Capital Adequency Ratio (CAR) and Determinants: Case Study Islamic Banking in Indonesia

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Abstract:- This Journal discuss about Obligation Minimum and purposeful capital provision for analyze influencing factors _ level Islamic bank capital adequacy . *Capital Adequacy Ratio* (CAR) is used as variable dependent , temporary that inflation , GDP, rate ethnic group interest , total assets, total financing , total deposits , ROA, ROE, and NPF used as variable independent . Data obtained from report annual Islamic banking from the Financial Services Authority (OJK) and the Central Statistics Agency (BPS). Use method *Vector Error Correction Model* (VECM). Based on the results of statistical tests show that variables macroeconomics and performance finance Islamic banking in period long take effect to the CAR of Islamic banking .

Keywords:- Macroeconomics , ROA , ROE, NPF, CAR.

I. INTRODUCTION

Banks are one of the institution finance that on some year final this currently experience very significant growth , especially Islamic Banks.[1] Since stand up with started about emergence of ideas institution Islamic finance in the 1980s and later follow up with organized MUI workshops that produce deal for established an Islamic bank in Indonesia in 1990. Based on the , then on May 1 , 1992 the first Islamic bank namely Bank Muamalah Indonesia started operate .[2] So that , in In practice , Indonesia has apply system banking dual (*dual banking system*).[3]

After implemented *dual banking system* , expected could give choices to products more banking _ complete for society . Besides that , implementation from *dual banking system* expected could push rate growth Indonesian economy . Like it is known that the bank has function that is mobilize funds with method raise funds from Public in form stash then channel it in form financing .[4] Based on function , the bank has very important role in move wheel economy .

In order to create a healthy bank , Bank Indonesia as the regulator has issued an Architecture program Indonesian Banking (API). Architecture Indonesian banking is framework base system Indonesian banking which is comprehensive and giving direction , form and order industry banking for susceptible 5 to 10 years forward .[5] Based on things that , the API is very much needed in skeleton strengthen basics industry banking . API aim for strengthen bank capital in skeleton increase bank capability in manage effort nor risk To use support enhancement capacity growth credit banking . because of that , aspect capital is one _ aspect important necessary _ get serious attention _ from bank management .

Based on Brigham (2005:547) capital structure is one of the very important part in the process of taking decision finance , because have reciprocal relationship _ to decision variables finance other . Capital is one of the very important and necessary variable noticed by seriously , because the bank is one of the institution built finance _ based on level trust society . because of that , because capital has very important role for banks. In 1988 the *Bank for International Settlements* (BIS) issued something draft framework known capital _ with *The 1988 Accord* (Basel I).[6] System this made as application framework measurement for risk credit , with require the minimum capital standard is 8%. in line with the more development products that exist in the banking world , then BIS then perfect framework existing capital in *The _ 1988 Accord* with Secrete draft capital new that is The known *New Basel Capital Accord/Agreement* with Basel II. Basel II in Indonesia is a part from stages Architecture Indonesian banking that is run for period 2004-2013 years .

For see how bank performance in manage capital could seen based on ratio finance that is *Capital Adequacy Ratio* (CAR) which is indicator to bank capability in to cover or cover drop active as consequence from bank losses caused by assets risky productivity . _ Based on Bank Indonesia regulations then all banks operating in Indonesia are required have a minimum CAR ratio of 8%. Big the small CAR owned by a bank will could affected by performance aspect finance other that is aspect liquidity , aspect quality assets , aspects sensitivity to the market, aspects profitability [7].

[1] Based on reports Statistics Islamic Banking , December 2016. Network Islamic banking individual office consisting of: from Sharia Commercial Banks: Operational Head Office (473 Units), Sub-Branch Offices (1,207 Units), Cash Offices (189 Units), and Sharia Business Units: Operational Head Office (149 Units), Sub-Branch Offices (135 units), Office Cash (48 Units) spread throughout Indonesia .

[2] Danupranata , Gita. *Management Islamic Banking* . Jakarta: Salemba Four . 2013.

[3] That is operation system Islamic banking and conventional banks by together .

[4] Karim, AA, *Islamic Banks: Fiqh and Financial Analysis* , RajaGrafindo Persada , Jakarta, 2004.

[5] www.bi.go.id

[6] *Bank for International Settlements* is organization international organization founded in 1930 in Basel, Switzerland, aims to weave connection work same between central banks around the world in develop activity finance government , serve transaction payment , and action as IMF guarantor providing loan to developing countries .

[7] Prasnanugraha . *Analysis Influence Ratio Finance Against the Performance of Commercial Banks in Indonesia. Thesis . Semarang. Diponegoro University Postgraduate Program* .

➢ *Capital*

Capital is very important factor for development and progress of the bank at the same time guard trust society . Every creation assets , beside potential produce profit is also potential cause happening risk . because of that , capital must also be could used for guard possibility happening risk loss on investment in assets , especially those originating from party funds third or society . Enhancement role assets as producer profit must by simultaneous accompanied with consideration possible risk _ arise To use protect the interests of the owners of the funds.

According to Zainul Arifin personally traditional , modal defined as something that represents interest owner in something company .[8] Based on score book , capital defined as riches net (*net worth*) that is difference Among score book from assets reduced with score book from obligations (*liabilities*).[9] At a bank, the source acquisition of bank capital can obtained from a number of source . At the beginning establishment , bank capital obtained of the founders and holders stock . Holder share put capital in the bank with hope get results profit in the future come .

➢ *Bank Capital Function*

For banks, capital has specific function _ rather different with the function of capital in the company industry nor trade . Capital function in business banking is as following [10]:
1) Function protect (*protective function*)
2) Attract and retain trust Public
3) Function operational (*Operational Functions*)
4) Bear risk credit
5) As sign ownership
6) Fulfill provision or legislation

The bank's capital is aspect important for a bank business unit . Because operate whether or not or trusted whether or not a bank, one of which is strongly influenced by the adequacy the capital . According to Johnson and Johnson [11], bank capital has three function :
1) As buffer for absorb loss operations and losses other
2) As base for set limit maximum gift credit
3) Capital also becomes base calculation for market participants to _ evaluate level the bank 's relative ability to produce profit

Temporary that , Brenton C. Leavitt, staff member of the Board of Governors of the Central Bank of America [12], in related with function of bank capital, emphasizing there is four thing , namely :
1) For protect depositors who do not insured , when the bank is in state *insolvable* and liquidation
2) For absorb loss that is not expected To use guard trust Public that the bank can Keep going operate

3) For get means physical and needs base anything else needed for offer bank service
4) As tool implementation regulation control expansion assets that are not appropriate

See the function of capital in a bank as described above show that capital position is Thing important thing to do fulfilled especially by bank founders and bank management during operation of the bank .

➢ *Sharia Commercial Bank Capital*

Capital consists of above [13]:
1) Core capital (*tier* 1) which includes :
a. Main core capital (*common equity tier* 1)[14]
– Paid -in capital
– Additional reserve capital (*disclosed reserve*)[15]

Additional capital reserves (*disclosed reserve*) take into account things as following :
Factor Adder :
- Agio
- Donated capital
- General reserves
- Profit years then
- Profit year walk
- Difference more explanation report finance
- Issued warrants _ as intensive to holder recognized bank shares by 50% of score reasonable
- Option shares (*stock options*) issued through compensation program employee / management based recognized shares _ by 50%
- Income comprehensive other in the form of potency the profit that comes from from enhancement score reasonable asset classified finance _ in group available for for sale
- Revaluation surplus balance asset permanent

Factor deduction :
- Disagio
- Make a loss years then
- Make a loss year walk
- Difference not enough explanation report finance
- Income comprehensive other in the form of potency loss
- Allowance deletion non- productive assets

b. Additional core capital (*additional tier* 1)

Mandatory bank provide the lowest core capital 6% of RWA is good by individual nor by consolidation with company child . Banks are also required provide the lowest core capital 4.5% of RWA is good by individual nor by consolidation with company child .

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[8] Arifin, Zainul . Basics _ Islamic Bank Management . Jakarta: Alphabeta . 2002.
[9] Ibid.
[10] Pandia , Frianto . Fund *Management And Bank Health* . Jakarta: Rineka Create . 2012.
[11] Muhammad. *Islamic Bank Fund Management* . Yogyakarta: Econesia . Campus Faculty of Economics UII. 2004.
[12] Ibid.

[13] CHAPTER II, Capital , Article 8. Regulations Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.
[14] Article 8. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.
[15] Article 12. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

2) Supplementary capital (*tier* 2)

Supplementary capital only could considered the highest of 100% of the core capital. Supplementary capital include [16]:

- Capital instruments in form share or in form other
- Agio or disagio that comes from from publishing capital instruments belonging to as supplementary capital
- General reserves Allowance Removal Assets (PPA) on asset productive with highest amount _ 1.25 % of RWA for risk credit
- Destination reserve

➢ *Obligation Minimum Capital Provision for Islamic Commercial Banks*

Mandatory bank provide the appropriate minimum capital profile risk .[17] Minimum capital provision is calculated with use ratio Obligation Minimum Capital Adequacy (KPMM) . Minimum capital provision is set at the lowest as following :

1) 8% of Asset Weighted According to Risk (RWA) for Banks with profile risk rank 1.
2) 9% to with not enough from 10% of RWA for Banks with profile risk rank 2.
3) 10% to with not enough from 11% of RWA for Banks with profile risk rank 3.
4) 11% to with 14% of RWA for Banks with profile risk rank 4 or rank 5.

Financial Services Authority authorized set minimum capital more big from the minimum capital above if Financial Services Authority assessing the Bank facing potency losses that require more capital big . In addition to the appropriate KPMM profile risk , the Bank is required shape additional capital as buffer in accordance with criteria .[18] Additional capital can in the form of :

1) *Capital Conservation Buffer[19]*
2) *Countercyclical Buffer[20]*
3) *Capital Surcharge* for *D-SIB[21]*

The size additional capital is as following :

1) *Capital Conservation Buffer* set 2.5 % of RWA
2) *Countercyclical Buffer* set in range by 0% to with 2.5% of RWA
3) *Capital Surcharge* for *D-SIB* set in range by 1% to with 2.5% of RWA

The additional capital on fulfilled with the main core capital component . Fulfillment additional capital taken into account after main core capital component allocated for Fulfill obligation provision :

1) Minimum core capital
2) Minimum core capital
3) Minimum capital appropriate profile risk

➢ *Asset Weighted According to Risk (RWA)*

ATMR used in minimum capital calculation and formation additional capital as buffer consist above [22]:

1) RWA for risk credit
2) RWA for riaiko operational
3) RWA for market risk

Mandatory bank take into account RWA for Risk Credit and RWA for Risk Operational . Besides that , the bank is required take into account RWA for Market Risk if [23]:

1) Banks that individual Fulfill criteria
- Banks with total assets of Rp. 10,000,000,000,000 or more
- Banks that do activity effort in foreign exchange with position instrument finance in the form of letter valuable and or transaction derivative in *trading book* of Rp. 20,000,000,000 or more
2) Banks that consolidation with the Subsidiary Company fulfills one of the following: criteria
- Banks that do activity effort in foreign currency which _ consolidation with the Subsidiary Company has position instrument finance in the form of letter valuable including instrument exposed finance _ risk equity and/ or transaction derivative in the Trading Book and/ or instrument exposed finance _ risk commodity in the Trading Book and Banking Book in the amount of Rp. 20,000,000,000.00 (two twenty billion rupiah) or more ; or
- Banks that don't To do activity effort in foreign exchange however by consolidation with the Subsidiary Company has position instrument finance in the form of letter valuable including instrument exposed finance _ risk equity and/ or transaction derivative in the Trading Book and/ or instrument exposed finance _ risk commodity in the Trading Book and Banking Book in the amount of Rp. 25,000,000,000.00 (two fifty five billion rupiah) or more
3) Banks that have network offices and or Subsidiaries in other countries.

➢ *RWA For Risk Credit*

In RWA calculation for Risk Credit , the Bank uses [24]:

1) approach Standard (*Standardized Approach*)
2) Approach based on *Internal Rating*

[16] Article 18. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[17] Article 2. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[18] Article 3. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[19] Is additional working capital as buffer if occur loss in period crisis .

[20] Is additional working capital as buffer for anticipate loss if occur growth credit and/ or financing excessive banking _ so that potential disturb stability system finance .

[21] Is additional working capital for reduce impact negative to stability system finance and economy if occur Bank failures that have an impact systemic through enhancement Bank 's ability in absorb loss .

[22] CHAPTER III RWA. Article 22. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[23] Articles 23 and 24. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[24] Article 29. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

Banks that use approach based on *Internal Rating* Required get agreement more formerly from Financial Services Authority

➢ *RWA For Risk Operational*

In RWA calculation for Risk Operationally , the Bank uses [25]:
1) Approach Basic Indicators
2) Approach Standard
3) More approach _ complex

Banks that use approach standard and complex Required get agreement more formerly from Financial Services Authority .

➢ *RWA For Market Risk*

Mandatory Market Risk calculated by the Bank individually and individually consolidation with Subsidiaries are :
1) Risk *benchmarks* ethnic group flower
2) Risk score swap

Bank by consolidation , mandatory take into account risk equity and/ or risk commodity besides Market Risk if Fulfill criteria as following :
1) Having a Subsidiary Company exposed risk equity and or risk commodity
2) By consolidation with the Subsidiary Company meets criteria

In RWA calculation for Market Risk , the Bank uses approach [26]:
1) Method Standard
2) Internal Method

Banks that meet criteria certain Required more formerly use Method Standard in take into account Market Risk . Banks that use Mandatory Internal Model approach get agreement more formerly from Financial Services Authority

➢ *Calculation Method Minimum Capital Requirement*
1) Minimum capital requirements for banks risk distribution of funds and market risk is calculated based on summation :
− ATMR assets balance sheet obtained with method multiply nominal value of the asset in question with weight risk
− ATMR assets administratively obtained _ with method multiply account nominal value relevant administrative _ with weight risk
2) KPPM calculation with take into account Risk Distribution of Funds and Market Risk is carried out with the formula as following [27]:

$$KPMM = \frac{(Tier\ 1 + Tier\ 2 + Tier\ 3) - Penyertaan}{ATMR\ (Risiko\ Peny\ Dana) + 12,5\ X\ Beban\ modal\ risiko\ pasar}$$
$$= 8\%$$

3) Before allocate capital expense for Market Risk , Banks are required meet KPMM for Risk Disbursement of Funds is a minimum of 8% according to applicable conditions _ with formulas [28]:

$$KPMM = \frac{(Tier\ 1 + Tier\ 2 + Tier\ 3) - penyertaan}{ATMR\ (Risiko\ penyaluran\ dana)}$$
$$= 8\%$$

Table 1.1 Calculation Obligation Minimum Capital Availability

Information	Amount Every Component	Amount
RWA Asset balance	129,297,830.8	
ATMR Account Administrative	13,280,285,15	
Total RWA		**142,578,124.95**
Total Capital		19,818,918
Minimum capital (8% x RWA amount)		11,406,249.996
Advantages (Capital Lack)		8,412,669,004
Capital Adequacy Ratio (CAR)		
CAR Ratio = $\frac{Modal\ inti + Modal\ pelengkap}{ATMR}$ x 100% CAR Ratio = (19,818,919 : 142,578,124.95) x 100%		13.90%
Credit Score (13.90 – 8%) / 0.1% + 81 = 140		100
Predicate		**Healthy**

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[25] Article 30. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.

[26] Article 37. Regulation Financial Services Authority Number 21/POJK.03/2014 Regarding Obligation Minimum Capital Provision for Islamic Commercial Banks.
[27] SE 7/53/ DPbS 2005 Roman III No. 5
[28] Ibid.

II. LITERATURE REVIEW

Table 1.2 Study Previous

No	Writer	Variable		Method	Results
		Independent	Dependent		
1	Ijaz HB & Syed MA	GDP, deposits, avg. Capital, portfolio risk, ROE	CAR	Regression	GDP not sig, deposit sig -, capital not sig, portfolio sig -, ROE not sig.
2	Leila B., Hamidreza V., & Farshid A.	Bank size, loan asset ratio, equity ratio, ROE, deposit asset ratio, ROA, risk asset ratio	CAR	Panel data regression	Bank size sig -, loan asset ratio sig +, equity ratio sig +, ROE sig +, deposit asset ratio not sig, ROA sig +, risk asset ratio not sig.
3	Khaled A., & Samer Fakhri	Interest rate, liquidity, credit risk, capital risk, revenues power, ROA, ROE	CAR	Pearson correlation & multiple linear regression	Interest rate sig +, credit risk not sig, capital risk not sig, revenues power not sig, ROA sig +, ROE sig -, liquidity sig +.
4	Dreca's tone	Size, DEP, LOA, LLR, ROA, ROE, NIM, LEV	CAR	Pooled OLS	Size sig -, DEP sig -, LOA sig -, LLR not sig, ROA sig -, ROE sig +, NIM not sig, LEV sig +.
5	Mohammaed T. Abusharba Etc. _	ROA, NPF, DEP, FDR, operational efficiency	CAR	Regression	ROA sig +, NPF sig -, DER not sig, FDR sig +, Operational efficiency not sig
6	Nuviyanti & A. Herlanto A.	NPL, LDR, BOPO, ROA, ROE	CAR	OLS Regression	NPL sig +, LDR sig -, BOPO sig -, ROA sig +, ROE sig -
7	Ali S. & Marsida H.	ROE, ROA, NPL, FDR, equity multiplier, Assets	CAR	OLS Regression	ROA not sig, ROE not sig, NPL sig-, FDR sig -, EM sig -, LnTA sig +
8	Yakup A & Serken O	GDP, deposits, assets, average CAR sector, portfolio risk, ROE	CAR	Generalized method of moments	GDP sig +, deposit sig -, assets sig -, average CAR sector sig +, portfolio risk sig -, ROE sig +
9	Parvesh Kumar A. & Afroze N.	Loans, asset quality, management efficiency, liquidity, sensitivity	CAR	multiple linear regression	Loans sig +, Asset quality not sig, management efficiency sig +, liquidity sig +, sensitivity sig +
10	Bahiru Workneh	LLR, NIM, LACSF, SIZE, EQTL, DEP, ROA	CAR	Panel data regression	LLR sig -, NIM not sig, LACSF sig +, SIZE not sig, EQTL sig +, DEP sig +, ROA not sig

➢ *Data*

Study this using secondary data , namely in the form of *time series* data monthly from 2010 – 2015. Time *series data* is data compiled based on order time such as , weekly , monthly , or yearly . Source of data obtained in study this that is from report monthly Islamic banking at Bank Indonesia and the Indonesian Central Statistics Agency (BPS). Method used _ in study this that is *Vector Error Correction Model* (VECM). The variables used _ in study this namely ; *Capital Adequacy Ratio* (CAR), Inflation (Inf), *Gross Domestic Product* (GDP), *Interest Rate* (IR), Total Financing (Fin), Total Deposits (Dep), Total Assets (As), *Return on Assets* (ROA), *Return on Equity* (ROE), *Non Performing Financing* (NPF).

Table 1.4 Summary Definition Operational Variable

No.	Variable	Definition	Data Source	Measuring Scale	Data Type	Period
1	CAR	*Capital Adequacy Ratio* (Ratio level capital adequacy) in Islamic banking	BI	Ratio	Secondary	Jan2010-Jun2015
2	info	Inflation rate in Indonesia	BI	Percentage	Secondary	Jan2010-Jun2015
3	GDP	*Gross Domestic Product* Economic performance / growth Indonesian economy	BI	Index	Secondary	Jan2010-Jun2015
4	IR	*Interest Rate* Tribal level Bank Indonesia interest	BI	Percentage	Secondary	Jan2010-Jun2015
5	Fin	Total financing Islamic banking in Indonesia	BI	Rupiah	Secondary	Jan2010-Jun2015
6	Dep	Total deposit Islamic banking in Indonesia	BI	Rupiah	Secondary	Jan2010-Jun2015
7	US	Total assets of Islamic banking in Indonesia	BI	Rupiah	Secondary	Jan2010-Jun2015
8	ROA	*Return on Assets*	BI	Ratio	Secondary	Jan2010-Jun2015

9	ROE	*Return on Equity*	BI	Ratio	Secondary	Jan2010-Jun2015
10	NPF	*Non-Performing Financing*	BI	Ratio	Secondary	Jan2010-Jun2015

➢ *VECM*

Techniques for correct imbalance period short towards balance _ period long called *Vector Error Correction Model* (VECM) (Nachrowi , 2006). VECM is form Restricted Vector *Autoregression* . Restriction addition this must given because existence form of data that is not stationary however cointegrated . VECM then utilise information restriction cointegration the to in specification the model [29]. For this reason , VECM often called VAR design for *series nonstationary* which has connection cointegration .

When the data is not stationary at the level, then the data will be transformed to in form the resulting *first difference* loss information period long . For avoid Thing it , use it *Vector Error Correction Model* (VECM). VAR model in general could formulated as following .[30]

$$\Delta x_{t-1} = \mu_t + \Pi x_{t-1} + \sum_{i-1} \Gamma_1 \Delta x_{t-1} + \mu_t \qquad (1)$$

Equation above _ show where Π and _ is function from Ai . _ Matrix Π could decomposed to in two matrix dimensionless (nxr) α and ; $\Pi = \alpha T$ where α– called matrix adjustment and as vector cointegration and r is *cointegration rank* . If value Π same with zero (0), means no there is cointegration in equation above . this model by implicit same with Box-Jenkins method .
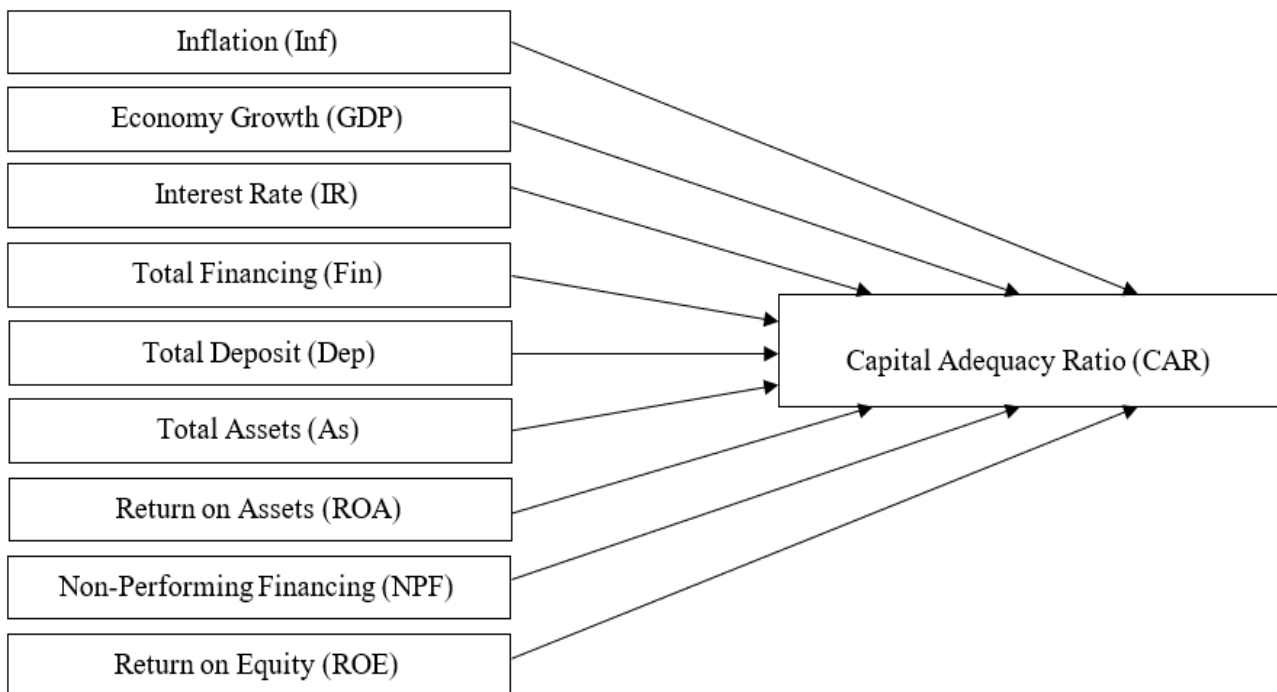
➢ *Framework Conceptual Study*

Figure 1.1

III. FRAMEWORK CONCEPTUAL STUDY

➢ *Results*

Based on the results of statistical tests , then get the result will be explained in the sub- chapter following this .

➢ *Data Stationarity Test*

For test data stationarity , Augmented Dickey-Fuller (ADF) and Phillip-Perron tests were used for identify order variable integration . Based on the table below this could is known that based on test ADF and PP *unit roots ;* CAR, Inf, GDP, IR, Fin, Dep, As, ROA, ROE, NPF, contains *root units* . because of that conducted the second test (test degrees integration) so that could concluded that all variable already stationary at 1 st Defference .

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[29] Rosadi , D. *Econometrics and Analysis Applied Time Series* . Yogyakarta: CV Andi Offset. 2012.
[30]Ibid.

Table 1.5 Data Stationarity Test

No	Variable	Augmented Dickey-Fuller		Phillip-Perron	
		Trends and Intercept		Trends and Intercept	
		Level	1st Difference –	Level	1st Difference –
1	CAR	-3.826517**	-9.274767***	-3.826517**	-11.75985***
2	info	-2.889063	-5.865929***	-2.384199	-5.634867***
3	GDP	-6.304668***	-9.683393***	-6.316859***	-44.78593***
4	IR	-1.837092	-3.498239**	-1.543750	-7.054362***
5	Fin	0.407756	-5.908659***	-0.550077	-6.308146***
6	Dep	-2.800104	-8.702300***	-2.987911	-8.706340***
7	US	-1.353102	-3.543997**	-1.738159	-9.873436***
8	ROA	-3.269515*	-8.434025***	-3.237952*	-11.11992***
9	ROE	-2.563286	-9.190725***	-2.512937	-9.604512***
10	NPF	-1.453680	-10.53188***	-1.178505	-10,98257***

Note :
*Significant at 10% alpha; **Significant at 5% alpha; ***Significant at 1% alpha

➢ *Determination of Lag Length*

The results of the lag length test are as following .

Table 1.6 Lag Length Test Results

```
VAR Lag Order Selection Criteria
Endogenous variables: ASSETS DEPOSIT FINANCING GDP INF INTEREST NPF ROA ROE CAR
Exogenous variables: C
Date: 05/16/16   Time: 23:18
Sample: 2010M01 2015M06
Included observations: 61
```

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2483.582	NA	1.52e+23	81.75677	82.10282	81.89239
1	-1963.468	852.6455	1.65e+17	67.98255	71.78905	69.47435
2	-1873.622	117.8310	2.96e+17	68.31546	75.58241	71.16345
3	-1713.257	157.7359	8.65e+16	66.33629	77.06368	70.54045
4	-1564.977	97.23272	1.08e+17	64.75334	78.94118	70.31369
5	-1031.656	174.8594*	7.20e+12*	50.54609*	68.19438*	57.46262*

```
* 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
```

Based on the results of the lag length test, it can be is known that all sign star is at lag 5. This is show that the optimal lag that E-Views recommends is lag 5.

➢ *Cointegration Test*

Table 1.7 Cointegration Test Results

Model	Null Hypothesis	Trace Statistics	0.05 Critical Value	Max-Eigen Statistics	0.05 Critical Value	Results
r ≤0	0.8465	582.0164	322.0692	118.0680	74.83748	
r ≤1	0.7972	463.9483	273.1889	100,5320	68.81206	
r ≤2	0.7283	363.4163	228.2979	82.10276	62.75215	
r ≤3	0.6610	281.3135	187.4701	68.16676	56.70519	TT indicates there are
r ≤4	0.6011	213.1468	150.5585	57.91466	50.59985	(11) equations and ME
r ≤5	0.4765	155.2321	117.7082	40.77598	44,49720	indicates there are (5)
r ≤6	0.4223	114.4561	88.80380	34,57760	38.33101	equations cointegration
r ≤7	0.3530	79.87854	63.87610	27.43703	32.11832	at the rate of = 5%
r ≤8	0.3382	52.44151	42.91525	26.00778	25.82321	
r ≤9	0.1899	26.43374	25.87211	13.27238	19.38704	
r ≤10	0.1885	13.16136	12,51798	13.16136	12,51798	

From the results of the cointegration test could is known equality period long of these models :

CAR : -0.3744Inf + -0.3702GDP + -0.8030IR + -0.001129Fin + 0.00147Dep

t – std error : (0.42746) (0.16911) (1.44281) (0.00033) (0.00033)

t – stats : [-0.87597] [-2.18959] [-0.55656] [-3.46943] [4.40185]

CAR : 0.000246As + -6.806807ROA + -0.231939ROE + 2.697911NPF

t – std error : (0.00030) (1.34712) (0.11319) (0.69028)

t – stats : [0.83364] [-5.05285] [-2.04919] [3.90843]

Based on the statistical value above is known that GDP, Fin, Dep, ROA, ROE, and NPF are significant take effect to the CAR of Islamic banking .

Based on results VECM estimate obtained equality period long where GDP has influence of 0.3702 against CAR, with t - statistic value -2.18959 more big from score t table level 5% significance . So GDP variable can explain equality period long . Coefficient sign GDP variable (-), p the means that GDP has influence negative in equality period long . So every a 1% increase in GDP will reduce CAR by 0.3702%.

Based on results VECM estimate obtained equality period long where Fin has influence as big as 0.001129 against CAR, with t - statistic value -3.46943 more big from score t table level 5% significance . So Fin variable can explain equality period long . Coefficient sign variable Fin (-), hal the means that Fin has influence negative in equality period long . So every Fin increase by 1% will reduce CAR by 0.001129%.

Based on results VECM estimate obtained equality period long where Dep has influence as big as 0.00147 against CAR, with t - statistic value 4.40185 more big from score t table level 5% significance . So Dep variable can explain equality period long . Coefficient sign variable Dep(+), hal the means that Dep has influence Positive in equality period long . So every Dep increase by 1% will increase CAR by 0.00147%.

Based on results VECM estimate obtained equality period long where ROA has influence as big as 6.806807 against CAR, with t - statistic value - 5.05285 more big from score t table level 5% significance . So ROA variable can be explain equality period long . Coefficient sign ROA variable (-), p the means that ROA has influence Negative in equality period long . So every a 1% increase in ROA will reduce CAR by 6.806807%.

Based on results VECM estimate obtained equality period long where ROE has influence as big as 0.231939 against CAR, with t- statistic value 2,04919 more big from score t table level 5% significance . So ROE variable can be explain equality period long . Coefficient sign ROE variable (-), p the means that ROE has influence Negative in equality

period long . So every a 1% increase in ROE will reduce CAR by 0.231939%.

Based on results VECM estimate obtained equality period long where NPF has influence as big as 2.697911 against CAR, with t- statistic value 3,90843 more big from score t table level 5% significance . So NPF variable can explain equality period long . Coefficient sign variable NPF (+), p the means that the NPF has influence positive in equality period long . So every an increase in NPF of 1% will increase CAR by 2.697911%.

IV. DISCUSSION

Capital is one of the very important variable for continuity a companies , especially institutions _ finance banking . Almost all aspect banking influenced by the availability of capital direct nor no straight away . This is one _ factor key for considered when evaluate certain bank safety and health . Adequate capital base working as net safety to various the risks faced a institution in activity his efforts . Capital absorb possibility loss and give base for guard trust customer . Capital is also a factor determinant main capacity bank credit .

Destination main of capital is for give stability and for absorb loss , so give something size protection to customers and creditors in Thing occur liquidation .

➢ *The Importance of Internal Capital Banking*

Capital is means for finance the generating asset profit and protector stability . From the corner look efficiency and returns , capital is part from source bank funding that can used by direct for purchase of generating assets profit and also for raise other funds, with profit net earned by the holders stock . From the corner look stability , bank capital as protector for absorb shock from loss effort and maintain solvency , with benefits received by customers and stakeholders _ interest other .

Banks have capital to ratio funding relative external _ small . For push careful management _ to risk related with structure unique balance _ this , party authorized in part big country introduce requirements certain capital adequacy . At the end In 1980, the Basel Committee on Banking Supervision led in develop standard capital adequacy based the risk that will lead to convergence international regulation regulatory oversight _ capital adequacy of active international banks . _ Destination double from framework Basel work is for strengthen health and stability from system banking international and with ensure level high consistency _ in application framework work that , for reduce source inequality competitive among international banks .

➢ *Basel I And Basel II*

Initiative 1980 resulted in the Basel Capital Accord of 1988 (Basel I). The Basel Agreement contains definition about capital rule , measurement exposure risks and the rules that define the level of capital that must be maintained in related with risks this . Deal this introduce capital adequacy standards _ *de facto* , based on weighted asset composition

risk a bank and outside exposure balance sheet that ensures that sufficient amount of capital and reserves maintained for guard solvency .

System world finance has experience change big since introduction Basel I deal . Financial markets has Becomes more stable , and has occur innovation significant financial . _ There are also several shocking incident _ economy lead to crisis spread finance _ wide . Risks that must faced by international banks active Becomes more complicated . Worries increase that Basel I deal no provide effective way _ for ensure that appropriate capital requirements with profile actual bank risk , in other words, no quite sensitive to risk . Measurement risks and aspects control from Basel I agreement is also necessary improved . In 1999 the Basel Committee started gather input that leads to control more recent capital agreement (Basel II) in tune with complexity of the modern financial world . Temporary framework new job _ aim for give more approach _ comprehensive in measurement risk banking , destination basic permanent same : for push safety and health system banking and improve equality competitive bank.

Development the Basel II deal was completed in 2005. A significant aspect _ from the Basel II deal is more utilization _ many from the bank's internal system as a input on measurement assessment and capital adequacy as well as permit for the policies of each country in determine how a standard is applied . This thing meant for adjust the standard to difference condition of each financial market . Beside minimum capital requirements, the Basel II agreement covers two additional pillars : the assessment process more supervision _ improved and use more market discipline effective . These three pillars each other support one each other and not one the pillars are considered more important than others.

V. CONCLUSION

Capital is one of the very important variable for continuity industry Islamic banking . Study this aim for knowing influencing factors _ level Islamic bank capital adequacy . *Capital Adequacy Ratio* (CAR) as variable dependent , temporary that inflation , GDP, rate ethnic group interest , total assets, total financing , total deposits , ROA, ROE, and NPF used as variable independent . Data obtained based on report Islamic banking from Financial Services Authority and based on reports from the Indonesian Central Statistics Agency (BPS). method used _ in research this that is *Vector Error Correction Model* (VECM). Based on the results of statistical tests could is known that in period long variable inflation , GDP, rate ethnic group interest , total assets, total financing , total deposits , ROA, ROE, and NPF have an effect to the CAR of Islamic banking . Research results this in line with a number of study before among them that is Ijaz HB & Syed MA, Leila B., Hamidreza V., & Farshid A., Khaled A., & Samer Fakhri, Nada Dreca , Mohammaed T. Abusharba Etc. , Nuviyanti & A. Herlanto A., Ali S. & Marsida H., Yakup A & Serken O, Parvesh Kumar A. & Afroze N., and Bahiru Workneh .

SUGGESTION

Based on results findings in journals this , then writer could give advice as following :
1. Government must Keep going guard stability economy for push financial industry growth especially Islamic banking .
2. Islamic banks must always guard level the minimum capital adequacy that has been required
3. supervisory agency (Financial Services Authority) must tighten again supervision to the net operational industry Islamic finance , in particular industry Islamic banking .

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