African Journal of Business Management Vol. 6(16), pp. 5642-5647, 25 April, 2012
Available online at http://www.academicjournals.org/AJBM
DOI: 10.5897/AJBM11.2993
ISSN 1993-8233© 2012 Academic Journals

Full Length Research Paper

Relationship non-executive board and ownership concentration with corporate bankruptcy

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Accepted 1 February, 2012

This study investigates the impact of some components of corporate governance on bankruptcy of the companies. In this respect, the companies listed on Tehran Stock Exchange have been studied. They were 95 companies which have been selected through randomly method. The time period of the study was from 2008 to 2010. This empirical research is based on financial statements in which regression and F tests are used to test the hypotheses and Falmer method is used to study corporate bankruptcy. The study results suggest there is a significant negative relationship between more independent non-executive board and corporate bankruptcy ratio. The more these people participate, the less likely corporate bankruptcy will be. In addition, the higher the ownership concentration is, the less likely corporate bankruptcy will be, and it means that these two were positively correlated. Other studies showed that in more than 65% of Iranian companies, the ratio of non-executive board was higher than 60% and most Iranians companies had high ownership concentration and low stockholder dispersion.

Key words: Corporate bankruptcy, non-executive board, ownership concentration.

INTRODUCTION

Today, the importance and status of corporate governance in the companies' success cannot be denied, because it has become more important due to the events in recent years and corporate financial distress. A study on causes and pathology has shown that the collapse of some corporate which has caused substantial loss, especially to the stockholders, has been caused by their poor corporate governance systems (Salloum and Azoury, 2011; Mack and Kusandi, 2005).

Many researches in different countries have shown that corporate governance, which is one of the key elements in improving corporate performance, can elevate commercial standards in corporate, encourage, supply and equip capitals and investors and improve their administrative issues, because it monitors the relationship between stock holders, board of directors, managers, and other shareholders. Corporate governance decreases management capacity for earnings management and is able to improve the reliability of income accounting, thus, it will improve the capability of useful notification of income accounting (Chen et al., 2007; Derek and Zhein, 2011; Ghirmai, 2011; Hesiang and Lee, 2010).

Corporate bankruptcy prediction pattern is one of the tools to estimate future status of the corporate. Investors and creditors have a strong tendency to predict corporate bankruptcy, because abundant costs will be imposed on them in case of corporate bankruptcy. Each one of the patterns has their own strengths and weaknesses (Beaver, 1966; Hajiha and Abedin, 2005; Rahnamairoudposhti et al., 2008; Barzegar and Abedin, 2009).

In recent years, followed by bankruptcy of the world's huge corporate, researchers and financial analysts have diverted their attention from the mere emphasis on the amount of the benefit to the quality of earnings. The further distance of incomes from cash will lead to the low quality of income and lack of appropriate liquidity means corporate bankruptcy. Therefore, the study of the causes of bankruptcy is considered an important subject in

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financial management, because it is essential for the corporate manager to identify and understand the causes of bankruptcy thoroughly, which helps them to present some solutions to prevent the corporate from collapsing before it happens (Agarwal and Richard, 2008; Eliezer and Fich, 2008).

One of the reasons for the corporate governance being discussed and for the great emphasis on it is the increase of financial distress throughout the world. Corporate governance mostly targets the healthy life of the commercial firms in a long time. The reasons for the importance of establishing corporate governance are the privatization process, market-based investment, technological progress, releasing financial markets and transactions, the capital movement from personal ownership to the corporate ownership, increase of international financial integration and investment turnover and transactions (Renders et al., 2010; Derek and Zhein, 2011).

This study has attempted to investigate the status of some components of corporate governance in Iranian companies while reviewing the relationship and impact of these factors with/on the corporate bankruptcy ratio.

PRIOR RESEARCH AND DEVELOPMENT HYPOTHESIS

Ghodrati and Manavimoghadam (2009), in their study concluded that one of the approaches to predict going concern of the companies is to use financial distress prediction patterns. In this regard, their study showed that financial distress prediction patterns of Zimski, Springate and Flamer, C.E Score model; Genetic model by Farajzadeh and Genetic model by Mackay are able to predict going concern of the companies listed on Tehran Stock Exchange.

In a study, Chen et al. (2010) observed that the corporate executives have manipulated earnings in the years before bankruptcy. In addition, their study results showed that in the year before the bankruptcy, the companies with going concern show reductive behavior.

Studying the laws related to bankruptcy, and controlling and monitoring state laws on the corporate governance in state corporate, Renders et al. (2010), scrutinize the slow decline and bankruptcy of companies and reviewing the circumstances that led to legislation of the law Sarbanes-Oxley law, they eventually concluded that there is a significant positive relationship between corporate governance and bankruptcy.

Kapopolos (2007), in the experimental results of a study, confirm the relationship between liability and income according to the creation of corporate reputation and presentation of the negative relationship between corporate reputation and issues of leverage and dividends payment at the time of prosperity. The effect of diversified ownership structures on the allocation and rationing of resources is also proven.

In Peasnell et al. (2000), study was concluded that likelihood managers will try to increase incomes incorrectly to avoid reports on losses and revenue reduction, has a negative effect on the share of non-executive board.

In their studies on Malaysian companies, Rahmat and Iskandar (2008) have investigated the impact of characteristics of audit committee on the companies with financial distress or financial non-distress. They have found a negative inverse relationship between the companies with financial problems and the characteristics of internal auditor and the quality of external auditor.

Blazy et al. (2008) have studied and reviewed bankruptcy laws and have presented a model regarding corporate governance for bankrupted companies. In their model, they have emphasized the role and the effect of bankruptcy laws. In this regard, they have relied on the bankruptcy-related literature and economic concepts and they have finally emphasized that their intended model can be implemented at different economic and legal situations.

In their study on the factors affecting the possibility of bankruptcy, Xialee et al. (2007), found that some factors such as ownership concentration, state control, board independence as well as the independent auditor's opinion have negative relationship with the probability of corporate bankruptcy.

However, administrative costs are directly related to the risk of corporate bankruptcy. Their study had been conducted in the time period from 1998 to 2005 on 404 non-investment companies in China Stock Exchange.

Salloum and Azoury (2011) have studied the effect of the board of directors on bankruptcy in the companies where family control is dominant. They intended to know whether the management-related governance features can affect corporate bankruptcy. They realized that in 178 Lebanese corporate, the majority of board members of the companies are non-executive and the displacement of the managers has been very rare. They also found out that board size and lack of proper supervision of the board of directors is directly related to the corporate bankruptcy.

Various studies have been conducted in different countries on the role and the impact of managers on value creation and performance of managers, all of which have emphasized that full-time and executive managers have a direct and positive effect on the financial distress as well as the values of corporate (Jensen and Meckling, 1976; Salloum and Azour, 2011; Beiner et al., 2006; Wu et al., 2010).

According to the objectives and questions of the research, the hypotheses will be developed as follows:

1. The companies with positive calculated Falmer bankruptcy ratio has more non-executive boards.
2. The companies with negative calculated Falmer bankruptcy ratio has lower ownership concentration.

METHODOLOGY

Definition of variables and their measurement approach

The ratio of non-executive board

According to Iranian trade law, commercial companies can select their own board members from outside company. These individuals can also be selected from the specialties non-related to the activities of the company. According to Iranian capital market laws of the companies listed on Tehran Stock Exchange must disclose the number and names of board members to stockholders and the public in their annual reports. To calculate the ratio of non-executive board, the number of non-executive board has been divided by the total number of board members.

Ownership concentration

Ownership concentration means a certain number of stockholders controlling management and all company policies including financial and operational policies. According to Iran trade law, board of directors in each company is selected by General Assembly stockholders and the number of votes of each stockholder is obtained through multiplying the number of suffrages for the number of shares by the number of directors. Thus, the stockholders with more shares will be able to select board of directors, including executive and non-executive board. In Iran, shares of most companies are mainly possessed by investment firms, banks, pension funds and insurance. Therefore, small stockholders do not play a major role.

In this study, "Herfindahl-Hirschman" Index (HHI) has been used in order to calculate the ownership concentration. The mentioned index is obtained from the total squared percentage of shares owned by stockholders of the companies. The index flagship increases along with increase in the ownership concentration and when all shares are owned by one person, it reaches to the maximum value calculated by 10,000 units. If the ownership structure is dispersed and all stockholders have equal ratios, HHI index reaches to the minimum value calculated by N/10000.

$$HHI = \sum (pi /p *100)^2$$

Internal auditor

According to Iranian capital market laws, companies must have an internal auditor supervised by board of directors. If the companies have internal auditor, they will have been scored 1, otherwise they will have been scored 0.

Type of ownership

According to Iran's General Accounting Law, if more than 50% of shares of a firm are directly or indirectly owned by the government, they will be considered government shares. If they are government shares, they will have been scored 1; otherwise they will have been scored 0.

Bankruptcy

In this study, Flamer model has been used to calculate bankruptcy. Flamer model for each company is calculated as follows:

$$F= 5.5X_1 + .212\ X_2 + 0.073X_3 + 1.27\ X_4 - 0.12X_5 +2.335X_6 + 0.575X_7 + 1.082X_8+0.485x_9$$

Total assets/retain earnings: x_1 Total assets / sales: x_2 Shareholders equity / earnings before tax: x_3 Total liability/ operating cash flow: x_4 Total assets / liabilities: x_5 Total assets / current liabilities: x_6 Logarithm of total tangible assets: x_7 Logarithm (financial costs / earnings before interest and tax): x_8 the ratio of working capital to total liabilities: x_9 If the calculated index is smaller than zero, the company will fall into the bankrupted category.

Statistical community

The companies listed on Tehran Stock Exchange have been selected as the statistical community. Some companies have been removed according to the following conditions: (1) They are not investment companies or financial intermediaries. (2) Their fiscal year ends at the end of March. (3) They have been listed on the stock exchange in the financial period from 2008 to 2010.
Thus, according to the forgoing conditions, the number of the companies has been adjusted to 165 companies. At least 95 corporations randomly selected for research sample.

Research model

$$Z_{falmer}=\alpha 0+\beta 1(NONEXE - BOARD)+\beta 2\ OWNE\ CONCE+\beta 3\ CONTROL\ VAR+\varepsilon$$

In the foregoing model, Z_{falmer} ; bankruptcy ratio of the company, NON Exe - Board; the ratio of non-executive or outside board, OWNE CONC; the ownership concentration in each company and CONTROL VAR; is control variables including internal auditor and the type of corporate ownership (Public or private).

Statistical results

The results from descriptive statistics of the study variables in Table 1 show that 43% of non-bankrupted companies and 61% of bankrupted companies are non-executive board. This proportion is much higher in cement and automobile companies, state control is also more in these companies, so that about 56% of shares of these two industries include state-owned companies.

In addition, state-owned companies mostly have internal auditor who work under the supervision of CEO, but in private companies, they mainly work under the supervision of board of directors. The ownership concentration in state-owned companies was much more than that in private companies. It means that in those companies classified as state-owned companies the majority of shares are owned by state stockholders and small stockholders have a small number of shares. Thus, they have no role in corporate management.

On the contrary, in companies with private ownership, stockholders are much more dispersed and play a more active role. Bankruptcy ratio of 62% of state-owned companies is negative, but this ratio is 36% in private companies.

According to Iran trade law, a company with retain loss will be considered bankrupt. It was studied on the companies which were the statistical community, and it was shown that about 56% of public companies have had retain loss in the past 5 years, while only 35% of private companies have had retain loss in the last 3 years. The results from descriptive statistics on the studied variables have been shown respectively for non-bankrupted and bankrupted companies in Tables 1 and 2.

Table 1. Results from descriptive statistics of bankrupted companies.

Type of variable	Name of variable	Mean	Variance
Dependent variables	Bankruptcy ratio	-1.462	0.163
Independent variables	Ratio of non-executive board	0.433	0.135
	Ownership concentration	4077	0.227
Control variables	Internal auditor	0.674	0.142
Type of variable	Type of ownership	0.481 State	-

Table 2. Results from descriptive statistics of non-bankrupted companies.

Type of variable	Name of variable	Mean	Variance
Dependent variables	Bankruptcy ratio	0.649	0.093
Independent variables	Ratio of non-executive board	0.611	0.172
	Ownership concentration	6729	0.196
Control variables	Internal auditor	0.628	0.152
	Type of ownership	0.631 Private	-

Table 3. Regression results of the first hypothesis.

Non-standardized coefficients		Standardized coefficients	T	Sig.
B	Std. error	Beta		
0.418	0.019		2.920	0.000
0.402	0.060	0.310	2.340	0.047

RESULTS OF HYPOTHESES

In the first research hypothesis, we examine whether the ratio of non-executive board will be higher in the firms whose measured Flamer bankruptcy ratio is positive? And is there a significant relationship between them or not? Simple linear regression is used to test the relationship between the variables. Table 3 shows the statistical results from this study. As shown in the table, the value of sign is less than the level of error acceptance 5%. Therefore, the significance of the relationship between the ratio of non-executive board in companies and the calculated Flamer ratio has been confirmed for them. The standardized beta coefficient for the above relation is 31%. It means that the ratio of non-executive board can explain 31% of the changes in the positive bankruptcy ratio. Furthermore, the relationship between them is positive which means that there is a direct relationship between them.

The second hypothesis intends to investigate whether the companies with negative calculated Flamer bankruptcy ratio have lower ownership concentration? Or, is there a significant relationship between them or not? Linear regression model is used to test the significant relationship between them (Table 4).

As shown in Table 4, the level of sign is less than the rate of error acceptance 5%. Therefore, the important of the relationship between them will be confirmed. It means bankrupted companies, a part of the bankruptcy will be combined and thereby, the concentration of the corporate owners can be explained. In the present study, 31% of this index can be explained by the ownership concentration of the stockholders. Furthermore, the relationship between these two variables is direct and positive. Including variables of internal auditor and the type of state ownership of the companies in the research model and conducting Forward test, was determined Table 5.

As the shown in Table 5, the impact of the variables the ratio of non-executive board, ownership concentration of stockholders, the type of state ownership, and internal auditor altogether on the corporate bankruptcy ratio has been studied. In this method, prioritization of the impact of each variable will be determined. As it is shown, the

Table 4. Regression results of the second hypothesis.

Model	Non-standardized coefficients		Standardized coefficients	T	Sig.
	B	Std. error	Beta		
Constant	0.196	0.063		2.047	0.000
Rank of concentration	0.483	0.064	0.309	2.114	0.032

Table 5. Results of forward analysis.

Model	Beta Ln	T	Sig.	Partial correlation	Co linearity statistics
					Tolerance
Non-executive board	0.315	2.487	0.0201	0.340	0.545
Ownership concentration	0.283	1.912	0.0332	0.319	0.689
State ownership	0.179	1.882	0.0468	0.293	0.798
Internal auditor	0.157	1.769	0.0412	0.262	0.469

most effect is 31% for non-executive board, 28% for the combination of the companies' stockholders, 17% for the type of state ownership and 15% for internal auditing. The relationship is positive and direct. The Sign level of each variable is less than 5% of error acceptable level, which confirms the significant effect of these variables on the bankruptcy ratio of the companies.

Conclusion

Theoretically, the independence of directors and monitoring their performance are expected to improve the directors' behaviors in order to protect the interests of stockholders and corporate owners.

According to the corporate governance system developed in Iran, nonexecutive board supervises performance of executive board and they can play this role properly due to their independence from the performance of companies. Thus, it will prevent the decisions which will cause financial distress at the companies' performance. In addition, in the corporate where stockholder dispersion is greater, it will be less likely to monitor the performance of managers more accurately.

The results of this study showed that in the studied companies, the much greater the rate of non-executive board is, the greater their supervision on the performance of executive board, including managing director, will be. This will make them not accept any decision. Moreover, their independence from managing director and the board of directors working in the company leads to more accurate supervision by them. Also, in the companies with more stockholders concentration and less number of stockholders, greater supervision is possible by stockholders who are often holding investment.

Therefore, the possibility of supervision on the managers' performance as well as evaluation of their decisions through their representatives on the board of directors, has avoided financial distress in the companies. In the companies with greater distribution and higher number of stockholders, the stockholders cannot reach a consensus on the selection of directors and cannot choose a strong representative in the board of directors. Thus, the board members selected will not have high power and support and will not be able to accurately evaluate the decisions made by the managers and managing directors powerfully.

Moreover, based on the representation theory, managers are always trying to maximize their own interests and their decisions may not necessarily be in the interests of stockholders. In Iran corporate governance code, audit committee has not been predicted. Therefore, lack of committee can have an important effect on less supervision on the managers' performance.

In addition, ownership of the government and state organizations has always had poor performance and cannot have an appropriate regulatory effect on the managers' performance, because of their functional nature. It has been approved in the studied Iranian companies, so that the companies with state ownership negative bankruptcy ratio, which means that they are bankrupted.

RECOMMENDATIONS

Since in Iran, the companies listed on Tehran Stock Exchange have not been ranked in terms of corporate governance, it is recommended that the issue should be considered and the companies should be ranked on specific time scales.

According to the lack of prediction of audit committee, at the corporate governance codes published for the companies listed on Tehran Stock Exchange, it is recommended that this committee will be established for all the Iranian companies listed on Tehran Stock Exchange.

It is recommended that considering the role of non-executive board in monitoring the performance of board members, these individuals should be selected from economic and financial areas of expertise.

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