Unweighted Statistics			
R-squared	0.286985	Mean dependent var	86.94813
Sum squared resid	4752.861	Durbin-Watson stat	0.956673

Source: Output Eviews 10.

4.3 Data Analysis Stage

a. Uji Chow

From the three test results above, to determine which method is the most appropriate, the Chow test is carried out, where the results obtained by the researcher are as follows:

Table 9. Chow Result Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	8.014802	(3,71)	0.0001

Cross-section Chi-square	23.333147	3	0.0000

Source: Output Eviews 10.

From the results of the Chow Test of the Fixed Effect Model and the Common Effect Test, the results of the Cross-Section F and Chi-Square probabilities are 0.0001 and 0.0000 or less than = 0.05, so it can be concluded that H_0 is rejected and H_∝ is accepted. From these results, it can be concluded that the research uses the Fixed Effect Model (FEM) method.

b. Hausman Test

In addition to conducting the Chow test, the researcher also conducted the Hausman test to find out which method was the most appropriate in this study and the researchers got the following results:

Table 10. Hausman Test Results

Correlated Random Effects - Hausman Test
Pool: DATA_PANEL
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	39.031536	4	0.0000

Source: Output Eviews 10.

From the Hasman test results above, it can be seen that the probability value is 0.0000 or less than = 0.05, so it can be concluded that H_0 is rejected and H_∝ is accepted. From these results, it can be concluded that the research uses the Fixed Effect Model (FEM.) method.

4.4 Hypothesis Test

a. T-Test/Partial Test

After determining the right method and testing the classical assumptions, finally the most appropriate method was produced, namely the Fixed Effect Model (FEM) and good classical assumption test results, so this research was continued to test the hypothesis partially (separately) with the T test, where the results which is obtained as follows:

Table 11. T-Test Results/Partial Test

Dependent Variable: FDR
Method: Panel Least Squares
Date: 01/23/21 Time: 22:06
Sample: 2010S1 2019S2
Periods included: 20
Cross-sections included: 4
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	85.94047	6.640010	12.94282	0.0000
CAR	0.692777	0.230034	3.011631	0.3600
NPF	2.712644	0.929095	2.919664	0.4700
ROA	0.037645	0.754447	4.989892	0.9603
ROE	0.007074	0.079856	8.858012	0.9297
BIRATE	3.117978	0.696715	4.475257	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.467364	Mean dependent var	86.94813
Adjusted R-squared	0.407349	S.D. dependent var	9.185752
S.E. of regression	7.071545	Akaike info criterion	6.855688
Sum squared resid	3550.479	Schwarz criterion	7.123666
Log likelihood	-265.2275	Hannan-Quinn criter.	6.963128
F-statistic	7.787415	Durbin-Watson stat	1.209790
Prob(F-statistic)	0.000000		

Source: Output Results Eviews 10

From the regression results using the Fixed Effect Model (FEM) method above, the following results are obtained:

1. Effect of CAR on Liquidity (FDR)

From the results of the research above, the following hypothesis is formulated:

If t-count < t-table: There is No Significant Effect of Variable X (CAR, NPF, ROA, ROE and BI Rate) on Liquidity (FDR)

If t-count > t-table: There is a Significant Effect of Variable X (CAR, NPF, ROA, ROE and BI Rate) on Liquidity (FDR)

From the results of the study above, the results of the t-statistics value for the CAR variable are 3.011631, while the t-table value with = 0.05/5% and df = (nk) gets df = 80-6 = 74, and the t-table value obtained is 1.66571, so it can be concluded that the value of t-statistics/t-count < t-table (3.011631 > 1.66571) and the probability obtained is 0.360 > of 0.05, then the CAR variable has an effect on Liquidity (FDR), so that the hypothesis H_0 rejected and accepted H_a.

2. Effect of NPF on Liquidity (FDR)

From the results of the research above, the results of the t-statistics value for the NPF variable are 2.919664, so it can be concluded that the t-statistics/t-count > t-table (-2.919664 < 1.66571) and the probability obtained is 0.470 > from 0.05, then the NPF variable has an effect on Liquidity (FDR), so the hypothesis H_0 is rejected and acceptsH_a.

3. Effect of ROA on Liquidity (FDR)

From the results of the research above, the results of the t-statistics value for the ROA variable are 4.989892, while the t-table value with = 0.05/5% and df = (nk) gets df = 80-6 = 74, and the t-table value which is obtained is 1.66571, so it can be concluded that the value of t-Statistics/t-Calculate > t-Table (4.989892 > 1.66571) and the probability obtained is 0.9603

> of 0.05, then the ROA variable has an effect on Liquidity (FDR), so that the hypothesis H_0 rejected and accepted H_a.

4. Effect of ROE on Liquidity (FDR)

From the results of the research above, the results of the t-statistics value for the NPF variable are 8.858012, while the t-table value with = 0.05/5% and df = (nk) gets df = 80-6 = 74, and the t-table value which is obtained is 1.66571, so it can be concluded that the value of t-Statistics/t-Calculate > t-Table (8.858012 > 1.66571) and the probability obtained is 0.9297 > from 0.05, then the ROE variable has an effect on Liquidity (FDR), so that the hypothesis H_0 rejected and acceptedH_a.

5. Effect of BI Rate on Liquidity (FDR)

From the results of the research above, the results of the t-statistics value for the NPF variable are 4.475257, while the t-table value with = 0.05/5% and df = (nk) gets df = 80-6 = 74, and the t-table value obtained is 1.66571, so it can be concluded that the value of t-Statistics/t-Calculate > t-Table (4.475257 > 1.66571) and the probability obtained is 0.0000 < from 0.05, then the NPF variable has an effect on Liquidity (FDR), so that the hypothesis H_0 rejected and accepted H_a.

b. F Test / Simultaneous Test

Table 12. F Test Results / Simultaneous Test

Cross-section fixed (dummy variables)			
R-squared	0.467364	Mean dependent var	86.94813
Adjusted R-squared	0.407349	S.D. dependent var	9.185752
S.E. of regression	7.071545	Akaike info criterion	6.855688
Sum squared resid	3550.479	Schwarz criterion	7.123666
Log likelihood	-265.2275	Hannan-Quinn criter.	6.963128
F-statistic	7.787415	Durbin-Watson stat	1.209790
Prob(F-statistic)	0.000000		

Source: Output Results Eviews 10

From the output data above, a hypothesis is made:

H_0 : There is no effect of CAR, NPF, ROA, ROE and BI Rate on Liquidity (FDR).

H_a : There is an effect of CAR, NPF, ROA, ROE and BI Rate on Liquidity (FDR).

From the data above, the F-Statistic/F-count value is 7.787415, and the F-table value is df1 = k-1 = 6-1 = 5 and df2 = nk = 80-6 = 74, so the F-table value is 2 ,34. So it can be concluded that F-count > F-Table (7.787415 > 2.34) then the probability value of F is 0.000000 less than = 0.05. So it can be concluded that H_0 is rejected and H_a is accepted, which means that there is a joint effect (simultaneous) between CAR, NPF, ROA, ROE and BI Rate on Liquidity (FDR) in Islamic commercial banks.

c. Test R^2

Table 13. Test resultsR^2

Cross-section fixed (dummy variables)			
R-squared	0.467364	Mean dependent var	86.94813
Adjusted R-squared	0.407349	S.D. dependent var	9.185752
S.E. of regression	7.071545	Akaike info criterion	6.855688
Sum squared resid	3550.479	Schwarz criterion	7.123666
Log likelihood	-265.2275	Hannan-Quinn criter.	6.963128
F-statistic	7.787415	Durbin-Watson stat	1.209790
Prob(F-statistic)	0.000000		

Source: Output Results Eviews 10

From the table above, the R-squared value of 0.467364 is obtained which when converted into percent form, the number is 46.74%, where the strength of this variable can be seen in the following table:

Table 14. Coefficient Table R^2

Skala koefisien	Coefficient scale
0,00 – 0,199	Very low
0,20 – 0,399	Low Enough
0,40 – 0,599	Currently
0,60 – 0,799	Strong
0,80 – 1,000	Very strong

Source: (Sugiyono, 2014: 231)

If seen from the coefficient table above, the R-squared value obtained is at a moderate strength level, this is due to other factors that affect the liquidity of Islamic commercial banks.

IV. Conclusion

The results of the research on the analysis of the effect of CAR, NPF, ROA, ROE and BI Rate on the Liquidity (FDR) of Commercial Banks can be concluded according to the appropriate method, as follows:

a. Partially, the Capital Adequacy Ratio (CAR) has an effect on the liquidity of Islamic commercial banks.
b. Partially Non Performing Financing (NPF) affects the liquidity of Islamic commercial banks.
c. Partially Return On Assets (ROA) has an effect on the liquidity of Islamic commercial banks.
d. Partially Return On Equity (ROE) affects the liquidity of Islamic commercial banks.
e. Partially the Central Bank Interest Rate (BI Rate) affects the Liquidity of Islamic Commercial Banks.

Simultaneously the influence of Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Return On Assets (ROA), Return On Equity (ROE) and BI Rate on Liquidity of Islamic Commercial Banks in Indonesia.

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