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**THE EFFECT OF THE MARKET RISK AND LIQUIDITY RISK ON RECEIVABLE  
OUTSTANDING OF REFAH BANK BRANCHES (2001-2012)**

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**ABSTRACT**

Market risk or risk of production along with credit risk plays the main role in most of the bankruptcy. The increase non-current asset of the banks due to increased costs, blocked part of the resources of the bank, decrease in interference of circulation of the asset and the increase in the receipt of asset period, absence of possibility for careful planning and effective, the increase in credit risk, a decrease in ability to response (services) to customers, the creation of disorder in circulation of cash fund, waste of time and resources and at the end reduce bank rank in broad categories domestic and international. . . all and all will be voting to change the bank credit. One of the effective factors on increasing receivable outstanding is increase on risk. This study deals with the amount of the effect of different risk on receivable outstanding.

The results of this study show that the effect of liquidity risk and risk of production (market risk) on receivable risk is positive and significant.

Ratio debt (Ratio debt to finance) on receivable outstanding of Refah bank is significant and positive. Bank size (logarithms Finance Bank) has negative effect and significant on receivable outstanding of Refah bank and it shows that the increase in the bank assets causes trust bank customers and a decrease in the receivable outstanding of Refah Bank. The increase in market value compared to the value an office, leads to increase the receivable outstanding of Refah Bank.

**Keywords: Risk Market, Risk Liquidity, Receivable Outstanding, Bank Refah**

## INTRODUCTION

Market risk or risk of production along with credit risk plays the main role in most of the bankruptcy. Successive financial crises due to the financial risk that happened in recent two decades in different levels in the world, has discussed the importance of integrated management along with a little bit financial risk with concentration on market risk and credit risk more before. When the risks were identified and evaluated, all the techniques of the risk are classified in one or a few classes of four classes has been the main that these four classifications are transfer, inevitable, decrease and risk acceptance. Efficient control of the banking units considers as necessary factor for a powerful economic environment. An environment in which banking system, play the main role in the payment and in equipping resources savings. The duty of control is to ensure that bank work in a manner of safety and correctly and also they have sufficient reserves and capital finance in order to contrast with the risk in the profession. Banking supervision and impressive symbolism provide service for the public that it would be impossible to find it in market. This observation along with effective policy and macroeconomic is very essential for financial stability for every country. Although bank supervision costs a lot but this has been proved that weak

supervision costs even higher than. According to the nature of its banking implies confrontation with a wide range of risks. There are several types of risk banking, credit risk, country risk and transfer of funds risk, market risk, interest rate risk, liquidity risk, operational risk and legal risk and reputation risk.

Generally, risk management is a process for evaluating risk and also is assessment strategy plan for controlling risk. In total the strategies to include are transfer of risk to the other, avoiding of risk, decrease in negative effects risk, and acceptance part or all of the effects.

There have been presented different definition of risk management in different sources. According to one definition, the risk management has seven phases: identify risk factors, estimated probability event risk and the amount of its effect, posing strategies in order to postpone the risks which have been identified, control risk factors, presenting a possible plan crisis management, and organization revived after the crisis. Paradium or management risk model is a collection of functions which are a series of activities throughout the life cycle of a mission and it follows: the recognition risks, analysis, planning, following, control and communications. Naturally, every risk passed those duties

randomly; however, activities always happened simultaneously and across cycle life of a mission.

It is clear that liquidity is a major concern for stockholders, because investors always pay attention to the issue that if they want to sell their capital assets, whether there is a good market for them to sell or not? Liquid (in addition to two yields and risk) is one of the important investment securities factors to compare with other investments opportunities. (**Yahya Zadeh Far and Khoramdin, 2008, 102**). So that **Amihood (2002)** has introduced the Power of liquid as an index like risk index and he has expressed whatever ability of liquid share a less  $x$ , that  $x$  has less attraction for stockholders, unless it has more output for its stockholders. With regard to the growing process and crisis receivable outstanding of the banks of the country and also importance of the effectiveness of different kinds of market risks and liquidity on these assets, this study investigates the effect the risks on the process of receivable outstanding of Refah bank in Iran.

### **The principles of the theory and background investigation**

Definitions and classification assets (facilities) banks in Iran

The assets (facilities): the obligations applied that their underwriters despite their commitments and prime contracts, they

have not proceed to play obligations in due time. These assets have divided into two levels (for the expression of the manner of classification assets of the banks of is used historian Central Bank of the Islamic Republic of Iran with the number b/ 2823 date 5/12/1385):

Not rubric assets that banks keep in the threefold trading and related facilities and maintenance methods and merely peaceful measures and preliminary (invited, argue, and warned) to collect them, as follows from payment of the profit facilities or repayment of the installment which is happened in the maturity or the maximum two months passed of its maturity. Rubric assets have been told to obligations that its obligators have not done any action about their obligation despite obligations and prime contracts in time and in certain maturity and the bank transfer after the actions of peaceful methods and preliminary to the different symmetry such as: assets caused of Islamic contracts, the customers debt for Rial guarantee letter and foreign currency has been paid, and the assets of documentary credits not paid, accounts of past assets maturity and outstanding to currency.

The assets have been rubric can be divided into two groups current and non-current that non-current assets divide into four levels itself. Debt transfer of items to this rubric

happen based on three time parameters, the status of customers and financial industry or field related activities that terms and phrases used in regard of property classification which is as follows:

First Group, the current

- (A) The payment of the principle and profit of the loans or repayment of the loan in maturity is done and or the maximum two months maturity from the date it is past.
- (B) The customer has ideal financial situation in a way that it does not have any problem for the payment of the loans based on the financial index such as profitability and liquidity.
- (C) The outlook industry or field related activity is ideal and the market products and services of this industry or field of activity have sufficient stability.

### **Second Group- non current**

First class, past maturity

- (A) It is passed more than two month from the origin and profit facilities maturity date and or definite date of repayment loan but delay in repayment still has not passed from six month. In this case only amount financed facilities have been transferred to the class.
- (B) The index of financial customers such as profitability and liquidity shows appropriation of financial situation, but analysis of performance and financial

situation shows probability of delay in repayment facilities customer in the future.

- (C) Industry or field related activity has limited growth and the market stability.

Comment: in the case of becoming each of any condition of the B and C, the whole facilities has remained relevant has been transferred to this rubric.

### **Class II, delayed**

- (A) The rest facilities has remained has been transferred to this class, if the customer has not done any reaction about repayment of the origin and profit facilities those has passed more than six months and less than eighteen months from the date of maturity and or repayment cut off assets.

- (B) When the customer has not been in the appropriate financial condition and the customers probably are not able to play a part of their obligations in due time.

- (C) Growth related activity faces with the serious limitations and recession and the market of its products is limited and unstable.

Comment: in the case of becoming each of any condition of the B and C, the whole facilities has remained relevant has been transferred to this rubric.

### **Class III, culpable suspicious**

- (A) The customer has not done any reaction about repayment of the whole origin and

profit facilities those has passed more than eighteen months from the date of maturity and or repayment cut off debt.

(B) The customer's index of financial such as profitability and liquidity indicates that the status of an undesirable customer financial and analysis performance of financial situation indicates that the probability of non-play all its obligations.

#### **Class IV has been fuel**

That part of the assets which the regardless of the date of maturity such as death or debtor insolvency or other causes is not accessible, has been considered as fuel assets with considering the related observing.

#### **The Background investigation**

Liquidity risk financial resources has played key role in the entire banking crisis. (Drehmann and Nikolaouin the research with the title as "liquidity risk financial resources: definition and measurements" 2013). Nevertheless, the measurements such risk based on existing and available information has remained out of any result. In this regard with the use of monthly data to the European Central Bank during the 10: 2008-01: 2005, has been dealt with the study and test the hypothesis of the research. The study has shown that the liquidity financial resources risk in a general is stable and low.

**Ghossoub** has been dealt with the consequences of banking competition on the market of the capital and of the monetary in the study as the title "liquidity risk and financial Competition: concepts for the property price and of the monetary policies" in 2012. In this study particularly, has been dealt with the development of a growth model in which a group of agents are exposed to liquidity shock and money. The bank assures the investors's deposits in such risk and dangers and invests it in economic property. In this situation, it has been dealt with the comparison of an economy in which the bank is quite competitive and an economy in which the financial sector has been completely focused on. Unlike previous studies, banks can have power on both deposits and capital market. Findings of this study have shown that an exclusively banking system can have considerable unpleasant consequences on formation investment, the price of assets and related finance risk.

**Khemraj and Pasha** attempted to help with a model of the factors determining a picture determine the receivable outstanding of the Ghana. The results of their studies according to consistent with the principles of the theory and international evidence are as follows that real effective exchange rate effects on receivable outstanding positively and significantly. Inverted growth affects on

receivable outstanding; they found that banks those received more rates and pay more loans will experience more receivable outstanding.

Berger and his colleagues in the investigation of 8235 banks in 23 developed country in the year 2008 found that the increase in banks market power improves the quality of their loan basket and has been reduced their receivable outstanding. They present in their study it is true that with the increase in competition risk, the treatment of the loans has been increased, but these banks have generally better stability. They understood the reason of this issue is the increase of bank reserves and using techniques of risk adjustment.

James and his colleagues after posing the available comprehensive theoretical in relations of competition and stability present the model in order to examine the health of each the views proposed in banking System of the Spain (2007). They introduced the several index for representation stability that receivable outstanding is one of them. The results from their models confirm a direct connection between competition in banking industry and these assets.

**Poustin Chi (1392)**, proposed that banking industry stability is one of the issues that has attracted both experts and politicians opinion. In this article receivable outstanding is intended as the main risk

sources of banks. Competition in banking industry is one of the effective cases on receivable outstanding. In order to investigate the manner of this relation, a panel model consisting of 18 active bank in all period has been used (2005-2011). The results have showed that there is reverse relationship between competition in banking industry and receivable outstanding. As also loan to finance, as profit to property, whole property and economic freedom as well as has significant and direct effective on these assets.

**Kurdnachih and Pordel Noosh Abadi (2011)** are used a model of panel data consisting of 12 banks during the period of (2002-2008) in order to reach determining factors of receivable outstanding of banking industry of Iran. The results of this study has shown that operational efficiency, precaution behavior and variable bank property are determining and significant in explaining behavior in receivable outstanding of banking system in Iran. They also showed that the condition of macroeconomic is effective on this issue.

### **Research model**

This research in terms of purpose is applicable and it is descriptive analysis in terms of research method. Library method like books, magazines, Articles, the researches has been used for collecting the articles related to the literature of the subject

and panel data is used for estimate the model.

The model has been used in this research is as follows:

$$Y_{ij} = \alpha + \beta_1 x1_{ij} + \beta_2 x2_{ij} + U_i$$

Dependent variable is investigation of receivable outstanding of Refah bank and independent variable is market risk (production risk) and liquidity risk. Control variables are as well as debt ratio, book value to market value, size of the bank.

Liquidity fluctuations and the production in year t are as follows liquidity variance and the production in three years before year t.

Information has been extracted from the central bank site and Refah Bank from period of 2001 to 2012.

### Estimated pattern

This article has not been paid to investigate unitroot test variables due to a short period of the study and with regard to the study of the panel data.

In order to test the hypotheses of the research, firstly, we should express the idea about panel or combination of the data. That is why F Limer statistic is used.

In this test, the hypothesis H0 is the method of composition data and hypothesis H1 is estimated method based on the panel data. F statistic showed number 35/841 and with the probability zero which indicates that the method has been approved by panel data. Hasmen test has been used for making

decision about the using fixed effects method or random effects. Hasmen test number is 5.14 with the possibility of higher than 5 percent which confirm random effects method (**Table 1**).

The Estimation Least Generalized Squares Method has been used in data panel. Cross-section (weights) in this study is based on the bank branches.

The model has been estimated in this research is as follows the **Table 2**:

With regard to the coefficient of the determination, the power of model explanation has been shown in the amount of 65 percent. Watson's Camera also shows the lack of autocorrelation. F statistics rejected this issue that coefficients are zero. Sign coefficients are in accordance with the theory and theoretical which has been presented.

The results in denotative way are as follows: The effect of two variable liquidity risk and credit risk and risk of production is positive and significant on receivable outstanding and shows that as much as liquidity fluctuations as liquidity risk and the amount of the belated loan as credit risk increase, the amount of the public confidence in the bank is decreased and the bank itself faces to the problem in the payment of facilities and therefore, customer dissatisfaction has caused the decrease in share bank deposits

and the reduction in the receivable outstanding.

A unit change in variable liquidity risk causes  $8.00 \times 10^{-9}$  units increase in receivable outstanding of Refah bank.

A unit change in variable credit risk causes  $0.8 \times 10^{-7}$  units increase in receivable outstanding of Refah bank.

A unit change in variable bank size causes  $-0.003403$  units reduction in receivable outstanding of Refah bank.

A unit change in variable debt ratio causes  $0.004817$  units increase in receivable outstanding of Refah bank.

A unit change in variable production fluctuations causes  $-0.52431$  units reduction in receivable outstanding of Refah bank.

### Collinearity diagnostics (Table 3)

For collinearity diagnostics has been used from two methods, Condition Index and Eigenvalue with use of the SPSS software. As condition index is more close to zero or on the other words it is below number thirty shows the lack of serious manuscripts in the estimate. Also any how special numbers are different from zero shows the lack of serious manuscripts in the estimate. Therefore with regard to the results of these two tests existence of manuscripts is rejected.

The test of variance anisotropy of Residuals One of the other classic regression models is homology of variance of residuals that is

considered from basic hypotheses of every connection. For the analysis of the variance anisotropy hypotheses in this article, the ARCH-LM test has been used and the summary of the above test has been submitted in **Table 4**.

Zero hypotheses indicates the existence homology of the variance and with regard to the **Table 4**, the amount of the existence P-value from the ARCH-LM test for the estimated connection is  $0/18$  that the resulting number is  $0/05$  higher than the significant level ( $p\text{-value} \geq 0.05$ ), as a result, zero hypotheses (existence homology of the variance) has been accepted and it has shown that there is no variance anisotropy.

The study of normality of remaining of multiple regression model:

In order to study the remaining amount of the model, the chart (QQ-plot), Jarque-Bera test and Histogram quantities error chart has been used. Zero hypotheses and against hypotheses in Jarque-Bera test is as follow:

H 0: Remaining quantities of the model are following the normal distribution

H 1: Remaining quantities of the model are not following the normal distribution

With attention the amount of probability or existence P-value for Jarkbera statistics has been considered that there is no evidence to reject the zero hypotheses. Therefore, remaining quantities of the model are following the normal distribution. In

addition to this test by using a Histogram chart also can observe that the remaining quantities of the model are almost not following the normal distribution.

**The test for lack of remaining autocorrelation**

In order to study the obtaining autocorrelation among the quantities of error of the model has been used the Breushch Gotferry test. Zero hypotheses and opposite hypotheses in this test is as follow:

**H 0: there is no autocorrelation among the quantities of error**

**H 1: there is autocorrelation among the quantities of error**

With regard to the output table of the test and attention to probability amount or P-value has been observed that probability amount is been bigger than the level of 5 percent. Therefore, zero hypotheses is approved and obtaining of autocorrelation among the amount of error is rejected.

**Table 1: Hasman statistic estimated results**

Statistic	D.F.	Probability	Test result
5.14	4	0.25	Fixed effects

**Table 2: The results of estimation in combinatorial regression**

Variable	Ratio	S. D.	T Statistics	Sig.
Intercept	-0.040264	0.005810	-6.930252	0.0001
Liquidity risk	8.00E-09	3.03E-09	2.643951	0.0216
Credit risk	7.37E-08	6.99E-09	10.53119	0.0001
Bank size	-0.003403	0.000486	-7.007135	0.0001
Debt ratio	0.004817	0.000268	17.99411	0.0001
Fluctuations in production	0.52431-	0.129772	4.007135-	0.0001
$R^2 = 0.65$		D-W = 1.8		
Adjusted $R^2 = 0.64$				
Limer F =32.84		Prob F = 0.01		

**Table 3: collinearity diagnostics**

Dimension	Eigen Value	Condition Index	Variance Proportions				
			(Constant)	X1	X2	X3	X4
1	2.993	1.000	.00	.00	.00	.00	.00
2	2.363	1.125	.05	.00	.00	.03	.00
3	2.000	1.223	.00	.04	.07	.00	.00
4	.356	2.899	.74	.00	.04	.05	.00
5	.211	3.764	.04	.17	.66	.21	.00

**Table 4: The test of variance anisotropy of Residuals**

Zero hypotheses and opposite	F statistic	Obs*R-squared	P-Value	Result of the test
H <sub>0</sub> : homology of variance	1.63	3218	0.18	Acceptance of zero hypotheses: homology of variance
H <sub>1</sub> : anisotropy variance				

Table 5: The test for lack of remaining autocorrelation

Zero hypotheses and opposite	F Statistic	Obs*R-squared	p-value	Result of the test
H <sub>0</sub> : existence lack of autocorrelation	0.4	8.61	0.85	Acceptance of zero hypotheses
H <sub>1</sub> : existence autocorrelation				

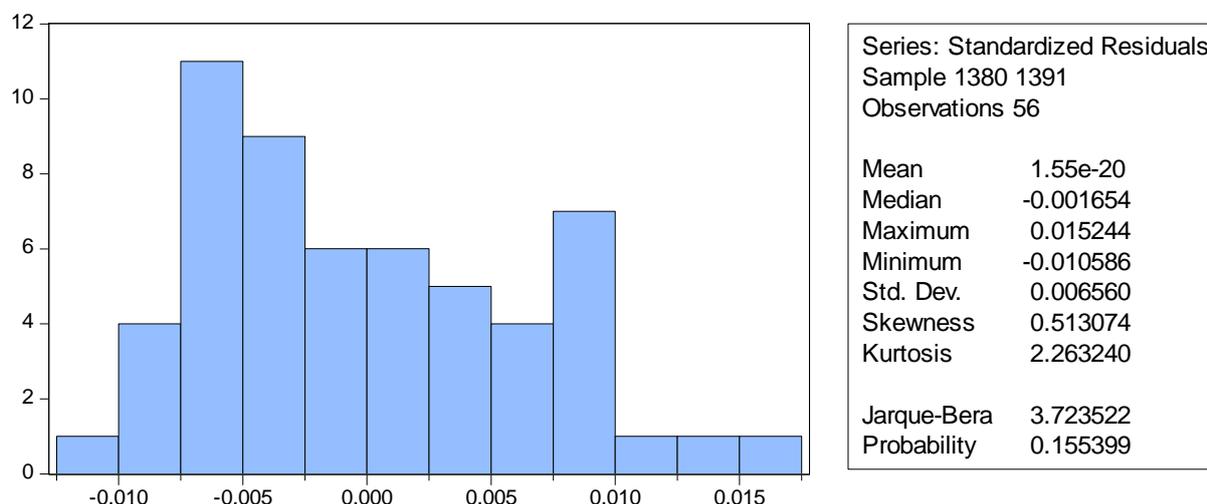


Chart 1: The study of normality of remaining of multiple regression model

**CONCLUSION**

**RECOMMENDATION**

The effect of two variable liquidity risk of production is positive and significant on receivable outstanding and shows that as much as liquidity fluctuations as liquidity risk and the amount of the belated loan as credit risk increase, the amount of the public confidence in the bank is decreased and the bank itself faces to the problem in the payment of facilities and therefore, customer dissatisfaction has caused and the worth condition of the market and economy has caused the increase in receivable outstanding in Refah bank.

In description of the result, we can say two important and effective factors on

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receivable outstanding are liquidity risk and risk of production. In the other words, bank management performs in order to reduce the receivable outstanding and consequently increase the bank profitability, and reduce the risk of production and liquidity as well. Therefore, their performance can be considered as important factor to increasing bank deposits.

Also results of the research have shown that ratio debt (ratio debt to assets) on receivable outstanding is positive and significant and also has shown that any increase in ratio debt to finance branches

The results posed that bank size (logarithm of bank deposits) has negative and significant on receivable outstanding of

Refah bank and also has shown that the increase bank deposits has caused customers unreliability and reduce the receivable outstanding of Refah bank.

Also results have shown that increase of ratio market value to book value has caused the increase of receivable outstanding of Refah bank. In the other words, increase of crack between book value and market value leads to increase bank risk and leads to reduce bank customers and increase receivable outstanding of Refah bank.

In description of control variables, we can say the bank management use the caring system of ratio debt reduction and decrease the crack between book value and market value or logical increase of all deposits, it is possible to show positive lookout of the bank and reduce the receivable outstanding of Refah bank.

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