

Measurement of Non-Current receivables on the profitability of the branches of Bank of Qazvin

Hasan Atri, yadollah Lamei Ramandi

Abstract— One of the main goals of the banking system in economic activities is the absorption of Sources of person and directing them towards economic activities and ultimately "increasing profit margins. Therefore, the major objective of the banks is the rate of profitability. This study has tried to question whether the measures of Non-Current receivables on the affected banks' profitability or not? The study presented one main hypothesis and three sub-hypotheses. There are several factors that impacts on the profitability of banks were tested. To test the effect of non-current receivables indicators on return of assets multiple linear regression models were used and to test the relationship between the dependent and independent variables, Pearson's correlation coefficient was used. The results indicate that Variables of past Maturity to facilities, and ratio of non-performing assets in to the facility and the ratio of doubtful debts to the facility have an indirect strong relationship to the return on assets.

Index Terms— profitability, return on assets, current receivables, non-current receivables, facilities.

I. INTRODUCTION

The banking system is one of the main pillars of the economic system that the proper functioning of it can help the growth and development of the economic system. Otherwise, Heavy losses on the whole economy will occur. One of the problems That Iran and other countries' banking system faced is the Increase of past Maturity and delayed of the banks to total given facility in the country's banking network. It indicates the decrease of the quality of bank network assets, and consequently, financial instability is possible in the future. The less volume of such receivables demonstrated the ability of banks in conserving the existent resources. The increase of this kind of Non-Current facilities is indicating the threat of the bank resources. non-performing assets are a deep distress that is preventing the banking system to do its main tasks in promoting the development of the country. Existence of outstanding claims means that the recipients of finance facility do not pay the principal and interest of its facilities.

Causes of outstanding claims come in two categories.

1. The internal factors (internal organization)
2. The external factors (external organization)

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The internal factors are poor Credit hygiene, lack of obeying regulations and the letters, lack of obtaining the certain collateral, lack of measuring capacity and lack of appropriate expertise. Among the external factors there are also Natural factors, the absence of deterrent legislation, reduce the rate of profit, non-fulfillment of government debt, long duration of responding to cases from judicial institutions and requirement of banks to directed credits. Economically, there are many outstanding claims which they mean significant reduction in bank interest which is because of Loss of bank income. Outstanding receivables are parts of the collection of non-performing assets; On the other hand, part of the bank's capital was given to the borrower who has not repaid the principal and adjunct of it. The inefficiency of outstanding claims which is imposed on banks will be forced to actually raise the cost of banking services. And thus the efficiency of banks and banking services is getting low the next important point is in wasting public resources. The bank profit divided between bank and investor based on collaboration principles in profit and loss. When the bank does not clear the assets it leads to reduce the profits that are distributed among the depositors and shareholders.

II. RESEARCH OBJECTIVES

The main objective of this study was to identify indicators of non-current receivables and assess the impact of these indicators on profitability indicators in Mellat banks in Qazvin.

III. RESEARCH HYPOTHESES

- Non-current trade receivables indicators has significant effect on the profitability of Mellat bank branches Qazvin
- There is a significant relationship between the ratios of past Maturity to total facility with profitability on Mellat Banks of Qazvin.
- There is a significant relationship between the ratios of outstanding claims to total facility with Mellat Bank's profitability in Qazvin.
- There is a significant relationship between the ratios of doubtful debts to total profit facility with Mellat Bank's profitability in Qazvin.

IV. THE DEFINITIONS OF THE CONCEPT

4-1-1- credit risk

One of the most important indicators for measuring the quality of assets is the amount of the bank credit risk. Credit risk is one of the factors that affect the health of individual banks. With the increasing amount of non-profit assets of commercial banks the amount of credit risk is increased and reduces the quality of the assets (Baral, 2005).

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$$\text{credit risk} = \frac{\text{Non - Current bank assets } i}{\text{total given facility } i}$$

Equation (1-1)

$$X_2 = (i \text{ branch Non-performing assets}) / (i \text{ total facility of branch})$$

Equation (1-3)

4-1-2- current receivables

Receivables that repayment of its principal and interest in fixed payment Maturity were paid or two months after the Maturity were paid (Amin et al., 1389).

Doubtful debts: receivables which more than eighteen months from the maturity or the date of cessation of payments have passed. (Amin et al., 1389).

In this study, this variable will be calculated as follows:

4-1-3- non-current receivables

Receivables that repayment of its principal and interest in payment Maturity were not paid or two months after the Maturity were paid (Amin et al., 1389). These receivables are divided into 4 categories: past Maturity receivables, out standing claims, doubtful debts and receivables and bad debts.

$$X_3 = (i \text{ Doubtful debts of branch}) / (i \text{ total facility of branch})$$

Equation (1-4)

Bad debts: those receivables Regardless of the maturity date for reasons such as bankruptcy or other causes are not recoverable and with the approval of the Board of Directors of the Bank have been regarded as a bad debt (Amin et al., 1389).

Past Maturity receivables : receivables of maturity date of its interest and principle or the date of cessation of payments that were not passed more than 2 months and not passed more than six months. (Amin et al., 1389). In this study, this variable will be calculated as follows:

Profitability:

The power of Company or institution to create enough income So that after the current payments, the profit will be gained (Jhankhany and Parsayyan, 1375). In this study, the index with the return on assets (ROA) will be shown.

$$X_1 = (i \text{ branch past maturity receivables}) / (i \text{ total facility of branch})$$

Equation (1-2)

$$ROA = (i \text{ branch net profit after tax}) / (i \text{ total assets of branch})$$

Equation (1- 5)

Non-performing assets: receivables that more than six months and less than eighteen months from the date of maturity or payment cut-off date have passed. In this study, this variable will be calculated as follows:

5. THE OPERATIONAL DEFINITIONS

Iranian commercial banks facilities granted under the law of Interest-Free Banking is shown in the table (1-2). At the Beginning the Balance sheet a usury banks and Islamic banks compared in the tables (1-1) and (1-2) and each of the items of credits provided by Iran's commercial banks is described

Table (1-1): A simple balance of a bank usury

Assets - Expenditure • Loans • Credits • Other Facilities • Other assets -	liabilities and capital sources • Deposits from individuals - Current - Savings - Fixed (term) • Capital
Total assets	Total liabilities and capital

in Table (1-1) which is The simplified balance sheet of a usury bank, in the case of assets (the right side of balance sheet), which is mainly related to loans, credits and other facilities, the Legal relationship created between the customer and the bank is A legal relationship based on Creditor-Debtor.

The customer is obligated to repay the loan, interest and Received credit.

In the case of debt and Capital (left side of the balance sheet), which is the most important factor in shaping the sector's balance sheet deposits are received from individuals, Legal relationship between the customer and the bank will be created. The legal relationship based on Creditor-Debtor...

And this time the bank as debtor obligated to repay the original and accrued interest to savings and fixed deposit. But the Islamic banks' balance sheets in Table (1-2), legal relationship of Creditor- Debtor - only occurs when the bank grants to its customers facilities in the form of interest-free loan or customer have opened interest-free loan deposits. Since the interest-free loan is not pre-determined interest or dividends (dividends or interest does not exist) the creditor is obliged to repay the debt. In total balance sheet items in an Islamic bank comprise mainly of the "structure that is based on the sharing of profit

and loss (Hedayati et al., 1386, pp. 3 and 9). The facilities are the interest-free banking facilities considering the banking operation and other various divisions will be discussed in 2 perspective.

Table (1-2): A simple balance of an Islamic bank

Assets <input type="checkbox"/> use 1. facilities <ul style="list-style-type: none"> • Group loan • Partnership • Group exchanges • Group commitments 2. Other Assets	liabilities and capital <input type="checkbox"/> resources 1. Deposits received from individuals <ul style="list-style-type: none"> • loan - Current - Savings • Investment - Short term - Long-term 2. Other liabilities 3. Capital
Total assets	Total liabilities and capital

1-Facilities of an Islamic bank

1-5 group transactions

There are four facilities in this group with briefly explanation of each.

1. installment sales, installment sales is transferring to other in the clear price and, all or part of the cost of the payment will be received at given maturity or maturities in an equal or unequal installment. In simpler terms The Bank has already purchased goods and sells to customers. The customer is obligated to pay the installments in accordance with the contract specified maturities (Pooyanshad, 1388, p. 129).

• Installment sale (credit) to provide capital for production units:

Banks can, in order to create the conditions necessary for the provision of capital for production units raw materials and spare parts, tools and other necessities needed; these units are available exclusively at the request of the applicant's commitment, based on the purchase and use of these factors, is bought and sold in installments to the applicant.

1. The estimate for production units, the amount of raw materials to correspond to the production for the needs of a production period should be considered.

2. The price of sale of goods will be determined according to the cost and bank benefit.

3. The period of receipt of the sale price of the goods shall not exceed a production period or the maximum of one year.

This period and other exceptional cases up to a maximum period of one year will be increased with the approval of the Central Bank.

4. If the installment sale is to provide working capital in new production schemes, the period of receipt for more than one year shall be determined by relevant bank.

• Installment sale of the means of production, machinery installations:

The property consists of machines and installations. The useful lifespan of the table; they will be prepared by the Central Bank, is more than one year. Banks are able to create the conditions necessary for the expansion Affairs; Industry, mining, agriculture and services, Property Exclusively upon the written request of the applicant And their commitment, based on the purchase, use or direct the use of such property, purchased and sold in installments to the applicant.

1. The price of sale of the property, according to the cost and interest will be determined.

2. The time of receipt of the price of sale of the property shall not exceed the useful lifespan of such property at the following table. To calculate the useful lifespan, date of start of operation, will be at the determined by the Bank.

2. hire-purchase:

Hire-purchase is a contract of lease in which the tenant at the end of the lease term if the condition of the contract applies well the tenant will be the owner of the rental. As noted hire-purchase contract is formed from three .contract, Purchase, lease or sale (Pooyanshad, 1388, p. 106).

3. **Forward contract**

It is Cash in advance of the Products to a specified price. According to Article 41 the third season of interest-free banking, Banks are required to establish facilities. To cover part of the capital, units in circulation whether the property is owned by a natural person or legal; such request units before attempting to buy the products they offer. (Pooyanshad, 1388, p. 100).

5-2 of commitments

Three facilities in each group are briefly explained.

1. A promise of reward:

According to Article 66 of the Regulations of the third season of interest-free banking, A promise of reward is the personal commitment (inventor) or the employer to pay the amount or fee determined (A promise of reward) against certain actions, by convention, the party who performs the act, is called agent or contractor. Banks would be required to facilitate for the expansion of production, trade and services with the contract, as agent or, if necessary, as inventor acts as an attempt to make the promise of reward. By giving the promise of reward facility making two contracts is necessary. The contract between the bank and the applicant presented is called the primary promise of reward contract. Other contracts signed if the bank delegates all or part of the work in a secondary promise of reward contract. (Currently signing secondary promise of reward contract is not very common) (Pooyanshad, 1388, p. 95).

Warranty:

Financial guarantee contract is that someone else undertakes what would be his obligation to do such as a property. Banks based on request of applicants in cases where there is no legal prohibition apply issuing bonds such as clearance, Payment, performance commitments, obligations of the executive and judicial authorities, Participate in the Tender, prepaid and refundable payment margin in favour of corporations and government agencies and Executive bodies with considering issuing rules and endorsement of the banks and issuing instructions and with receiving fees (Hedayati et al., 1386, p. 250).

3. Documentary credit:

One of the important ways of payment in international trade is Credit documents.

In this method, after opening by the buyer in opening bank account,

Exporter will receive Means the goods after the presentation of shipping documents Banking in your country.

However, the simplest definition that can be offered for credit is that the Documentary credit is the Conditional commitment for a bank (Based on customer request) based on specified documents And according to credit On behalf of the seller, Within the specified period to pay or promise to be paid by him. (mozayanni et al., 1387, pp. 24 to 25 and 158)

The application of liquidity ratios is on the assumption that Current assets are the main sources of Cash flow for debt. Two of the most common categories include current ratio, Immediate ratio and cash conversion cycle.

6-PAST RESEARCH

1.6- local investigation

Shabani and Jalali (1391) investigated the reasons for the spread of "outstanding issues" (non-performing assets) in the banking system. In this paper, they have tried to find the roots and solutions of the problem of non-performing assets in the banking system. In the present study, after reviewing internal and external experiences about the causes and how to deal with non-performing assets and conducting field research, more than thirty agents were identified in the development of non-performing assets.

AHMADIAN and Davoodi (1391) investigated the Effective banking supervision to reduce non-performing assets for the period 2000- 2010 and 30 countries by using panel data. The results show that the more the power of observers the less the level of non-performing assets. The interaction between banking supervision and rate of return on assets, Political stability and Risk in the banking system were investigated. The results of this approach supports that these indicators can reduce non-performing assets.

□ Mirzaee et al (1390) investigated Factors affecting the credit risk of legal entities in Melli Bank. The results show that based on statistical indicators, the logistic regression function was significant and had high reliability by considering the coefficients and the power of Separating.

□ Ahadian Sarver (1389), investigated the effective Factors in creation of non-performing assets in Melli Bank In the years 1380 to 1387. He established research results that include:

1. Banks with higher GDP, with the economic boom To take over a larger share of the market Without taking into consideration the necessary and sufficient actions facilities were given to them which is increasing non-performing assets.

2. If inflation between interest rates of facilities and interest rates of facility and also the penalty rate Will be its delayed. The inverse relationship between inflation and non-performing assets rates can be achieved.

3. The exchange rate in terms of inflation creates greater non-performing assets.

- Foreign Research

□ Foonsoo and ET la (2012) were reviewed Performance of the Nigerian banks from 2000 to 2010. They showed performance of commercial bank with the Index of return on assets. To analyze the data Linear regression models were used. The results

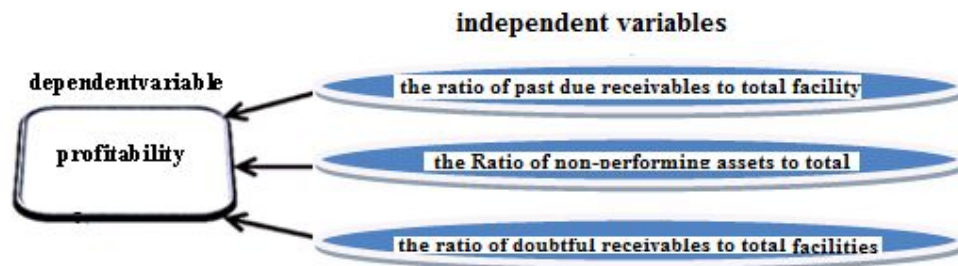
showed that As a whole Credit risk and its parameters have an Important and significant effect on the performance of commercial banks. They suggest Managers of commercial banks in order To increase the efficiency and performance of the bank they should increase their financial capacity.

□ Khor (2011) investigated the effects of risk factors of banks and operating environment of commercial banks on The performance of 43 commercial banks in 6 countries of the Gulf Cooperation Council From 1998 to 2008. To analyze the data A linear regression model was used. The results showed Credit risk, liquidity risk and capital risk Banks are the main factors that influence performance.

□ kargi (2011) investigated The effect of credit risk of The profitability of banks in Nigeria evaluation. The annual data from 2004 to 2008 was used. Linear regression model was used by him. His study showed that Credit risk management has a Major impact on the profitability of commercial banks.

□ Gysynjy (2010) investigated the effect of credit risk management on the profitability of banks in Kenya between 2004 and 2008 evaluation. His findings showed that the main part of the profitability of commercial banks Under the effect of credit and loans are deferred and unpaid. Therefore, he suggested that Factors other than credit and non-performing assets impact on the profitability of banks.

7- CONCEPTUAL MODEL



Conceptual model

Source: (Internal directive Bank Mellat, 1391)

8 - METHOD

This type of research is descriptive research trying to describe relationships between variables using statistical tests. From the purpose it is the applied research. Applied Research is the one That Aims to find a solution to the existing problems in the organization. In other words, applied research is an attempt to respond to the real world practical problem (Khaki, 1383, p. 94).

8-1- Sampling and sample size

In this paper we study the method library by reading of books of this field and using the opinions of experts in the form of books, journals, articles and other researches done in this field and also current thesis research to develop a theoretical basis. On the part of scientific research, Data and information required for Balance Ledger in Mellat bank in Qazvin were used.

8-2-The population and sample size

Since the main objective of this research is the study to evaluate the profitability of the Mellat bank's branches in Qazvin, based on some limitations the population and the sample were selected.

- the branches in the specific time were active branches in giving facility.
- branches that by the end of this research were active and have not been closed.
- The required data for this study they were presented.
- In the period of the research they are not considered as losing branch.

This study investigated 8 Qazvin Branch Bank in the period of 2 years (four of six). This means that from the beginning of April 1389 to the end of March 1390 .

8-3- Data analysis method

In analysing the data, descriptive statistics (Distribution of data, mean, standard deviation, etc.) and Diagrams are used and to test the main hypothesis multiple linear regression technique is used. And to test secondary research The correlation coefficient was used and output was analysed.

8-3-1 linear regression model

The concept of regression was used for the first time in 1877 by Francis Galton. He explained the predicted process of a variable by another variable by the regression concept. From that time onwards Regression analysis was used to determine the relationship between two or more variables and predict changes in a variable by considering the variables or other variables. They were applied at the same level with other researchers from other fields. (Kalantari, 1387, p. 171).

8-3-2- Kolmogorov – Smirnov test

One of the important test before the implementation of the regression model was the Kolmogorov - Smirnov. In order to evaluate the homogeneity of the distribution of the variables it is used. If sig obtained from this test is greater than 5% it can be said that it is a well-distributed variables. If this level is less than 5% indicates a lack of normal distribution and especially if the range is the dependent variable, there is no possibility of using a regression model (Bayazid al., 1391, p. 95).

8-3-3- Watson Doorbin test

When the nature of the relationship is realized we must realize that in certain cases under investigation whether this problem exists or not? To determine the serial correlation, several tests can be used. One of them test is "Watson Doorbin". It is based on the residuals (errors) based regression. The test statistic is calculated as follows.

$$d = \frac{\sum_{t=2}^n (u_t - u_{t-1})^2}{\sum_{t=1}^n u_t^2} \quad \text{Equation (1- 6)}$$

8-3-4- The coefficient of determination (R2)

The first output from the regression model is about a summary of the model. In The output values of the correlation coefficient, coefficient of determination and Statistics Doorbin- Watson is shown. The coefficient of determination in fact is the squared correlation coefficient and represents the percentage change in the dependent variable and is In contrast with changes in the independent variables (Bayazid al., 1391, p. 97).

$$R^2 = \frac{x\sqrt{y} + b\sqrt{xy} - n\bar{y}^2}{\sum y^2 - \sum n\bar{y}^2} \quad \text{Equation (1- 7)}$$

8-3-5- F statistics and Significance test model

One of the outputs of the regression model is in the ANOVA table. This table shows the significance of the model and the F statistics. If the amount is less than 5% significance level of the test, we conclude that the model is significant and Independent variables have significant impact on the dependent (profitability) variable and Main hypothesis is accepted (Bayazid al., 1391, p. 98).

8-3-6- determine the significance of the coefficients

Another output of the execution of a regression model is a significant level of t and is Coefficient for each independent variable in the regression model. If the significance of each independent variable on the dependent variable is less than 5% it is indicative of the relationship between two variables. If the sign of t-statistic is negative indicates a significant negative correlation between the two variables, and vice versa. In fact, the output shows the results of the research sub-hypotheses (Bayazid al., 1391, p. 99).

8-3-7- correlation

The correlation coefficient is a measure of Mathematics and it is the direction of the relationship between two variables. The correlation coefficient for the distribution of two or more variables is used if you would like to change the values of two variables. It means that more or less of one affects another. So that their relationship can be expressed as an equation and we can say between these two there is a correlation. The scatter plot or scatter diagram is the best image to show the correlation between the two variables. To measure the correlation various factors are used. Pearson's correlation coefficient and Kendall's correlation coefficient are the most important correlations

- If both variables are ordinal scale we use Kendall Tav index.
- If both variables are continuous variables, Pearson's correlation coefficient is used.
- If both variables are discrete relative scale we used the Spearman correlation coefficient

9- RESULTS

Findings of People response to any questions with separation of each variable are shown. In this section before testing the research hypotheses Descriptive statistics of the variables is described above. Table (1-3) shows the results of this analysis for the main variables.

Table (1-3): Descriptive statistics of the variables

the ratio of doubtful debts to the facility	ratio of non-performing assets in to facility	the ratios of past Maturity to facility	Return on Assets	Description
32	32	32	32	Frequency
0.004582	0.013370	0.014667	0.03131	The mean
.0052314	.0165483	.0172033	0.02447	SD
0.0000	0.0000	0.0000	0.0021	Minimum
0.0210	0.0654	0.0690	0.0852	Maximum

As the results show, According to the information

The greatest standard deviation of the independent variables

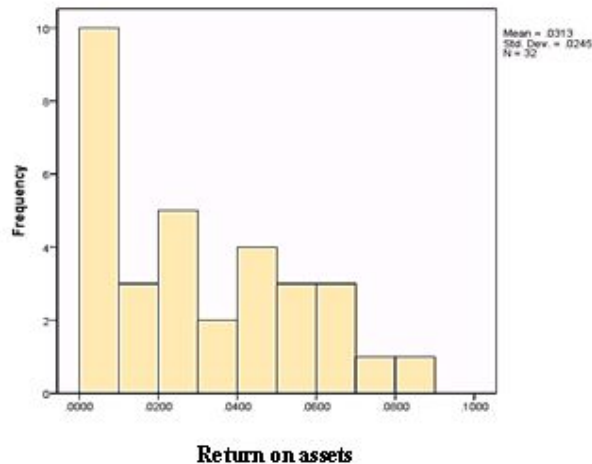
Is the variable of ratio of pastmaturity receivables to facility which represents the distribution of the variable.

Based on the other information contained in Table (1-3):

- The minimum return on assets was equal to 0021/0 and was for Branch of Islamic Azad University of Qazvin in the first semester of 1389 and Most of this amount, was 0852/0 for Imam Khomeini Avenue branch of Qazvin during the first half of 1390 and Indicating that this branch of Bank Mellat in Qazvin province has the highest profitability.

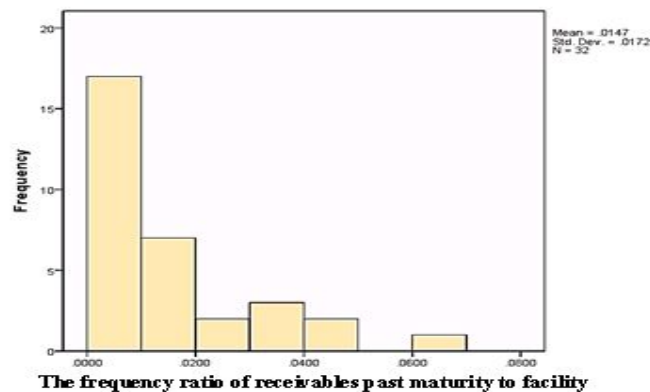
Figure (1-1): Distribution of Variable Return on Assets

- The distribution of this variable is shown in the form of histograms.



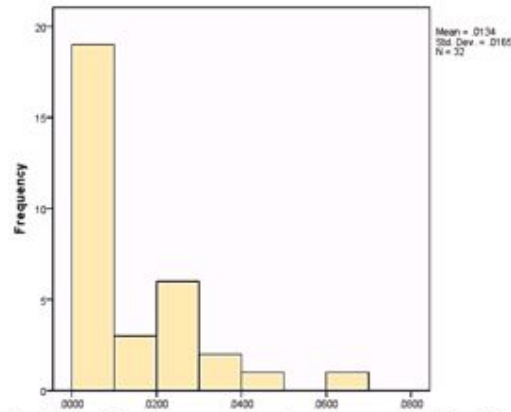
- The minimum of past maturity receivables facility is equal to 0.000 that is for branch of the Islamic Azad University that is the second semester of 1389. Due to the facilities of the branch the branch facilities are very low compared to other branches of study. Perhaps this one was one of the reasons and factors in the branch. The maximum value of this ratio in the first semester of 1390 with the 069 branch is DANESFAHAN 0 /. This result indicates that the branch DANESFAHAN has credit risk higher than other branches of study.

Figure (1-2): distribution of this variable is shown in the form of histograms.



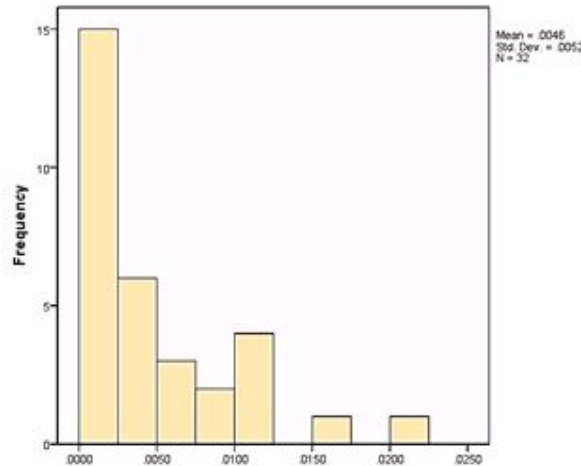
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The minimum amount of the non-performing assets is equal to 0.000 that is for branch of the Islamic Azad University in the second semester of 1389. The greatest value is for the branch of the Alborz Industrial City in the first semester of 1390 with the 0654/0 is.



distribution ratio of non-performing assets to total facility

The minimum amount of doubtful receivables to facility is equal to 0.000 that is for branch of the Islamic Azad University in the second semester of 1389. The maximum value of this ratio in the first semester of 1390 for the branch Khak Ali Qazvin is 0210/0. Figure (1-4) shows the distribution of these variables in the form of histograms.



distribution ratio for doubtful receivables to total facility

Table (1-4): The Kolmogorov-Smirnov test results

the ratio of doubtful debts to the facility	ratio of non-performing assets in to facility	the ratios of past Maturity to facility	Return on Assets	Description
0.811	1.263	1.421	1.170	test statistic
0.526	0.082	0.065	0.129	significance level

10-- RESEARCH HYPOTHESES

The main hypothesis was proposed as follows.

- Null hypothesis: non-current trade receivables indices have no effect on the profitability of the Qazvin bank's branches.
- Hypothesis 1: non-current trade receivables indices affect the profitability of the branches of Bank in Qazvin.

To test this hypothesis, the multiple regression model is used by considering the independent variables in Table 3 (1-5)

Table (1-5): Variables

Variables	Description
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the ratio of the past maturity receivables to total facilities (X1) the ratio of non-performing assets to total facilities (X2) the ratio of doubtful debts to total facilities (X3)	1- Independent variables (indicators of non-current receivables)
Return on Assets (ROA)	2. The dependent variable (profit) • Return on Assets (ROA)

$$ROA = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon_0 \quad \text{Equation (1- 8)}$$

The output from running the tests is shown in Table (1-6) to (1-8). According to Table (1-6):

Table (1-6): Summary of the main hypothesis

Correlation coefficient	coefficient of determination	adjusted for the estimated coefficient	standard error	Watson statistic dourbin
0.713 ^a	0.508	0.001	0.0244523	1.819

Determination coefficient obtained from the model is 508/0 and suggests that this 8/50 percent of ROA variability could be explained by the independent variables in this study. The rest of the variables and the factors which is beyond the reach and control in the research and it needs further investigation.

• Watson Dourbin results obtained is equal to 819/1. Since this value is close to 2 (range 5.1 to 2.5) Indicates that there is a positive correlation between the residuals and suggests that we can use the regression model. Next output is in Table (1-7) and is shown. F statistics show a significant level model. This output is known as the ANOVA table.

Table (1-7): To determine the significance of the hypothesized model (Table ANOVA)

Model	Sum of squares	degrees of freedom	Mean square	F-statistic	significant level (sig)
Regression	0.002	3	0.001	15.015	0.000 ^a
Residuals	0.017	28	0.001	-	-
Total	0.019	31	-	-	-

As said:

• significant level of implementation of the above regression model is 0.000 U. The F statistic is equal to 015/15 Which shows the effect of independent variables on the dependent. This effect is strong and significant at the 99% confidence level. This means that the hypothesis is accepted. In this study, the non-current trade receivables affected return of assets of branches in Qazvin province.

Next output in Table (1-8) and the table are called coefficient tables.

The values in the table above for the statistic t, Level of significance and values of the coefficients of the independent variables are given. In fact, the output shows the relations of the independent variables and the dependent variable (ROA).

Table (1-8): The output from the table of coefficients main hypothesis

Variables	nonStandardized coefficient		Standardized coefficient	t	sig(
	B	Standard error	Beta		
Constant value	0.038	0.006	-	6.106	0.000
the ratio of the past maturity receivables to total facilities (X1)	-0.320	0.311	-0.225	-2.027	0.013

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the ratio of non-performing assets to total facilities (X2)	-0.469	0.328	-0.046	-3.209	0.006
the ratio of doubtful debts to total facilities (X3)	-0.702	1.177	-0.150	-3.596	0.000

The results show that the significant variables

Of the ratio of the past maturity receivables to total facilities Is In connection with the return on assets,

Sig is 013/0 and the t-statistic equal to 027/2, and Because it is less than 5% significance level

So we can say: the variable the ratio of the past maturity receivables to total facilities is in statistical relationship with return on assets.

This relationship is significant at the 95% confidence level and indirect.

• the ratio between the ratio of non-performing assets to total facilities associated with the return on assets, Sig is equal to 006/0 And a t-statistic is 209/3 is And the significance level is less than 5% So we can say: Variable the ratio of non-performing assets to total facilities is in statistical relationship with the return on assets. This relationship is significant at the 99% confidence level and indirect.

• the ratio between the ratio of doubtful debts to total facilities is in connection with return on assets, Sig is 0.000 and the t-statistic is 596/3 Because it is less than 5% significance level Therefore it can be said variable the ratio of doubtful debts to total facilities is in statistical relationship with return on assets.

This relationship is significant at the 99% confidence level and indirect.

• The value of the intercept "is 038/0.

Finally, the regression model is proposed to run this test.

$$ROA = 0.038 - 0.320X_1 - 0.469X_2 - 0.702X_3 \quad \text{Equation (1-9)}$$

11- TEST OF THE SUB HYPOTHESIS

11-1 -The first sub-hypothesis

• Null hypothesis: there is no significant relationship between the ratio of past maturity receivable of total facility and return of assets the branches of Bank of Qazvin.

• First hypothesis: there is a significant relationship between the ratio of past maturity receivable of total facility and return of assets the branches of Bank of Qazvin...

To test this hypothesis, Pearson's correlation coefficient was used. The output from running the tests is shown in Table (1-9).

Table (1-9): the first sub-sub-hypothesis test results

		the ratio of past maturity receivable of total facility	Return of assets
the ratio of past maturity receivable of total facility	Pearson correlation coefficient	1	-0.694**
	Significant level	-	0.003
	Number of samples	32	32
Return of assets	Pearson correlation coefficient	-0.694**	1
	Significant level	0.003	-
	Number of samples	32	32

• Pearson correlation coefficient between the return on assets the ratio of past maturity receivable of total facility is -694/0 respectively.

Since this factor is negative it indicates that the relationship between variables is indirect and incomplete.

• The significant level of the model is 003/0 and Since this value is less than 5% it Indicates that there was significant relationship between the ratio of past maturity receivable of total facility and **Return of assets** at 99% of confident level

The first sub-hypothesis is confirmed. Namely:

There is a significant relationship between the ratio of past maturity receivable of total facility and return of assets in the branches of Bank of Qazvin.

11-2- Second sub-hypothesis

Null hypothesis: there is no significant relationship between the ratio of non-performing assets of total facility and return of assets in the branches of Bank of Qazvin.

First hypothesis: there is a significant relationship between the ratio of non-performing assets of total facility and return of assets in the branches of Bank of Qazvin.

The output from running the tests is shown in Table (1-9).

Table (1-10): results of the second sub hypotheses

		The ratio of non-performing assets	Return of assets
The ratio of non-performing assets	Pearson correlation coefficient	1	-0.752**
	Significant level	-	0.001
	Number of samples	32	32
Return of assets	Pearson correlation coefficient	-0.752**	1
	Significant level	0.001	-
	Number of samples	32	32

- Pearson correlation coefficient between the return on assets **the ratio of non-performing assets** of total facility is -0/752 respectively.

Since this factor is negative it indicates that the relationship between variables is indirect and incomplete.

- The significant level of the model is 0/001 and since this value is less than 5% it indicates that there was significant relationship between the return on assets **the ratio of non-performing assets** of total facility.

The first sub-hypothesis is confirmed. Namely:

There is a significant relationship between the ratio of non-performing assets of total facility and return of assets in the branches of Bank of Qazvin

11-3- third sub-hypothesis

Null hypothesis: there is no significant relationship between the ratio of bad debts of total facility and return of assets in the branches of Bank of Qazvin.

First hypothesis: there is a significant relationship between the ratio of bad debts of total facility and return of assets in the branches of Bank of Qazvin.

The output from running the tests is shown in Table (1-9).

Table (1-11): results of the third sub hypotheses

		the ratio of bad debts of total facility	Return of assets
the ratio of bad debts of total facility	Pearson correlation coefficient	1	-0.851**
	Significant level	-	0.000
	Number of samples	32	32
Return of assets	Pearson correlation coefficient	-0.851**	1
	Significant level	0.000	-
	Number of samples	32	32

- Pearson correlation coefficient between the return on assets bad debts of total facility is -/851 respectively.

Since this factor is negative it indicates that the relationship between variables is indirect and incomplete.

- The significant level of the model is /000 and since this value is less than 5% it Indicates that there was significant relationship. Between the return on assets bad debts of total facility

The first sub-hypothesis is confirmed. Namely:

There is a significant relationship between the ratio of bad debts of total facility and return of assets in the branches of Bank of Qazvin.

12-SUMMARY AND CONCLUSIONS

Test hypotheses results are summarized and shown in Tables (1-12) and (1-13).

Table (1-12) summarized main hypothesis test results and Table (1-13) summarized sub hypothesis test results.

Table (1-12): Summary of results for the main hypothesis

result	Important statistic	Significant level	Test type	Summary of hypothesis	Row
Acceptance of the hypothesis	F= 15/015 R= 0/713 R ² =0/508 D-W= 1/819	0/000	Multiple linear regression test	Non-current receivables parameters affect the .return on assets	1

Finally, this regression model was proposed as a model

$$ROA = 0.038 - 0.320X_1 - 0.469X_2 - 0.702X_3 \quad \text{Equation (1- 10)}$$

Table (1-13): Summary of results for the sub-hypothesis testing research

Result	Important statistic	Significant level	Test type	Summary of hypothesis	Row
Acceptance of the hypothesis	R= - 0/694	0/004	Pearson correlation coefficient	Relationship between the ratio of the past maturity receivables to total	1
Acceptance of the hypothesis	R= -0/752	0/001	Pearson correlation coefficient	Relationship between the ratio of non-performing assets to total	2
Acceptance of the hypothesis	R= -0/851	0/000	Pearson correlation coefficient	Relationship between the ratio of doubtful debts to total facilities	3

REFERENCE

- [1] Ahangari, Bahman (summer 1392) .the review effective factors on non-performing assets (case study: National Bank of Zanjan), Master's thesis, Islamic Azad University Abhar unit.
- [2] Ahadyansroor, R (1389) .Thereview offactors affecting making non-performing assets in Melli Bank, Master of Accounting and Research in Melli Bank branches in southern Tehran.
- [3] Alaborzi, Mahmood, Mohammad poor zarandi Mohammad Ibrahim and Khanbabaie(Spring and summer 1389). "Using genetic algorithms to optimize the decision tree for the validation of bank customers", Journal of Information Technology, Vol. 2, No. 4, page of 23 to 38.
- [4] Ahmadian, Azm and davoody, A. (Spring 1391). Effect of banking supervision on the reduction of Nonperforming assets, Journal of Management Accounting, Fifth Year, No. 12, pages 117 to 127.
- [5] Office of Risk Management of melli Bank (June 1390) the draft provisions Wings (3), Part I and II, published by the National Bank, No. 175 and 176
- [6] Asli ,Shole ""Management of credit risk by looking at the pattern of payment in other countries." Risk management and control of Bank Sepah, November, 1390.
- [7] Amini, Alireza ,Haghighat , Ali and Hemmati, Fateme. (1389). Analysis of non-performing assets of the banking network in Qazvin (challenges and solutions), Economic Journal, a monthly review of the issues and policies, numbers 9 and 10.
- [8] Bayazid, Ibrahim, Ouladi, Behnam and Abbasi, Narges. (1391) questionnaire data analysis using software Spss19 (PASW), Abed Publications, Fourth Edition.
- [9] Pooyanshad, Alireza, booklets of credit for auto facility of EghtesadNovin banks, EghtesadNovin banks pub, October2007
- [10] Javadian, Mouhamadreza (1391) .management of credit risk, marketing, textile and clothing industry, pages 40 to 41.
- [11] Jalili, Muhammad, Khodaei Vale Zaqred, Mohammad and Koneshloo, Mahdieh (Winter 1389). "Validation of real clients in the banking system", Journal of Quantitative Studies in Management, Islamic Azad University of Abhar.
- [12] Jalili, Mohammad Ahmadi, MorafiMousavi, Mehdi (1390). Validation of real customers banking system: A case study of bank branches in Zanjan, MSc thesis, Islamic Azad University of Abhar.
- [13] Hassanzadeh, Ali and HabibiPeyman (1390). Autopsy of non-performing assets and prevention of Andrei country's banking system, TazehayeEghtesad, No. 130, Vol. VIII, pages 98 to 104.
- [14] Heidari, Hadi, Zavaryan, Zahra and Nourbakhsh, Iman (1389). Effects of macroeconomic indicators on non-performing assetstofo, money economy Quarterly, No.4
- [15] Zoolnooryan, Mehdi. (1389). Pathological reasons and causes the increasing demands of non-performing assets, Bank and Economics, No. 112.
- [16] Radpour, Meysam, (1390), a mechanism to measure and manage the credit risk of the country's Bank website:www.iranfinance.net.

- [17] Shabani, Ahmad and jalaly, Abdul (1391). The reasons for the development of non-performing assets in the banking system of expression and ways to improve it, and research Journal (Planning and Budget), the sixteenth No. 4, pages 155 to 181.
- [18] Safari, S., E. Shaghghi, Marziyeand Sheikh, Mohammad Javad (Winter 1389). ""Credit risk management of corporate clients in Commercial bank by using Data Envelopment Analysis (credit rating), "Management of Iran, Volume 14, Issue 4.
- [19] Faghihi, MH, Mohammadi, Parvane, (editor) and soori, M. (designer) (1389) .a bank warranty, SinaBank Public Relations Publications, published number in 2500.
- [20] Ghasemi, H., non-performing assetsand its role in reducing the profitability of banks, local banks Magazine of EghtesadNovin, Issue 18, July 1389.
- [21] Ahmed Arif, AfsheenAbrar, Mohammad Afzal (2012). Credit Risk and Shareholders' Value in a Developing Economy: Evidence from Pakistani Banking System,Journal of Economics and BehavioralStudies,Vol. 4, No. 2, pp. 87-95, (ISSN: 2220-6140).
- [22] Al-Khouri, R. (2011). Assessing the Risk and Performance of the GCC Banking Sector, International Journal of Finance and Economics, ISSN 1450-2887, Issue65, 72-8.
- [23] EvzenKocenda& Martin Vojtek. (April 2011), Default Predictors in Retail Credit Scoring: Evidence from Czech Banking Data; William Davidson Institute Working Paper Number 1015.
- [24]Hamid Reza Aghababaei, SanazAtaei, hadiazizkhani (2013).Effects of credit Risk indicators on shareholders'value of commercial banks in IRAN,International Research Journal of Applied and Basic Sciences,Vol, 6 (8): 1143-1149.
- [25] John B. C., Edward I. A., Paul N.; "Management credit risk: The next gratefinancial challenge"; John Wiley & Sons, N.Y, 1998.
- [26] Kithinji, A.M (2010). Credit Risk Management and Profitability of Commercial Banks in Kenya, School of Business, University of Nairobi, Nairobi.
- [27]Kolapo, T. Funso, Ayeni, R. Kolade&Oke, M. Ojo (2012)." Credit risk and commercial banks' performance in Nigeria: a panel model approach", Australian Journal of Business and Management Research, Vol.2 No.02 [31-38].
- [28]Kargi, H.S (2011). Credit Risk and the Performance of Nigerian Banks, AhmaduBello University, Zaria.
- [29] MarjoHorkko, (June 4, 2010). The Determinants of Default in Consumer Credit Market Finance; Master's thesis, Department of Accounting and Finance Aalto University School of Economics.