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The Factors that Affecting Sustainability Ratio Syariah Banking during the Global Financial Crisis: Empirical Evidence from Indonesia

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Abstract

This study aims to examine the efficiency of Syariah banking in Indonesia, as measured by the sustainability ratio. In specific, the study aims to: i) examine the factors that affect sustainability ratio of Syariah banking in Indonesia, include: ROA, ROE, BOPO, FDR dan NPF; ii) examine the stability of performance of Syariah banking in the period before the global crisis (2007), when the global crisis (2008-2009) and the period after the global crisis (2010). Data that used in this study are monthly financial statement of Syariah banking are listed in Bank Indonesia, with the period from 2007 to 2013. Using multiple linear regression models and chow test, the results of this study indicate that factors affecting sustainability ratio are ROA, ROE, BOPO and NPF while the most dominant factor affecting the sustainability ratio is ROE. The results of this study so indicate that the financial global crisis affect the stability of the regression model, or in other words the ratios relationship of Syariah Banking in Indonesia with the Financial Sustainability Ratio experience structural changes during the period 2007-2010, but relative stable after two years pasca crisis. This result is opposite with the conventional banking which have experience structural changes during the crisis (Almalia et al, 2008), and relative permanen during five years. The results of this study provide empirical evidence that in syariah system, Syariah banking in Indonesia success to survive from the storm crisis. The results of this study are expected to contribute significantly to the managers of Syariah banks and Bank Indonesia. For managers of Syariah banks, the results of this study can be used as a basic input for evaluating and improve the efficiency of bank is being managed. As for Bank Indonesia, the results of this study can be used to evaluate the efficiency of Syariah banking in Indonesia and make design policies that can increase the efficiency of banks, particularly Syariah banking.

Keywords: *the factors, efficiency, sustainability ratio, Syariah banking*

1. Introduction

The Law No.10 Year 1998 on The Amendment of the Law No. 7 Year 1992 on Banking opens a wider chance for Syariah banks. The law has regulated in detail about the legal foundation and the types of business which can be implemented by Syariah banks. In addition, the government has also issued new regulation specifically to administer the Syariah banks, i.e. the Law No.21 Year 2008. This gives a better chance to the Syariah banking in Indonesia, since the law has firmly differentiated the banks based on their operating principles, i.e. the conventional and the Syariah banks. The existence of Syariah banks, after the long-established conventional ones, marks a new era of the legal system of national banking, i.e. the dual banking system.

The supports of the government, Syariah institutions, and Moslem's public have exerted good impacts on the development of Syariah banking in Indonesia. It was begun with the establishment of Bank Muamalat Indonesia in 1992. Then It was followed by Bank Syariah Mandiri and Bank Mega Syariah. The progress of Syariah banks has grown rapidly, as it is seen in the Tabel 1.

Table 1
Development of Syariah Banking in Indonesia 2007-2013

Group of Bank	Years						
	2007	2008	2009	2010	2011	2012	2013
Syaria Commercial Bank	3	5	6	11	11	11	11
Total Syaria Commercial Bank offices	398	576	711	1.215	1.390	1.734	1.942
Syaria Business Unit	26	27	25	23	24	24	24
Total Syaria Business Unit Offices	170	214	287	262	312	493	554
Rural Bank	114	131	139	150	155	158	160
Total Rural Bank Offices	185	202	223	286	364	401	399

Source: Statistics of Indonesian Syariah Bank December 2013, Authority of Financial Services.

Table 1 shows that Syaria banks has always increased by year. The number of the Syaria banks belonging to the conventional ones was only three in 2007, and it went up to 11 in the range of 2010-2013. The decrease of Syaria Business Units in 26 banks in 2007 to 24 banks in 2010 proves the units have been changed into an Syaria Comercial Bank.

In the rapid growth of the Syaria banks, at the end of 2008, the national banking faced a threat of global crisis from other part of the world. As a result, many banks proposed a liquidity loan of Indonesian Bank, to maintain their normal operation.

The crisis was triggered by the the mechanism of extensive credits extended by many financial institutions in US, known as Suprime Mortgage. The mechanism had made the debtors failed to pay due to a high rate set by the US central bank, making the financial institutions and the saving insurances suffered considerable loss. It led to a loss of trust in society to the financial bodies. The interconnection between the financial systems and the global financial market finally induces its effect to the world economy (Pratikno and Sugianto, 2012).

The global economy crisis has caused the bankruptcy of many global financial organizations. Some U.S. companies suffering the bankruptcy include Bear Stearns, Lehman Brothers, Fannie Mae, Freddie Mac, and AIG. Furthermore, the crisis also left a loss among the global banks in U.S. and Europe. Merrill Lynch, Citigroup, UBS, and HSBC booked losses of USD 52,2 billions, USD 55,1 billions, USD 44,2 billions, and USD 7,4 billions, respectively (Kuncoro, 2008).

These negative incidences have surely put a significant impact in the banking industry in the world, including the Syaria banks in Indonesia. Several measures have been done to recover the conditions through regulations to restructure the banking system in Indonesia.

Two questions raise: 1) do the global economy bring some impact to the performance of Syaria banks in Indonesia? 2) and do the efforts done by the government and the Indonesian Bank make a significant positive effect to recover from the effects of the global economy crisis? These inquiries are interesting to study. This study is important to investigate the impacts of the global economy crisis to the efficiency performance of the Syaria bank in Indonesia, measured from the sustainability ratio. The result of this study can disclose the tenacity of Syaria bank industries, particularly the aspects of the efficiency performance in facing the global economy crisis.

To assess the bank performance, the financial ratios are used. The financial ratios having role in the development of the bank consists of: Ratio of Operational Efficiency, Ratio of Portfolio Quality, Ratio of Sustainable Capacity, including Operating Sustainability and Financial Sustainability. Among those ratios, the sustainability is the determinant. The level of profitability rate in the bank is determined by the level of its sustainability ratio. One of them is Financial Sustainability Ratio, which is the ratio of minimum self-capital addition. To know the growth level of banks and to find out whether or not the bank can maintain their financial performance, it is used Financial Sustainability Ratio (Almilia 2007; Wahyuni dan Fakhruddin, 2014).

This is a continuation research of another done by Wahyuni and Fakhruddin (2014) who examined the sustainability ratio of Bank Muammalat Indonesia in the crisis period of 1997 and the factors contributing to its sustainability. The problems proposed in this study are: i) Which ratio influencing the financial sustainability ratio in the Syaria bank? ii) is there any consistent model of ratio prediction in the period before the global economy crisis, in the crisis, and after the crisis?

The result of the study will contribute benefits to understand the development of the Syaria bank in Indonesia. With the development of the model to predict ratios influencing the bank sustainability, and their consistent application to improve the bank performance, it can be made use to increase the trust of the public to the Syaria banks in Indonesia.

2. Literary Review

2.1 State of Art of the Research

The researches examining the Financial Sustainability Ratio in the conventional banks have been done many others. A study from Surifah (2002) has an objective to find out the Indonesian banking performance since the economic crisis occurs and to know whether or not there is a difference of bank performance between the period before and after the crisis. She used 17 Private National Banks of Currency and 15 Private National Banks in the observation period of 1994-1999. Her analysis shows that the average ratios of capital, assets, management, and quality are significantly different between before and after the economy crisis and most ratios, after the crisis, show higher than before the crisis. However, the earning aspects or the capacity of the companies to earn the profits are not significantly difference and their earnings decreases after the crisis.

Yudistira (2003) examined efficiency 18 banks in middle east country during global crisis 1997-2000. Analysis efficiency using non-parametric technique data envelopment model, he conclude that inefficiency accross 18 Islamic banks is small at just over 10%, which is low compared to many conventional counterpart. Islamic banks in the sample suffered from global crisis 1998-1999 but performed very well after the

difficult periods. The finding of Yudistira study indicate there are diseconomies of scale for small-to medium islamic bank and he suggest that mergers should be encouraged.

Rizky (2004) examined the influences of the Ratio of Quality Assets of Liquidity Products, the Ratio of Total Credits Extended to the Total Asset, the Capital Ratio and the Ratio of Efficiency Rate simultaneously to the Financial Sustainability Ratio in Indonesian People Bank and Danamon Bank in the observation period of 1999-2003. The result of the study has proved that the Ratio of Quality Assets of Liquidity Products and Ratio of Quality Assets of Liquidity Products, partially have significant influence to the Financial Sustainability Ratio in the banks. It also proved that the Ratio of Quality Assets of Liquidity Products is a dominant factor influencing the financial sustainability ratio in these two banks.

Haryati (2006), examining the model to predict the healthy of the Private National Bank, proved that among 27 variables, it is only 16 significant variables affecting to their health. There are four components of capital, five components of asset quality, and seven components of profitability. Meanwhile all variables measuring the liquidity, sensitivity and size are not the significant determinants. Among 16 variables, it is only 11 variables constituting the prediction model of banking health level, those are FACR, CPR, NPL, APB, APYD, LDPK, NIM, ROE, OEOI, OIR and DSR.

Almilia et al. 2009, examined the consistency performance prediction model for the Private National Bank of Non-Currency in the period of 1995-2005. The variables used are the performance of Private National Bank derived from the Financial Sustainability Ratio (FSR). The sampling method was purposive sampling and the sample taken was 28 non-foreign BUSN listed in the directory of Bank Indonesia during the period of 1995 to 2005. The analysis used is multiple regression using stepwise method. The results of testing the consistency of the model predictions of financial performance on the National Private Non Foreign Exchange Commercial Bank in the period shows that the independent variables consist of financial ratios of banks and bank sensitivity to macroeconomic variables and the dependent variable is the Financial Sustainability Ratio (FSR) experienced a structural change during the period of 1995-2005. This study concludes that the prediction model of financial performance on the National Private Non-Foreign Exchange Commercial Bank is inconsistent in the period 1995-2005.

Mari et al. 2013, comparing operational and profitability performance of Islamic and commercial banks in Dubai during the year 2011. Data were obtained from the formal financial statement of 18 Bank in Dubai, and data for operational-quality segment were collected randomly from 450 customer by using a well-prepare SERVQUAL questionnaire. The technical efficiencies for both models were computed, and comparisons were made between the Islamic and the commercial bank within both models. The findings are that there are no statistical differences between the Islamic and the operational-profitability models. However, the Islamic banks dominate the commercial banks in the operational-quality model. Based on an in-depth analysis, the operational-quality in Islamic banks depends on the assurance, responsiveness, and reliability factors.

Wahyuni and Fakhruddin (2014) test the consistency of the prediction model of the performance of Bank Muamalat Indonesia in the period of 1992-2008. The analysis used is multiple regression using stepwise method. The results of testing the consistency of the prediction model of financial performance of Bank Muamalat Indonesia in the period of 1992-1997 shows that the independent variables consist of financial ratios of banks and bank sensitivity to macroeconomic variables and the dependent variable is the Financial Sustainability Ratio (FSR) experienced a structural change during the period of 1995-2007. Hence, this study concludes that the prediction model of financial performance on the Bank Muamalat Indonesia is consistent in the period 1992-2007.

2.2 Financial Sustainability Ratio

According to Soeksmo in Rizky (2004) and Almilia (2009) define the financial sustainability as: "A tool for assessing the efficiency of an institution". This ratio is used to determine the growth rate of each period so that the bank's financial performance can be assessed to know whether or not it can maintain its operations in the future.

This ratio is useful to: 1) measure the sustainability of a bank in terms of the performance, 2) as an indicator of its sustainability, 3) as a target of its own capital increase. Financial Sustainability Ratio can plan the actions at the present and for the future. Therefore, a bank can do its own assessment, as a pro-active step by using its financial sustainability ratio as the determinants of its own sustainability. To be able to continue its operations, a

bank is required to take actions or to support its business operations, i.e. by increasing its income. Media as the focus in communicating financial sustainability are divided into three elements: 1) The amount of revenue or debt levels, 2) the balance of the budget, 3) the percentage of revenue increase each year.

To obtain high profits, banks should do business or activities that support its growth. The purpose of the bank in generating huge profits is to achieve a rate of return itself. This means that a bank will operate more effectively and efficiently if it is able to maintain good performance and try to reduce the existing risks.

2.3 The Effect of the Financial Performance to Sustainability Financial Ratio

Financial performance is measured by the ratio. This study uses five financial ratios namely Return on Total Assets (ROA), Return on Equity (ROE), Level Efficiency Ratio (ROA), Fund to Deposit Ratio (FDR) and Non-performing Financing (NPF). Effect of Return on Total Assets (ROA) to the Financial Sustainability Ratio is positive, meaning that the higher the ratio the better the ability of the bank to obtain the level of profit the bank can achieve and the better the position of the bank in terms of asset usage. The research evidence has been provided by Risky (2004) and Almilia et al. (2009). Meanwhile Wahyu and Fakhruddin (2014) found that ROA does not affect the Sustainability ratio of Bank Muammalat Indonesia. From the description, the first hypothesis to be tested in this study is:

H1: Return on Total Assets (ROA) has a positive effect on the Financial Sustainability Ratio of Syaria Banks in Indonesia.

The Effect of Return on Total Assets (ROA) to the Financial Sustainability Ratio is positive, meaning that the higher the ratio the better the ability of the bank to obtain the level of profit the bank can achieve and the better the position of the bank in terms of its capital. Thus, the higher the ratio is, the better the rate of the bank's growth will be. The second hypothesis to be tested in this study is:

H2: The Return on Equity (ROE) has positive effect on the Financial Sustainability Ratio of Syaria Banks in Indonesia.

The effect of Level of Efficiency Ratio (BOPO) to the Financial Sustainability Ratio is negative, meaning that the higher the ratio is, the lower the bank's ability to measure the level of efficiency and the bank's ability to conduct its operations will be. It means the higher this ratio is, the lower the level of performance of the bank will be. The evidence has been proved by Risky (2004). The third hypothesis to be tested in this study is:

H3: The Level of Efficiency Ratio (BOPO) has negative effect on the Financial Sustainability Ratio of the Syaria banks in Indonesia.

The Influence of Fund to Deposit Ratio to the Financial Sustainability Ratio is positive. If this ratio is high, banks tend to increase their credit distribution (credit rationing) that affect the behavior of the bank management in the decision-making of lending. In the economic conditions considered to be less conducive for example the real sector has not fully recovered, the banks tend to not extend credit to avoid such a high credit risk (Risky, 2004; Almilia et al., 2009). The fourth hypothesis to be tested is:

H4: Fund to Depocit Ratio (FDR) has a positive effect on the Financial Sustainability Ratio of Syaria Banks in Indonesia.

The Effect of NPF to the Financial Sustainability Ratio is negative. This means that the higher the non-current financing is, the lower FSR will be. The fifth hypothesis to be tested is:

H5: Ratio of Non-Performing Financing (NPF) has negative effect on the Financial Sustainability Ratio of the Syaria banks in Indonesia.

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3. Research Method

3.1 Research Sample

The sample in this study is the Syaria Commercial Banks and Syaria Business Units in Indonesia. The research period is from 2007 to 2013. The sources of data are secondary data from Indonesian Syaria Banking Statistics of the 2007-2013 period, obtained from the site www.bi.go.id. <http://www.bi.go.id>.

3.2 Identification and Measurement of Variables

Dependent variable in this study is the Financial Sustainability Ratio. This ratio is calculated by comparing the total revenue to total financial costs, operating costs, financing that are substandard, doubtful and lost, and

retained earnings (reserves). This ratio is used as an indicator of the continuing operation of the banks, as well as to assess their efficiency.

Independent Variables

- a. Profitability ratios, which is represented by the variable ROA (Return on Assets) and ROE. ROA is the bank's ability to earn a return on assets it has.

ROA (X1) = Profit before taxes over the last 12 months / Average Assets for the same period (according to SE 30/2 / UPPB dated 30 April 1997).

ROE is the ability to earn a return from the assets the bank owns.

ROE (X2) = Profit before taxes over the last 12 months / Total Equity for the same period.

- b. ²⁰ ratio of the cost or ³⁴ efficiency of the bank, which is represented by the ratio of Operating Expenses to Operating Income ³³, the ratio used to measure the level of efficiency and the bank's ability to conduct its operations or to assess the performance of the bank's management, whether it has used all production factors effectively.

OEOI (X3) = Operating Expenses over the last 12 months / Operating Income for the same period (according to SE 30/2 / UPPB dated 30 April 1997).

- c. Liquidity ratio, which is represented by the ratio of Fund to Deposit Ratio (FDR), describes the bank's ability ¹¹ to repay the withdrawals made the depositors customer by relying on the financing provided as a source of liquidity.

FDR (X4) = Total Financing / Third Party Funds

- d. Ratio of Non-Performing Financing

NPF (X) = Financing in quality Substandard, Doubtful and Loss / Total financing.

3.3 Technique of Data Analysis

- 1) To address the first problem, it is tested using multiple linear regression analysis, with ¹⁹ the following model:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e_{it} \dots \dots \dots (1)$$

Notation:

Y_i = Financial Sustainability Ratio (FSR)

X_1 = ³ Return On Total Assets (ROA)

X_2 = Return On Total Modal (ROE)

X_3 = Operating Expenses to Operating Income (OEOI)

X_4 = ¹⁵ Fund to Deposit Ratio (FDR)

X_5 = Non Performing Financing (NPF)

$\beta_1 \dots \beta_5$ = Regression Coefficient

e_{it} = Error Term

- 2) To test the consistency of the model predictions of financial performance in the pre-crisis period, in times of crisis and post-crisis, it uses a structural stability testing of the Chow test. Prior to conducting the multiple linear regression analysis, it will be done some testing of the classical assumption of normality, multicollinearity, autocorrelation and heteroscedacity. According to Imam Ghazali (2006) Chow Test is a test tool to test for equality of coefficients or coefficient equality test. The procedure of the testing draws on the research of Almilia et al, 2009. The regression equation is as follows:
- Pre-Crisis Economy (2007), Current Economic Crisis (2008-2009), Post-Crisis Economy (2010), Overall Period (2007-2010)

$$Y_t = \beta_0 + \beta_1 X_{1t-1} + \beta_2 X_{2t-1} + \beta_3 X_{3t-1} + \beta_4 X_{4t-1} + \beta_5 X_{5t-1} + e_{it} \dots\dots\dots(2)$$

Notation:

Y_t = Financial Sustainability Ratio
 X_{1t-1} = Return On Total Assets (ROA) previous year (t-1)
 X_{2t-1} = Return on Equity (ROE) previous year (t-1)
 X_{3t-1} = Rasio Tingkat Efisiensi (BOPO) previous year (t-1)
 X_{4t-1} = Fund to Deposit Ratio (FDR) previous year (t-1)
 X_{5t-1} = Non Performing Financing (NPF) previous year (t-1)
 $\beta_1, \dots, \beta_5$ = Regression Coefficient
 e_{it} = Error term

The steps to conduct Chow Test Test, is as follows (Ghozali, 2008; Almilia et al., 2009):

1. Performing a regression with a total observation period (2007-2010) and get the value of the residual sum of squares restricted or RSSR (RSSR4) with df = (n1 + n2 + n3 - k) where k is the number of estimated parameters.
2. Performing a regression with observation period before the crisis (2007) and obtain the value of RSSR1 with df = (k n1-).
3. Performing regression with observation periods during the crisis period (2008-2009) and get RSSR2 value with df = (n2 - k).
4. Performing a regression with observation period after the crisis period (2010) and get the value RSSR3 with df = (n3 - k).
5. Summing the values RSSR1, RSSR2 and RSSR3 to get what is called the residual sum of squares unrestricted (RSSur):
 $RSSur = RSSr1 + RSSr2 + RSSr3$
with df = (n1 + n2 + n3 - 3k).
6. Calculating the value of the F test with the formula:
 $F = \frac{(RSSr - RSSur) / k}{(RSSur) / (n - 13)}$
 $(n - 13)$ n2 + n3 - 3k)
7. The value of F ratio follows the F distribution with k and (n1 + n2 + n3 - 3k) as df to be the denominator and numerator.
8. If the value of F obs > F table, then we reject the null hypothesis and conclude that the regression model of pre-crisis period, during and after the global crisis is different or in other words that the model predictions do not have any consistency.

4. Result and Discussion

4.1 Statistic Description of the Research Data

The descriptive statistics of the research variables can be seen in Table 2 below.

Tab 2
The Descriptive Statistics of the Research Variables

Variable	N	Minimum	Maximum	Mean	Standard Deviation
FSR	84	0.00	0.96	0.39	0.34
ROA	84	0.80	3.00	1.78	0.44
ROE	84	5.04	55.84	22.20	13.80
BOPO	84	37.10	86.22	65.12	16.39
FDR	84	86.90	121.71	10.30	9.91
NPF	84	2.22	7.89	4.64	1.53

4.2 Result of Hypotesis Testing

Before testing the hypothesis, the classical assumption testing was done to the four equation models. To answer the first research question, was done a regression analysis of time series of all variables of the study in the period of 2007-2013. The test results are shown in table 3.

Table 3
The Results of Regression Analysis

	Independent Variables				
	ROA	ROE	OEOI	FDR	NPF
Coefficient	-0.095	0.016	0.010	0.003	-0.161
t	-2.334	10.091	9.976	9.976	-9.758
Significance	0.022	0.000	0.000	0.210	0.000
R ²	0.827				
Sum of Square Residual	1.628				
F Statistic	74.558				
Prob (F Statistic)	0.000 ^a				

From the table 3 it can be seen that the independent variables of ROA, ROE, ROA, NPF simultaneously affect significantly on the financial sustainability ratio (FSR) as indicated by a probability value of the F statistics of 0.000 (less than 0.05). R² indicates a value of 0.827 meaning that the variables of ROA, ROE, OEOI, FDR and NPF affect the FSR at 82.7%, and the rest is induced by other variables. Partially, the variables have the most significant effect to the financial sustainability ratio are ROE and NPF since they have a coefficient with direction predicted and their probability is less than 0.05. It means that the second hypothesis (H2) and fifth hypothesis (H5) are supported. Meanwhile the variable of return on assets (ROA) and operating expenses to operating income (OEOI), although the results are significant, but their direction is opposite to the predictions of the theory. The variable of FDR has significance upper 0.05. It means that the first hypothesis (H1), the third hypothesis (H3) and the fourth hypothesis (H4) are not supported. This result is inconsistent with the findings of Rizky (2004) with a sample of Bank Rakyat Indonesia and Bank Danamon. He found out that the most influential variable to FSR is ROA. In another, Fakhruddin and Wahyuni (2014) showed that the variable affecting most to FSR is CAR.

To answer the second research question and to test the hypothesis, Chow Test analysis is done to test the consistency of the model predictions of Syaria Banks between the period before the global economic crisis, during the global economic crisis, and after the global economic crisis. The test results are shown in Table 4.

Table 4
The Result of Chow Test 2007-2010 Period

Period	Restricted Sum of Square Residual
Total period (2007-2010)/RSS4	0.607
precrisis (2007)/RSS1	0.004
In time ofcrisis (2008-2009)/RSS2	0.014
post krisis (2010)/RSS3	0.052

The steps of Chow Test are based on the results of the regression analysis of the four models, shown in Table 4, which can be explained as follows: the value of the restricted sum of squares residual or RSSR (RSS4) is 0.607 with a value of $df = (n_1 + n_2 + n_3 - k)$ where k is the number of estimated parameters, i.e. 6, is $(36-6) = 30$. The value of residual sum of squares restricted in the period before the crisis (2007) or RSS1 is 0.004 with $df = (n_1 - k)$ is $(12-6) = 6$. The value of residual sum of squares restricted during the crisis period (2008-2009) or the RSS2 is 0.014 with $df = (n_2 - k)$ is $(12-6) = 6$. The value of restricted residual sum of squares period after the crisis period (2010) or RSS3 value is 0.052 and $df = (n_3 - k)$ is $(12-6) = 6$. The value of unrestricted residual sum of squares $(RSS_{ur}) = RSS_1 + RSS_2 + RSS_3 = (0.004 + 0.014 + 0.014) = 0.052$ with a value of $df = (n_1 + n_2 + n_3 - k)$ is $(12 + 12 + 12 - 18) = 18$.

The value of F obs is as follows:

$$F = \frac{(RSS_r - RSS_{ur}) / k}{(RSS_{ur}) / (n_1 + n_2 + n_3 - 3k)}$$

$$F = \frac{(0.607 - 0.004) / 6}{(0.052) / (12 + 12 + 12 - 18)}$$

$$F = \frac{(0.555)/6}{0.052/18}$$

$$F = \frac{0.0926}{0.0017}$$

$$F = 53.365$$

The value of F table with df 18 and 6 at a significance level of 0.05 of F table is 2.66. Comparing the value of F obs to the F table at the significance level of 0.05 where F obs = 53.365, while the F table = 2.66. Thus, F obs > F table, so that the testing of the null hypothesis is rejected. It can be concluded that the global crisis affects the stability of regression models. In other words the ratio relationship of Syariah Banking in Indonesia with the Financial Sustainability ratio experiences a structural change during the period of 2007-2010. This is also the case for the conventional banks as they undergo the same structural changes during the period before, during and after the crisis (Almalia et al., 2009).

4.3 Sensitivity Analysis

A sensitivity analysis is performed to confirm the results of the research, whether or not the structural changes are permanent in the years after the crisis. The tests are conducted for the period of 2007-2013, as shown in Table 5.

Table 5
The Result of Chow Test for 2007-2013 period

Period	Restricted Sum of Square Residual
Total periode (2007-2013)/RSS4	1.628
precrisis (2007)/RSS1	0.004
In time of crisis (2008-2009)/RSS2	0.014
postcrisis (2010-2013)/RSS3	8.308

With the same calculation above the result of sensitivity analysis is F obs = -9.925 and F tabel. The value of F table with df 66 and 6 at a significance level of 0.05 of F table is 2.25. Comparing the value of F obs to the F table at the significance level of 0.05 where F obs = -9.925, while the F table = 2.66. Thus, F obs < F table, so that the testing of the null hypothesis is not rejected.

The analysis showed that for the period of 2007-2013, the sustainability ratio has not changed structurally. These results indicate that Syariah banking in Indonesia may soon recover from the impact of the global crisis.

5. Conclusion

The results showed that the variables that affect the variable of financial sustainability ratio of Syariah banking in Indonesia is ROE and NPF, and the most influential variable is ROE. The global financial crisis has affected the stability of the regression model, or in other words the relationship ratio ¹⁵ Syariah Banking in Indonesia (return on assets (ROA), return on equity (ROE), Efficiency Ratio (OEI), fund to deposit ratio (FDR), non-performing financing (NPF) and the financial sustainability ratio experiences a structural change during the period of 2007-2010. This is also the case with the conventional banks that undergo structural changes during the period before, during and after the crisis (Almalia et al., 2009). However the impact of the global crisis did not last very long. As, a year later the Syariah banks were able to recover, as it is proved by the post-crisis analysis of 2010-2011 and 2010-2013. They did not undergo structural changes.

The results of this study have provided an empirical evidence that with its Syariah system, the Islamic banking in Indonesian can survive from the global economic crisis.

5.1 Limitation and Recommendation

The writer is fully aware that this study has many limitations, which may affect the results of the research, namely: 1) The period used for analysis is relatively short, i.e. one year before and after the crisis; 2) The researchers did not measure the capital adequacy ratio (CAR) due to data limitations. This study is expected to be the basis of further research to overcome the limitations in the study.

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