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Research Article

COMPARISON OF THE RELATIONSHIP BETWEEN FACTORS AFFECTING CREDIT RISK (CASE STUDY)

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ABSTRACT
An efficient banking system is the necessity of the national economic development and promotion of this system leads to it equipment and allocation in the form of financial facilities is yet the most basic duty of commercial banks. Therefore, when deciding for giving facilities, comprehensive investigation of the applicant to minimize failure in payback is of great significance. In this work, relationship between variables contributing o significance of customers' credit risk is studied. For this purpose, data corresponding to 382 customers who received credit facilities from branches of western Azerbaijan bank Mellat during years 2010-12 is investigated. To analyze data, agreement table and SPSS21 are used. Results reveal the significant relationship between factors affecting credit risk of customers of bank Mellat.

Keywords: *Credit Risk, Bank, Good Customers, Agreement Tables*

INTRODUCTION
Risk is the non-separable part of any business. As stated by Dracker, the major thinker of management in 1970s, economic activity means application of recent resources for an uncertain future. Therefore, the only issue which is certain for the future is uncertainty and risk (Group of management studies, 2008).
For this reason, it can be said that by conscious movement and appropriate overview of economic circumstances and control of risks arisen in banks and financial institutions is the solution for activities of such bodies.
Since Iranian banking system is one of the effective factors of the economy, but distance between the performance of Iranian banking and global one illustrates the problems with international standards resulting from failure to apply various techniques for effective application of bank resources specially in allocation of credits and consequently, increase in delayed demands and inefficiency of banks investments. Facilities are allocated by banks to various divisions and activities, in which risk level is not recognized and loans and facilities are considered as the most obvious and major source of risk. The importance of this issue reveals the complete awareness of risk resources and their distribution in measurement methods and monitoring and control of risk in banks (Ghanbari, 2003).
Since real customers have no reliable financial reports, the valid source which can be utilized is bank forms which bank asks applicant to fill out as well as information corresponding to account balance and turnover. By means of these two sources and collaboration of professors and financial consultants of bank Mellat, indices having the most significance are recognized and taken into account: 1. Applicant income, 2. Educational level, 3. Job, 4. Age, 5. Sex, 6. Collateral, 7. Capital, 8. Interest rate, 9. Credit history, 10. Marital status, 11. Returned cheque status, 12. Period of loan payback, 13. Loan amount, 14. Employment history, 15. Number of sponsors, 16. Type of loan.
In this research, among all aforesaid variables, the significance of the relationship between five of the indices with the variable of credit history is evaluated.

Research Goals
Basic Goal:
Investigation of the significant relationship between factors contributing to credit risk of customers of bank Mellat

Secondary Goals

1. Study of the significance of the relationship between educational level and credit history in considered branches
2. Study of the significance of the relationship between income level and credit history in considered branches
3. Study of the significance of the relationship between job and credit history in considered branches
4. Study of the significance of the relationship between capital and credit history in considered branches
5. Study of the significance of the relationship between returned cheque status and credit history in considered branches

Research Questions

1. Is there any significant relationship between educational level and credit history in studied branches?
2. Is there any significant relationship between income level and credit history in studied branches?
3. Is there any significant relationship between job and credit history in studied branches?
4. Is there any significant relationship between capital and credit history in studied branches?
5. Is there any significant relationship between returned cheque status and credit history in studied branches?

Research hypotheses

1. There is a significant relationship between educational level and credit history in studied branches.
2. There is a significant relationship between income level and credit history in studied branches.
3. There is a significant relationship between job and credit history in studied branches.
4. There is a significant relationship between capital and credit history in studied branches.
5. There is a significant relationship between returned cheque status and credit history in studied branches.

MATERIALS AND METHODS

To analyze data, agreement tables and SPSS21 are used.

Terminology

Educational level: the level of science and knowledge gained by someone in lifetime.

In sampling performed in this work, people are classified according to their educational level into four groups:

1. Uneducated
2. Diploma
3. Bachelor's degree
4. Master of science and higher

Job: has a direct effect on wealth. In this work, jobs are classified into following classes:

1. Owners of factories, companies and workshops (including production, distribution and services)
2. Medicine, cultural and employee
3. Farmer, householder and student
4. Other jobs such as welder, weaver and so on

Credit history: it seems that if the history of the relationship of customer with bank is suitable, banks recognized the customer better and the risk of failure in payback decreases. Credit history is classified into following classes:

1. First application
2. On time payback of previous facilities
3. Having delay in previous facilities

Income: the other variable which affects credit risk of the applicant is his/her income level which can represent the job status and stability of the job. Applicant income is divided into following levels:

1. Below 1M Tomans
2. Between 1M and 1.9M Tomans
3. Between 2M and 2.9M Tomans

4. 3M and higher

Capital: it seems that higher level of applicant ownership leads to lower probability of the failure in payback and the more the capital of the applicant, the higher the credit for opening account and receiving credits will be.

1. Less that 5M Tomans
2. Between 5 and 15M Tomans
3. Between 15 and 30M Tomans
4. 30M and higher

Returned cheque status: number of cheques returned in previous year:

1. No returned cheque
2. Having returned cheque
3. At least two returned cheque

RESULTS AND DISCUSSION

First Hypothesis

There is a significant relationship between educational level and credit history in studied branches.

To test the above hypothesis, agreement table is used. Using this table, we investigate the relationship between two multiphase qualitative variables. In what follows, we provide the results of agreement table for variables of educational level and credit history.

Table 1: Credit history * educational

	Educational				Total
	1.00	**2.00**	**3.00**	**4.00**	
Credit history	**1.00**	29	58	43	139
	2.00	33	53	27	118
	3.00	58	29	2	125
Total		120	140	72	382

As can be seen, the level of significance for Chi square and other tests of the table is 0.000 which shows that null hypothesis based on the independence of the variables is rejected. In other words, there is dependency between educational level and credit history of customers.

Table 2: Chi-Square Tests

	Value	Df	Asymp.Sig. (2-sided)
Pearson Chi-Square	90.461[a]	6	.000
Likelihood Ratio	99.976	6	.000
near-by-Linear Association	72.376	1	.000
N of Valid Cases	382		

Second Hypothesis

There is a significant relationship between income level and credit history in studied branches.

To test the above hypothesis, agreement table is used. Following are the results of agreement table for variables of educational level and credit history.

Table 3: Credit history * income level

		Income level				Total
		1.00	2.00	3.00	4.00	
credit history	1.00	28	72	16	20	136
	2.00	75	29	8	6	118
	3.00	91	29	5	0	125
Total		194	130	29	26	379

Table 4: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	87.956[a]	6	.000
Likelihood Ratio	98.306	6	.000
Linear-by-Linear Association	67.999	1	.000
N of Valid Cases	379		

As can be observed, the level of significance for Chi square and other tests of the table is 0.000 which shows that null hypothesis based on the independence of the variables is rejected. In simpler words, there is dependency between income level and credit history of customers.

Third Hypothesis

There is a significant relationship between job and credit history in studied branches.

To test the above hypothesis, agreement table is used. Following are the results of agreement table for variables of job and credit history.

Table 5: Credit history * Job

		Job				Total
		1.00	2.00	3.00	4.00	
credit history	1.00	21	76	11	31	139
	2.00	9	32	54	23	118
	3.00	17	10	37	61	125
Total		47	118	102	115	382

Table 6: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	106.925[a]	6	.000
Likelihood Ratio	114.251	6	.000
Linear-by-Linear Association	36.806	1	.000
N of Valid Cases	382		

As can be seen, the level of significance for Chi square and other tests of the table is 0.000 which shows that null hypothesis based on the independence of the variables is rejected. In simpler words, variables of job and credit history of customers are dependent.

Fourth hypothesis

There is a significant relationship between capital and credit history in studied branches.

To test the above hypothesis, agreement table is used. Following are the results of agreement table for variables of capital and credit history.

Table 7: Credit history *Capital

		Capital				Total
		1.00	2.00	3.00	4.00	
credit history	1.00	12	30	94	3	139
	2.00	5	33	38	39	115
	3.00	29	21	69	6	125
Total		46	84	201	48	379

Table 8: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	97.190[a]	6	.000
Likelihood Ratio	92.780	6	.000
Linear-by-Linear Association	3.757	1	.005
N of Valid Cases	379		

As can be seen, the level of significance for Chi square and other tests of the table is 0.000 which shows that null hypothesis based on the independence of the variables is rejected. In simpler words, variables of capital and credit history of customers are dependent.

Fifth Hypothesis

There is a significant relationship between returned cheque status and credit history in studied branches.

To test the above hypothesis, agreement table is used. In what follows, we provide the results of agreement table for variables of returned cheque status and credit history.

Table 9: Credit history * returned cheque

		returned cheque			Total
		1.00	2.00	3.00	
credit history	1.00	124	9	6	139
	2.00	107	11	0	118
	3.00	31	57	37	125
Total		262	77	43	382

Table 10: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	168.478[a]	4	.000
Likelihood Ratio	177.579	4	.000
Linear-by-Linear Association	108.380	1	.000
N of Valid Cases	382		

As can be seen, the level of significance for Chi square and other tests of the table is 0.000 which shows that null hypothesis based on the independence of the variables is rejected. In other words, variables of returned cheque status and credit history of customers are dependent.

Discussion

According to results, it can be claimed that there is a relationship between independent and dependent variables of the research which are qualitative ones. In other words, variables are not statistically independent and dependent variables completely affect independent one.

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