

Evaluation of Influential Factors on Letter of Credit Debtors: A case study in one of the private banks in Islamic Republic of Iran

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ABSTRACT

During the recent decades due to a major change in the international economic trades, and global financial systems, the banking industry has witnessed a tremendous evolution in attracting investors and other principal holders of financial assets. One of the methods in which the banking system has been aggressively involved in pursuing investors is to provide funds through a very common but complicated method of transaction process called the letter of credit. Of course providing funds through the mean of the letter of credit has opened the door to a new series of complex problems due to the inability of debtors to pay as required and by the time the payments are due.

This in essence has caused a major portion of the financial resources of the international banking system to be wasted on uncollected and passed-due debts.

The primary purpose of this research is to find and introduce some of the major elements in locating and effectively control and eventually enhance the process of the international banking system where the loss of the financial institutions can be minimized and in some cases even stopped when it comes to dealing with the borrowers who use the method of the letter of credit to borrow money.

The results of this research testifies that meaningful and doable relationship can be established among those who use the letter of credit system, the type of the letter of credit and other major factors concerning the borrower such as their age, currency type of their use and other factors which will be comprehensively discussed during this study to improve the letter of credit system.

KEY WORDS: Banking system, letter of credit, collection, creditor's risk.

INTRODUCTION

During the last few years, the volume of international trade has witnessed a substantial increase. This change has resulted in a direct increase in the import and export of goods of the Islamic Republic of Iran's banking system and its involvement in trades and its role as a primary participant in the competitive international trades. Some of the services provided by the country's banking system are providing international currencies and on the top of its financial services, we can name the documentary collection and letter of credit.

Together with the an increase in the economic expansion and the benefits that has resulted in the volume of the country's export and import, we can surely expect to confront an increase in the amount of financial risks involved in doing business in the international market.

Collection of the unpaid dues is one the most time consuming and expensive part of our banking system. And on the top of this unpaid balance of money owed, we can name the letter of credit holders as some of the most important people or companies who would like to do business but are unable to pay what the owe at the end of transactions. When it comes to unpaid dues, of course the banks stockholders are the primary targets of the losses. In most cases and especially at the international level, when it comes to large transactions, a major portion of their entire assets is lost. Moreover, such losses can result in a reduction in the bank's ability to provide financial assistance and shortage of foreign currency, which eventually effects economic growth and major reduction in the ability to provide import and export goods and services throughout the country and eventually in a global level.

Getting into consideration the fact that a decrease in imports and exports have a direct relationship with economic growth, and can cause a reduction in economic stability, it becomes inevitably important to address, evaluate, discuss and

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eventually find a solution to reduce the debt of the letter of the credit holders. We will illustrate this using one of the privately banks of our country.

After doing intensive research by discussing the important matter with specialists, researchers and other important parties in the field of letter of credit, and only after studying charts, graphs and other methods of evaluation, we have made direct and comprehensive conclusion, which will be illustrated and determined.

In respect to what has been discussed so far, we can say with great accuracy that our primary objective for doing this research is the illustration of the factors involved in the various cases of letter of credit and their increase within a banking institution. Furthermore, this issue and its respective solution can increase the amount of bank's currency, financial profits, an increase in international transactional involvement, a decrease in the legal matters and an increase in the bank's financial capabilities in a national and international level.

Commonly used expression in this research is:

Bank: When referred to bank, we imply any governmental or privately owned bank operated under the rules and regulations of Islamic Republic of Iran's Central Bank.

Letter of Credit: Letter of credit is an internationally accepted written document of guarantee, which is produced at the request of the buyer/borrower. The conventional amount is a known and accepted sum of money that has been agreed upon in a predetermined foreign currency to the buyer/borrower. This term is accepted under the condition that all documents regarding the transaction shall be surrendered to the bank during a specified time. [Mohammadi & Milani, 2008].

Below is the list of some kind of letter of credit's debtors:

All documents showing current debts. This includes all paid, unpaid and interest of money owed. The documents should be in writing and have the endorsement date of no more than two months.

Documents showing previous or old debts: These include all monies owed including interests, which have been owed more than two months but less than six months.

Documents showing passed due debts: These debts include all passed-due monies which have been due more than six but less than eighteen months. The time mentioned shall be shown in writing and should show the date of the last payment.

In question and unclear debts: These debts include all debts that are more than eighteen months old and a time period of more than eighteen months have been passed since the date of the last stamped receipt.

Burned or lost debts: These debts include all debts, which are no longer retrievable. [Asadi & Karimi, 2009]

Creditor's risk: This includes all risks that include all damages due to nonpayment of any payment/payments and interests that have been accumulated over a specified period. [Zakeri & Eslamian, 2009]

2- The Literature of research

In this section of the analysis, first we concentrate on the history of credit, the creditors and what has happened in the past. Then, we study different methods and ways in which the letter of credit and its past history can be further looked at and evaluated. Lastly, we study the debtors' behavior and take a close look at the situations that led to their difficulties in meeting their deadlines of paying their principal payments along with interest and penalties.

2-1 The History of past research: Many years and extensive research have been conducted on the letter of credit, the customers and their ratings by various financial institutions including banks. But until now, no official research has been conducted on the financial condition of the clients or the circumstances that led to an unpleasant financial guarantee of their letter of credit.

In her controversial article titled "The role of unpaid loans and banking investments in creating financial competitions among banks", Yonhi Tina Chung analysis the amount of return on the loan given by the banks and how this can in effect create a better banking system and calculate a more precise loan value based on gain and losses.

In this model analysis, many actual and in the field data were used to calculate and evaluate the financial situation of South Korea in the year 1976 and later same method was used to analyses the financial stability of the country in the 2003, after the crisis.

[Chang, 2006]

Kara Von and Rinbo Lee, both in their article titled, "The reasons and solutions for unpaid loans of China's commercial banks" addressed the reasons behind the reasoning of the unpaid loans. According to them the unpaid loan crisis was one of the most difficult and challenging part of the commercial Chinese banking system. NPL has been labeled as one of the greatest risks when it comes to providing the guaranteed commercial loans. NPL is one of the most puzzling and challenging part of the banking organization and because of this, the risk management of NPL is one of the most vital part of the international banking system. [Wan & lee, 2007]

Mehdieh Akhbari and Farima Mokhtab Rafiei used a rating system to analyze and rate the banking clients based on the evaluation of the loaning evaluation primary nervous system of profit versus loss. In this method, a new and comprehensive assessment was used to assure the respective financial institution, the return on their principal and interest of their loan value was secured before any loan was given. [Akhbari & Rafiei,2010]

Heidi Yousefi is another successful researcher who has spent a great deal of emphasis on the banking systems primary nervous system (LOGIT & PROBIT Models) of loss and gain based on the method of GMDH, which has the greatest accuracy in foreseeing the future of the clients behaviors when it comes to paying their loans. [Yousefi, 2008]

In their research, Razieh Zare Zardini and Saeid Samadi Meleh in regards to the international method of payments indicated that guaranteed loan documents are the most common and important way of paying any trade transaction. [Zardini & Samadi 2002,2010]

Perhaps one of the most unique way of evaluation belongs to Jafar Baradaree who has indicated in his research that based on Saderat Bank of Iran and the related late payments cases, a moral hazard scenario is created that can be used as a model for future loan closures. [Baradaree,2006]

Alireza Rezaei Cyrus has conservatively analyzed the possibility of insuring various parts of the banking services to assure payments during any financial crisis. [Rezaei, 2007]

2-2 Different methods of payments in international trade:

- 1. Trade based on open/unlimited account**
- 2. Bill of exchange with simple collection**
- 3. Bill of exchange collection**
- 4. Letter of credit**
- 5. Advanced payment [Smith,2007]**

With a simple analysis, and after examining the above mentioned methods of payments, we can conclude that the most efficient with the least amount of risk for the seller is the advanced payment. Of course, this method has the highest risk for the buyer. Therefore, we can conclude that the most reasonable and efficient way of completing a transaction between a seller and buyer is the method of the letter of credit, which the bank plays the role of the mediator, therefore reducing the risks for both parties. [Mozayeni & Mohajeri,2007]

2-3 Letters Of Credit:

The primary letters of credit

Some historians believe that the 12th century written legal document found in the Mediterranean were used as a form of proof of payment or proof of exchange and that the current . The same researchers believe that the respective document could be the foundation of the current legal document used in our legal transactions today. Using this document, the person who had lent the money to the borrower would request the proper payment at the requested time.

Some of the other researchers and historians call the letter of credit, guarantee letter and they date this version of the document as far as the prehistoric time. In a case the today's letter of credit can be described as an open ended request letter where as within the mentioned document, a financial institution such as bank requests that a lender or another bank pay a predetermined sum of money to a borrower or a third party for a period of specific time. [Xiang, 2002].

2-4 Today's letter of credits:

We do not know exactly when the today's version of the letter of credit came to existence. In these discussions most experts differ in views and opinions. However, most agree that the today's version of the letter has come to existence with the help of the bankers and import-exporters. The informal usage of the letter began in the second half of the nineteenth century but it wasn't until the First World War that its formal usage began. Some of the reasons that contributed to the ever increase of the usage of the letter of credit during this period were a surge in trades, the fluctuation of value of money, an unstable international economy and the entrance of many unethical business men during this period. [Xiang ,2002]& [Lekeshmi,1998]

2-5 Uniform Customs & Practice for Documentary Credits (UCP)

Getting into consideration the fact that primarily the letter of credit is used internationally for doing businesses in a commercial level. Therefore to avoid misunderstandings and disagreements in a global level, a set of internationally

accepted rules and guidelines need to be set for the sellers and buyers to be able conduct a fair and internationally accepted transactions. When it comes to handling the legal side of transactions, the organization of¹ ICC was established in the year 1919 in Paris. This organization came into existence at a time when the international trade organization was in danger of being contaminated and dissolved by nationalism and other politically motivated agendas in Europe. [Zoghi, 2007].

For the first time, a set of uniformed rules and guidelines were made and an organization by the name of UCP was established in 1933 to avoid confusion and other transactional misunderstandings. The primary objective of this organization was to set a series of rules and guidelines to standardize the documentation of business transactions in a worldwide level.

During recent years, the rules and guidelines of UCP have been modified to meet the today's requirement of the business world. The latest revision of the UCP was made in October 25, 2006. This newly accepted guidelines was put into effect in 2007 and has been used by the business world ever since. Many countries and financial institutions have accepted UCP. The legal establishment of several countries has also endorsed the UCP and its business principals. [Aziz & Nemat Ali, 2008].

2-6 Unpaid Letter of Credits

In fact, a letter of credit is bank credit to the applicant to import the goods or services from the word. So the banks will be paid the shipping documents amount to the seller (instead of the buyer). Buyer should pay the letter of credit to the bank on maturity date and upon the bank payment request. Sometimes the buyers do not fulfill their obligations to the bank. Banks will face with several financial problems in this regards due to the customers unpaid obligations.

2-7 Influential Factors on Letter of Credit

With searching on letter of credit files on nominated banks records and interview with banking system expert and foreign department expert, we found 12 effective factors on letter of credit debtors as follows:

1. Type of letter credit (such as: sight payment, deferred payment and others) [Smith, 2007], [Ron, 2008]
2. Letter of credit amount
3. Currency (AED, EUR, JPY, OTHER)
4. Collateral (check, real estate, promissory note,...)
5. Inspection certificate
6. Price verification
7. Activity type of applicant (producer, commercial, services)
8. Country of origin
9. Country of discharge
10. Legal or illegal applicant
11. Period of working with bank
12. Companies age

2-8 Logistic Regression Model

Logistic regression is part of a category of statistical models called generalized linear models. This broad class of models includes ordinary regression and ANOVA, as well as multivariate statistics such as ANCOVA and log linear regression. An excellent treatment of generalized linear models is presented in Agresti (1996).

Logistic regression allows one to predict a discrete outcome, such as group membership, from a set of variables that may be continuous, discrete, dichotomous, or a mix of any of these. Generally, the dependent or response variable is dichotomous, such as presence/absence or success/failure. Discriminant analysis is also used to predict group membership with only two groups. However, discriminant analysis can only be used with continuous independent variables. Thus, in instances where the independent variables are a categorical, or a mix of continuous and categorical, logistic regression is preferred.

The goal of logistic regression is to correctly predict the category of outcome for individual cases using the most parsimonious model. To accomplish this goal, a model is created that includes all predictor variables that are useful in predicting the response variable. Several different options are available during model creation. Variables can be entered into the model in the order specified by the researcher or logistic regression can test the fit of the model after each coefficient is added or deleted, called stepwise regression. [Momeni, 2008]

3- Research Style

This research is practical and operatively in case of goal and also in case of variables control contain correlation and descriptive.

¹ International Chamber of Commerce (ICC)

3-1 Assumption

1. There is a relationship between letter of credit type and letter of credit debtors.
2. Positive relationship between country of origin and letter of credit debtors.
3. There is a relationship between inspection certificate and letter of credit debtors.
4. There is a relationship between price verification inspection and letter of credit debtors.
5. There are a relationship between applicant's activity type and letter of credit debtors.
6. There is a relationship between currency type and letter of credit debtors.
7. There are a relationship between collaterals and letter of credit debtors.
8. There is a relationship between country of origin and letter of credit debtors.
9. There is a relationship between letter of credit amount and letter of credit debtors.
10. There are a relationship between legal or illegal applicants and letter of credit debtors.
11. There is a relationship between Period of working with nominated bank and letter of credit debtors.
12. There are a relationship between company's age and letter of credit debtors.

3-2 Statistical Society and volume of sample

Statistical society for this research was 2623 letter of credit case study in nominated bank in Islamic Republic of Iran. Volume of sample is 110 successful and unsuccessful letter of credit chanceful selected from 2623 letter of credit during 1387 and 1388. (2008 & 2009)

4- Data Analysis

4-1 Model despondency

In current research, the despondency between results and logistic regression performance has been confirmed by Negelkerke R square and Chi-square. [Momeni, 2008]

Negelkerke R square test's result

Step	-2 log likelihood	Cox & snell R square	Negelkerke R squar
18	15.226	.713	.951

According to the Negelkerke R square test's result 95% of dependent variable changes would be defined by independent variables. Thus the model despondency in this method is reasonable and idealistic.

Chi - square test's result

Step	Chi- square	df	Sig.
18	137.266	4	0

According to the Chi- square test's result and due to the level of sig. (0), independent variables would be effective on dependent variable with very good level.

4-2 Data Correlation

In this research, the correlation between all independent variables has been test by Pearson Correlation test.

Correlations					
		Inspection	Price verification	Collateral	Country of Origin
Inspection	Pearson Correlation	1	.862**	.160	.148
	Sig. (2-tailed)		.000	.095	.122
	N	110	110	110	110
Price verification	Pearson Correlation	.862**	1	.087	.025
	Sig. (2-tailed)	.000		.366	.797
	N	110	110	110	110
Collateral	Pearson Correlation	.160	.087	1	.278**
	Sig. (2-tailed)	.095	.366		.003
	N	110	110	110	110
Country of Origin	Pearson Correlation	.148	.025	.278**	1
	Sig. (2-tailed)	.122	.797	.003	
	N	110	110	110	110

** . Correlation is significant at the 0.01 level

The price verification independent variable has been omitted in to the Logistic Regression, due to the correlation between inspection and price verification.

4-3 Logistic Regression Model

$$Y = F(X_1, X_2, X_3, \dots, X_{19})$$

Y= dependent variable (0= successful letter of credit & 1= unsuccessful letter of credit)

In backward stepwise style, all numeral independent variables entered to the logistic regression and all descriptive independent variables changed to dummy variables and then entered to the logistic regression. [Arab mazar & Rooian, 2006].

So 19 independent variables have been entered to the logistic regression model by SPSS software.

Logistic regression final results

step	variable	B	S.E.	Wald	df	Sig.	Exp(B)
18	x3	2.552	1.025	6.200	1	.013	12.834
	x7	-9.175	3.761	5.952	1	.015	.000
	x9	4.581	2.382	3.697	1	.055	97.589
	x14	-3.924	1.729	5.149	1	.023	.020
	x4	4.736	2.945	2.586	1	.100	113.934

$$\text{Logit} = 4.736(x_4) + 2.552(x_3) - 9.175(x_7) + 4.581(x_9) - 3.924(x_{14})$$

X3= Company's age

X7= Currency (JPY)

X9= Collateral (Promissory note)

X14= Applicant's activity type

X4= Deferred payment letter of credit

5- Conclusion and Suggestions

5-1 Conclusion

According to finding of this research by logistic regression, 5 assumptions have been accepted as follows:

1. There are a positive relationship between deferred payment letter of credits and letter of credit debtors.
2. There are a negative relationship between producer companies and letter of credit debtors.
3. There is a negative relationship between JPY and letter of credit debtors.
4. There is a positive relationship between Promissory note as a collaterals and letter of credit debtors.
5. There are a positive relationship between company's age and letter of credit debtors.

5-2 Suggestions

1. Deferred payment letter of credits are high risk for banks due to the increasing the debtors risk, so it suggests increasing the collaterals for this kind of letter of credits before issuing of the letter of credit.
2. The best currency for the letter of credits is JPY. So it suggests promoting the letter of credit's applicant to issue the letter of credit by JPY currency. And the collaterals should be increased for the other currency.
3. The promissory notes are the highest risk collaterals. Thus it suggests avoiding using this kind of collateral in letter of credits and it is better to replace the real estate and accounts instead of the promissory note.
4. According to this research finding, there are a positive relationship between the company's age and letter of credit debtors. So the applicant's with high age are so risky for the letter of credits, thus it suggests to increase the collateral when you are issuing the letter of credit for high age companies and check their financial and credit risk.
5. The producer companies are as safe as letter of credit applicants. Thus it suggests increasing the collaterals for the commercial and services companies. And also easy to issue the letter of credit for producer companies.

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