Journal of Applied Science and Agriculture, 9(4) April 2014, Pages: 1598-1605

AENSI Journals

Journal of Applied Science and Agriculture

ISSN 1816-9112

Journal home page: www.aensiweb.com/jasa/index.html

An Investigation of the Factors Influencing the Credit Risk of Bodies of Refah Banks of Kohkiluye Boyerahmad Province

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ARTICLE INFO

Article history:
Received 21 January 2014
Received in revised form 16
15 April 2014
Accepted 25 April November 2014
Available online 5 May 2014

Keywords:
Legal clients, Credit risk, Credit facilities, Facilities Repay Failure, Credit Evaluation, Credit Ranking

ABSTRACT

Background: One of the effective tools required for the economic development of the country is an efficient banking system. In the Iranian banking system, equipping resources and allocating them through bank facilities are still the key functions of commercial banks. **Objective**: This study was conducted to identify the factors influencing the credit risk of the legal clients of Kohkiluye Boyerahmad Refah Banks. The population consisted of 78 managers as well as credit and finance experts of the Refah Banks of Kohkiluye Boyerahmad Province. **Method**: It is a descriptive survey validated by professors and experts and the supervisor and advisor professors. Cronbach's alpha confirmed the reliability of the questions through the SPSS. The preliminary study was conducted on a preliminary sample including the responses of 30 respondents. Data was analyzed through the SPSS. The hypotheses were tested through the t test, which indicated that all factors, i.e. type of activity, credit history, debt ratio of the company, current ratio of the company, and delayed debts of the company to the bank, affect the credit risk of legal clients of Refah Bank. **Results**: All hypotheses were confirmed. Also, according to the ranking provided by the Freidman test, the factors and independent variables did not have the same levels of importance for respondents and that activity type and the debt ratio of the company had the greatest influences.

To Cite This Article: Saeid Aghasi, Abdolmajid Abdolbaghi, Zeinab Tavakol., An Investigation of the Factors Influencing the Credit Risk of Bodies of Refah Banks of Kohkiluye Boyerahmad Province. ***J. Appl. Sci. & Agric.,*** *9(4): 1598-1605, 2014*

INTRODUCTION

One of the most important banking concerns is progress and growth in terms of financial resources. Sustainable development relies on the proper guidance of surplus resources toward productive investments. If the surplus resources are guided to investors and those who can optimally use them to achieve macroeconomic goals, we can be hopeful that the economic objectives of the country are achieved. Since the greatest amounts of economic exchanges are achieved through the banking system, a proper functioning of the system plays a significant role in the improvement of economic activities (Asli, 2011: 43).

Nowadays, credit risk is considered responsible for the bankruptcy of banks and financial institutes. Financial crisis has its roots in the lack of ability to manage risks. Risk managers must create new identities for themselves and avoid repeating their past mistakes by better using information (Morsman, 1997: 6-8).The HSBC Bank successfully tackled financial crisis and outperformed most of its competitors. The risk strategy manager of this bank says: "the ability to measure, manage and reduce risk is the strategic advantage of successful financial institutes of the future ". Currently, risk managers have vital roles in reconstructing and consolidating financial institutes (Asli, 2011: 43).

Financial crises are definitely the result of weak performances of risk managers. This is why the reconstruction of financial institutes is a burden to risk managers. They have to take into account the following issues:

- Boosting the basic principles of risk management
- Creating harmony among risk management strategies, present risk probabilities, and risk capacities.
- Understanding the way risks have effect and how to manage them in today's different world.
- Understanding the role of risk managers, their responsibilities and relations.

Attention to risk management and its dimensions has grown, especially following the presentation of approaches by the Basel Committee in financial and monetary institutes. A majority of these institutes are currently establishing new units in their organizational structures and recruiting experts related to risk and risk management to minimize potential losses, to make more profits and to achieve organizational goals.

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Issue Significance:

Credit risk is referred to as the failure to repay the loan in due time by the clients. It happens when the receiver of the facilities is not able to fulfill their commitments. In every country the banking system tends to give facilities to favorable customers who, from the banking perspective, are able to repay the facilities on time, in addition to investing the money in economic activities. The failure to repay the facilities reveals that the receiver has not been able to use them properly. In other words, the return of adopting the facilities has not been sufficient, which has created problems for repaying the facilities on time (Morsman, 1997: 6-8).

In terms of resources allocation, credit risk is the most important one the banks are exposed to since the facilities are a major part of the assets of the banks, and external factors affect it.

Regardless of geographic settings, banks are able to allocate their resources to applicants only when they possess proper structures and standards in evaluating their clients so that the bank facilities are allocated to favorable clients identified through this structure (Edward et al, 1995: 27-45).

The question of how to identify favorable clients has given rise to a broad literature in banking studies and is called credit ranking or credit evaluation. Nowadays, banks are widely adopting credit evaluation models to approve and price loans and evaluate credits by adopting concrete criteria in the form of informational reports. They are also able to determine their legal assets based on their estimations of the probability of the loan. Therefore, predicting a proper structure for giving facilities and taking caution to protect the interests of investors reduce credit risk, which is achieved through credit evaluation (Morsman, 1997: 6-8).

The criteria of credit evaluation vary with large and small loans. Normally, in giving large loans, banks conduct a thorough evaluation of applicants, the return of the investment, their financial-legal conditions, and their repay power through financial-economic analyses. Since the number of large loans is limited, it is possible to evaluate them thoroughly. However, the large number of applicants for small loans makes it difficult and costly to thoroughly evaluate each one and requires developing a system through which credit risk can be identified and reduced. Such a model allows banks and financial institutes to conduct required evaluations for loan applications and eventually decide on the approval or rejection of the application based on the existing conditions. However, it should be noted that in real world it is not possible to completely eliminate credit risk Morsman, 1997: 6-8).

Despite the importance of credit risk in banking activities, little attempt, if any, has been made to develop credit risk models has not been conducted. For instance, the country's financial markets are clearly lacking in credit risk indexes and credit risk ranking organizations. Moreover, in giving credit facilities to the clients, their credit risks, ranking, evaluation, as well as maximum credits based on risk indexes are not identified and the indexes are based on experts' opinions and the credit committees. An efficient risk model not only facilitates making decisions on giving credits, but is also give the country and the banking system an efficient model for allocating resources to various economic sectors. Currently, it is one of the ley issues addressed in banking studies due to the importance of evaluating credit risk (Morsman, 1997: 6-8).

Lack of required statistical information has made developing prediction models difficult. Although sufficient statistical information solve the problem of estimating credit risk evaluation models and predicting, very few banks have access to historical information and those which do are lacking in specifically required information.

The present study investigates the factors influencing the evaluation of credit risk for legal clients of Refah Banks in Kohkiluye Boyerahamd Province and identifies a number of qualitative (activity type, history of delayed debts, etc.) and financial (items of balance sheet) factors affecting credit risk of the clients.

Purpose of Study:

The purpose of this study can be classified in two levels in terms of importance:

First level: identifying indexes influencing the clients' credit risks.

Second level: proposing approaches to reduce credit risks and, consequently, better adaptation of resources and facilities.

Conceptual Model and Variables:

The variables of this study include:

Dependent variable: clients' credit risks

Independent variables: activity type, credit history, debt ratio of the company, current ratio, delayed debts.

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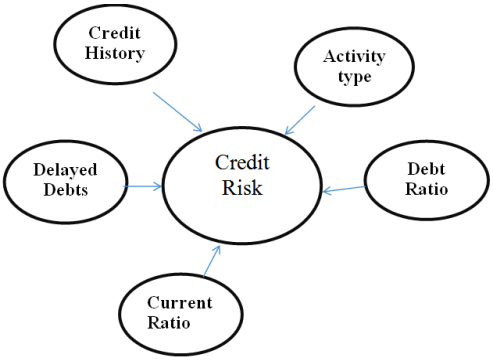

Hypotheses:

First hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the type of their activities.

Second hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the credit history of the company with the bank.

Third hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the number of their delayed debts to the bank.

Fourth hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the current ratio of the company to the bank.

Fifth hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the debt ratio of the company to the bank.

Methodology:

The present survey attempts to investigate the factors influencing the credit risks of the legal clients of Kohkilueh Boerahmad Refah Banks. Data were gathered through questionnaires developed by the researcher and tested for validity and reliability. Due to the limited size of the population, sampling is not required and the whole population, which is 78, is studied.

Population:

The population of the study includes all individuals or elements having one or several common attributes on a geographical scale (global or regional) (Hafiz Nia, 2001: 119). Simply put, population includes all actual or hypothetical members, a group of people, events, or objects to which the researcher generalizes his0.her findings. The population of this study includes all experts and financial managers of Refah Bank in Kohkiluye Boyerahmad Province. The number of these experts is 78.

Sample Size and Sampling Method:

Since the population is limited, sampling is not required. Therefore, the whole population is studied. Out of 100 questionnaires distributed among the population, 78 were returned. The return rate of the questionnaire is %78.

Data Gathering:

Data gathering method are classified into library and field methods. In this study, data regarding hypotheses were gathered through the survey method and those for literature were gathered through library search.

Data Analysis Methods:

Data is analyzed in various ways. In order to provide a proper description of the data, the population must be investigated through descriptive analyses. The purpose of such analysis is to evaluate the sexual, educational, and demographic features of the sample so that a general view of the subject is formed in a descriptive view. Following the descriptive evaluation, data is analyzed and hypotheses are tested through inferential methods.

Variables are tested for normality through the Smirnov- Kolmogorov test, and they are tested for significance through variance analysis.

3. Results:

Now, the questions of the study are tested according to the data gathered through sampling and the statistical tests mentioned before.

Test of Normality of Distribution:

The Kolmogorov- Smirnov test is conducted to investigate the data distribution of a quantitative variable. In this test, the null hypothesis is the idea claimed for data distribution (Azar and Momeni, 2002). In this study, the normality of data

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distribution is tested through the KS test. As indicated by Table 4-8, all factors in the sample are normally distributed since the significance level is over %5. Therefore, to test the hypotheses, the parametric statistical tests can be used.
$H_{0:}$ distribution is normal.
H_1: distribution is not normal.

Table 4-8: Kolmogorov-Smirnov Test.

significance	SD	Mean	variablelfactor
..0530	.894200.	39740.3	Activity Type
..140	815810.	24360.3	Credit History
..170	926010.	52050.3	Debt Ratio
..090	992370.	46150.3	Current Ratio
..140	67640	23260.3	Delayed Debts

Testing Hypotheses Based on the Results of Mean Test:

First hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the type of their activities
H_0: $\mu \leq 3$
H_1: $\mu > 3$

The null hypothesis assumes that the mean score of responses at the confidence level of %95 is smaller than or equal to 3; and H_1 assumes that it is greater than 3.

According to the table, the value of observed t is significant and H_1 is confirmed. Therefore, the credit risks of the legal clients of Refah Bank seem to be affected by the type of their activities.

One-sample t Test for the First Hypothesis

P	Freedom	t	Mean	First Hypothesis
0.000	77	3.9	3.3	Activity Type

Second hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by their credit histories with the bank.
H_0: $\mu \leq 3$
H_1: $\mu > 3$

The null hypothesis assumes that the mean score of responses at the confidence level of %95 is smaller than or equal to 3; and H_1 assumes that it is greater than 3.

According to the table, the value of observed t is significant and H_1 is confirmed. Therefore, the credit risks of the legal clients of Refah Bank seem to be affected by their credit histories with the bank.

One-sample t Test for Second Hypothesis

P	Freedom	t	Mean	Second Hypothesis
0.01	77	3.6	3.2	Credit History

Third hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the amounts of their debts to the bank.
H_0: $\mu \leq 3$
H_1: $\mu > 3$

The null hypothesis assumes that the mean score of responses at the confidence level of %95 is smaller than or equal to 3; and H_1 assumes that it is greater than 3.

According to the table, the value of observed t is significant and H_1 is confirmed. Therefore, the credit risks of the legal clients of Refah Bank seem to be affected by the amounts of their debts to the bank.

One-sample t Test for Third Hypothesis

P	Freedom	t	Mean	Third Hypothesis
0.000	77	3.9	3.5	Debt Ratio

Fourth hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by the amounts of liquidity.
H_0: $\mu \leq 3$
H_1: $\mu > 3$

The null hypothesis assumes that the mean score of responses at the confidence level of %95 is smaller than or equal to 3; and H_1 assumes that it is greater than 3.

According to the table, the value of observed t is significant and H_1 is confirmed. Therefore, the credit risks of the legal clients of Refah Bank seem to be affected by liquidity.

One-sample t Test for Fourth Hypothesis

P	Freedom	t	Mean	Fourth Hypothesis
0.000	77	4.1	3.4	Current ratio

Fifth hypothesis: it seems that the credit risks of the legal clients of Refah Bank are affected by their delayed debts to the bank.

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H_0: $\mu \leq 3$
H_1: $\mu > 3$

The null hypothesis assumes that the mean score of responses at the confidence level of %95 is smaller than or equal to 3; and H_1 assumes that it is greater than 3.

According to the table, the value of observed t is significant and H_1 is confirmed. Therefore, the credit risks of the legal clients of Refah Bank seem to be affected by their delayed debts to the bank.

One-sample t Test for Fifth Hypothesis

P	Freedom	t	Mean	Fifth Hypothesis
0.003	77	3.03	3.2	Delayed Debts

Variables Ranking:

In order to test whether the variables are equal or different, the variance analysis test is conducted. To this end, the following statistical hypotheses are examined.
H_0: the mean ranks of the variables are equal.
H_1: at least two mean ranks are significantly different.

The results of this test have two outputs. The table shows the first output and reveals that the respondents do not place the same levels of importance to the factors or independent variables since the significance level is lower than .05. Therefore, the aspects are not in the same ranks.

In the second output, the mean ranks of these factors are demonstrated. Activity type and debt ratio had the highest mean scores.

Freidman Test Results

Result	Error	Significance	freedom	Chi Square
H_1 rejected	0.05	0.02	4	10.7

Freidman Test and Mean Ranks

Mean Rank	Dimensions
3.27	Activity Type
2.85	Credit History
3.39	Debt Ratio
3.21	Current Ratio
2.59	Delayed Debt

Variance Analysis Test:

The variance analysis test is conducted to examine whether the variable are equal in various aspects of the population and to rank them based on the demographic features of the respondents. To this end, the following hypotheses are examined:
H_0: the mean ranks of the variables are equal.
H_1: at least two variables are significantly different.

Variance Analysis Test Based on Education:

According to the table, the mean scores of all factors or independent variables are the same for respondents with various levels of education. The significance levels for all factors are greater than 0.05, which means all factors had the same mean scores for respondents with various levels of education.

Variance Analysis Results Based on Education

variable		Sum of squares	freedom	Mean square	F	significance
Activity Type	Between Groups	.6830	3	.2280	.2650	.8510
	Within Groups	5250.58	68	.8610		
	Total	2080.59	71			
History	Between Groups	4980.1	3	.4990	.7430	.5300
	Within Groups	6660.45	68	.6720		
	Total	1630.47	71			
Debt	Between Groups	0680.4	3	3560.1	7610.1	.1630
	Within Groups	3760.52	68	.7700		
	Total	4440.56	71			
Liquidity	Between Groups	7600.3	3	2530.1	4370.1	.2400
	Within Groups	2960.59	68	.8720		
	Total	0560.63	71			
Cost Coverage	Between Groups	7240.	3	.2410	.5350	.6600
	Within Groups	6770.30	68	.4510		
	Total	4010.31	71			

Variance Analysis Based on Work Experience:

The table demonstrates that the mean scores for all factors are the same for respondents based on their work experience. The significance levels are higher than .05, which indicates that all factors had the same mean scores for respondents with any kind of work experience.

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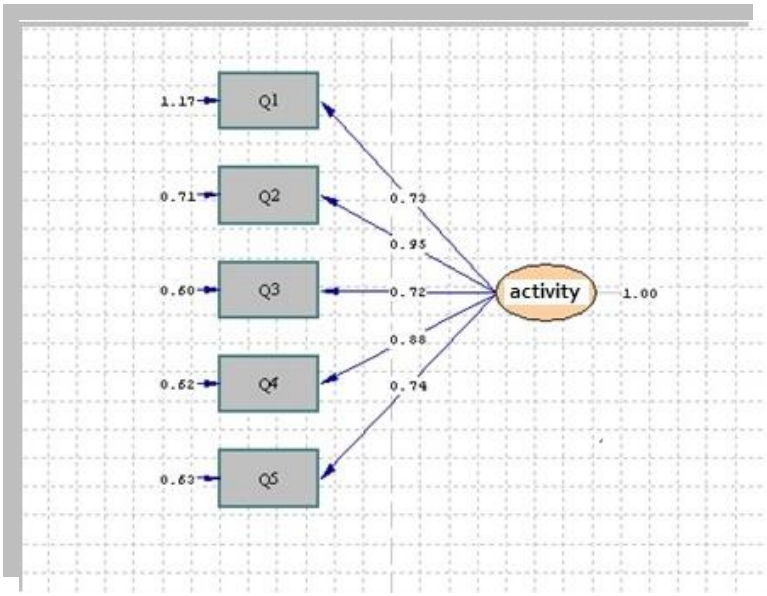
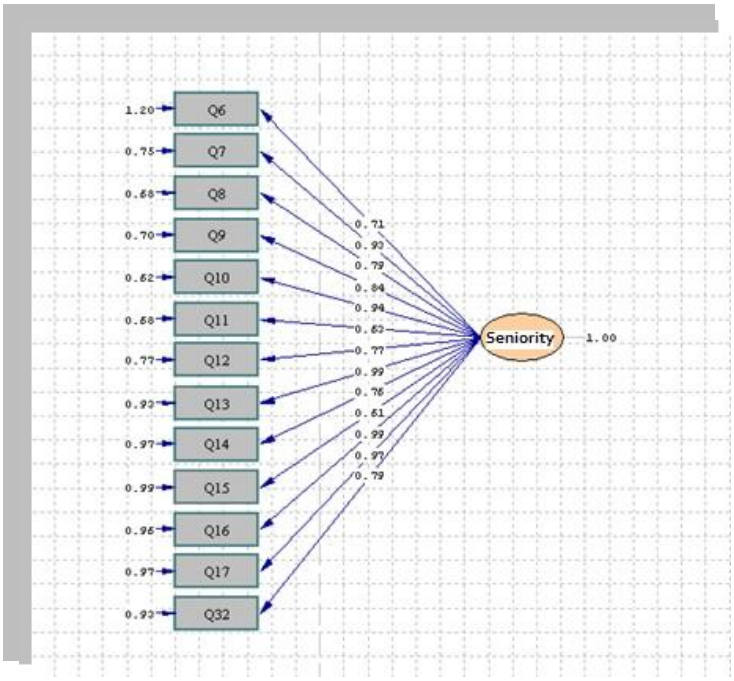
Variance Analysis Test Based on Work Experience

Variable		Sum of Squares	Freedom	Mean Square	F	Significance
Activity Type	Between Groups	1740.	3	0490.	0560.	9820.
	Within Groups	0620.59	68	8690.		
	Total	2080.59	71			
History	Between Groups	5990.2	3	8660.	3630.1	2610.
	Within Groups	2130.43	68	6350.		
	Total	8120.45	71			
Debt	Between Groups	3430.7	3	4480.2	5310.3	0190.
	Within Groups	1320.47	68	6930.		
	Total	4750.54	71			
Liquidity	Between Groups	9690.1	3	6560.	7520.	5250.
	Within Groups	3510.59	68	8730.		
	Total	3190.61	71			
Cost coverage	Between Groups	4560.	3	1520.	3340.	8010.
	Within Groups	9450.30	68	4550.		
	Total	4010.31	71			

Activity Type:



Credit History



Current Ratio

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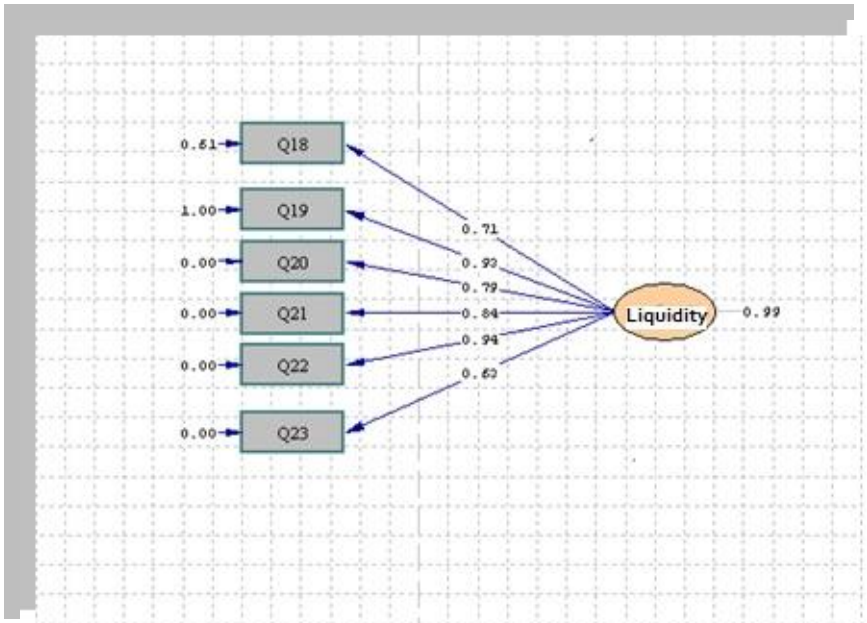
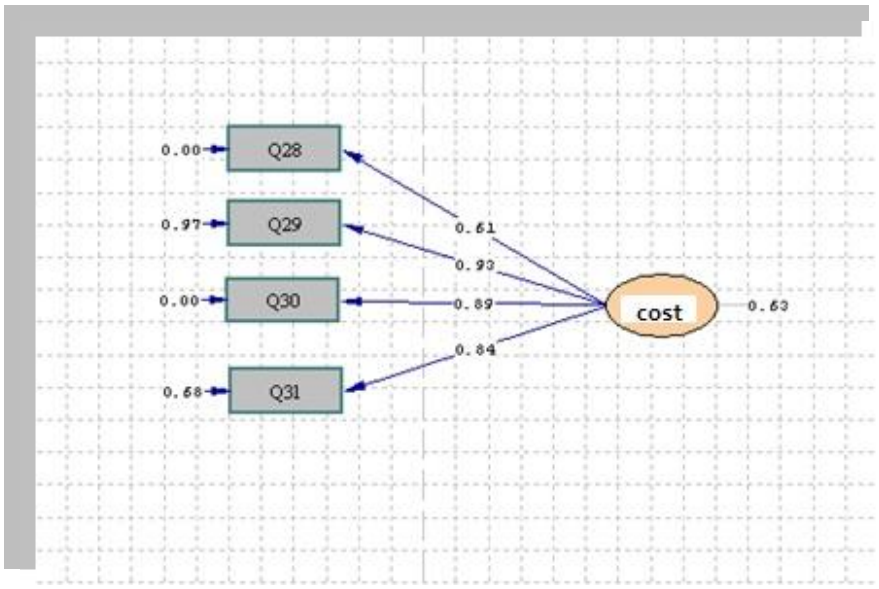


Delayed Debts



4 .Discussion:

5. Conclusion:

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