

## FINANCIAL STATEMENT COMPARABILITY AND LOAN-LOSS PROVISIONING OF TEHRAN STOCK EXCHANGE BANKS

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### ABSTRACT

*With regard to facilitating comparability for investors and providing a better understanding of banks' financial statements for them as a result of the availability of information about counterparts, this important issue has led to the examination of the relationship between the financial statements comparability and loan-loss provisioning banks. In this research, 14 banks authorized to the Tehran stock exchange was investigated in the period of 2012-2021. In order to examine the hypotheses, paired sample t-test and panel regression were used. Based on the results, the financial statements comparability has a negative and significant effect on the loan-loss provisioning banks and the abnormal loan-loss provisioning banks. In other words, the loan-loss provisioning and the abnormal loan-loss provisioning in banks with high financial statements comparability is less than the banks with low financial statements comparability.*

**KEYWORDS:** *Abnormal loan-loss provisioning, financial statements comparability, loan-loss provisioning.*

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### 1. INTRODUCTION

A healthy and profitable banking system can resist better against economic shocks and play a bolder role in the stability of the financial system (Ekinci and Poyraz, 2019). Elucidation the key factors of the banking system performance is one of the areas of interest for academic researchers, banking system managers, monetary supervisors, and economic activists (Al-Eitan and Bani-Khalid, 2019). In this regard, credit risk is one of the most important risks due to its connection with banks' operational activities (in the fields of loans, interbank transactions, high-yield bonds, currency transactions, common stock, stock options, issuance of guarantees and swap) and in most cases, the loss related to credit risk is more than other risks. As a threat, risk affects the activity of banks, and meanwhile, credit risk has twofold importance because it comes from the most important banking operations, i.e., granting loans and facilities (Zhou and Et al, 2021).

Credit risk, as one of the most important factors affecting the health of banking system, is related to losses caused by non-repayment or late repayment of the principal or interest of the loan by the client of the "credit risk". In another definition, credit risk is the potential delay, doubtful collection or non-collection of facilities provided to customers. In other words, credit risk is the risk of the borrower's inability to pay the principal and interest (loan) according to the agreed terms; In other words, according to this risk, repayments are either delayed or not received

(Bouslah and et al., 2018). Such risk can have an adverse effect on the performance of banks. Therefore, in order to survive, banks are required to control risks and reduce their adverse effects, and to achieve this, it is necessary to investigate the impact of credit risk on bank performance (Cucinelli and et al., 2018). Considering the potential role of qualitative variables of financial statements on the most important origin of credit risk (loan-loss provisioning), this study examines the loan-loss provisioning at different levels of financial statements comparability of Tehran Stock Exchange banks. Based on this, in order to clarify the issue, statement of the problem, necessity, assumptions, research model, how to measure variables, statistical analysis, conclusions and research proposals are discussed.

## **2. Institutional background, prior literature, and hypothesis development**

The loan-loss provisioning is one of the most important sources of credit risk, which can lead to considerable inefficiency in a financial institution. Based on the definition, the purpose of the efficiency of the loan-loss provisioning is the optimal and favorable forecast of future bad debts, in such a way that it has the best reflection in the financial statements in terms of the transparency and quality of reported profit and capital (Anandarajan et al, 2005). In other words, efficient loan-loss provisioning is an allowance that optimality is not less than the loan-loss provisioning. Therefore, it is obvious that the allowance for doubtful accounts is a provisioning that is determined to be less than the optimal loan-loss provisioning. For this reason, the optimal limit of accounts is a provisioning that is determined to be less than the optimal loan shall be determined based on the ratio of losses from investment on assets, the deposits to assets ratio, the ratio of risk-weighted assets to assets, the current assets to assets ratio and total facilities to assets (Tsai-lien yeh, 2010).

According to Tsai-lien yeh (2010) and Anandarajan et al (2005), one of the factors affecting the inefficiency of banks' loan-loss provisioning is bank size, non-interest income, shareholders' equity, number of branches, and capital adequacy ratio. Considering that the financial situation and as a result the total risk of banks varies according to size and from one bank to another, it is expected that the method of loan-loss provisioning of banks is proportional to size. Therefore, how the size of the bank affects the loan-loss provisioning is the first hypothesis that shall be considered and tested. Regarding the non-interest income, it can be said that by increasing the bank's income from the source other than the interest of the facility, the loan-loss provisioning can be considered lower due to the reduction of the risk of the whole bank due to the non-collection of debts. Therefore, if a bank with low piece wage also has a small provisioning, its loan-loss provisioning will be inefficient and misleading. Banks with a higher capital ratio accept less total risk, and hence, a lower loan-loss provisioning can be considered for them. The number of branches and employees of the banks in the branches have a direct relationship with the customers and they are continuously evaluating (validating) and granting facilities to the customers. Therefore, employees working in bank branches contribute to the credit risk management of the branch and finally the credit risk of the entire bank. Therefore, by increase of the branches, the bank's credit risk increases, so it is necessary to consider the loan-loss provisioning for such banks. The capital adequacy ratio is one of the effective factors in risk control, which is obtained by dividing the base capital by the total assets weighted by the risk coefficients in percentage terms (Central Bank Regulations, No. MB/1966). The loan-loss provisioning is used when calculating the base capital and in case of deducting the capital adequacy ratio calculations, in such a way that with the increase of the loan-loss provisioning, the capital adequacy ratio also increases. Therefore, a bank with a high capital adequacy ratio has less risk and less provisioning shall be considered.

Loan-loss provisioning is one of the factors that differ according to the levels of financial statements comparability of economic units. According to Gray et al (1995), There should be an

interaction between information disclosure and stakeholders in relation to relevant information and financial reporting quality of banks. In general, stakeholders expect more information to be disclosed about business entities. According to the signaling theory, any increase in the disclosure of information about business units should have a direct effect on the performance of the economic enterprise. More disclosure leads to reducing the importance of the information asymmetry problem, improving the efficiency of supervision of financial institutions and other providers of financial resources (Left wicket al, 1981), and reducing the cost of capital of the business unit (Jonas and Blanchet, 2000) (Clarkson et al,2008).

The financial statements comparability is considered one of the qualitative features that improve quality, and it is defined as "Qualitative feature is information that enables users to identify the similarities and differences between two sets of economic phenomena" (Foroghi and Qasemzad, 2015). In general, the availability of information about counterparts facilitates the comparability for foreign investors, and thus understanding financial statement information among companies makes easier the comparability for investors.

Li et al (2015) explained that with access to information and the ability to understand it, investors cannot have a better understanding of the company's performance, but obtain value-related information through inference based on performance or disclosure of counterpart's information (company comparison). For example, in the absence of disclosure of bad news for a particular company, investors may be able to obtain at least some negative information through inferences based on the performance or disclosure of their company's counterparts. Therefore, this issue plays an important role in limiting the ability and motivation of managers to accumulate bad news.

Bradshaw et al (2010) found that corporate opacity can lead to information asymmetry, which hinders the timely reaction of stock prices. Kim and Zhang (2014) found that the financial accounting opacity as well as the lack of information content related to profit (including accrual items such as the loan-loss provisioning) of companies can also be caused by the lack of internal control, so these items can also have a significant interactive effect on stock price fluctuations.

Therefore, the comparability financial statements comparability is one of the qualitative characteristics of financial reporting that the managing director of an economic unit should provide. However, due to the dependence of managers' ability and opportunity to accumulate and not disclose news (negative or positive) on its costs and benefits, managers may not provide information (financial statements comparability) based on this qualitative characteristic. Therefore, according to the above contents, in this research, the investigation of the loan-loss provisioning at different levels of the financial statement comparability of Tehran Stock Exchange banks is discussed.

But due to the fact that managers' abilities and opportunities to accumulate and not disclose news (negative or positive) depend on its costs and benefits, on this basis, it is possible for managers to provide information based on this qualitative feature do not act, therefore, according to the above concepts, in this research, the investigation of the reserve of doubtful receivables at different levels of the financial statement comparability of Tehran Stock Exchange banks is discussed. Therefore, based on the theoretical basics presented, the following hypotheses are proposed:

**Hypothesis 1:** loan-loss provisioning is different in banks with high financial statement comparability compared to banks with low financial statement comparability.

**Hypothesis 2:** Abnormal loan-loss provisioning is different in banks with high financial statement comparability compared to banks with low financial statement comparability.

### 3- Research Method

This research is applied in terms of correlation method and purpose. Also, because this article

describes what is or describes the existing conditions without interference (and not to the specific requirement and recommendation) and due to the fact that value judgments in this study are low, the present study is in the category of descriptive accounting research. are. In addition, due to the fact that historical information will be used to test its hypotheses, it is classified in a quasi-experimental research group. It should be noted that SPSS software (version 21) and Eviews (version 9) were used for statistical analysis.

#### 4- Models and variables measurement

According to the loan-loss provisioning at different levels of the financial statement comparability of Tehran Stock Exchange banks in this research, the models and the variables measurement method adopted from the research of Habibi et al. (2021) as follows:

##### 4.1. loan-loss provisioning measurement method

This variable is obtained from the appendix of the financial statements of the banks, the high ratio of the loan-loss provisioning indicates a higher credit risk, because this rate is the product of the loan-loss provisioning rate multiplied by the amount of the desired class(current, overdue, past due and questionable delivery).(Ferdowsi and et al, 2016). In this research, the following equation was used to calculate this variable:

$$\text{loan – loss provisioning} = \left( \frac{\text{General and Specific Loan – loss Provisioning}}{\text{Total loan}} \right)$$

##### 4.2. Abnormal loan-loss provisioning measurement method

In this study, the following model was used to calculate this variable based on Habib et al (2021) and Zhou et al (2021):

$$LLP = \gamma_0 + \beta_1 NPL + \beta_2 \Delta NPL + \beta_3 LLR + \beta_4 NLC + \beta_5 LOAN + \beta_6 \Delta LOAN + YEARDUMMY + \varepsilon$$

LLP: General and specific loan-loss provisioning/total loan

NPL: Non-performing loan/total loan

$\Delta NPL$ : Change in non-performing loans/ Total loan

LLR: Loan-loss reserve/ Total loan

NLC: Net loan charge-offs scaled by net loan

LOAN: Total loans outstanding/beginning total assets

$\Delta LOAN$ : Change in total loans outstanding/beginning total assets

YEARDUMMY: Year dummy variable

$\varepsilon$ : Error value for abnormal loan-loss provisioning

##### 4.3. Financial statement comparability measurement method

In this study, the model used in this research to measure the comparability of financial statements was derived from the model presented in the research of Babaei et al. (2019) Based on the Relative Valuation Theory. Babaei et al (2019) showed in their research that the model based on the relative valuation theory has more explanatory power than other comparability measurement models in Iran. Based on valuation theory, Babaei et al(2019) argued that comparable banks shall be a function of variables that better explain the relative valuation ratios. The best version of this model is to measure the comparability of financial statements based on the ratio of price per operating

earnings (P/OE).

According to this model, in order to calculate comparability, the regression model explaining the ratio of price per operating earnings (P/OE) as described in equation (1) is fitted at the level of each industry. Then, the correlation of the absolute value of the residuals of the model is considered as an index to measure the comparability of financial statements.

(1)

$$\left(\frac{P}{OE}\right)_{i,t} =$$

In model (1) according to the research of Babaei et al (2019); (P/OE) Ratio of price per operating earnings; (b) the cash dividend distribution ratio through the result of dividing the cash dividend per share by the profit per share; (g) Bank growth is calculated through equation (2).

(B) The dividend payout ratio is calculated by dividing the dividend payout per share to the earnings per share and; (g) bank growth is calculated through equation (2).

$$g = \left(1 - \frac{DPS}{EPS}\right) \times ROE \quad (2)$$

In equation (2); (DPS) is dividend per share, (EPS) is earnings per share and (ROE) is the rate of return on equity (the ratio of net profit to equity). Bank risk (B) is measured through systematic risk as described in equation (3)

In equation (3); i represents the bank's stock return and (m) represents the total market return on a monthly basis.

$$\beta_{i,t} = \frac{Cov_{i,m}}{\delta_m^2} \quad (3)$$

Tobin's Q ratio (Q) through the ratio of the market value of the bank's assets to the book value of the assets at the end of the period; bank size (Size) also through the natural logarithm of total assets at the end of the financial period; the cost of equity (Re) was also calculated through Gordon's growth model according to equation (4).

$$R_e = \frac{DPS}{P_0} + g \quad (4)$$

The bank's adjusted profit margin based on the industry (ADJPM) is calculated through the difference between the bank's profit margin and the average profit margin of the banks in the industry. The profit margin of each bank was also calculated through the ratio of operating profit to sales. The inflation rate (CPI) is also extracted from the statistical archive of the central bank on an annual basis.

#### 4.4. Control Variables

The control variables and measurement methods are as follows:

**Capital Adequacy Ratio:** The following ratio was used to measure this variable:

Capital adequacy ratio

$$= \left( \frac{\text{Base Capital}}{\text{(on balance sheet items(risk weight) + off balance sheet items(conversation factor)(risk weight)}} \right)$$

Bank size: There are various measurement criteria for the "bank size" variable, which include: the total assets, the amount of sale, and the total number of employees, but in this research, the bank size is calculated using ln assets.

Return on equity: to measure this variable, dividing net profit by equity was used.

Ratio of loan to total assets: to measure this variable, the division of loan to total assets was used.

Market liquidity: to measure this variable, dividing the cash balance by total assets was used.

## 5- Research Findings

### 5-1-Descriptive Statistics of Research Variables

The results of descriptive analysis of research variables are presented in table (1) and (2).

**TABLE (1) DESCRIPTIVE STATISTICS OF THE RESEARCH MODEL IN THE WHOLE SAMPLE**

$LLP = \gamma_0 + \beta_1 NPL + \beta_2 \Delta NPL + \beta_3 LLR + \beta_4 NLC + \beta_5 LOAN + \beta_6 \Delta LOAN + YEARDUMMY + \varepsilon$								
Variable	Mean	Median	Max.	Min.	STD	Skewness	kurtosis	
(LLP)	0.068	0.190	0.418	0.014	0.069	0.958	3.643	
	0.190	0.176	0.523	0.0001	0.109	0.840	3.353	
(ANPL)	0.035	0.029	0.386	-0.214	0.071	0.872	9.095	
(LLR)	0.005	0.0001	0.082	0.0001	0.012	3.535	16.779	
(NLC)	0.004	0.002	0.089	-0.051	0.015	1.320	13.076	
(LOAN)	18.871	18.898	22.393	14.155	1.494	-0.514	3.640	
(ALOAN)	0.322	0.240	1.313	-0.233	0.333	1.514	5.077	

**TABLE (2) DESCRIPTIVE STATISTICS OF RESEARCH VARIABLES IN THE WHOLE SAMPLE**

Variable	Mean	Median	Max.	Min.	STD	Skewness	Kurtosis	
(ALLOWANCE)	0.068	0.052	0.415	0.014	0.069	0.958	3.624	
(ABN_ALLOWA)	-0.0001	-0.004	0.275	-0.147	0.056	1.7674	9.226	
(COMP)	-6.742	-4.791	-0.145	25.425	5.923	-1.073	3.324	
(A_CAPITAL)	0.071	0.078	0.355	-0.575	0.110	-2.241	15.229	
(SIZE)	19.472	19.400	22.746	15.227	1.411	-0.267	3.179	
(ROE)	0.149	0.169	1.852	-2.125	0.372	-2.378	21.684	
(LOAN)	0.567	0.607	0.728	0.129	0.127	-1.197	4.094	
(LIQ)	0.030	0.017	0.171	0.0001	0.033	1.086	6.668	

According to table (1) and (2), the number of bank-year observations based on balanced composite data was 140 observations equal to 14 banks in 10 years. According to the descriptive statistics, the above indices can be divided into central indices, dispersion and other indices, where the central indices include the average and median indices, the dispersion indices include the standard deviation index and other indicators include maximum, minimum, skewness and kurtosis. Briefly, in table (1), the LLP shows that, on average, for the total loan, 6.8% of the reserves was calculated in the category of current claims (only general reserve), due payment, deferred and loss. The mentioned number indicates that the quality of facilities provided to customers is not favorable. It shall be noted that the capital adequacy below 8% for the bank means the possibility of bankruptcy risk, which is also not favorable for the banks and indicates a significant risk in the country's banking system. Regarding the negative skewness coefficient of some variables, it can be said that this indicates the existence of skewness to the right and the tendency of these variables to have smaller values. Also, positive skewness coefficients indicate that the normal distribution is longer and the data is concentrated around the mean.

### 5-2- Test of Normality of Distribution Of Research Dependent Variable

Since in this research, in order to estimate the model parameters, the ordinary least squares method is used and this method is based on the assumption that the dependent variable of the research has a normal distribution, so it is necessary to test the normality of the distribution of dependent variables.

**TABLE (3) RESULTS OF THE STUDY OF THE NORMALITY OF THE DISTRIBUTION OF DEPENDENT VARIABLES**

Variable	K-Stest results					
	Mean	Std.	Positive	Negative	K-S	Sig.
(ALLOWANCE)	0.068	0.069	0.418	0.014	1.075	0.091
(ABN_ALLOWANCE)	0.0001	0.056	0.275	-0.147	1.129	0.082

Based on the results of the normality test (Table 3), the significance level of the Z statistic of the K-S test for the dependent variables (loan-loss provisioning and the abnormal loan-loss provisioning) increased to above 0.05, so the hypothesis H0 regarding the normality of the dependent variables distribution were accepted. This indicates that the dependent variable of the research has a normal distribution, so parametric statistical methods were used to test the hypotheses.

### 5.3. Correlation of Research Variables

In this section, the relationship between the research variables and the correlation between them was performed using Pearson's correlation coefficient. The correlation matrix between research variables is presented in table (4).

**TABLE (4) PEARSON CORRELATION COEFFICIENT RESULTS**

Correlation	ALLOWANCE	ABN_ALLOWANCE	COMP	A_CAPITAL	SIZE	ROE	LOAN	LIQ
ALLOWANCE	1.00000							
ABN_ALLOWANCE	0.80526	1.00000						
COMP			1.00000					
A_CAPITAL				1.00000				
SIZE					1.00000			
ROE						1.00000		
LOAN							1.00000	
LIQ								1.00000

	0.0000	-----							
	0.19122	-							
COMP	9	0.160786	1.000000						
	0.0236	0.0371	-----						
	0.22333	-							
A_CAPITAL	7	0.113143	0.390334	1.000000					
	0.0080	0.1832	0.0000	-----					
	0.07973	-							
SIZE	5	0.042300	0.090651	-0.395299	1.000000				
	0.3490	0.6197	0.2868	0.0000	-----				
	0.14632	-							
ROE	9	0.152703	0.186395	-0.023076	0.019706	1.000000			
	0.0845	0.0717	0.0275	0.7867	0.8172	-----			
	0.13630	-							1.00000
LOAN	0	0.253692	0.129252	0.068525	0.143382	0.058305	0		
	0.1083	0.0025	0.1280	0.4211	0.0910	0.4938	-----		
	0.00253	-							0.10459 1.000
LIQ	7	0.018717	0.036441	-0.192183	0.304947	0.0092499	0		
	0.9763	0.8263	0.6691	0.0229	0.0002	0.9136	0.2187	-----	

## 5.4. The results of testing the research hypotheses

Considering that the research has two hypotheses, therefore, for each hypothesis, the results of the paired sample t-test and regression hypothesis and finally the regression hypothesis test are presented.

### 5.4.1. The results of the hypothesis test by the paired sample t-test

#### 5.4.1.1. The results of the first hypothesis test

The first hypothesis states: the loan-loss provisioning in banks with high financial statement comparability are significantly different from banks with low financial statement comparability.

To test the above hypothesis, the following statistical hypotheses are tested by the paired sample t-test.

$H_0$ : There is no significant difference between the average loan-loss provisioning in the year for banks with high and low financial statement comparability.

$H_1$ : There is significant difference between the average loan-loss provisioning in the year for banks with high and low financial statement comparability.

**TABLE (5) THE RESULTS OF THE FIRST HYPOTHESIS TEST BY PAIRED SAMPLE T-TEST**

		Description	Mean	Qty.	Std.
<b>Descriptive statistics</b>		High financial statement comparability	0.0511	70	0.0213
		Low financial statement	0.0851	70	0.0938



	comparability			
<b>F test statistics</b>	<b>F</b>	<b>18.438</b>		
	<b>Sig.</b>	<b>(0.000)**</b>		
<b>T test statistics</b>	<b>T</b>	<b>-2.951</b>		
	<b>Sig.</b>	<b>(0.004)**</b>		

The average loan-loss provisioning in banks with high and low financial statement comparability is equal to 0.0511 and 0.0851, respectively. The difference between the two averages is -0.034. In the following, due to the fact that the significance level of the F statistic is lower than the accepted error level (0.05), the paired sample t-test has explanatory power. Also, in the paired sample t-test, the significance level of the t statistic is lower than the accepted error level (0.05), the results show that the average loan-loss provisioning is different in the two samples. Therefore, the first hypothesis of the research was accepted at the confidence level of 95%, and it can be concluded that at the level of the surveyed banks, the loan-loss provisioning in banks with high of financial statement comparability are significantly different from banks with low financial statement comparability.

### 5.4.1.2. The results of the Second Hypothesis Test

The second hypothesis states: the abnormal loan-loss provisioning in banks with high financial statement comparability are significantly different from banks with low financial statement comparability. To test the above hypothesis, the following statistical hypotheses are tested by the paired sample t-test.

H<sub>0</sub>: There is no significant difference between the average abnormal loan-loss provisioning in the year for banks with high and low financial statement comparability.

H<sub>1</sub>: There is significant difference between the average abnormal loan-loss provisioning in the year for banks with high and low financial statement comparability.

**TABLE (6). THE RESULTS OF THE SECOND HYPOTHESIS TEST BY PAIRED SAMPLE T-TEST**

	Description	Mean	Qty.	Std.
<b>Descriptive statistics</b>	High financial statement comparability	-0.0168	70	0.0367
	Low financial statement comparability	0.0168	70	0.0668
<b>F test statistics</b>	<b>F</b>	<b>7.696</b>		
	<b>Sig.</b>	<b>(0.006)**</b>		
<b>T test statistics</b>	<b>T</b>	<b>-3.678</b>		
	<b>Sig.</b>	<b>(0.004)**</b>		

The average abnormal loan-loss provisioning in banks with high and low financial statement comparability is equal to -0.0168 and 0.0168, respectively.

The difference between the two averages is 0.0336. In the following, due to the fact that the significance level of the F statistic is lower than the accepted error level (0.05), the paired sample t-test has explanatory power. Also, in the paired sample t-test, the significance level of the t statistic is lower than the accepted error level (0.05), the results show that the average abnormal loan-loss provisioning is different in the two samples.

Therefore, the second hypothesis of the research was accepted at the confidence level of 95%, and it can be concluded that at the level of the surveyed banks, the abnormal loan-loss provisioning in banks with high of financial statement comparability are significantly different from banks with

low financial statement comparability.

## 5.4.2. The results of hypothesis testing using regression test

The results of the default test and the regression test are as follows.

### 5.4.2.1. The results of F-Limer test for research hypotheses

In order to determine the appropriate method for fitting the model (pooled or panel data), Limer's or Chow's F-test shall be performed. In this research, considering that the significance level of the F-Limer statistic was lower than the accepted error level (5%), therefore, the panel data method was preferable to the pooled data method.

**TABLE (7) F-LIMER TEST RESULTS FOR RESEARCH HYPOTHESES**

Research Hyp.	F	Sig.
H <sub>1</sub>	6.154	Prob. 0.000
H <sub>2</sub>	10.128	Prob. 0.000

### 5.4.2.2. The results of H-Hausman test for research hypotheses

There are two methods to estimate the pattern using panel data, which are fixed effects and random effects. The Hausman test is used to determine the method performed for a sample of data. Since the significance level of the H-Hausman statistic in this research was less than the accepted error level (5%), therefore, the regression method with fixed effects was preferable to the regression method with random effects.

**TABLE (8) H-HAUSMAN TEST RESULTS FOR RESEARCH HYPOTHESES**

Research Hyp.	H	Sig.
H <sub>1</sub>	13.583	Prob. 0.000
H <sub>2</sub>	36.178	Prob. 0.000

### 5.4.2.3. The results of White test for research hypotheses

Heterogeneity of variance is one of the important topics in econometrics. Variance heterogeneity means that the values of the error sentences in the estimation of the regression model have heterogenic variances. If the significance level of white's statistic is greater than the accepted error level, we are not facing variance heterogeneity, but in the opposite situation, we are facing the problem of variance heterogeneity. Accordingly, the problem of variance heterogeneity is solved by the adjusted least squares method.

**TABLE (9) WHITE TEST RESULTS FOR RESEARCH HYPOTHESES**

Research Hyp.	W	Sig.
H <sub>1</sub>	1.714	Prob. 0.027
H <sub>2</sub>	2.448	Prob. 0.000

### 5.4.2.4. The results of Godfreytest for research hypotheses

One of the important issues we deal with in econometrics is autocorrelation.

In the science of statistics, autocorrelation describes a stochastic process of correlation between process values at different time points as a function of two times or time differences. Considering that the significance level of Godfrey statistic is higher than the acceptable error level, the regression does not have the problem of autocorrelation.

**TABLE (10) GODFREY TEST RESULTS FOR RESEARCH HYPOTHESES**

Research Hyp.	G	Sig.
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H <sub>1</sub>	2.371	Prob. 0.120
H <sub>2</sub>	3.291	Prob. 0.089

### 5.4.2.5. The results of the first main hypothesis test by regression method

$$ALLOWANCE_{it} = \beta_0 + \beta_1 COMP_{it} + \beta_2 A\_CAPITAL_{it} + \beta_3 SIZE_{it} + \beta_4 ROE_{it} + \beta_5 LOAN_{it} + \beta_6 LIQ_{it} + e_{it}$$

**TABLE (11) MODEL ESTIMATION RESULTS FOR THE FIRST RESEARCH HYPOTHESIS**

Variable name and symbol	Regression coefficient	t statistic	Sig.	VIF statistic
Financialstatement comparability (COMP)	-0.0001	-2.695	0.004	1.260
Capital adequacy (A_CAPITAL)	-0.188	-4.737	0.000	1.435
Bank Size (SIZE)	-0.002	-0.995	0.321	1.305
Rate of Equity (ROE)	0.011	2.544	0.008	1.056
loan/total assets (LOAN)	-0.130	-5.395	0.000	1.063
Liquidity (LIQ)	0.035	1.023	0.0308	1.116
Constant	0.213	3.476	0.000	-
F statistic (Sig.)	11.209 0.000	Durbin-Watson statistic		1.818
(Coefficient of determination)	0.639	Jarque-Berastatistic (Sig.)		8.245 0.125

Based on the results of the first hypothesis test (Table 11), given that the F statistic (0.000) has a significance level below (5%), therefore, the regression has explanatory power. The coefficient of determination of the model also showed that 63.9 percent of the changes in the loan-loss provisioning variable are explained by the variables inserted in the model. Also, in examining the assumptions of classical regression, the results of the Jarque-Beratest showed that the residuals obtained from the estimation of the model have a normal distribution at the 95% confidence level, so that the significance level of this test was greater than 0.05 (0.125). Also, due to the fact that the value of Durbin-Watson model was between 1.5 and 2.5 (1.818), it can be said that there is no problem of autocorrelation of the residuals in the model. Finally, according to the significance level of the independent variable of the financial statement comparability (0.004), the comparability of financial statement had a negative and significant effect on the loan-loss provisioning. In other words, the loan-loss provisioning in banks with high comparability of financial statements was lower than in banks with low comparability of financial statements. Among the control variables, the adequacy of capital and the ratio of loans to total assets had a significant negative effect on the loan-loss provisioning, and the rate of equity had a positive and significant effect on the loan-loss provisioning. Finally, with the collinearity test between the research variables, the value of the VIF statistic (variance inflation factor) for all variables was smaller than 5, indicating the absence of an extreme collinearity problem of the research variables.

### 5.4.2.6. The results of the second main hypothesis test by regression method

$$ABN\_ALLOWANCE_{it} = \beta_0 + \beta_1 COMP_{it} + \beta_2 A\_CAPITAL_{it} + \beta_3 SIZE_{it} + \beta_4 ROE_{it} + \beta_5 LOAN_{it} + \beta_6 LIQ_{it} + e_{it}$$

**TABLE (12) MODEL ESTIMATION RESULTS FOR THE SECOND RESEARCH HYPOTHESIS**

Variable name and symbol	Regression coefficient	t statistic	Sig.	VIF statistic
Financialstatement comparability (COMP)	-0.0001	-2.446	0.009	1.260
Capital adequacy (A_CAPITAL)	-0.092	-2.167	0.016	1.435
Bank Size (SIZE)	0.011	3.057	0.002	1.305
Rate of Equity (ROE)	0.009	2.285	0.014	1.056
loan/total assets (LOAN)	-0.108	-4.377	0.000	1.063
Liquidity (LIQ)	0.051	1.088	0.278	1.116
Constant	-0.167	-2.117	0.036	-
F statistic (Sig.)	11.057 0.000	Durbin-Watson statistic		1.940
(Coefficient of determination)	0.636	Jarque-Berastatistic (Sig.)		9.898 0.107

Based on the results of the first hypothesis test (Table 12), given that the F statistic (0.000) has a significance level below (5%), therefore, the regression has explanatory power. The coefficient of determination of the model also showed that 63.6 percent of the changes in the abnormal loan-loss provisioning variable are explained by the variables inserted in the model. Also, in examining the assumptions of classical regression, the results of the Jarque-Bera test showed that the residuals obtained from the estimation of the model have a normal distribution at the 95% confidence level, so that the significance level of this test was greater than 0.05 (0.107). Also, due to the fact that the value of Durbin-Watson model was between 1.5 and 2.5 (1.940), it can be said that there is no problem of autocorrelation of the residuals in the model. Finally, according to the significance level of the independent variable of the financial statement comparability (0.009), the comparability of financial statement had a negative and significant effect on the abnormal loan-loss provisioning. In other words, the abnormal loan-loss provisioning in banks with high comparability of financial statements was lower than in banks with low comparability of financial statements. Among the control variables, the adequacy of capital and the ratio of loans to total assets had a significant negative effect on the abnormal loan-loss provisioning, and the rate of equity had a positive and significant effect on the loan-loss provisioning. Finally, with the collinearity test between the research variables, the value of the VIF statistic (variance inflation factor) for all variables was smaller than 5, indicating the absence of an extreme collinearity problem of the research variables.

## 6- CONCLUSIONS

Facilitating comparability for investors and a better understanding of banks' financial statements for investors in case of availability of the counterparts' information, led to the investigation of the relationship between the of financial statement comparability and the loan-loss provisioning of Tehran Stock Exchange banks. The findings of the research showed that, in general, the financial

statement comparability has a negative and significant effect on the loan-loss provisioning and the abnormal loan-loss provisioning. In other words, the loan-loss provisioning and the abnormal loan-loss provisioning in banks with high financial statement comparability is less than in banks with low financial statement comparability.

Regarding the analysis of the results, it can be said that, in general, investors obtain information related to the bank's value through performance-based inference or the disclosure of counterparts' information (comparison of the company). Accordingly, considering the important role of comparability of financial statements in guiding managers and taking advantage of their ability to reduce the loan-loss provisioning, it is therefore consistent with the argument that more comparable financial reporting increases the transparency of banks' financial statements, so it provides a lot of incentive for bank managers to take steps to minimize the loan-loss provisioning. Also, considering that one of the important indicators for evaluating the performance of banks and calculating their capital adequacy ratio is the loan-loss provisioning, it is therefore important for bank managers to always seek to reduce the loan-loss provisioning. Finally, from a financial point of view, the lack of comparability of financial statements due to the inflated reserve of doubtful accounts loan-loss provisioning will lead to the lack of transparency of banks and lead to statement asymmetry, which can even cause stock price fluctuations in the future.

## 7. Research Suggestions

Due to the ability to use the results of this research in the decision-making process, the purpose of this research is practical. Therefore, suggestions for each of the beneficiaries of the research are briefly stated as follows.

**A) Bank managers:** As mentioned earlier, the loan-loss provisioning is one of the important indicators for evaluating the performance of banks and calculating their capital adequacy ratio. Based on this, it is suggested to the bank managers to gain the trust of the beneficiaries by controlling the provision of facilities as much as possible, to ensure that the loan-loss provisioning is not inflated. Because this is one of the important components in comparing and checking financial information of banks.

**B) Investors and Depositors:** According to the results of the assumptions, it is suggested that in order to prevent the violation of rights, depositors and investors should always look for the comparability of banks' financial statements. In this regard, one of the important components is the loan-loss provisioning.

**C) Central Bank:** Considering that the Central Bank, as a governing body, has considerable control over banks and financial institutions, it is therefore suggested to pay special attention to the quality of the facilities granted by banks and use rules and tools to reduce the risk of facility default.

**D) Stock Exchange Organization:** In order to determine the true value of banks, clarify their statements and better understand their performance, the stock exchange organization shall adopt rules and regulations that will provide statements as accurately and timely as possible (by increasing the comparability of financial) to inject into the market. One of the most important advantages of this behavior on the part of the organization is the guidance of banks and their managers in order to minimize the risk of facility default and finally reduce the loan-loss provisioning.

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