



Examining the Relation between Corporate Governance Indexes and its Bankruptcy Probability from the Agency Theory Perspective

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ABSTRACT

Present article is to examine the ordinary shareholders' overreaction and the effect of the investment periods in Tehran stock exchange. So all the companies listed in Tehran stock exchange were examined in 2007-2010 and having limited someones 152 companies were selected as the sample. The findings indicated that the companies' shares that had inappropriate function in view of cash flow variable in both short-and long-terms are considered as appropriate opportunity to invest. If such investment strategy is applied to other variables, the loser portfolio return is more than the winner one only after grouping the companies into leverage and non-leverage ones.

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1. Introduction

In view of macroeconomics the economic development of a society is in line with the investment rate there; so if the investments are not in proper opportunities or used inefficiently, the state economics is damaged [1]. Of most important subjects proposed in relation to financial management are investment and trust in investment. The investors are hopeful and sure their investment which is vital for social economic success would be kept and not be wasted when they are sure about their gains. The grantors and investors have great tendency to foresee the firms' bankruptcy because they will sustain high costs, if the firms become bankrupt.

Having separated companies' possession from their management the directors may take some decisions in line with their own benefits and against the shareholders' [2]; the benefits contradiction which is known as the 'Agency Problem' is due to two main factors: first the beneficiaries of each joint stock company have their special preferences and secondly no one has complete information about others' knowledge and preferences [3].

Recent great financial scandals in the companies such as Enron, Worldcom, Adelphi, crises increase, financial fines, etc. are in relation to the 'Agency problem'; on this basis it is necessary to create supervision mechanisms in order to decrease the financial fines, improve the fiscal operation and finally prevent the companies' bankruptcy; so when the mechanisms are executed the distance created between possession and control diminishes. One of such supervision mechanisms is to design and execute corporate governance system.

In this study it is reasoned that there is a significant relation between the corporate governance and bankruptcy probability. Charito et al. state that the most usual cause for the company bankruptcy is the lack of internal control due to the weak companies' dominance. So present study is essentially to find if there is any significant relation between the corporate governance and bankruptcy probability for the companies listed in Tehran stock exchange.

2. Literature review

2.1 Corporate Governance

One of the causes mentioned mostly in relation to company bankruptcy is lack of internal control originated from weak corporate governance. Because of separation of company from control and supervision discussion the shareholders are not able to deal with management discussion and the board of directors is obliged to secure the shareholders' benefits. Thus, the board of directors' formation and direction structure are important mechanisms supervising companies' financial operation because they guide the directors to control internally in the corporate governance process [4].

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Agency theory has been used vastly in the experimental studies issued in relation to board of directors and company operation discussion. Considering the separation of possession from control the shareholders are not able to interfere in management affair and the board of directors is obliged to protect shareholders' benefits; however, there is no essential reason to believe that the directors do their best to secure shareholders' benefits. If directors maximize their benefits in organization profitability costs, the shareholders' benefits may face danger. In view of agency theory the directors are not trustworthy so monitoring (Supervision) mechanism is necessary to overcome probable differences between them [4].

We present some definitions concerning corporate governance as follows:

- The system by which companies are guided and controlled [5].
- Corporate governance means the supervision and control process to guarantee that the company director works in line with the shareholders' benefits [6].
- The structures, processes, cultures or systems to provide successful organization operations [5].

2.2 Bankruptcy

In financial literature there no undistinguished word for bankruptcy; some of them are as follows: unfavorable financial situation, failure, firm failure, critical, bankruptcy, inability to pay debts, etc. Dun & Bradstreet, (1998) defines bankrupt firms as follows: "The firms who stop their operations because of transferring, bankruptcy or stop current operations with loss by the creditors" [7]. By virtue of Altman's, (1968) definition bankruptcy occurs when the company is not able to pay its debts so stop its commercial operations. There are different definitions for bankruptcy. In one of his studies concerning financial inability theory Gordon, (1971) defines it as the company's profitability power decrease which increases inability probability to repay the interest and main debt. It is not easy to define the accurate cause(s) for bankruptcy and financial problems. In most cases several causes together lead to bankruptcy. Dun & Bradstreet, (1998) state financial and economic problems as main cause for bankruptcy [7].

3. Theoretical framework

Simpson & Gleason, (1999) examined the relation between corporate governance features and bankruptcy. Their findings showed that the managing director's influence decreases the financial crisis occurrence probability in next five years, but other corporate governance features have no considerable effect on the financial crisis occurrence probability and bankruptcy. They concluded that the managing director's influence has effect on the internal control system of the company to prevent financial disorder and bankruptcy occurrence and this conclusion indicating a strong manager decreases crisis probability and financial disorder is in harmonization with previous theory and experimental evidences [8].

Eloumi and Gueyie, (2001) proved there is a significant relation between the independence of directors' board financial risk conditions. They concluded that the companies who faced financial risks had less unbound members in their directors' board [9]. Byrd et al. (2001) stated that the companies' rescue from financial risk depends on the stability and independence rate of their members of directors' board [10].

Jostarndt & Sautner, (2008) examined the relation of company control and possession structure with financial risk. Their findings indicated the companies who faced financial crisis had less possession concentration; their conclusion was not in accord with Simpson & Gleason (1999) [11]. The later found that the companies who faced financial crisis had more possession concentration.

Darus and Mohamad, (2011) examined the corporate governance and failure in view of agency theory. Their findings indicated that there is a considerable negative relation between the managing director's influence and financial risk conditions indicating the managing director's influence as a factor functioning in the best way, creating better strategic view and decreasing agency problems. Also the findings showed that other corporate governance variables considered in the study such as the percent of unbound directors, management possession, familial possession, internal auditing independence, internal auditing proficiency and internal control mechanisms have no significant relation with company financial risk conditions. The dependent variable considered in the study was bankruptcy risk. Their findings indicated there is a reverse and significant relation between the managing director's influence and financial risk conditions and stated that the financial risk occurrence probability is less in the companies with high managing director's influence [4].

Chen & Al-Najjar, (2012) examined the effect of other corporate governance features on the size and independence of directors' board in Chinese companies; their findings showed there is a significant and negative relation between the ratio and size of unbound members in directors' board, possession concentration and independence of the board. Also there is a significant and positive relation between the size of directors' board and company size [12].

Lakshan & Wijekoon, (2012) examined the effect of corporate governance features of Sri Lankan companies' failure. Their findings indicated that there is a significant and negative relation between unbound directors' ratio and bankruptcy risk. The directional structure was different in two samples of the companies in a way that the managing director's influence was more in the bankrupt companies than in the non-bankrupt (Solvent) ones. So there is a significant and positive relation between the managing director's influence and bankruptcy risk. They found a significant and negative relation between the directors' board size and bankruptcy risk and no significant relation between the independent variable: outer possession and bankruptcy risk. Finally they believed that a weak corporate governance may increase the bankruptcy probability even in the companies with good financial operation and the study findings show some view regarding the corporate governance role in the companies' financial health [13].

In their study Platt, et al. (2012) examined the role and features of directors' board and their composition way in relation to the company success and ability to pay debts. Their findings indicated that both arrangement and features of directors' board influence the company bankruptcy [14].

4. Hypotheses development and the models

In line with testing the relation between corporate governance features and bankruptcy probability one essential and four secondary hypotheses are proposed; the essential one is as follows:

H1: There is a significant relation between corporate governance features and bankruptcy probability.

One of the most mentioned and referred reasons concerning the company bankruptcy has been lack of internal control originated from companies' weak dominance. Darus and Mohamad, (2011) showed that there are still some companies in Malaysia that have weak financial function because of financial crises and pressures and companies' weak dominance [4].

Whitaker, (1999) showed that the companies experienced financial crisis had mostly weak management. His findings indicated that 77 percent of the companies had been managed weakly and 47 percent of the companies who experienced financial crisis had experienced economic crisis before [15].

Charitou, et al. (2007) state that generally the companies with concentrated possession are less probable to be discharged from the stock exchange list because of bankruptcy [16].

In his study Kim, (2006) proposed an important negative relation between possession concentration and bankruptcy occurrence conditions [17].

When financial crisis and disorder occur the supervision mechanisms are more necessary; this control increase need influences the investors' possession way. So when financial crisis increases more possession concentration is expected [11].

The companies with concentrated possession have probably less agency problems [18]. Jensen (1986 & 1989) reasoned that the possession dispersion leads to considerable insufficiency in American companies [19]. In contrast, Demstet, (1983) and Demstet and Lehn, (1985) stated that possession concentration accompanies with many costs; however, we should know possession concentration not only creates no strong motive to maximize the company value, but also imposes more costs due to excessive concentration and potential powers to discharge minority shareholders from possession on the company. So low possession concentration will have positive motivating effect on the companies' economic function [20], [21]. The control mechanisms may become neuter and ineffect in high levels of possession concentration; in such conditions the minority shareholders are rarely able to interfere in the company policies and finally the management programs to maximize personal favorites and it means a negative correlation is created between possession concentration and company function [22].

The findings of Iksanian, et al. (1997) in relation to the relation between possession structure and Chinese companies' function showed that possession structure has important effects on the joint stock companies' function in a way that there is an intense and positive correlation between possession concentration and profitability. The presence of concentration in the company possession led to absolute control on the companies' affairs by the shareholders may decrease the agency problems because main shareholders may control the management's function better by virtue of enough information [23].

On this basis the first secondary hypothesis is proposed as follows:

Secondary H1: There is a significant relation between possession concentration and company financial bankruptcy probability.

Erkens, et al. (2012) examined the effect of corporate governance on the companies' financial function during financial crisis in 2007–2008 and concluded that the companies whose directors' board have more independence and bigger institutional possession have experienced worse shares gain during the crisis [24].

In new joint stock firms in which possession is separated from management it is necessary to discharge unbound directors' board members from some sensible activities and transfer such powers to someones with legal relation with the firm and without executive responsibility in order to protect all benefits of the beneficiaries including shareholders, creditors and unbound members; the only group who has above qualities is the unbound units of the firm directors' board. The unbound members of directors' board have legal relation (Shareholders' deputies) and at the same time, have no executive activity [25].

Having discharged the unbound members of directors' board from sensible activities their close relation with administrative and executive affairs may not create any background for 'bad currents'. On the other hand, when the unbound members of directors' board accept such responsibilities there is an appropriate background for controlling and supervising the firm activities [25].

The directors' board appointed by the shareholders is considered as a mechanism controlling directors internally and centrally. Fama, (1980) and Fama and Jensen, (1983) and recently Weir & Laing, (2003) indicated that a directors' board with more independent directors leads to increase the quality of supervision on the management because they are not officers or personnel affiliated with the company [26], [27], [28], but they are the independent deputies in line with protecting the shareholders' benefits [18].

Byrd, et al. (2001) states that the companies' rescue from financial crisis depends on the independent directors' role in the directors' board [10]. Elloumi & Gueyie, (2001) found a considerable relation between the independent directors' board arrangement and financial crisis conditions. The companies who have faced financial crisis have less directors' board members [9]. Charitou, et al. (2007) found similar findings in his studies. The companies with more independent directors and more internal possessors are less probable to become discharge from the list of the companies accepted in stock exchange [16]. Chen, et al. (2006) reasons that if the outer directors are more, the frauds are less so the bankruptcy would be less probable, too [29]. Uzun, et al. (2004) found that the companies with more independent directors are less probable to malfunction and then the financial crisis would be less probable, too [30].

Chaganti, et al. (1985) present some experimental evidences indicating a directors' board with few members has considerable correlation with bankruptcy; specially they found that in comparison with bankrupt companies the successful ones have had tendency to have a directors' board with many members. So a directors' board with many members may have more management power and then it may be in relation with higher company function, too [31]. Galas and Kesner, (1994) found that the directors' board size decrease has a direct relation with bankruptcy occurrence in the companies faced crisis [22].

While above researchers' report indicates the directors' board with many members has positive effect on the firm value some other researchers have indicated reverse results. Yermack, (1996) has examined the relation between "Q-Tobin" and directors' board size in a sample including great American firms. Having controlled other variables may influence "Q" Yermack found a considerable negative correlation "Q-Tobin" and directors' board size [32]. Similar findings found in the Isenberg's, et al. (1998) studies through sampling from little and medium Finish companies. While previous findings concerning the examination of the relation of directors' board size and organization function are ambiguous many researchers believe when there are many members in the directors' board the agency problems are less [22].

So secondary H2 and H3 are proposed as follows:

Secondary H2: There is a significant relation between directors' board size and company financial bankruptcy probability.

Secondary H3: There is a significant relation between directors' board unbound members size and company financial bankruptcy probability.

The managing director's influence is when the head of directors' board is bound. The corporate governance legislators have concluded that as a potential performer the managing director has influence on the directors' board [33].

By virtue of agency theory the managing director influences the directors' board control mechanisms Fama, (1980) and Jensen, (1983) reasoned that the independent directors play an important role in supervising company management function and limit them in line with profit management [26], [27], Gul & Leung, (2004) state that the companies with more independent directors are expected to be more effective on the directors' board supervision role. By virtue of previous studies concerning the relation between the directors' board influence and company function there are two different findings [34]. Some studies indicate that there is a negative relation between the two variables [35], [34]. Some others indicate there is no relation between them [36].

When the directors' board includes independent directors the financial statements are improved; for example, the profit management is less in such companies [18].

The head of the directors' board should supervise the managing director, control the agendas and direct the directors' board sessions. If the managing director's benefits differ from the shareholders', the managing director's influence is problematic. Yermack, (1996) and Rechner & Dalton, (1991) indicated that the companies with unbound head of directors' board has better function than the companies under managing director's influence [32], [37]. The managing director's influence necessarily does not weaken the function and may influence the market understanding concerning the control rate executed on the management function and financial reporting process. If the managing director's influence decreases the supervision on the management [38], probably bankruptcy risk increases.

In other words, there is a significant relation between the managing director's influence and the bankruptcy risk. So the fourth secondary hypothesis is stated as follows:

There is a significant relation between the managing director's influence and company financial bankruptcy probability.

The model to be used in the study is as follows:

$$FD = SizeOwn + Bind + CEOInfluence + Conc + LEV + ROA + \varepsilon,$$

FED: Bankruptcy probability.

Sizeown: Directors' board size.

Bind: The ratio of unbound members in the directors' board.

CEO Influence: Managing director's influence (The head of directors' board is bound member).

Conc: The possession concentration percent.

LEV: Financial leverage.

ROA: Asset gain.

The method to measure the study variables is shown in Table 1.

Table 1. Study variables and method to measure them

variable	measurement method
The bankruptcy risk	The bankruptcy risk is measured by logit model. The result which is between zero and '1', if it is closer to '1', the bankruptcy risk is higher
The ratio unbound members	The unbound members is measured as the unbound members' share in directors' board ratio to total directors' board members.
The managing director's influence	If the head of directors' board is an unbound member, the managing director's influence is '1' and if the head of directors' board is a bound member, the managing director's influence is '0'
The directors' board size	The directors' board size is total directors' board members
possession concentration	The possession concentration is measured by Herfindal–Herishman index which is equal to square 2 of total shares available to five main shareholders
Financial leverage	Financial leverage is measured as total debt percent to total asset
ROA	ROA is the income before tax divided by total asset
Firm size	Firm size is measured on the basis of firm sale logarithm

5. Data analysis

Study descriptive statistics:

The descriptive statistics of the study variables are shown in Table 2:

Table 2. The descriptive statistics

Variables	Mean	Std	Min	Max
FD	0.1501	0.15089	0.00	0.73
Sizeown	5.2868	0.77973	4	0.8
Bind	0.6489	0.19976	0.20	1
CEO Influence	0.6667	0.66626	0.00	10
Conc	0.2266	0.23919	0.00	1
LEV	0.6370	0.21595	0.13	0.99
ROA	0.1288	0.15313	-0.32	0.65

The correlation matrix of the study variables.

Table 3. Study variables correlation in the level of total companies

Correlation Probability		FD	LEV	ROA	SizeOwn	Bind	CEO	Conc
FD	correlation	1						
	significance	-						
LEV	correlation	0.425903	1					
	significance	0.0000	-					
ROA	correlation	-0.648237	-0.602477	1				
	significance	0.0000	0.0000	-				
SizeOwn	correlation	0.421746	0.107256	-0.331556	1			
	significance	0.0000	0.0303	0.0000	-			
Bind	correlation	0.353237	0.108619	-0.175021	0.218944	1		
	significance	0.0000	0.0283	0.0004	0.0000	-		
CEO	correlation	-0.376051	-0.198656	0.271580	-0.146616	-0.143795	1	
	significance	0.0000	0.0001	0.0000	0.0030	0.0036	-	
Conc	correlation	-0.310494	-0.217989	0.366951	-0.367679	-0.177917	0.145563	1
	significance	0.0000	0.0000	0.0000	0.0000	0.0003	0.0032	-

As you see in column FD in Table 3 the significance for the study variables is less than 0.05 so there is correlation between above variables and company bankruptcy probability; also by virtue of the Table it is clear that the variables: financial leverage, directors' board size and

the ratio of directors' board unbound members have significant and direct relation with bankruptcy probability. The assets gain, managing director's influence and possession concentration percent have significant and reverse relation with bankruptcy probability.

Study hypotheses test:

Table 4. Testing first main hypothesis in the level of total companies

test	variables	variables coefficients	significance level
test 't'	the width from origin	0	.069
	financial leverage	.251	.008
	ROA	-.452	0
	directors' board size	.038	0
	the unbound members ratio	.149	0
	managing director's influence	-.041	0
test 'F'	possession concentration	-.062	.001
	definition coefficient	0.546	0
		Durbin- Watson	
		1.838	

The model significance is less than 0.05 so the model is significant. As you see in above Table the significance measured for the width from origin is more than 0.05. So the regression coefficient is not significant, but the significance measured for all the variables: Sizeown, Bind, CEO, Conc, LEV and ROA are less than 0.05 so the regression coefficients are significant and final equation of the study model is done in the level of all companies as follows:

$$FD = 0.038\text{Sizeown} + 0.149\text{Bind} - 0.041\text{CEO} - 0.062\text{Conc} + 0.251\text{LEV} - 0.452\text{ROA}$$

By virtue of the data presented in Table 4 the study model was proved so the model is accurate and effective enough in the level of all companies.

6. Conclusion

The findings indicate there is a reverse and significant relation between possession concentration and bankruptcy probability. Thus, the findings indicate that if possession concentration increases, the shareholders power to supervise the management increases, too so the bankruptcy probability decreases. On the basis of done studies possession concentration increases the supervision on management (Peasnell et al 2000); hence, the study findings are in accord with others' such as Charitou, et al. (2007) and Jostarndt and Sautner, (2008).

The findings indicate there is a direct and significant relation between directors' board and bankruptcy probability. Thus, the findings show that if directors' board size increases, its efficiency to supervise management decreases and then bankruptcy probability increases.

The study findings is not in accord with the findings of Lakshan and Wijekoon, (2012) and Platt, et al. (2012) indicating there is a negative and significant relation between directors' board size and bankruptcy probability, but the study findings are in accord with Simpson's and Gleason's, (1999).

The findings indicate there is a direct and significant relation between directors' board unbound members and bankruptcy probability. So the findings indicate if directors' board unbound members increase, the directors' board has not necessary efficiency; probably the supervision on management decreases and bankruptcy probability increases. It seems there are some other probable reasons for above hypothesis result such as simultaneous membership of unbound members in several directors' board of several companies decreasing their efficiency. Darus' and Mohamad's, (2011) study findings are in accord with Platt's, et al. (2012).

The findings indicate there is a reverse and significant relation between managing director's influence and bankruptcy probability. Thus, if managing director's influence increases, he (she) has more power and takes better decisions led to function improvement so the bankruptcy probability decreases. The findings gained in this study are in accord with Simpson's and Gleason's, (1999) and Darus' and Mohamad's, (2011) who found that the managing director's influence decreases the company confrontation with financial crisis.

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