THE EFFECT OF FINANCIAL STATUS ON THE EARNINGS QUALITY IN THE FIRMS LISTED IN TEHRAN STOCK EXCHANGE

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ABSTRACT: *The aim of the present study is to investigate the effect of financial situation on the earnings quality of the firms listed in Tehran Stock Exchange. To achieve the purpose of the study, four hypotheses have been formulated; the sample of the research includes 182 listed companies in the stock exchange whose data has been collected and statistically analyzed for a period of 7 years, from 2007 to 2013. This research is inductive and regarding nature and purpose, correlational and descriptive. To test the research hypotheses, combined data and multiple variable regressions were used; to estimate the research model, the generalized method of least squares (pls) with pooled coefficients were used. Empirical evidence of the research suggests that earnings quality and stability of healthy companies are more than helpless companies, and the quality of accruals at 95 percent confidence level is not influenced by the failure or bankruptcy of companies.*

Keywords: *Earnings Quality, Financial Condition, Accruals Quality, Earnings Stability*

INTRODUCTION

The purpose of financial reporting is providing useful information for business decisions. Profit reporting as a criterion of company's performance measurement is one of the outcome of financial reporting. Because of the importance of profit for consumers, managers try to manipulate amount and method of profit offering. In accrual accounting system, one of the ways that managers use to manipulate profit, is the accruals. This managers' behavior is called 'profit management'.

There are different approaches for evaluation of earnings quality. But the most important criteria for assessing earnings quality includes seven features of earnings quality such as: accruals quality, income stability, profit predictability, profit stability, relationship between profit and the value of the shares, timeliness and the conservativeness of profit [1]. In measuring four features of profit quality (including accruals quality, income stability, profit predictability, profit stability) cash flow and profit are considered as the reference structure and therefore they are measurable only by using accounting information [2] Three features of the relationship between profit and the value of the shares, timeliness and the conservativeness of profit are measured on the basis of accounting and market information [3].

In this study, two features of accruals quality and earnings stability have been used. These characteristics are studied in companies listed in Tehran Stock Exchange in three levels of financial position (healthy companies, financial distressed companies, bankrupt companies). The results show that earnings quality in the healthy companies is higher than bankrupt companies.

This research investigates the impact of company's financial status on earnings quality in terms of healthy, financial distressed and bankrupt conditions.

Theoretical Statement

The quality of accruals is the extent that accruals adjust or transfer cash flow identification in way that the adjusted numbers measure the business unit's performance better and predict future profit and cash flow [4] It is expected that in the healthy companies, the cash flows shows the past, present and the future financial status in a better way and thus have higher accruals quality. On the other hand, it is likely that in the bankrupt companies with poor cash flow situation in the past, present and future, the accruals would not be matched with the cash flows. Therefore, low accruals quality is probable. Sloan [5] tested stable cash flow due to operations and accruals and future profit predictability. He concluded that those profits are stable which can predict future profits correctly. Kormendi and Lipe [6] used the current period profit's regression divided by the prior period profit to estimate profit's slope stability.

With the inclusion of expected but unrealized losses in the current reporting period, companies convert a set of adverse futures trades to a unique unsustainable loss in the current reporting period. Losses show that companies sell the properties that bring damages. Achieved losses can be due to negative damages along with refining and sale of assets or cash expenses. These factors could cause the loss that is more instable than profit. Since the bankrupt companies are in good financial condition due to the losses incurred during the reporting period, it is expected that bankrupt companies faced with a lower stable income compared with a healthy companies. Dichev and Tang [7] examined the relationship between earnings volatility and earnings predictability, and consequently they recognized a negative correlation between them.

This study examines the impact of company's financial status on earnings quality in terms of healthy, financial distressed and bankrupt conditions.

Research Hypotheses

To answer the main research question these hypotheses are formulated:

The first hypothesis: the accruals quality of healthy firms is more than financially distressed companies.

The second hypothesis: the earnings stability of healthy companies is greater than distressed companies.

The third hypothesis: The accruals quality of bankrupt firms is more than financially distressed companies.

The fourth hypothesis: the earnings stability of financially distressed companies is greater than bankrupt companies.

Research Methodology

This research is a descriptive and correlational study. The research samples include 182 listed companies in the Tehran Stock Exchange whose data has been collected and statistically analyzed for a period of 7 years, from 2007 to 2013.

Research sample companies meet all the following conditions:

1. They are listed in Tehran Stock Exchange during the period of 2007 to 2013.
2. They should not be investment and financial intermediate.
3. Companies which their financial year ended 29 March each year.
4. Companies which their data is available in the studied period.
5. Companies that have negative equity in the period of of 2007 to 2013.
6. Companies that have not changed their fiscal year during the period under review.

Considering the above features, 182 active companies were selected in the Tehran Stock Exchange. Required data were collected from data bases, Rahavrd Novin and Tadbir Pardaz software, related web sites and published DVD s by the Tehran Stock Exchange. Conceptual model of the research is as follows.

Variables Calculation

Dependent variables:

1. The Accruals quality criteria of Dechow and Dichev: Accruals quality is a measure of the earnings quality which is based on the view that profit can be very close to cash flow from operations.

$$\frac{TCA_{jt}}{asset_{j,t-1}} = a_0 + a_1\frac{CFO_{jt-1}}{asset_{j,t-1}} + a_2\frac{CFO_{jt}}{asset_{j,t-1}} + a_3\frac{CFO_{jt+1}}{asset_{j,t-1}} + \varepsilon_{it}$$

$$TCA_{jt} = \Delta CA_{j,t} - \Delta CL_{j,t} - \Delta CASH_{j,t} + \Delta STDEBT_{j,t} + \Delta TP_{j,t}$$

TCA_{jt}: total accruals of firm j in year t
CFO_{jt}: cash flow from operations of firm j in year t
$\Delta CA_{j,t}$: Changes in current assets of firm j in year t
$\Delta CL_{j,t}$: Changes in current liabilities of firm j in year t
$\Delta CASH_{j,t}$: Cash flow changes firm j in year t cash
$\Delta STDEBT_{j,t}$: Changes in the short-term intake facility of firm j in year t
ΔTP: changes in paid tax of firm j in year t
$asset_{j,t-1}$): Property of firm j in year t-1

2- Earnings stability criteria:

$$INCOME_t = a_0 + a_1 INCOME_{t-1} + \varepsilon_t$$

Whatever the slope of regression (a1) is higher and closer to 1, earnings has more stability.

Independent variables:

In order to determine the probability of bankruptcy, the Altman criterion is used. This criteria is as follows:

$$EM\ Score = 6.56 * X1 + 3.26 * X2 + 6.72 * X3 + 1.05 * X4 + 3.25$$

In working capital divided by the total assets	X1
Retained earnings divided by the total assets	X2
Earnings before interest and taxes divided by the total ssets	X3
Book value of equity divided by the total debt	X4

Z scale regional analysis as follows:

Represents healthy companies in this study.	$Z > 5.65$
Represents financially distressed companies in this study.	$1.75 < Z < 5.65$
Represents the bankrupt companies in this study.	$Z < 1.75$

Variable 0 or 1 of healthy companies against financially distressed companies using the standard z of Altman's criterion: 1 represents healthy companies and 0 represents financially distressed companies. Variable 0 or 1 are of financially distressed companies against bankrupt companies using the standard z of Altman's criterion. Financially distressed firms are 1 and bankrupt firms are assumed to be 0.

Control variables:

1. Cash flow from operations
2. The standard deviation for sale units
3. The logarithm of the total assets of the business unit
4. The logarithm of the operating cycle of the business unit
5. Status of losing business units (range 0 or 1)

The results of test research hypotheses

Descriptive statistics of variables

According to Table (1) sample firms equals to 0.1641 and the minimum and the maximum is respectively 0.0127 and 0.7422. Investigating skewness and kurtosis of these variables suggests that the accruals quality has not a normal distribution. Also the average earnings stability of the sample companies is 0.3083 and the minimum and the maximum is respectively -1.92 and 3.97. Skewness and kurtosis study also suggests that this variable is not normally distributed. According to the Table 1, the average accruals quality of Regarding the control variables, the average volatility of cash flows of research sample firms 0.0752 and the average volatility of its sales is 0.1633. Average size of sample firms measured by the natural logarithm of the book value of assets is 13.528. The natural logarithm of the operating cycle is equal to 2.334. Regarding obtained descriptive statistics, 8.08 percent of observations had negative profit.

Test for the normal distribution of research dependent variables

In the present study, to estimate the model parameters, the ordinary least squares method is used. OLS is based on the assumption that the dependent variable is normally distributed in the study as the test Jarque - Bera is applied in the research.

Due to the level of statistical significance of Jarque - Bera which for these variables is less than 0.05 (0.000), these variables should be normalized before the hypothesis testing. The Johnson Transformation is used for data normalization.

According to Table (3), since after normalization of the data, the significance level of Jarque - Bera have risen to more than 0.05, the dependent variable after normalization process, is normally distributed.

Table 1. Descriptive statistics of variables

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum	Skewness	kurtosis
Accrual Quality (*AQ*)	1088	0.1641	0.1048	0.0127	0.7422	1.903	7.947
(*PERS*) Income Stability	1268	0.3083	0.563	-1.9201	3.979	0.780	8.292
Healthy Companies versus Financially distressed ones (HvsFD)	1223	0.619	0.485	0	1	-0.493	1.243
Financially distressed companies versus Bankrupt Ones (*FDvsB*)	516	0.901	0.298	0	1	-2.688	8.227
Cash Flow Changes of companies (*CFO*)	1273	0.075	0.067	0.0015	0.779	4	32.233
Sales Earning Changes (*B-Sales*)	1271	0.163	0.132	0.001	1.132	2.335	11.858
Firm Size (*Size*)	1274	13.528	1.420	9.880	18.877	0.782	4.189
Operational Cycle (*OpCycle*)	1274	2.334	0.302	0.000	3.3011	-1.343	11.489
Negative Earnings (*NegEran*)	1274	0.0808	0.2727	0	1	3.075	10.456

Table 2: The results of the normality of the distribution of the dependent variable

Variable	symbol	Jarque - Bera Statistics	Significance level
Accrual Quality	(*AQ*)	1766.697	0.000
Income Stability	(*PERS*)	1608.558	0.000

Table 3: Test results of the normal distribution of dependent variables after normalization process

Variable	symbol	Jarque - Bera Statistics	Significance level
Accrual Quality	(*AQ*)	0.117	0.9427
Income Stability	(*PERS*)	4.069	0.1307

(Mode1 1)

$$AQ_{i,t} = \beta_0 + \beta_1 HvsFD_{i,t} + \beta_2 CFO_{i,t} + \beta_3 B\_Sales_{i,t} + \beta_4 Size_{i,t} + \beta_5 OPCYCLE_{i,t} + \beta_6 NEGEARN_{i,t} + \varepsilon_{i,t}$$

Table 4: Results of the selection model to estimate model (1)

Test Type	Test Statistic	Test Statistic Amount	Degree of Freedom	*P-Value*	*Result*
F Lymer Statistic	F	10.250	(854,180)	0.000	Panel
Hausman Statistic	χ^2	25.685	6	0.0003	Fix Effects

Table 5 shows the results of estimating model (1)

Dependent Variable :Accrual Quality Company Observations: 1041 Year-Company				
Variable	Coefficient	t Statistic	*P-Value*	*VIF*
Fix Coefficient	0.1328	3.302	0.0010	-
Healthy Companies versus Financially distressed ones	-0.0061	-2.553	0.0108	1.083
Cash Flow Changes	0.2575	10.335	0.000	1.029
Sales Earning Changes	0.0494	4.167	0.000	1.178
Firm Size	0.0017	0.6311	0.5281	1.030
Operational Cycle	-0.0063	-0.806	0.4204	1.182
Loss	-0.001	-0.245	0.8063	1.048
Adjusted Coefficient of Determination of Model: 0.8375				
F statistic of Model (*P-Value*)	29.833 0.000)	Jarque-Bera Statistic (*P-Value*)	24.381 (0.000)	
Breusch-Pagan Statistic (*P-Value*)	5.695 (0.000)	Durbin-Watson Statistic	1.519	

(Model 2)

$$PERS_{i,t} = \beta_0 + \beta_1 HvsFD_{i,t} + \beta_2 CFO_{i,t} + \beta_3 B\_Sales_{i,t} + \beta_4 Size_{i,t} + \beta_5 OPCYCLE_{i,t} + \beta_6 NEGEARN_{i,t} + \varepsilon_{i,t}$$

Table6: Results of the selection model to estimate model (2)

Test Type	Test Statistic	Test Statistic Amount	Degree of Freedom	*P-Value*	*Result*
F Lymer Statistic	F	3.441	(1027,181)	0.000	Panel
Hausman Statistic	χ^2	5.686	6	0.4592	Fix Effects

In Table 7, the results of estimating the model number (2) are provided.

Table 7: the results of estimating model (2)

Dependent Variable :Income Stability Number of Observation :1029 Year-Company				
Variable	Coefficient	t Statistic	*P-Value*	*VIF*
Fix Coefficient	-0.0186	-0.099	0.9207	-
Healthy Companies versus Financially distressed ones	0.1113	3.826	0.0001	1.073
Cash Flow Changes	-0.0873	-0.404	0.6862	1.038
Sales Earning Changes	-0.0412	-0.364	0.7154	1.181
Firm Size	-0.0012	-0.126	0.8995	1.026
Operational Cycle	-0.0722	-1.470	0.1418	1.177
Loss	0.3117	5.267	0.000	1.064
AR(1)	-0.5213	20.064	0.000	1.028
Adjusted Coefficient of Determination of Model: 0.2685				
F statistic of Model (*P-Value*)	54.927 (0.000)	Jarque-Bera Statistic (*P-Value*)	3.714 (0.1561)	
Breusch-Pagan Statistic (*P-Value*)	2.733 (0.0081)	Durbin-Watson Statistic	1.852	

(Model 3)

$$AQ_{i,t} = \beta_0 + \beta_1 FDvsB_{i,t} + \beta_2 CFO_{i,t} + \beta_3 B\_Sales_{i,t} + \beta_4 Size_{i,t} + \beta_5 OPCYCLE_{i,t} + \beta_6 NEGEARN_{i,t} + \varepsilon_{i,t}$$

Table 8: Results of the selection model to estimate model (3)

Test Type	Test Statistic	Test Statistic Amount	Degree of Freedom	*P-Value*	*Result*
F Lymer Statistic	F	7.315	(322.125)	0.000	Panel
Hausman Statistic	χ^2	28.014	6	0.0001	Fix Effects

In Table 9: the results of estimating the model number (3) is provided.

Dependent Variable : Accrual Quality Number of Observation : 300 Year-Company				
Variable	Coefficient	t Statistic	*P-Value*	*VIF*
Fix Coefficient	0.1921	2.879	0.0043	-
Financially distressed companies versus Bankrupt Ones	0.0049	0.732	0.4647	1.034
Cash Flow Changes	0.1421	5.403	0.000	1.039
Sales Earning Changes	0.0447	5.120	0.000	1.078
Firm Size	-0.0095	-2.145	0.0328	1.066
Operational Cycle	0.0203	2.387	0.0176	1.103
Loss	-0.003	-0.635	0.5258	1.035
AR(1)	0.7525	37.984	0.000	1.044
Adjusted Coefficient of Determination of Model: 0.2685				
F statistic of Model (*P-Value*)	255.884 (0.000)	Jarque-Bera Statistic (*P-Value*)	76.857 (0.000)	
Breusch-Pagan Statistic	1.100	Durbin-Watson	1.941	

(*P-Value*)	(0.3621)	Statistic

Table 10: Results of the selection model to estimate model (4)

Test Type	Test Statistic	Test Statistic Amount	Degree of Freedom	*P-Value*	*Result*
F Lymer Statistic	F	1.370	(306.135)	0.0153	Panel
Hausman Statistic	χ^2	103.882	7	0.000	Fix Effects

(Model 4)

$$PERS_{i,t} = \beta_0 + \beta_1 FDvsB_{i,t} + \beta_2 CFO_{i,t} + \beta_3 B\_Sales_{i,t} + \beta_4 Size_{i,t} + \beta_5 OPCYCLE_{i,t} + \beta_6 NEGEARN_{i,t} + \varepsilon_{i,t}$$

In Table 11, the results of estimating the model number (4) are provided.

Table 11 shows the results of estimating model (4)

Dependent Variable :Income Stability		Number of Observation :439 Year-Company		
Variable	Coefficient	t Statistic	*P-Value*	*VIF*
Fix Coefficient	1.0283	0.641	0.5216	-
Financially distressed companies versus Bankrupt Ones	0.2464	1.985	0.0479	1.073
Cash Flow Changes	-0.0843	-0.134	0.8932	1.038
Sales Earning Changes	-0.6513	-2.180	0.0300	1.181
Firm Size	0.0206	0.177	0.8592	1.026
Operational Cycle	-0.7859	-3.766	0.0002	1.177
Loss	0.0916	0.956	0.3398	1.064
AR(1)	-0.0776	-1.299	0.1948	1.028
Adjusted Coefficient of Determination of Model: 0.2939				
F statistic of Model (*P-Value*)	2.381 (0.000)	Jarque-Bera Statistic (*P-Value*)	0.746 (0.6883)	
Breusch-Pagan Statistic (*P-Value*)	0.864 (0.5347)	Durbin-Watson Statistic	2.162	

THE RESULTS OF THE FIRST HYPOTHESIS TESTING

To test the first hypothesis, the model (1) is used. It is a regression model which was estimated using panel data:

(Model 1)

In this model, F Lymer test is used to determine the effectiveness of panel data estimation methods and the Hausman test was used to assess which method (fixed effects or random effects) is better in the analysis. The results of these tests are shown in Table (4).

Based on the results presented in Table (5), the level of significance (P-Value) of t-statistics for the variable "healthy companies against distressed" is smaller than 0.05 (0.0108) and its coefficient is negative (-0.0061). Therefore it is concluded with 95 % confidence level that there is a significant negative correlation between healthy firms and their abnormal accruals, so that in the healthy company, level of abnormal accruals decreases and accruals quality is increased. The first hypothesis was rejected at the 95 % confidence level and the accruals quality in healthy companies is higher than distressed companies.

The results of the second hypothesis testing

To test the second hypothesis, the model (2) is used. It is a regression model which was estimated through panel data:

(Model 2)

Based on the results presented in Table (7), the level of significance (P-Value) of t-statistics for the variable "healthy companies against distressed" is smaller than 0.05 (0.0108) and its coefficient is positive (0.1113). Therefore, with 95 % confidence level, it is concluded that there is a significant positive correlation between healthy firms and earnings stability, so that in the healthy company, level of earnings stability increases. The second hypothesis was accepted at the 95 % confidence level and the earnings stability of healthy companies is more than distressed ones.

The Results of the Third Hypothesis Testing

To test the third hypothesis, the model (3) is used. It is a regression model which was estimated through panel data:
(Model 3)
Based on the results presented in Table (9), the level of significance (P-Value) of t-statistics for the variable "financially distressed companies against bankrupt" is higher than 0.05 (0.4647) . Therefore it is concluded with 95 % confidence level, there is no significant negative correlation between financially distressed companies or bankrupt ones and their abnormal accruals, so that the financially distressed companies or bankrupt company has no effect on their accruals. The third hypothesis was
rejected at the 95 % confidence level is not under effect of company's financially distressed or bankrupt status.

THE RESULTS OF THE FORTH HYPOTHESIS TESTING

To test the forth hypothesis, the model (4) is used. It is a regression model which was estimated through panel data:
(Model 4)
Based on the results presented in table (11), the level of significance (p-value) of t-statistics for the variable " financially distressed companies against bankrupt " is smaller than 0.05 (0.479) and its coefficient is positive (0. 2464). Therefore, with 95 % confidence level, it is concluded that there is a significant positive correlation between financially distressed companies or bankrupt ones and earnings stability, so that in these companies, level of earnings stability increases. The forth hypothesis was accepted at the 95 % confidence level and the earnings stability of financially distressed companies is more than bankrupt ones.

CONCLUSION

According to the research theoretical principles, it was expected that healthy companies have high accruals quality. It is likely that in the bankrupt companies with poor cash flow situation in the past, present and future, the accruals would not be matched with the cash flows. Therefore, low accruals quality is probable. Regarding the above explanations and according to the results of the first and third research hypothesis testing, it can be said there is a significant negative correlation between a health of the companies and their abnormal accruals, so that, health of the companies causes reduction of their abnormal accruals' level and increases their accruals quality. In the contrary, accruals quality is not affected by the failure or bankruptcy of the companies. These results are consistent with theoretical principles of Feng Li's research [8]. In 1992, Rossini stated that the profit which is more stable has more quality. In 2001, Richardson et al, have defined earnings quality as the stability of current profits in future periods. Therefore, the profit that durable more, considered with more quality [9].

Empirical evidences of second and fourth hypotheses testing show that profit quality and stability of profit in healthy companies are more than distressed companies. And stability of profit and the income smoothing in distressed companies are more than bankrupt companies. So it can be said that, according to Tehran Stock Exchange company' financial fluctuations, their profit stability is impressed. Whatever companies have better financial status (healthy), they will have higher profit stability compared with distressed and bankrupt companies. These results are consistent with theoretical principles and Feng Li's research [8] which argued that bankrupt companies due to the losses incurred during the reporting period, have not very good financial situation and their profit are less stable compared with the normal companies.

REFERENCE

1-Francis, J., LaFond, R., Olsson, P., & Schipper K. (2004). Costs of equity and earnings attributes. The Accounting Review, 79, 967-1010.

2-Etemadi, H., Amirkhani, K., and Mohabat, S. (2012). Value content of mandatory disclosure: Evidence from companies listed in Tehran Stock Exchange, Stock Exchange Quarterly, 4 (13), pp. 252-235.

3-Kordestani, Gh R., and Majdi, Z. (2007). Investigate the relationship between the qualitative features of the costs and benefits of common stock, accounting and auditing Reviews (14) 2, pp. 85-104.

4-Dechow, M., & Dichev, D. (2002). The quality of accruals and earnings: The role of accruals estimation errors. The Accounting Review, 77 (Supplement), 35-59.

5-Sloan, R. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? The Accounting Review, 71(3), 289-315.

6-Kormendi, R., & Lipe, R. (1987). Earnings innovations, earnings persistence, and stock returns. Journal of Business, 60, 323-345.

7-Dichev, I., & Tang, V. (2009). Earnings volatility and earnings predictability. Journal of Accounting and Economics, 47(1-2), 160-181.

8-Li, Feng and Abeysekera, Indra and Ma, Shiguang, The Effect of Financial Status on Earnings Quality of Chinese Listed Firms (2014). Journal of Asia Pacific Business, Vol. 15, No. 2, pp. 4-26, 2014. Available at SSRN: http://ssrn.com/abstract=2404619

9-Rezaei, F., Badavar Nahandi, Y., and Samadiyan, B. (2012). Comparison of the relationship between stock returns and earnings quality models Louise Burton-Symkv and Penman. Tenth National Conference of accounting. 3 and 4 June 1391. Page 41-54.