THE EFFECTS OF INDEPENDENT MANAGERS, INSTITUTIONAL SHAREHOLDERS AND AUDIT EXPENSES ON THE PROBABILITY OF FINANCIAL CRISIS

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ABSTRACT

This paper examines the impact of independent managers, institutional shareholders and audit expenses on the probability of financial crisis of the listed companies in Tehran Stock Exchange (TSE). The target sample includes 75 firms of the listed companies in TSE during 2006 to 2010 years (1385 to 1389 Iranian calendar). To doing so in the first step, the logit regression model was conducted to fit a model to calculate the probability of financial crisis in these companies. Then using this model, the probability of financial crisis in these companies was calculated in each year. Finally, using simple linear regression, the effect of independent variables including independent managers, institutional shareholders and audit expenses on the financial crisis, has been tested. The result shows that independent managers and audit expenses, significantly affect the probability of financial crisis in company but the institutional shareholders does not.

Keywords: Independent managers, Institutional shareholders, Audit expenses, Probability of financial crisis

INTRODUCTION

In today's business environment, the Asian financial crisis was the result of a loss in investor confidence and a lack of effective corporate governance (Ho and Wong, 2001). Furthermore, the incidence of financial crises in the world is more than any time in recent years. The economic statistics and numbers in the last two decades, represent the unprecedented increase in bankruptcies. The financial crisis in a country is an important economic indicator and will draw public attention to it. Also the economic costs of bankruptcies are too high. Therefore, the ability to predict the financial crisis and to prevent it from happening is essential and prevents the improper

allocation of scarce economic resources. Previous researchers have studied the impact of various factors on the probability of financial crisis in the company. But this paper has focused on the impact of two of the main characteristics of corporate governance including independent managers and institutional shareholders, and also the impact of audit expenses on the probability of financial crisis in the listed companies in TSE. So, the purpose of this paper is to answer the following questions:

1. Do the Institutional shareholders have a significant effect on the probability of financial crisis in a company?
2. Do the independent managers have a significant effect on the probability of financial crisis in a company?
3. Do the audit expenses have a significant effect on the probability of financial crisis in a company?

Theoretical Principles

As Hassas and Baghumian (2005) have stated, it is possible that corporate managers don't use company resources to increase shareholder's wealth. Companies have used a variety of tools such as corporate governance to solve this problem.

Corporate Governance and Its Characteristics

The literature shows that there is no definition agreed about corporate governance. The Organization for Economic Co-operation and Development (OECD) has been defined the corporate governance as: "A set of relationships between management, board, shareholders and other stakeholders of the company". Hassas and Baghumian (2005) believes that the corporate governance is the process of monitoring and controlling the manager to ensure that his performance is in accordance with the shareholders' interest. This paper reviews two characteristics of corporate governance including independent managers and institutional shareholders.

a.   Independent Managers

Based on the article 1 of the Rules of Corporate Governance in Listed Companies in TSE, an independent manager is part-time member of the board who do not have any executive position in the company.

Agency theorists consider the independence from management as a crucial board characteristic from the perspective of board's monitoring role (Fama, 1980; Fama and Jensen, 1983; Jensen, 1993). The board of directors must appoint a sufficient number of independent managers on the board, so they can provide an independent judgment in positions that the potential for conflict of interest exists. Empirical results of Elloumi and Gueyie (2001) indicate that boards of financially distressed firms have fewer outside members.

It should be noted that company executives also play an important role in creating a good composition of dependent and independent managers. Such combination is one of the elements of an effective board. Because while the dependent directors, can provide valuable information about the activity of the company, the independent directors judge fairly about management decisions (Talebnia and Taftian, 2009).

b.   Institutional Shareholders

Hansen and Hill (1991) and Wright et al. (1996) state companies that have concentrated ownership structure, generally have major shareholders that own a substantial amount of the stock. These shareholders can use their voting power and influence the strategic decisions of the company.In firms with institutional shareholders, managers may hesitate to adopt self-serving, unprofitable strategies for fear of being discovered and the possible loss of employment (James and Soref, 1981; Kroll et al., 1993).

Talebnia and Taftian (2009) also state that the power of institutional investors, as the mechanisms of corporate governance   of a company enables them to monitor managers in two awys:

   1- an effective influence on the management of the company and

   2- aligning the shareholders' interest.

 Conducted research by Aghaei et al. (2009) shows that there is a direct and significant relationship between institutional ownership and information content of earnings.

Audit Expenses

According to Jensen and Meckling (1976) the agency relationship is a contract under which one or more owners will appoint agents or managers to run operations. Managers, as the agents of shareholders, are motivated to waste the corporate resources to satisfy their exploitative purposes. Rajabi and Mohammadi (2008) state that agency relationship leads to agency costs. In other words, as more as agency cost more conflict of interests in a company. So, the owner should bear "agency costs" such as audit expenses in order to align her/his interests with the agent.

Research Hypotheses

To answer the research questions, there are three main hypotheses were as follows:

H_1. Institutional shareholders affect the financial crisis in a company

H_2. Number of independent managers affects the financial crisis in a company

H_3. Audit expenses affect the financial crisis in a company

Research Methodology

In this research, the target sample is included the listed companies in TSE which convey following conditions:

1) Company's fiscal year should end to the last month of the year (Iranian calendar) in order to their information be comparable.

2) The companies should not be included in the financial intermediation companies (banks, investments and leasing).

3) The required data should be available.

4) Stock trading on the Stock Exchange, should not be stopped more than 3 months during the period of the study.

RESEARCH VARIABLES

1) The Dependent Variable

In this study, the dependent variable (CRISIS), is the probability of financial crisis. In order to calculate it, following Pourheydari and Koopaee (2010) a model was fitted which it includes the main effective factors on financial crisis. Then, these variables compared between both two samples of crisis and non-crisis companies. Variables that may significantly differ between these two samples (from the statistical analysis view) were applied to fit the model. Following Pourheydari and Koopaee (2010) companies that have the two following conditions simultaneously will be classified as crisis-companies sample:

1- The company should have accumulated losses of more than 50 percent capital.

2- The debt to total assets ratio should be more than one.

Based on these two conditions 30 companies were selected as crisis-companies sample.

The non-crisis companies sample is composed of 60 companies of all industry categories based on TSE classification which were not included in the first sample and have the best financial situation. The results of T- test for the main factors affecting company's financial crisis between the two samples that significantly differ between the two samples are shown in table 1.

Table-1. Variables that are significantly differed between the two samples

Rows	The Variable	How to calculate
1	Firm Size	Natural log of the book value of assets
2	Fixed Asset Turnover	The ratio of net sales to fixed assets
3	Ability to Pay Interest	The ratio of earnings before interest and taxes to interest expense
4	Earnings Quality	The ratio of operating cash flow minus net income to assets
5	Operating Cash Flow to Debt	The ratio of operating cash flow to debt
6	Operating Cash Flow to Sales	The ratio of operating cash flow to sales
7	Working Capital to Sales	The ratio of the difference between assets and current liabilities to sales

(The full list of variables that were tested between the two samples is shown in Table 3 at the end of the article.)

Then, using these variables through Logit regression techniques, equation 1 was estimated to determine the probability of financial crises in company.

Equation (1): $CRISIS_{i,t} = C + \beta_1 \ast LOGOFASSETS_{i,t} + \beta_2 \ast NSTOFIXED_{i,t} + \beta_3 \ast NOPATTOINTEREST_{i,t} + \beta_4 \ast OCFTOA_{i,t} + \beta_5 \ast OCFTOL_{i,t} + \beta_6 \ast OCFTOS_{i,t} + \beta_7 \ast WCTOS_{i,t}$

In which:

$CRISIS_{i,t}$ = probability of financial crisis in company i in year t

$LOGOFASSETS_{i,t}$ = Natural log of the book value of assets in company i in year t

$NSTOFIXED_{i,t}$ = The ratio of net sales to fixed assets in company i in year t

$NOPATTOINTEREST_{i,t}$ = The ratio of earnings before interest and taxes to interest expense in company i in year t

$OCFTOA_{i,t}$ = The ratio of operating cash flow minus net income to assets in company i in year t

$OCFTOL_{i,t}$ = The ratio of operating cash flow to debt in company i in year t

$OCFTOS_{i,t}$ = The ratio of operating cash flow to sales in company i in year t

$WCTOS_{i,t}$ = The ratio of the difference between assets and current liabilities to sales in company i in year t

In this model, the $CRISIS_{i,t}$ variable is a logit variable. This means that for fitting the model, if a company is in the crisis-companies sample, this variable is equal to one, otherwise equal to zero. After running the Logit technique, the final model was fitted as equation (2).

Equation (2): $CRISIS_{i,t} = C - 4.3872 \ast LOGOFASSETS_{i,t} - 0.8407 \ast NSTOFIXED_{i,t} - 0.0814 \ast NOPATTOINTEREST_{i,t} + 22.56 \ast OCFTOA_{i,t} - 54.4842 \ast OCFTOL_{i,t} + 8.1935 \ast OCFTOS_{i,t} + 0.3407 \ast WCTOS_{i,t}$

In this model, the dependent variable indicates the probability of financial crisis in company i in year t and it is estimated using the Logit techniques. The Logit model predicts the rank of each of the sample companies with assigning weights to the variables. This rank is used to determine the probability of membership in a certain group (a crisis or non-crisis). Logit analysis predicts the probability of occurrence of the event rather than predicting what is actually happening or not. So the values of the dependent variable range between zero to one.

2) The Independent Variables

In this study, three independent variables are used as follows:

- **Institutional Shareholders:** the variable is calculated by dividing the number of stocks of institutional shareholders at the beginning of the period to the total number of common stocks (Noravesh and Ebrahimi, 2005).

- **Independent Managers:** It is calculated as the number of independent managers on the board in the investigation year.

- **Audit expenses:** In this study, the auditing expense is considered as a measure of agency costs. In order to mitigate the effect of the size of companies, with compliance of Hong-xia and Zong-jun (2007), this variable is divided by the amount of net sales.

The Results of the Regression

The data was analyzed using the panel data with fixed effects and using simple linear regression (equation 3).

$CRISIS_{i,t} = \alpha + \beta_1\ OWNER_{i,t} + \beta_2\ CG_{i,t} + \beta_3 AUDIT_{i,t} + \varepsilon$ Equation (3)

In which:

$CRISIS_{i,t}$ = probability of financial crisis in company i in year t

$OWNER_{i,t}$ = institutional shareholders in company i in year t

$CG_{i,t}$ = the number of independent managers on the board in company i in year t

$AUDIT_{i,t}$ = the auditing expence in company i in year t

The reason to using of panel data is because of the advantages of it. Such as more useful information, the ability of more variation, less multicollinearity, more efficiency and more degree of freedom (Ashrafzadeh and Mehregan 2008).

Table 2 shows the regression results.

Table-2. Regression results (error level of 5%)

Variable name	Variable symbol	Coefficient	T-statistics	Significance level
Constant	α	0.043209	47.44085	0.0000
Institutional shareholders	OWNER	-0.005844	-1.408343	0.1601
independent managers	CG	0.000313	2.698187	0.0074
auditing expence	AUDIT	5.534619	3.457437	0.0006
R^2	0.363697	F statistic probability		0.000001
		Durbin–watson statistic		2.234609

Source: Findings

SUMMARY AND CONCLUSIONS

This paper examines the impact of independent managers, institutional shareholders and audit expenses on the probability of financial crisis of Iranian companies. First, the logit regression model was fitted to calculate the probability of financial crisis in company. Using this model, the probability of financial crises in each year was calculated. Then, using simple linear regression, the effect of independent variables on the financial crisis was examined. As Table 2 shows, the significance level for independent directors of the board and the audit expenses variables is less than the desired error level, ie, 5% and for institutional shareholders is more than 5%.This means that the first hypothesis was rejected and the second and third hypotheses were not rejected (were accepted). That means among the variables in this study, the independent directors of the board and the audit expenses affect significantly the probability of financial crisis in company, from a statistical standpoint and within the time period of this study. But institutional shareholders do not affect significantly the probability of financial crisis in a company. The significance level of the statistic, F, is close to zero and this means that the regression is significant in the error level of 5%. Durbin Watson statistic is 2.234609 that is between the two critical values (1.5 and 2.5). Therefore, there is not any auto correlation problem between variables. It should be noted that the coefficient

of independent directors is very low (0.000313) while it is positive and significant. That represents the little effect of this variable on the probability of financial crisis in a company, within the time period of this study. While the audit expenses coefficient is much larger (5.534619) in comparison with the independent directors' coefficient. This shows the strong influence of this variable on the probability of financial crisis in a company.

As noted earlier, in agency theory, it is believed that the agency costs occur, because of the agency relationship formation and because of the conflict of interest. This means that whatever the agency costs may be more, represents of more conflict of interest in the company (Rajabi and Mohammadi, 2008). So, it could be concluded that the company is more likely in financial crisis. The result of the study provides the same result. The result of the study about the auditing expenses and independent directors is in consistent with Hong-xia and Zong-jun (2007) but the results about institutional shareholders is inconsistent.

The Limitations of the study

The limitations of this study are as follows:

- Due to the sampling method used in this study, many companies were excluded from the sample because of the lack of some features. Therefore, generalization of the results to all the companies listed in TSE, should be cautious.

- The data used in the financial statements have not been adjusted for inflation. If the data are adjusted for inflation, different results may be obtained.

- Due to the limited time period of the years 2006 to 2010 (1385 to 1389 Iranian Calendar), the generalization of the results before and after this period must be cautious.

Suggestions and Recommendations

- Based on the results of the research, it is suggested to investors and creditors as the providers of financial sources of the companies **to** use the fitted crisis model in this study to consider the likelihood of financial crisis in companies, before their investment and also to detect the possibility of financial crisis in company.

- It's recommended for the auditors to use the fittedcrisis model in this study when evaluating the firm consistency and use the results in their professional attestation.

- Company executives also are suggested to consider the results of the research to detect the possibility of financial crisis in the company to manage it before its occurrence.

Table-3. The full list of variables that were tested between the two samples

Rows	The Variable	How to calculate
1	the power of earn the benefit of the assets	Earnings before interest and taxes to assets ratio
2	Rate of return on assets	net income to assets ratio
3	Net profit margin	net profit to sales ratio

4	Equity acquired	Retained earnings to assets ratio
5	Operating profit margin	Earnings before interest and taxes to total sales ratio
6	Current (quick) ratio	current assets to current liabilities ratio
7	Assets turnover	net sales to assets ratio
8	Fixed asset turnover	Net sales to fixed assets ratio
9	Debt ratio	Debt to asset ratio
10	Ability to pay interest	Earnings before interest and taxes to interest expense ratio
11	Working capital to assets	The difference between current assets and liabilities to assets ratio
12	Working capital to long-term debt	The difference between current assets and liabilities to Long-term debt ratio
13	Working Capital to Sales	The difference between current assets and liabilities to sales ratio
14	Quality of profit	operating cash minus net income to assets ratio
15	Operating cash to sales	Cash flow from operations to sales ratio
16	Liabilities to Operating Cash	cash flow from operations to debt ratio
17	Operating cash flow to equity	cash flow from operations to equity ratio
18	Debt to Equity	equity to total liabilities ratio
19	Shareholders equity to capital	Total shareholders equity to capital ratio
20	Company Size	Logarithm of assets

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