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Credit Scoring of Real Customers: A Case Study in Saderat Bank of Iran

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Abstract

Banks and financial institutions by gathering resources and allocating them to the different economic sectors pave area for economic development. Considering that most of their resources are used in the form of facilities and their main benefits are provided in this way, therefore, despite the existing risk in activities of customers applying for facilities, the necessity of using the proper procedures for facilities application management is necessary. Due to the limited financial resources of banks, one of the challenges is to identify and assess the financial ability of customers to repay the received loans. This research is done in line with one of the credit risk management practices by using logistic regression methods (Logit model) for the validation and ranking the real customers of center supervision Saderat banking facilities and characteristics such as age, sex, the amount of facilities, collateral of facilities are considered as independent variables. The current study is trying to consider the relationship between the obtained results of model and the selected customer's credit status. The research results show that the variables of age and education influence on the customers' credit status and ratings, but other above-mentioned variables have a significant relationship with the customer's credit status.

Keywords: credit ratings, credit risk, credit scoring, credit risk management

Introduction

Credit risk assessment is considered as one of the major challenging issues in the financial analysis area. Because, in this way the incurred macro-damages which is the consequences of bad decisions of assigning credit to applicants can be avoided to a large extent. On the other hand, by making the correct decisions in this area, the benefits from the paid facilities will constitute a part of their income. Studies have shown that giving facilities to natural and legal customers is considered as an important source of revenue for banks and financial institutions. However, the repayment power of principal and the received benefit of facilities should be determined for making the correct decisions. In other words, the risk of credit degree should be decreased. One of the methods to reduce the mentioned risk refers to designing the credit degree determination system for facilities recipients (credit rating model). Banks should identify their customers' characteristics to become familiar with their needs on granting credit facilities. These affairs through validation leading to the banking risks reduction including credit risk. The validation refers to an action in which the credit of real and legal customers of financial and credit institutions and banks is measured due to the information received from them and allows further understanding regarding the financial status and ability of individuals to repay the received facilities and getting more services. According to this method the credit risk of individuals is measured and customers are scored and ranked based on their credit risk. (Khodaverdi, 2009, as cited in Hafeznia, 2010)

The necessity of using these methods is felt in recent years for banks and since 2001 the International liquidation Bank and Bal Committee advised to banks to run the internal ranking system so that, at that time they requested the Banks Group (G-10) to have this system until 2004. They advised to banks to utilize several different ranking models for full coverage of risk and in addition to the possibility of failure to reimbursement include other possible problems in payment such as delay in paying or pay less than the amount as a source of risk in their own models.

Therefore, the credit evaluation of customers can be done by specialized experts for proper understanding of clients and making correct decisions in credit pillar of bank, but it is not affordable because of the high cost, lack of expertise, frequency of assessment cases and so on and the optimal use of information technologies and information systems provides the possibility of designing the credit assessment models. So that, by replacement of above methods with based on the subjective judgments methods there will be the possibility of separating customers into two categories of good and bad account customers. In recent research, it is tried to rank real customers by using ranking system of logit model and determine a significant relation between the result of mentioned model and the credit status of real customers.

Statement of problem

Proper connection between financial and productive systems will be the most important factor in economic development of each country. Banks as the main part of financial system (basic system of banking) will undertake a major role in the financing of production, trade, consumption sectors, and even the government. In Iran, banking network due to the economic structure of country and some reasons such as lack of development of the capital markets is responsible for the real economic sectors' financing. Bank interest margin was decreasing due to the intense competition and the pressure is always felt for more reduction of costs. Credit risk models by predicting the losses of non-repayment of loans will create a kind of relative superior to banks and credit institutions (Mir Feyz Tehrani & Fallah, 2005, 45). Bank should receive enough and comprehensive information on borrower so that, the above information should provide appropriate reliance for approval of requested credits. In this regard, it can be pointed to a number of factors such as the purpose of receiving credit and its repayment sources, the applicant's status and applicant's proposed documents, history of the borrower and his current ability to repay the loan, repayment period of facilities, etc. According to the above points it can be realized that banks should know the receiver of facilities and before entering into any new credit relationship, should have a complete recognition of the borrower and to be sure about good reputation and credibility of the customer, because granting facilities can also create risk as much as it can be profitable. Bank should consider the reimbursement ability of the applicant as the credit paying base. Because, considering this point that bank takes collaterals for giving facilities is not a proper attitude and only collaterals cannot be substituted for comprehensive evaluation of customer as well as the information deficiencies about him and any pressure on the customer regarding collaterals can lead to the elimination of profit margin of facilities. Also, factors that may failure to fulfill the recycling facilities could lead to the loss of value of collateral. It is worth mentioning that establishing procedures for continuous assessment of collateral and educating the received collaterals from customer and containing the necessary executive collaterals is important in collateral obtaining time. Because, collaterals and guarantees received from the customer is one of the things that is considered as credit risk reduction techniques. Banks should rank customers by establishing a proper ranking procedure based on risk, and accordingly grant facilities. Every credit plan should be analyzed by aware and technician experts and certainly, sufficient information is necessary in this regard to analyze and make decisions based on them (Hedayati, 2006).

Designing the scientific and proper method and preventing the individual preferences in this evaluation by having a credit rating system could be an effective step towards the optimal allocation of collected funds and reduction of deferred receivables and consequently increase efficiency of the banking system. Accordingly, the credit scoring models increase the credit decisions effectiveness in service production and satisfying customers' needs and will provide the reduction causes of tangible costs and borrowers' default. Therefore, banks managers should design an appropriate tool to measure the credit risk of their customers and making credit risk qualitative and quantitative through credit scoring method is necessity for this tool (Barak Emil et al, 2003, as cited in Parsanian and Shirani, 2007).

Sharing information about the characteristics of applications for credit facilities and the amount of their debt can have significant effects on the activity of credit markets. Firstly, sharing information and knowledge increase understanding of bank about the characteristics of the applicants of facilities and provide more accurate predictions about the likelihood of reimbursement. Secondly, based on the banks credit reporting the rate of their facilities can float according to the risk level of applicants in the defined scope by responsible institution of monetary and fiscal policy. Thirdly, this system can be used as a means to regularize the behavior of recipients of facilities and finally, reporting can reduce the banks customers' motivation for getting more facilities and over their capacity by visiting different banks and simulating their own condition (without expressing and declaring the real balance of their own received facilities) (Nouri, Boroujerdi, Peyman, 2008, 37).

The objective of study

Generally, objectives of this study can be summarized as the following:

1 - Credit rating of actual customers of Saderat Bank of Iran in Tehran (designing a model to evaluate and rank customers)

2 - Providing the theoretical principles regarding customers' validation methods in banks of country

3- Investigating the effect of customers' rating variables on identifying effective factors on assessment quality of actual customers

4 - Investigating and analyzing the collected data and providing guidelines for study subject

5 - Optimal use of bank resources in paying facilities

6 - Reducing the credit risk in banks

The significance of the study

With regard to the access status to the customer information in banking system of Iran and the existence of validation and credit decisions based on traditional practices in the banking system of country, the rapid and mechanized access of banks to important, transparent and reliable information on customers, in order to make low risk and rational decision is one of the most important requirements of financial institutions and banks in granting facilities and the appropriate and practical solutions to solve these problems will merely be sharing information among banks and financial and credit institutions. Regarding the importance of investigating the credit rating models of facility applicants in the banking system of country, this research is important because attempting to validate the credit ratings of real customers in one of the largest commercial banks of country. Consequently, the results of this study can be used by banks and financial institutions and other researchers.

The main research hypothesis

There is a significant relationship among the results obtained from credit rating model, the logit parametric credit rating model and the credit status of active real customers in the sectors of the manufacturing and mining, commercial, service and housing and Center Supervision of Saderat bank of Tehran.

Sub-hypotheses

1. There is a relationship between the gender of real customers and their credit status.
2. There is a relationship between the age of real customers and their credit status.
3. There is a relationship between the facilities of real customers and their credit status.
4. There is a relationship between the supported facilities of real customer and their credit status.

The definition of key words

The word risk means the possibility of risk incidence or encountering to danger, damage, injury, reduction of income and so on. Other definitions of risk are presented in the following:

- Risk usually refers to dangers that individuals may be exposed to it at any time objectively.
- Risk can be defined as the difference in the results that can occur in a certain period. If only there is the possibility of occurrence of an event, its risk is zero. In other words, the possibility of event occurring can be called risk.
- The lack of predictability of an event can be called risk. Risk is a situation in which there is the possibility of unfavorable deviation of an expected desirable event. Two important indicators of risk including uncertainty or dubiety, namely, risk refers to whatever leads to the doubt towards the occurrence of events. According to the above explanations and inevitability of facing with risk, banks are encountered to risk in two ways: voluntary and compulsory. Considering that granting facilities is the main activity of banks so, banks consciously accept the risk to make a profit. Banks are unintentionally exposed to risks, in this regard could be pointed to items such as malfunction of computer system or embezzlement by employees. Also, special circumstances of risk in financial institutions are in a way that assets are shaped based on the promise of customers. The location of assets supplying refers to the deposited funds. The balance sheets of financial institutions vary faster than other institutions in terms of size and combination. The impact of financial institutions on other institutions is very quick. The debt maturity is shorter than the asset maturity. The intense competition in the banking industry minimizes the profit margin. Therefore, it can be found that the specific condition of the banking industry is in a way that banks are highly vulnerable. In the existing competitive conditions banks are looking for more risk taking. Also, banks are essential for economic survival of country. Banking risk is potential loss that is directly obtained from income losses or indirectly from the limitations that reduce the bank's ability to achieve its commercial and financial objectives. Risk management refers to a set of actions that can maintain the assets and earning power of an economic institution and increase its efficiency and profitability. Also, the detection and identification, analysis and evaluation, and economic control of the risks that can threaten the assets or income of an institution are called risk management. Credit risk management is the process of identifying, evaluating, analyzing and proper reacting to credit risk and continuous supervision of them according to the condition of environment variable (economic, social, political, technological, etc). The following methods can be used for credit risk management:

Criteria for credit granting (facilities), assessing the quality of assets and the adequacy of reserves, unpaid receivables of reserves, decentralization of risk, failure to provide facilities to related individuals. Now, briefly explain the above issues:

Risk of failure to pay the installments of facilities in due date is one of the most well-known risks associated with the credit sector and banking expenditures.

Although, at first glance the above diagram draws a simple and common path, in deed this cycle is accompanied with many complications. Considering that paying types of administrative and personnel costs, advertising costs, the cost of awards supplying of Gharzolhasaneh, the cost of interest payments to depositors, etc. are essential for attracting the resources. It is obvious that how to apply the absorbed resources is very important and naturally those methods should be used that maintain the profitability of the activity of institution and its financial dynamic. It is natural that due to many economic, political, social problems a part of unpaid receivables of customers is acceptable even for the strongest financial systems in the world. Accordingly, in accounting standards the storage topic for receivables is one of the most obvious topics in the accounting science and technology. But all credible and well-known financial institutions try to minimize the amount of ratio of unpaid receivables to collection of total receivables from customers and this requires creating the optimal policies in appropriate selection of the credit customers, formulating the necessary rules and regulations to identify these customers and conducting the required studies to investigate the function of system and identifying the existing bottlenecks in this area to prevent the doubtful receivables' growth.

Background of Study

A lot of studies have been done on credit scoring models. Academic societies of country have done studies in this area through scientific capabilities and different methods and have defined the required plans that a few are mentioned below:

Roointan (2006), in his dissertation entitled "Factors affecting credit risk of bank customers" Case Study of the Agricultural Bank, has investigated the effective factors and developing a model for "logit regression". Finally, 17 variables which had significant effects on credit risk and the separation between two groups of bad and good account clients. According to the statistics indicators, these functions have high validity in terms of coefficients and also significant separating power.

Morteza Mohammad Khan et al (2008) in a study titled "designing the credit risk assessment model of bank customers by using logistic regression" by using 99 files have evaluated the credit risk of legal customers of Entrepreneur Bank. The study results of the efficiency amount of model is estimated 87% through "Hasmer Lam Show" test and this means that the logistic regression model will be efficient in predicting the probability of default by customers applying for a loan.

Sori, Omidi Nezhad, Binazir (2009, as cited in Hafeznia, 2010), in their article entitled "Credit rating of legal customers of Mellat bank based on the Altman method" through theoretical models have identified all quantitative and qualitative variables affecting the credit score of the customers. Then, by using statistical and graphical methods, in a selected random sample, have determined the candidate variables that were predicted to be effective on the customer's credit score and by using discriminant analysis method estimated a mathematical model to determine the customer's credit score. Finally, by using the mathematical algorithm the mean "Ka" for consumers' credit scores, in seven groups were classified into seven credit ratings according to the Basel Committee standard and the relevant default probability was extracted corresponding to each credit rating.

Methodology

The rating process and real customer validation are done in four stages. At first, the data of the facility payer branches are collected and in the next stage the mentioned data are classified by using EXCEL software. In third stage, according to the Morgan table, the statistical population is determined and the required investigations are done on data (data preparation). In fourth stage, variables are classified and among independent variables, those that have a significant relationship with dependent variable will be identified.

Design of the study

The research methodology is based on the applied studies that are used to rank real customers in banks and credit and financial institutions. The researcher at the end of investigating and analyzing the collected data seeks to provide guidelines in line with the topic of study. Worth noting, the intended statistical population in this study is the actual customers of the Saderat Bank of Tehran who have received facilities from this bank.

Describing the characteristics of observations

Describing the data and statistic sample characteristics will play a role in analyzing and judging the results. This research data consists of real customers who have received facilities from center supervision Saderat Bank and currently have debts or their liabilities have been finished. The above data provide the opportunity to identify good and bad customers. Currently, the Saderat Bank of Iran has 2800 branches throughout the country and with more than 32,000 employees.

Describing and analyzing the research data

Information and statistical data on four variables (gender, age, supported facilities, and the amount of the facilities) by using 94.487 observation contains 30.235 good account individuals (32%) and 64.252 bad account individuals (68%) are extracted during the past five years. The sampled individuals were randomly selected among customers from 2008 to 2012. The absolute frequency of data in each group is used to investigate the descriptive data.

Sample and sampling method

With regard to the numerous customers of Saderat Bank exports, also, due to the distribution of facilities volume in the network level, information of facilitates of branches management of Tehran center supervision during a 5-year period from 2008 to 2012 is considered as the statistical population base of study. So that, the mentioned facilities have been investigated and analyzed in two categories of good account (low credit risk) and bad account (high credit risk).

The division of mentioned information for intended years is in a way that the entire of paid facilities has been equal to 17.985 in 2008, 18.512 in 2009, 16.995 in 2010, 21.590 in 2011, and 19.405 in 2012e. According to the usual standard procedures, such as Cochran formula, 383 numbers of clients with desired characteristics are randomly chosen as samples. Sampling method has been done by screening micro customers from whole customers of Tehran center supervision who had the desired characteristics so that, 383 samples of real customers of mentioned years which totally were 94487 facility cases were selected by using Morgan table as well as the Cook Run formula. Among the mentioned cases and based on the available information, 32% (30.877) were classified in the category of good account clients and 68% (63.610) in bad account clients.

Credit Model

Modeling process is an important variable in increasing the credibility entitled "credit rating". This modeling process which mostly use statistical figure is applied in banks and other credit institutions. Based on the analysis of historical data (good or bad customers) the specific financial variables are important in the evaluation of credit granting process of institutions. This kind of analysis causes to find the same weight coefficients.

Information about these important variables is obtained from the Bank's new customers. Due to the different responses of various variables, different weights are attributed to them. If this rating assessment could consider a prediction point, facilities demand is considered as a specific line; otherwise, this request is not valid.

The primary purpose of the credit rating is to develop a rating assessment model which consists of a few predictor variables. Then this algorithm can be used to assess the loan demand in the future. This algorithm leads to the stability in the validation and process efficiency and when it is used effectively, it can classify a population who are applying for a loan according to their risk degree. Often the focus is on the ranking algorithms efficiency and reduciton of loan with emphasis on the effectiveness caused by the ranking model (decreasing the demand time or increasing the costs that are spent for each account).

Hypothesis testing and data analysis

Inferential analysis of data

In Table 1, the research variables and significant amount of each of them are presented in order to identify the corresponding regression equation. The table of this output is as follows:

Table 1. Research variables and the significance results

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Gender	-.232	.247	.878	1	.349	.793
	Age	.005	.008	.305	1	.581	1.005
	loanmillion	-.005	.002	8.560	1	.003	.995
	collatmillion	.005	.002	8.762	1	.003	1.005
	Constant	-.996	.341	8.556	1	.003	.369
Step 2[a]	Gender	-.203	.242	.707	1	.401	.816
	loanmillion	-.006	.002	9.196	1	.002	.994
	collatmillion	.005	.002	9.385	1	.002	1.005
	Constant	-.849	.211	16.188	1	.000	.428
Step 3[a]	loanmillion	-.006	.002	9.396	1	.002	.994
	collatmillion	.005	.002	9.570	1	.002	1.005
	Constant	-1.005	.104	93.810	1	.000	.366

According to the method used in the first step, all variables were entered into the regression equation and then the variables that statistically have no significant impact were excluded by using Backward method. In the first step, the variable age was excluded of the regression equation due to the amount of Sig. that is equal to 0.581 which is higher than 0.05 and indicates that this variable has no significant effect on the dependent variable explaining.

In the second step, the variable gender with Sig. amount of 0.401 which is more than 0.05 so, it was excluded of the regression equation and shows that this variable has no significant effect on dependent variable of study.

In the third step, the Sig. amount of all remained variables is less than 0.05; so, they are statistically significant in explaining the dependent variable of study. Therefore, they remain in the regression equation. The constant value of regression equation cannot also be accepted at 5% error level.

Totally, it can be found that the age and gender variables at reliability level of 95% statistically have no effect on identifying the good and bad customers and only variables of the amount of loans received and the amount of collateral received in front of facilities indicate significant effect on the dependent variable of study. According to the above explanation, the Logit regression equation of present study that is obtained according to the collected data is as following:

$$\ln\left(\frac{p}{1-p}\right) = -0.006 loanmillion + 0.005 collatmillion$$

The calculated coefficients values corresponding to each of the remaining variables in the regression equations are as following.

Variable of the amount of loans received by clients (loan million): Its calculated coefficient is equal to - 0.006 which shows the amount of loans received by clients has an inverse relationship with the dependent variable of study. In other words, by increasing the amount of facilities dedicated to the customer, the probability of being bad account customer will increase.

Variable of the amount of received collateral (collateral million): The coefficient of this variable is calculated 0.005 and its positive sign indicates that this variable is positively correlated with the dependent variable of study and if the amount of collateral received from customers increases, the probability of being bad account customer will reduce.

In general, as the results of statistical analysis of data indicate, 7.2% of dependent variable variations are explained by the independent variables which is very little. However, the research model due to the inability to predict the good customers with accuracy of 7.7% cannot be considered as an appropriate model to identify these customers. The results show the amount of loans variable has a negative relationship with the dependent variable of study. The collateral of loans variable has a positive relationship with the dependent variable of study. Gender and age variables in identifying good and bad customers have statistically no significant effect on dependent variable of study.

Results and Conclusion

1. *There is a relationship between the credit ratings model presented in this study and the credit status of real customers.*

Null hypothesis: There is no relationship between the credit ratings and the credit status of real customers.

In this study, the logistic regression method is used for validation and ranking obtained scores and this has been included because the dependent variables of study are two-dimensional (zero and one).

In analyzing the two-dimensional logistic regression, the 0.01 level of error is the criterion of accepting or rejecting the significant effect of independent variables. In recent model, the independent variables of age and gender have statistically no significant effect on dependent variables of study in identifying good and bad customer. However, the amount of loans variable has a negative relationship with the dependent variable of study and the collateral variable has a positive relationship with the dependent variable. Therefore, it can be concluded that the main hypothesis of study is acceptable based on the existence of a significant relationship between credit rating model by logistic regression method, and credit status of real customers of Tehran center supervision of Saderat Bank.

The results of the relationship between the independent and dependent variables are as follows: generally, variables of age and gender at reliability level of 95% statistically have no effect on identification of good and bad clients and only variables of the amount of received loans and the amount of received collateral for facilities show a significant effect on the dependent variable of study.

2 - There is a relationship between the gender of real consumers and their credit status.

Considering that in regression analysis used in this study, the bad account condition of customers is included as "incidence of phenomenon". The gender variable of credit customers are divided into two category of male and female by considering this fact that females have equal right in front of male in receiving facilities. The test results show that the amount of Sig. is equal to 0.4 for the gender variable which is more than 0.05. Therefore, it is excluded from the regression equation and shows that this variable statistically has no impact on the dependent variable of study (has no impact on recognition of good and bad customers of bank).

3. There is a relationship between the age of real customers and their credit status. The bad account condition of customers is considered as "incidence of phenomenon" in regression analysis utilized in this study and age variable is excluded from the regression equation because the amount of Sig. is equal to 0.581 which is higher than 0.05 and demonstrates that this variable has no significant effect on explanation of dependent variable. Therefore, it can be concluded that there is no relation between education and credit status of customers.

4- There is a relation between the amount of loans received by real customers and their credit status.

With regard to this that the bad account condition of customers is regarded as "incidence of phenomenon" in regression analysis and the amount of loans received by real customers has been divided into four categories (Up to 100 million Rials, among 1250 million Rials, among 250 million Rials to 400 million Rials and more than 400 million Rials) in which the amount of loans as remained variable has less than 0.05 Sig, so, statistically was significant in explaining the dependent variable of study and remains in the regression equation.

The variable of the amount of loans received by customers (loan million): The coefficient equals to - 0.006 indicating that the amount of loans received by clients has inverse relation with dependent variable of study. In other words, the enhancement of the amount of facilities allocated to customers increase the probability of being bad customers. Thus, it can be found that there is a relationship between the amount of loans and credit status of real customers.

5. There is a relationship between the amount of collateral and credit status of customers.

Given that in regression analysis, the bad account condition of clients is considered as "incidence of phenomenon" and the amount of collateral as remained variable has less than 0.05 Sig so, statistically was significant in explaining the dependent variable of study and stays in the regression equation.

The amount of received collateral variable (collateral million): The coefficient of this variable is calculated 0.005 and its positive mark indicates this variable is positively correlated with the dependent variable of study and if the amount of collateral received by clients increases, the probability of being as bad clients will decrease. In other words, the more the value of collateral, the low probability of incidence of bad account. Therefore, it can be concluded that there is a relationship between the value of collateral and the credit status of real customers.

Suggestions for further research

The following suggestions can be raised for further study:

1. Creating a suitable environment for controlling the credit risk: Banks should identify and manage the existing credit risk in all activities and their products and ensure that the risk of new products and activities before offering or conducting has been studied by appropriate risk management methods. Every bank should develop strategies for credit risk so that can realize the objectives that are director of credit activities of bank and adopts policies and procedures to perform such activities. This policy should include a complete description of the bank's positions regarding how to grant credit based on the type of economic sector, geographic region, type of customer's need, due date of facilities and expected profit, in other words, given that banks attempt to make a profit, so, they should consider the acceptable risk / reward for their activities in front of the investment cost. Also, the above-mentioned guidelines should be communicated effectively to all networks and all employees should clearly have a complete understanding of the bank's approach on granting facilities and credit management and to be accountable towards how to observe the policies and the proper implementation of them. The senior managers of organization are responsible for this important issue that should identify the risk tolerance level of bank. Also, they are responsible for determining the profitability level of bank in dealing with the different credit risk.

2. Acting under an appropriate credit process: All banking facilities should be granted in the conventional and same way and specially if facilities granted to companies and related individuals has been approved based on exceptions, they should be cared particularly and other appropriate actions should be taken to reduce the risk of granting non-conventional facilities. Also, it seems necessary to adopt the determinant and transparent procedures for the approval of new credits.

The facilities granted by banks should take place within the framework of defined and proper criteria such as the detailed knowledge of the market situation, a thorough understanding of the applicant of facilities including history and the current ability of applicant to repay the loans, the purpose of taking facilities and the reimbursement resource of loans, assessment of adequacy and executive guarantee obtained from customer.

Other research can be raised, too:

- Determining the criterion of granting facilities based on an appropriate procedure, if it is properly defined, it is a basic requirement for approval of credit with safe and sound procedure, in a way that the mentioned criterion should include the following issues:
- Who are eligible for the credit receiving and how much?
- What types of facilities are available by bank for credit payment or in other words, what facilities are available?
- Under what conditions, the above credits should be paid?

Bank should receive complete and comprehensive information about borrower so that, this information should be reliable for approval of the required credits. In this regard, it can be pointed to a number of factors such as: the purpose of receiving credit and its repayment sources, the status of applicant and the proposed collateral by applicant, applicant's history and his current ability to repay the loan, the repayment period of loans, etc.

According to the above issues, it can be found that banks should pay facilities to those people that know them completely before entering into any new credit relationship and ensure about their good reputation and credibility, because granting facilities as much as make profit can lead to risk. Banks should pay loans based on the reimbursement power of applicant. Because, this is not a correct attitude that banks take collaterals in front of granting facilities and collaterals solely cannot be replaced by complete and comprehensive evaluation of customer as well as the incomplete information about him and any pressure on customer in relation to capturing collaterals can lead to the elimination of profit margin of facilities. Also, factors that may lead to the lack of fulfilment of recycling facilities could loss the value of collaterals too. Establishing procedures for continuous evaluation of collaterals and having executive guarantee are the important requirements in getting collaterals. Because one of the credit risk reduction techniques refers to collaterals and guarantees received from the customer.

- Banks should rank customers by establishing a proper ranking procedure based on risk and accordingly grant facilities to customers.
- Every credit plan should be analyzed by informed and aware experts and the existence of sufficient information certainly seems necessary to do this and make decisions.

3 - Maintaining an appropriate method of evaluation management and credit caring: Banks should have not only a control system on their portfolio, but also to maintain and take care of individual credit status should have a regular system to determine the adequacy of resources and their reserves as well as the information systems and analysis methods so that, management can measure the existing credit risk in all banking activities through the mentioned systems and during the credits assessment of the individual's overall credit portfolio, banks need to consider the possibility of variations in economic conditions.

4- Ensuring about the existence of adequate controls over credit risk: Banks should have an independent and ongoing system to assess the credit risk management process and should ensure that credit is properly managed and any exceptions in implementation of policies and procedures and limits are reported timely to the management in order to act.

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