

The Effect of Aggressive Financial Reporting and Corporate Governance on the Companies' Financial Distress

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Abstract: In this investigation, we have studied the effect of earnings management and corporate governance on the companies' bankruptcy. For this purpose, the companies registered in Tehran Stock Exchange (TSE) within the period 2006-2011 were used among which 95 companies were selected by systematic random sampling method to be studied. This empirical investigation is conducted on the basis of real information of financial statements. After collecting the required data through official sites of Stock Exchange and compact disks, regression model and descriptive and inferential statistical texts (including homogeneity of variance, normality and independence of the residuals) are used to test the research hypotheses and finally, the correlation between these two variables is examined. The results so achieved, shows that there is a significant relationship between the earnings management and the bankruptcy index in the first hypothesis. On the other hand, in the second main hypothesis, a direct and significant relationship exists between the corporate governance and the bankruptcy index. The results achieved by the examination of the relationship of the non-executive board members ratio, ownership concentration and internal audit grade with the bankruptcy index are confirmed.

Key words: Aggressive Financial Reporting • Corporate Governance • Companies' Bankruptcy

INTRODUCTION

Accrual accounting suggests some hypotheses for systems such as costs allocation between different cycles in a way that once the managers decide to apply each hypothesis, the figures resulted by such system will lose its exactness and there would be nothing except manipulation of the earnings' figures by the management. These manipulations might affect remarkably the data on the financial statements and cause to create conditions for financial distress. One of the methods used sometimes to prevent unfolding the adverse situation of the companies [1-3]. According to the previous studies, the corporate governance may help raising the commercial standards of the companies and result in encouraging, supplying and equipping the capitals and investors as well as improving their administrative issues. It is one of the main factors in improving the companies' performance, because it

controls the relationship between the stockholders, board of directors, managers and all other beneficiaries [4-6]. The corporate governance decreases the managers' capacity for earning management and can enhance reliability of accounting incomes; thus it will increase the capability to provide useful information on such accounting incomes. As its target, the corporate governance aims more than anything else at bringing a safe life to the enterprise in the long term [7-9]. Bankruptcy prediction models is considered an important issue in financial management as one of the devices for estimating the companies' future, because it is necessary for the corporation manager to be aware of the factors leading to bankruptcy and to understand it completely in order to be able to suggest solutions to prevent such failure. On the other hand, investors and creditors are very interested to predict the corporate' bankruptcy, as considerable costs will be imposed on them. Such models have their own strengths and weaknesses [10-12].

Review of Literature: Agaiee (2010) concluded in its study titled as “an investigation on the effect of corporate governance mechanisms on the corporate’ performance” that there is a positively significant relationship between the existence of internal auditors and institutional investors with the performance of stock companies. No significant relationship was found between the nonexecutive board members and transparency of information with the company’s performance [13].

While using Pearson Correlation and Mann Whitney U tests, Kasererr (2008) came to the conclusion that there is no significant relationship between internal auditing and the ratio of nonexecutive board members with the measures of information asymmetry [14]. Wu *et al.* (2010) found that the results achieved by testing the hypotheses showed that prediction models of financial distress including Zmijewski, Springate, CA Score, Farjzadeh Genetic and McKee Genetic are capable to predict the continuity of operation for the companies registered in TSE. And the models developed by statistical techniques (classic models) enjoy more capability to predict bankruptcy [15].

Rosneo (2003) and Ronser (2003) observed that the companies manipulate their earnings during the years before bankruptcy. In his study, he has considered the earnings manipulation during 5 years before bankruptcy as equal. Furthermore, the results of this investigation showed that the companies which are still working have had income decreasing behavior within a year before bankruptcy [16, 17].

Donher (2004) and Asquith *et al* showed in his study a relationship that exists between the corporate governance and the companies’ bankruptcy. Thus, the percentage of the companies’ free float stocks is used as a market data in order to predict their bankruptcy [18, 19].

Eliezer Fich and Steve Slezak (2007) and Charbel *et al.*(2010) arrived at the conclusion that a positively significant relationship exists between the bankruptcies with smaller and independent board of directors consisting of external managers and the shares owned by the managers [20].

Re gis *et al.* (2008) and Deng and Wong (2006) found that the companies which had received unqualified audit opinion within five years before their bankruptcy are not interested in increasing profits. Meanwhile, the managers of the companies under financial distress manage their profits in a top-to-down way during a year before entering the bankruptcy [21, 22].

Research Methodology

Measurement of the Variables

Bankruptcy: In this study, we have used FALMER model (one of the well-known bankruptcy estimation models) to estimate bankruptcy. It is calculated for each company as follows:

$$F = 5.5 X_1 + .212 X_2 + .073 X_3 + 1.27 X_4 - .12 X_5 + 2.335 X_6 + .57 X_7 + 1.082 X_8 + .48 X_9$$

[Equation(1)]

where,

- X_1 Is calculated through the Total Assets divided by Retain Earnings;
- X_2 Is calculated via the Total Assets divided by the Sales;
- X_3 Is estimated via Stockholders’ Equity divided by the Income before Tax
- X_4 Is calculated through Total Liabilities divided by Net Cash Flow;
- X_5 Is estimated via total assets divided by total liabilities;
- X_6 Is calculated via the Total Assets divided by Current Liability
- X_7 Is the Logarithm of Intangible Assets
- X_8 Is estimated via the Financial Expenses divided by Earnings before Interest and Tax
- X_9 Is the ratio of Working Capital to Total Liabilities

If the calculated index < 0 , then the company is classified in the group under bankruptcy.

Corporate Governance: Corporate governance system is considered as a monitoring mechanism to control managerial and financial behaviors. This coordination system is arranged regarding cultural and legal system and its mechanism is formed considering this conditions. In other words, corporate governance consists of laws, rules, structures, processes, cultures and systems to achieve objectives such as accountability, transparency, justice and regarding rights of beneficiaries. Three components of the system have been examined which are stated in below:

Non Executive Board: According to trading laws of Iran, business corporations can choose some of their board members from the outside of the corporation. These members over can be directors the other corporations. These members can't be the managers of

state corporations. The names of these individuals are exposed in annual reports. As these individuals don't work full time in the corporations are not aware internal conditions of the corporation. But as they have not share in the activities of the company, they enjoy more independency and are expected to have a better supervision of the board of directors. This ratio is attained by the division of the number of irresponsible board members to the total number of the board members.

Internal Auditing: According to the laws of corporate governance of Iran and Stock Market Law, trading companies should have an internal auditing that which should be under the supervision of the board of directors. Internal auditor can audit and report in any areas of finance and activities. In Iran there is no auditing committee and this role is performed by the internal auditor in a more limited way. In order to study the research, corporations that have internal auditor segregate the corporation with no internal auditor.

Concentration Ownership: In the Iranian corporations, major stock holders usually choose the corporate managers and miner share holders usually have no role in the choosing managers and the CEO. Theoretically it is acceptable but it is expected that major investor would think of his own interest and would not pay attention to the miner investors.

The corporate governance laws of Iran in this regard do not present specific mechanism. To measure this variable we calculate the concentration of ownership in the company which means, how to distribute the stocks among the stockholders. In this research in order to calculate the ratio of the concentration ownership "Herfindal and Herishman" model is used. The mentioned model is attained by the sum of the square roots percentage of the stock which belongs to the shareholders of the company. In case that entire amount of the shares belong to one individual will have the highest value and will be equal to 1000 units. In case the structure of ownership is dispersed and all shareholders have equal ratios, the HHI index still has the lowest value and calculates by $N/1000$.

$$HHI \sum \left(\left(\frac{p_i}{p} \right) \times 100 \right)^2 = \quad \text{[Equation2]}$$

Earnings Management: Discretionary accrual income is calculated using adjusted Jones model and its measurement method is presented in below. Accrual

income items are divided into discretionary and non discretionary and will be measured. Influence of corporate economic situation on accrual item in a specific time period (which is known as event period) is estimated by sales, plant and equipment variables as follows:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \left(\frac{1}{A_{it-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{it}}{A_{it-1}} \right) + \alpha_3 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \varepsilon_{it} \quad \text{[Equation(3)]}$$

where TA_{it} ; is sum of accrual items, A_{it} ; is sum of assets, REV_{it} ; is change of sales income and PPE_{it} ; is change of assets, machineries and equipments. After estimating parameters of above model using 2004 - 2009 information of each company through applying time series models, non discretionary accrual items(NDAit) are calculated for estimate period (i.e. year of 2010) as follows:

$$NDA_{it} = \alpha_1 \left(\frac{1}{A_{it-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \left(\frac{PPE_{it}}{A_{it-1}} \right) \quad \text{[Equation(4)]}$$

Finally, discretionary accrual accounting (DAit)or earnings management index has been calculated as follows:

$$DA_{it} = \frac{TA_{it}}{A_{it-1}} - NDA_{it} \quad \text{[Equation(5)]}$$

The difference between net profit and net cash from operation (as total accrual items) has been calculated using below formula:

$$TA_{it} = E_{it} - OCF_{it} \quad \text{[Equation(6)]}$$

where E_{it} ; is net income before tax, OCF_{it} ; is net cash from operation and TA_{it} ; is total accrual items in 2010 time period. All above data have been extracted from annual financial statements of companies.

Research Hypotheses: Considering the research questions and purposes, major and minor research hypotheses are formulated as follows:

- There is a significant relationship between the company's earnings management and its bankruptcy index based on the Flamer model.
- There is a significant relationship between the components of company's corporate governance and its bankruptcy index based on the Flamer model.

- A significant relationship exists between the company's nonexecutive board members and its bankruptcy index.
- There is a significant relationship between the existence of an internal auditor in the company and its bankruptcy index.
- There is a significant relationship between the rates of ownership concentration and the company's bankruptcy index.

Methodology: A fitted model is used to examine the above hypotheses as follows:

$$Z_{falmer} = \alpha + \beta_1 CG + \beta_2 DA + \beta_3 Control Variable + \varepsilon$$

[Equation(7)]

Z_{falmer} : Bankruptcy index on flamer model, CG: corporate governance, DA :aggressive financial reporting,

Population and Sample: The population under study consists of the companies registered in TSE within the period 2006-2011 some of which have been omitted with regard to the following conditions and finally 95 companies were selected as the sample of the study.

- They should not be of investment corporations and/or financial brokers.
- The fiscal year of such companies should be ended on March 20th.
- They have been registered in TSE within the financial period 2006-2011.

RESULTS AND DISCUSSION

A descriptive statistics of earnings management and bankruptcy have been summarized in the following table:

As it is seen the bankruptcy mean is 9.52 and the earnings management one is -5.83; their standard deviation are shown respectively as 1.052 and 4.102. Since the skewness coefficient of bankruptcy variable is 0.030, it is skewed slightly toward right which is not symmetrically so different from normal distribution. It is whilst the skewness coefficient of earnings management is -7.959 which shows its skewness toward left. Furthermore, Kurtosis Coefficient of this bankruptcy variable is 0.107 which is less dispersed compared to the kurtosis coefficient of earnings management, because it is closer to 0.5; it means that distribution of bankruptcy variable is closer to normal distribution.

Table 1: Descriptive results of earnings management

	Bankruptcy :Y	Earnings management
Mean	9.5237	-5.8377
Std. Error of Mean	.11772	4.58670
Median	9.5531	-.0092
Mode	7.05 ^a	-351.19 ^a
Std. Deviation	1.05289	4.10247E1
Variance	1.109	1.683E3
Skewness	.030	-7.959
Std. Error of Skewness	.269	.269
Kurtosis	.107	66.050
Std. Error of Kurtosis	.532	.532

Table 2: Descriptive results of corporate governance

	Bankruptcy	Non Exe -board	Internal auditor	Ownership concentration
Mean	9.5454	.6394	.54	3285.8299
Std. Error of Mean	.14360	.01979	.054	314.98002
Median	9.5711	.6000	1.00	2936.3639
Mode	5.83 ^a	.60	1	4.00 ^a
Std. Deviation	1.33944	.18462	.501	2937.93801
Variance	1.794	.034	.251	8.631E6
Skewness	-.069	.150	-.164	2.982
Std. Error of Skewness	.258	.258	.258	.258
Kurtosis	.592	-.337	-2.020	15.172
Std. Error of Kurtosis	.511	.511	.511	.511

The following table shows the descriptive statistics of corporate governance and bankruptcy as summarized.

The mean of nonexecutive board members is 0.6394 and the mean of ownership concentration is 3285.83; the standard deviation of the latter and the former are respectively as 0.184 and 2938. Since the skewness coefficient of nonexecutive board members ratio variable is 0.150, it is slightly skewed toward the right that is not symmetrically (0.5) so different from normal distribution. It is whilst the skewness coefficient of the rates of ownership concentration is 2.982 which is skewed toward the right. Furthermore, kurtosis coefficient of the nonexecutive board members ratio variable is -0.337 which is less dispersed in comparison to the kurtosis coefficient of the rates of ownership concentration; it means that the distribution of the nonexecutive board members ratio variable is closer to normal distribution.

The Results of Testing Research Hypotheses:

To examine the relationship existing between the variables in the mentioned hypotheses, Pearson Correlation Coefficient is used. The coefficient of multiple-correlation between the corporate governance components and the bankruptcy of the companies is 0.397 and its probability value or significance statistics is equal to 0.003 which is less than 0.05. Thus, with a confidence level of 95%,

the existing significant and direct relationship between the corporate governance and the bankruptcy is verified. In the meantime, once we entered the components simultaneously into the model, the component of nonexecutive board member ratio to the bankruptcy was not confirmed in the multiple regression model, since its significance statistics was calculated as 0.245 which is larger than 0.05. However, when the components are entered singularly into the model one-by-one, the significance statistics of nonexecutive board members ratio to the bankruptcy was estimated at 0.048 that is less than 0.05 and the related significance was not verified. Furthermore, the relationship between the components of internal auditor presence and the rates of ownership concentration with the bankruptcy either simultaneously or separately was confirmed in the model. At the end, we entered ownership type control variable into the model for both hypotheses. The multiple-correlation coefficient is 0.058 for the first hypothesis and its coefficient of determination is 0.003. Therefore, proposing the hypothesis 1 and entering the control and earnings management variables into the model, the linear regression model could justify a share of 0.253 of the overall changes and the remaining has been caused by all other factors and accidental events. Since the related significance statistics is equal to 0.479, that is not less than 0.05 and then the assumption 1 is not confirmed. The multiple-correlation coefficient is 0.397 for the second hypothesis and its coefficient of determination is 0.158. Thus, proposing the hypothesis 2 and entering the control variable along with other variables including nonexecutive board members ratio, rates of ownership concentration and ownership type and earnings management into the model, the linear regression model could justify a share of 0.158 of the overall changes and the remaining has been caused by all other factors and accidental events. Meanwhile, compared to the determination coefficient of this hypothesis without control variable as 0.157, it has made minimal changes, i.e. 0.001. In this case where the significance level is 0.003 and less than 0.05, then, the assumption is confirmed that the hypothesis 2 is significant.

In regression model, there is not a significant relationship between the earnings management and the bankruptcy. In addition, there is a significant relationship between the components of corporate governance including nonexecutive board members, internal auditor and the rates of ownership concentration singularly with the bankruptcy. However, simultaneous results of multiple-regression model are as follows:

Table 3: Summarized results of modeling and simultaneous multiple model

Results	p-value	(β)	Hypothesis
Not confirm	0.479	0.006-	1
confirm	0.003	0.397	2
Not confirm	0.075	0.160	2-1
Confirm	0.010	0.285	2-2
Confirm	0.024	0.239	2-3

- There is no significant relationship between the nonexecutive board members and the bankruptcy
- There is a significant relationship between the internal auditor with the bankruptcy and between the ownership concentration rates with the bankruptcy.

Such results led finally to the confirmation of this hypothesis. Since the multiple models are more accurate, the results achieved by this model are more valid for final analysis.

CONCLUSION

As the results shows, in the companies where the earnings figures are manipulated, the bankruptcy index indicates further bankruptcy. Accordingly, the angers of the companies suffered from financial distress and even further financial problems turn to manipulate their financial figures with the purpose to make the users of such financial information misled. Furthermore, the relationship between the corporate governance and the bankruptcy has been also confirmed; that is, in the companies where the ratio of nonexecutive board members is high, it is more likely on the verge of bankruptcy. In other words, most of such members are unaware of internal situation of the companies and they don't spend much time for the benefit of the company. They are selected mostly with political purposes while they have no financial and economic expertise. Additionally, in the companies where the ownership concentration rates are high and most shares of the company is owned by one legal entity or more, it is unlikely subject to bankruptcy. Such companies cannot make uneconomical decision due to the strict supervision exercised by investment corporations as major shareholders. Meanwhile, in the companies where there is no internal auditor, it is likely close to the bankruptcy. Due to the position and the independence of internal audit in the companies, such internal auditors can play the role of an impartial observer who will inform the board of directors of the possible bankruptcy. The results of this study confirming the effect of earnings figures manipulation and corporate governance variables on the bankruptcy in the companies.

Further Suggestions: The following subjects are suggested for further studies:

- To revise Iranian accounting standards in respect of measurement and disclosure of earnings, costs profits figures
- To examine and revise Iranian accounting standards in connection with the cases of financial distress and discontinuity of the companies' activities.
- To study and revise Iranian commercial law considering its old age.

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