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Relationship of credit risk of Islamic contracts and banking special variables (The case of Saderat bank)

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Abstract:

In today's complex markets, all industries are faced with risks that if don't pay attention them, they will face to dire consequences. The bank as institutions of funds intermediary are responsible for collecting of society liquidity surplus and lead them as funds allocated to economic units that they are needy of liquidity.

One of the important factors in the health of society economy is regular and accurate operation of circle of circulation of money between bank and credit customer because if the customers keep the funds, the circle of money circulation will be diminished and will be lack of appropriate return in action. The banks as the main part of financial system play main role in financing of productive sectors and business and customer. In Iran due to structures of financial and economy and underdevelopment of capital market, the banks more often operate financing in economic sectors. The banks are facing to various risks such as liquidity risk, credit, trade, finance, inability to pay, exchange rates, interest rate, inflation and … that credit risk is very important and has special place among them.

This paper examined relationship between Islamic contracts and special variables of banking, in this study using (VAR) method that examined relationship between

credit risk of Islamic contracts and banking special variables (the case of Saderat bank).

According to obtained results for variable of credit risk, influence of these variables on the ratio of total loans to total assets is negative and statistically is significant.

Key words:

Credit risk, non-current receivables (deferred), banking system, rate of return on assets, auto regression' classification of JEL: C33, C36, D31, F43

1- Introduction

Banking industry as dealer (intermediary) is the main pillar of financial markets with stock exchange and insurance and banking in Iranian economy is more important because of the lack of necessary development of the capital market, in the context of banking system, the banks are mostly responsible for financing short and long term in economy. One of the most important issues in the Islamic banking industry is credit risk arising from nonperforming loans (NPL). There are risks where the future is unknown. Therefor, those who can increase their knowledge by the correct planning and analysis, they can make secure future for themselves and their organizations. These days when we talk about risk management, aim is to identify and determine the costs arising from it not eliminate risk. However, the risk management alone doesn't have meaning because the risk is variable that it can influence to other circumstances such as performance, capital adequacy,… (khoshsima,1391).

The banks as creditor, constantly exposed to credit risk and nonperforming loans (NPL) and should attempt to reduce the risk that they can keep their organization and improve the performance of the banks. Poor performance of some banks in granting the facilities cause that some debtors refrain from to pay their installment and as far as keep the facilities and currently others pay by installments again their debts instead of liquidate them.

In recent years increasing credit risk and non-repayment of facilities cause to increase significant over due debts, so that it cause the credit status in banks be critical state, therefor it is essential that banking network do getting nonperforming loans as important activities. So that the bank can give new facility from getting nonperforming loans thus increase the role of banks in economic development, job creation, Gross Demestic Product(GPD) ,… and increase the profitability of banks.

In any dynamic economy system especially banks, credit and fast flow of resources and expenditure represents optimal performance of executive methods and getting granted facilities during determined period specify the correct methods of using resources to create facilities for development of economic activities and supply resources of variance sectors of production, trade, service and use resource of banks. Avoiding of creating nonperforming loans in facilities or getting them as actual and potential cause to increase income and banks ability in using resources.

2- Literature

The banks receive funds of depositors and give some of them to borrowers, while banks are faced with risk that some borrowers are unable to repay the loans or don't like to do that. Any defect in repayment is equal to depreciation of capital and for the bank can pay their debts, should compensate this capital reduction of revenue from other facilities paid to customers. Thus, whatever the non-repayment of facilities (loans) is more by customers, the bank should increase profit margin (difference between received and paid rates) for survival that this issue cause it reduce competitive ability of banks if there is competitive and it is against rules. If direct interventions be applied from the bank officials to determine the rate, the customers earnests, various of banks activities and credit can reduce significantly

credit risk. Very high risk, for a limited number of customers whether about deposits and about loans and facilities, can cause instability in the bank and reduce its profitability.

Review internal and external studies show that there is negatively between credit risk and indicators of bank profitability. It should be mentioned that in Iran since 1388 following the ratification of " regulation of collection of receivables of past due", deferred and doubtful debt of credit institution, the bank and credit institution should order banking facilities contracts that consideration delay payment is received from all Rial and foreign exchange facilities that are past due into debit balance plus interest rate of sectors economic considered for conditional contract. This issue could be a positive impact of nonperforming loans on the banks profitability in some cases, but due to the nonperforming loans is alone one of the results of credit risk. It is difficult that give final assessment about impact of getting consideration.

Millar and Nolas found that there is significant negative between credit risk and profitability of banking system. Significant meaning as mentioned has been created for this reason that arising banks credit risks to arise doubtful debts and after that arising banks expenses; therefor by incre4asing level of credit risk, decrease profitability of banks.

Duka and mclaughlin said that the effective main factor on profitability of banks is to change in the level of credit risk. Also Burke indicated that credit risk is the most important effective variables on profitability of banks. Burk said that although credit risk affect all companies but this effect is more on banks because the cases such as the accumulation of non-current loans lead to significant effect on the profitability of mentioned institutions.

Hu and his colleagues (2013) examined relationship between non profitability loan and ownership structure of commercial banks in Taiwan using a panel data in period 1996-2012. The result of this study indicate that the banks with state ownership have less registered nonperforming loans. Also the bank size is negatively relation with nonperforming loan while diversity may don't be determining factor.

Orif and Ennis (2012) examined liquidity risk and its assessment on profitability of banks in Pakistan in an article " liquidity risk and performance of the banking system. The result of this research show that there is significant relation between volume of deposits, liquidity reserves, liquidity gap, store of deferred loans and profitability of banks. In this study was used multiple regression to estimate results. The results of the first hypothesis in this study show that there is positive relation between the amount of deposit in banks and the level of banks income. The second hypothesis of this study is based on positive relation between liquidity reserves and revenues of banks which is totally rejected. The third hypothesis which demonstrates a negative relation between bank income and liquidity gap has been accepted due to lower beta coefficient of liquidity gap with low significantly. And fourth hypothesis of this study indicate which negative relation between increasing the volume of reserves of doubtful debts of banks with their income level also have been accepted.

Imbierowcz Rouch (2012) in a study entitled " the relationship between liquidity risk and credit risk in banks" examined bilateral relations between liquidity risk and credit at all commercial banks in the United State in 1998-2010. In this study were used several indicators of credit risk change and liquidity in several different analyses up to be determined any possible relation between these two risks. In the first stage was used a similar equation for examination of synchronous and asynchronous relationship between two sources of risks in the banks of American. In the second stage was examined reaction of liquidity risk to credit risk environment changes out of bank up to considered one of the most prominent of the financial crisis of 2007/2008; In the final stage, the effects of separate and combinatorial of credit risk and liquidity on the profitability of banks failures using logit model test on all 254 commercial banks in 2007 to 2010. The results showed that there is positive bilateral relationship between liquidity and credit risk but weak (the results based on the use certain risk scales of bank). The analysis of inter-bank liquidity and

Credit risk outside the bank emphasize between these two factors. Finally, Showed that both sources of risk affect the default profitability but separately also together.

Combera (2012) used VAR bivariate model and information of American commercial bank, to measure the effect of economies national regional variables on nonperforming loans. The explanatory variables include unemployment rates, income in the agriculture sector, the number of building permits, annual production and sales of automobiles which all variables except sales of automobiles had a significant positive impact to predict the quality of assets bank. In addition forecasts of output samples explained accuracy of model.

Lei sun and Tzu-Pu chang (2011) in the research examined relationship between operational risk, credit and banking market Thiland with performance of sample branches of bank in article titled " a comprehensive analysis of the effects of risk on bank performance: evidences from emerging Asian countries" which performance of branches estimate based on DEA and SFA and conclude significant relation between risk and performance,

Abedifar et al (2010) researched about stability instruments and risk in Islamic banking using a simulation model and 456 samples of bank from 22 countries in 2001 to 2008. They found which Islamic banks have similar instruments of credit risk and bankruptcy risk to other banks; interest rate policy cause increasing credit risk of customers.

Altunbas et al (2010) studies about relationship between the short-term rate of return to stockholders and the risk of Europe and the US banks using their quarterly balance sheet. They found which abnormally low rates of return cause to increase banks risk in a certain time period.

Vanhoose discusses about the relationship between the benefits of bank managers and risk with theoretical and courage discussions. The results show that there is no positive or negative relationship between these two variables, both in they and experiment.

Ng and Roychowdhary (2010) researched about the effect of law cuidelines of investment on relationship of banks loans losses in 2007 and risk of bank failures during 2008 and 2009 and economic crisis. They found that there is a positive relationship between these two variables. In means that the regulatory policies,

such as bank interest rate, be strict in terms of crisis , increases the risk of bank failures.

Andru orde (2009) has done the research entitled bank stability and credit risk. In this research has concluded that the credit risk of saving bonds with security have negative effect on finance soundness of banks and is measured credit risk by Z-score.

Aurora and Agarwa (2009) researched about bank risk in commercial banks. The aim of this research was to identify all possible risks that the bank may be facing them, such as capital risk, credit risk, management risk, and other risks. This study examined the model of risk reduction the model of risk reduction and management risk in the banks.

Risk Review Committee has done the research entitled should the credit risk of major and minor commercial units be considered in determining he fair value of financial assets and liabilities. This research suggested that in the factors, the fair value was strong financial instrument to check the validity of the accounts. When changes in the fair value arises, must this instrument be used again in financial institutions? Because in this case will not be safe credit risk changes, for this reason saving bonds is mainteneced for the protection of account credit devaluation. This study examined this instrument (fair value) in major and minor commercial units.

Zanaj et al(2009) researched about the behavior of bank risk in emerging in the period 2002 to 2009. They showed which there is no relationship between disclosure of information about management of bank risk and taking aggressive risk by bank. This relationship depends on the level of the disclosure of bank statements and how work out in which country.

International Standards Board's (2009) researched a study entitled " evaluation of accounting about credit risk of commercial units. In this research examined credit risk of liabilities and assessment of liabilities fair value and the fair value of assets and liabilities and insurance and measurement of fair value of possible assets and liabilities ; and official of this negotiating accepted comprehensive responsibility of the Board in the financial crisis.

Kosmido (2008) examined the effect of credit risk on the Greek banks profitability using a linear regression during 1990 to 2002. The case of this study included 23 banks. Kosmido chosen sequential indicators of return on assets ration and the ratio of reserves of doubtful debts. The results of this study showed significant negative relationship between credit risk and banks profitability. The mentioned result matched with this hypothesis that increasing credit risk would lead to reduce banks profitability then the banks could increase their profitability by effective monitoring and control of credit risk.

Yianraki (2008) showed that the banks credit risk in America related to crisis directly. The results showed that in the western US banks, management risk in banks related to key areas of crisis.

Lawn and Levine (2008) studied about empirical evaluation theories of relationship between venture of banks and ownership structure and banks local regulations. They focused on a conflict of interest between bank management and the risk of banks owners. The results showed that taking bank risk positively related shareholders competitive force in the corporate sovereignty structure of each bank. They showed that relationship between credit risk with these variables strongly depended on ownership structure.

Pasiras (2008) explained relationship between risk and performance in banking industry in a article entitled " examination of technical efficiency and scale of commercial Greek banks" the effect of credit risk, and international operations" by considering the variables and indexes that explain banking risk such as ratio of default loans as variables in DEA method and there is significant relationship between these two categories.

Filose (2007) estimated a conduct of Italian banking system based on the latest studies by there VAR model. The results showed that the failure rates and profit margins (profitability scale) are as indicator of banking crisis.

Krosnen et al (2007) studied entitled banking crisis and financial dependence and economics growth. In this article they examined mechanisms that banking crisis related to conditions and the activities of the real economy sectors.

Chiu and Chen (2005) examined relationship between credit risk, market and operational to bank performance in the article entitled " analysis of the performance of Taiwanese banks: a combination of both risks which related to external and internal environment". He calculated banks performance and risk using DEA and SFA methods and results and at the end realized which there is significant relationship between risk and performance.

Latifi (1393) determined credit risk indicators in this research entitled " evaluation of the relationship between credit risk indicators and timely repayment of customers obligations of Saderat bank that it has highest correlation with the repayment of customers obligations and designed model which based on a number as credit indicator of borrower determined in accreditation decisions. In this case used reports of financial and credit information of 100 cases of manufacturing companies which have benefited from facilitation of sale of installments of Saderat bank during 1378 to 1392. So that the hypothesis of significant relationship between credit risk indicators and implementation of customers obligations is approved using multivariate analysis and in addition is provided a model under credit function for measuring credit risk of production companies of Saderat bank.

Arabmazar and Roentan (1390) examined financial and qualitative information of a random sample of 200 companies that they received credit facilities from Tehran Keshavarzi bank during 1383 to 1389. They have identified 36 financial and qualitative variables, then using logit analysis chosen 17 variables that had significant effect on credit risk and division between the two group of good pay and bad pay customers and estimated final model by them. Their results showed should that logit model can highly estimate effective factors on credit risk.

Abolhasani and Hasanimoghadam (1389) in an entitled " evaluation of type of risk and its management approaches in banking without Riba examined related risks to various methods of resource allocation in banking without Riba in Iran and indicated especial instruments and methods tailored to Islamic jurisprudence for meaning these risks.

Heidarpoor and karzabhi (1388) introduced types of risks which are in financial institutions and validation methods common in the world and designed the

methods that helps to the expert and users for deciding. Thus, through 105 cases of lawsuits of Tejarat Bank chosen and using them designed and was tasted. The results by using statistical indicators showed that the capital is higher and than others (characters, capacity, collateral and financial analysis for deciding in granting facilities to commercial companies) and has high separability of model in customers in good pay and non-creditworthy.

Sabzevari and Noorbakhsh (1388) evaluated the corporate of Karafarin bank usin logit model and non-parametric model and are compared the results of two models that mentioned. In this research is used 448 cases of corporate customers of Karafarin bank.

According to the results both of the model are equal in prediction accuracy for all of the observations, but in smaller samples, prediction accuracy is more by CART method.

3- Model estimating

In order to assessment of relationship between credit risk of relationship between credit risk of Islamic contract and special variables of Saderat bank during 1382-1393. To achieve this goal, first using VAR methods and the use of tests like analysis of variance examined interactions of mentioned variables and according to the model presented was used Johansson[1] co-integration method to long-term convergence between variables. Generally VAR systems due to auto-regression need to along amount of data to better estimate the model. In this research to assess relationship between credit risk of Islamic contracts and banking special variables uses the two following models:

The first regression :

$$LTA = f(NPL, LNT, ROE)$$

$$\boldsymbol{LTA_t = \beta_0 + \beta_1 NPL_t + \beta_2 LNT_t + \beta_3 ROE_t + \varepsilon_t}$$

The second regression:

$$ROA = f(NPL, LNT, ROE)$$

$$\boldsymbol{ROA_t = \beta_0 + \beta_1 NPL_t + \beta_2 LNT_t + \beta_3 ROE_t + \varepsilon_t}$$

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[1] Johannes Peyavali Sheefeni Sheefeni (2015): " Evaluating the Impact of Bank Specific Determinants of Non-performing Loans in Namibia" Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB) *An Online International Research Journal* (ISSN: 2306-367X) 2015 Vol: 4 Issue 2

That in these regression, variables are as below:

Nonperforming loans	$\boldsymbol{NPL}$
Return on assets	$\boldsymbol{ROA}$
Logarithm of total assets	**LNT**
Return on Equity	**ROE**
Long term loan ratio	**LTA**

Extraction of all statistics data has been done using Saderat bank's balance sheet.

To calculate the credit risk were used partition of non-current debts on all facilities garanted by bank.

Stationarity test of variables

Static and stationarity test examined here using Philips-perron unit root test for each selection variables in zero level (Without differencing).

Table (1) Philips-Perron unit root test for zero level of time series data

The name of series	statistics PP	Critical values			probability	Test result
		1 percent	5 percent	10 percent		
NPL	0.23	-2.61	-1.94	-1.61	0.75	non stationary
ROA	-0.80	-2.61	-1.94	-1.61	0.36	non stationary
LNT	0.34	-3.57	-2.92	-2.60	0.97	non stationary
ROE	-3.38	-3.58	-2.92	-2.60	0.78	non stationary
LTA	-1.46	-3.57	-2.92	-2.60	0.54	non stationary

Source : research findings

As table (1) shows: the variables of both model in level have unit root and need differencing.

Table (2) Philips Proon unit root test for first deference

The name of series	Statistics PP	Critical values			probability	Test result
		name of se	5 percent	10 percent		
D(*NPL*)	-3.88	-2.61	-1.94	-1.61	0.00	stationary
D(*ROA*)	-4.50	-2.61	-1.94	-1.61	0.00	stationary
D(LNT)	-12.81	-3.58	-2.92	-2.60	0.00	stationary
D(ROE)	-3.38	-3.58	-2.92	-2.60	0.01	stationary
D(LTA)	-2.61	-2.61	-1.94	-1.61	0.00	stationary

Source : research findings

D symbol in the table above indicated the first difference (or significantly at 5% level) of variables. Due to the result of steady testes conclude that in the first difference, variables are stable (steady). According to in regression method, all research variables were no stationary and were stationary after once differencing or were I(1), according to literature of VAR models should examine and then the research model to be estimate. For co-integration between these variables used Johansen test (sury.1392).

To estimate first model: The dependent variables of the ration of total loans to total LTA bank assets .

One criticism of the Angle Granger model is that it assumes which there would have been only one co-integration vector, which there may be more than one convergence vector. To solve this problem we use limitness co-integration test.

In calculated test if critical levels obtained be more of critical values indicated by Mackinnon-Haigh-Michael, zero hypothesis , r vector of co-integration will be accepted. Thus, according to the results, a co-integration vector is accepted in that model; because the quality of test statistic of its crisis is 95% more and prob is less than 5%.

Table 3: convergence test between the variables of the first model

Series: LTA NPL LNT ROE Lags interval (in first differences): 1 to 2 Unrestricted Cointegration Rank Test (Trace)				
	0.05	Trace		Hypothesized
Prob.**	Critical Value	Statistic	Eigenvalue	No. of CE(s)
0.0003	47.85613	66.87833	0.517670	None *
0.0152	29.79707	34.06759	0.451188	At most 1 *
0.5698	15.49471	7.067659	0.144575	At most 2
0.8403	3.841466	0.040591	0.000902	At most 3
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				

Source: research model

Determine the length of optimal lag

Before estimate the model, should be achieved optimal lag. The results of optimal lag suggest “two”. “Two” optimal lag choose for examining better for VAR method.

Table 4 : Amount of optimal lag

VAR delay selection criteria						
HQ	SC	AIC	FPE	LR	Log L	Lag
35.39025	35.49229	35.33009	2.59e+10	NA	-773.2621	0
26.47445	26.98469	26.17369	2747303.	385.4632	-555.8213	1
25.96274*	**26.88117***	**24.42138***	**1320181.**	**51.78570**	**-523.2703**	**2**
26.30730	27.63392	25.52534	1538698.	19.32271	-509.5574	3
25.97089	27.70571	24.94832	951744.8*	35.21574*	-480.8631	4
*is optimal lag						
LR: Statistic test of ordinal rectification						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwaz information criterion						
HQ: Hannan information criterion- Queen						

Source: research model.

The result of VAR model estimation

After examination of variables stationary and demonstration of long-term relationship between research no stationary variables and determine optimal lag, in

this section should be estimate with determined optimal lag of research model. The result of model estimation are presented in table 5 :

Table 5 : Model estimation result

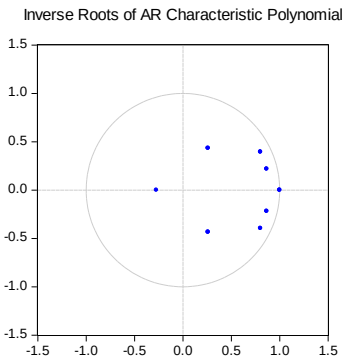
Normalized cointegrating coefficients (standard error in parentheses)			
ROE	LNT	NPL	LTA
-2.43E-06	-1.51E-06	5.991124	1.000000
(1.7E-06)	(7.0E-07)	(0.97131)	

Source : research finding

According to results obtained for credit risk variable, influence of this variable on the ratio of total loans to total assets is negative and statistically is significant. (It should be noted because the coefficients are shifted to the right, their direction will be inverse. Also effect coefficient divided to amount of standard deviation for influence significant of credit risk variable using T test litreture and compared calculated static to table. Calculated statistic for credit risk variable is 6/16 and showed that this variable is significant effect). Also the effect of total assets variables and return on equity on dependent variable of total loan to total assets is positive.

Model stability test

After estimations of research method should ensure the stability of the mode. The result of model stability test is as follows:



Source : research finding

Due to setting all points inside the circle with units radius, the stability of the model is confirmed.

Analysis of forecasting error variance

As the table (6) is observed during the first round 100% of fluctuation of variable of ratio of total loans to total assets is justified by itself. This amount is gradually reduce in later periods and finally will be 79% in tenth round. In tenth round about 13 percent of fluctuations of ratio of loans to loans to total assets are explained by credit risk variable.

Table 6: Analysis of variable variance ratio of total loans to total assets

ROE	LNT	NPL	LTA	S.E.	Period
0.000000	0.000000	0.000000	100.0000	0.005576	1
0.161101	0.481352	0.156643	99.20090	0.010777	2
0.299077	0.561468	0.930234	98.20922	0.015478	3
0.407937	0.495855	2.536584	96.55962	0.019392	4
0.542351	0.373692	4.828099	94.25586	0.022518	5
0.780703	0.364428	7.429612	91.42526	0.024977	6
1.200348	0.622057	9.880175	88.29742	0.026911	7
1.841976	1.212043	11.78732	85.15867	0.028435	8
2.668956	2.085390	12.95701	82.28864	0.029621	9
3.565523	3.111364	13.43447	79.88865	0.030513	10

Source : research finding

Estimation of second model: the dependent variable of return on assets (ROA)

At first, Johansen co-integration test done for the variables of method. According to the results, co-integration vector be accepted in that model; because the quality of test statistic is more 95 level and its prob is than 0/05.

Table (7): convergence test between the variables of second method

Series: ROA NPL LNT ROE Lags interval (in first differences): 1 to 1 Unrestricted Cointegration Rank Test (Trace)				
	0.05	Trace		Hypothesized
Prob.**	Critical Value	Statistic	Eigenvalue	No. of CE(s)
0.0010	47.85613	63.15968	0.478958	None *
0.0163	29.79707	33.82305	0.362442	At most 1 *
0.0956	15.49471	13.56812	0.257820	At most 2
0.6978	3.841466	0.150777	0.003345	At most 3
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				

Source : research finding

Determine the length of optimal lag

The result supposed “one” optimal lag. “One” optimal lag is chosen for better assessment of dynamic for VAR method.

Table 8 : Amount of optimal lag

VAR delay selection criteria						
HQ	SC	AIC	FPE	LR	Log L	Lag
35.39025	35.49229	35.33009	2.59e+10	NA	-773.2621	0
26.47445	26.98469	26.17369	2747303.	385.4632	-555.8213	1
25.96274*	**26.88117***	**24.42138***	**1320181.**	**51.78570**	**-523.2703**	**2**
26.30730	27.63392	25.52534	1538698.	19.32271	-509.5574	3
25.97089	27.70571	24.94832	951744.8*	35.21574*	-480.8631	4
*is optimal lag						
LR: Statistic test of ordinal rectification						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwaz information criterion						
HQ: Hannan information criterion- Queen						

Source : research finding

The results of VAR model estimation

After examination of variables stationary and demonstration of long-term relationship between research no stationary variables and determine optimal lag, in this section should be estimate with determined optimal lag of research model.

Table (9) : model estimation result with optimal lag

Normalized cointegrating coefficients (standard error in parentheses)			
ROE	LNT	NPL	ROA
-3.58E-07	-1.62E-07	1.927355	1.000000
(6.1E-07)	(2.4E-07)	(0.37049)	

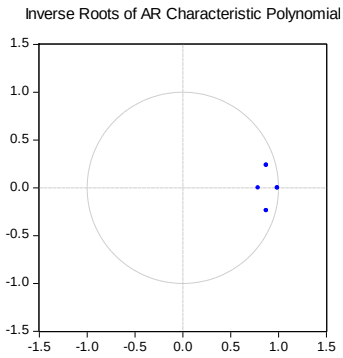
Source : research finding

According to results obtained in above table the effect to credit risk variable on the rate of return on assets is negative and significant. (the amount t statistic calculated is 5.20 for credit risk significantly).

Also the effect of total assets variables and return on equity on dependent variable of return on assets is positive.

Model stability test

After estimation of research method should ensure the stability of the model. The result of model stability test is shown below:



Source : research finding

According to setting all points inside the circle with a unit radius, the stability of the model is confirmed.

Analysis of forecasting error variance

Finally, to show the contribution of independent variables fluctuations on research dependent variable during times that is used the test of variance analysis:

Table 10: Analysis of variable variance ratio of total loans to total assets

ROE	LNT	NPL	LTA	S.E.	Period
0.000000	0.000000	0.000000	100.0000	0.005576	1
0.161101	0.481352	0.156643	99.20090	0.010777	2
0.299077	0.561468	0.930234	98.20922	0.015478	3
0.407937	0.495855	2.536584	96.55962	0.019392	4
0.542351	0.373692	4.828099	94.25586	0.022518	5
0.780703	0.364428	7.429612	91.42526	0.024977	6
1.200348	0.622057	9.880175	88.29742	0.026911	7
1.841976	1.212043	11.78732	85.15867	0.028435	8
2.668956	2.085390	12.95701	82.28864	0.029621	9
3.565523	3.111364	13.43447	79.88865	0.030513	10

Source : research finding

As can be seen in the table 10, in first round 100 percent of variable fluctuation of the rate of return on assets by itself. This amount is gradually reduced in later period and finally in the period is 97 percent. In the tenth period explained about 1.1 percent of fluctuation of the rate of return on assets by credit risk.

4- Recommend

According to the negative reflect of credit risk on special variaqbles of banking suggested will more and more powerful validation of bank natural and legal customers and also ratio of collaterals liquidity to granting facilities to be more

carefully to reduce bank nonperforming loan, will be provided the condition of enhanced performance of bank.

Also recommended to future researchers that will examine relationship between banking special variables and banking nonperforming loans in the form of combined data for the two state banks and private banks.

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