Studying the Effect of Corporate Governance Mechanisms on Firm Bankruptcy Risk in Accepted Companies in Tehran Stock Exchange

Mohammad Amin Payam, Hosein Sadeghi, Nafiseh Naderi

Abstract— **The purpose of this study was to evaluate the relationship between corporate governance and bankruptcy risk in accepting Companies in Tehran Stock Exchange. Hence, in this study, a sample of 55 firms was reviewed during the years 1386 to 1390. In this study, the dependent variable is the bankruptcy risk and rating models was used to calculate the Altman Z score. The independent variables in this study are the percentage of institutional investors, the percentage of investment management, non obligation of board members (board independence) and the size of the board. In this study used regression and correlation, and the results indicate that there are correlation between the independent variables of ownership, management and board members of non- mandated risk of bankruptcy.**

   Index Terms— corporate governance, bankruptcy risk, institutional ownership, managerial ownership, board independence

I. INTRODUCTION

  One of the issues that have arisen in recent decades in the financial markets is, "corporate governance". Researchers and experts in many different fields such as accounting, business, economics, law have studied it from different angles and everyone has the perspective to explain and interpret it (Liu and Zhou, 2007). On the other hand, rapid advances in technology have accelerated changes in the wider environment, the economy. Increasing the competitiveness of the enterprises, achieving earnings limit is increased probability of bankruptcy (Mehrani and et al, 1384). Today, the international bankruptcy, which caused it to be considered as an important issue in financial management. Therefore, it is very important for authors

Manuscript received July 20, 2014
  Mohammad Amin Payam, Faculty Member of Feizoleslam Higher Institution in Khomeinishar City of Isfahan. Iran
  Hosein Sadeghi, M.A of Accounting from the University of Allameh Tabatabai. Iran
  Nafiseh Naderi, Accounting graduate of the University of Isfahan. Iran

to review the causes of bankruptcy in terms of financial and more importantly to help assess financial ruin popular model. Bankruptcy is a must as the way businesses operate in this context, understanding the causes of the financial management of its Creator.

II. Theoretical Research

In an overall view, corporate governance is determined by the performance of the company, including legal, cultural and institutional knew the direction of motion. Elements that are present in this stage include: shareholders and their ownership structure, board members and their constituents, the management company that is led by CEO or senior executives and other stakeholders have the opportunity to influence the company. Any changes in the components of the corporate governance structure changes and strategic direction to increase or decrease its performance and also leads to agency costs. In recent years the company shareholders and investors have enjoyed remarkable growth in aggregate LLP.

III. Bankruptcy Risk

Company bankruptcies are usually effective on the capital market liquidity and economic development. During the bankruptcy, banks, credit companies go bankrupt usually reduces the rate of loan companies to offer higher interest to compensate for the additional risk. Bankruptcy can investigate the issue of financial ratios insolvent company; financial ratios affect the interaction of external factors (political and economic) to reflect and internally (management control of the company) on a bad financial situation company (Foster, 1985) and (Morris, 1997). Using financial ratios, the signals associated with the company cannot be determined in financial distress or bankruptcy financing before the company goes into bankruptcy, (Sandin and Porporato, 2007). A pilot study of Beaver (1966), the first model in bankruptcy, Using financial ratio analysis of financial ratios of the dominant approach has been to investigate the characteristics of bankruptcy. Beaver (1966) to create a binary classification can be selected to test univariate bankruptcy prediction model. The six ratios that could classify itself used bankrupt and non- bankrupt companies.

Ratios selected were those that could be attributed used to as the main criteria for distinguishing bankrupt and non- bankrupt companies. Considering the above issues, in this study the impact of corporate governance mechanisms is discussed in the risk of bankruptcy.

IV. **Background research**

Rasoul Zadeh (1380) in his study investigated the use of model pre Altman 's bankruptcy prediction of listed companies in Tehran Stock Exchange for payment. In this study, an Altman model is correctly predicted with 81 % confidence and 92 % confidence intervals of financial distress and lack of financial distress of companies during the period under study. These ratios include working capital to total assets ratio of current assets to current liabilities ratio of earnings before interest and taxes to total assets, the ratio of equity to total assets ratio of sales to total assets. Statistical results show the model is valid.

Poorianasab (1384) in his study argue that the more active shareholder monitoring of management performance can be improved and reduced agency problems. In addition, institutional investors as majority owner of the company, responsible for managing the company's influence has played an influential role in the capital. Yeganed and Baghomian (1385) in their study are mentioned of the effectiveness of the board and institutional investors in corporate governance quality. Mokrami (1385) expressed the new structure, firm strategy and value creation for all stakeholders as the main condition for the functioning of the firm's responsibility to evaluate and exit Governance Board of Directors of the procedures laid down as Institutional shareholders.

Ali Khani (1388) investigated the use of bankruptcy prediction model Falmr Altman and Company have been listed on the Tehran Stock Exchange. The results indicate that the prediction of a company, there are significant differences between the results of the two models. Altman 's bankruptcy prediction model, a more conservative Conservative Falmr model work. Ghadiri Moghadam and colleagues (1388), the ability to pre bankruptcy prediction models Altman and Ahlsvn in pre listed company bankruptcy prediction tested on the Tehran Stock Exchange. The results of them indicated that no change in the coefficients and variables $Z^{\wedge}$' Altman (1968) and Ahlson (1980) and also model bankruptcy prediction over methods of multiple regression and logistic Overall, based on accurate models of the model presented by Ahlsvn extracted from the logistic regression model, the prediction of bankruptcy of companies enjoy higher Azdqt.Ghodrati (1389) in his study examined the application in bankruptcy prediction models Altman and Ahlson began listing companies in Tehran Stock Exchange. Results indicate that usability of these models does not exist, would predict bankruptcy.

Altman (1968) is the first person who released the multivariate predictive model. His method of using multiple discriminant analysis using financial ratios as independent variables follow bankruptcy prediction stood firm. He titled his famous model in the bankruptcy prediction model, which was known as Z scores.

Ahlson (1980) was the first one was used in the field of bankruptcy prediction logistic regression model. As the examples he includes 105 bankrupt and in 2085 the company was working with the Comprehensive most studies to date, and model predictions derived he managed bankruptcy of companies for years one to three, respectively, with an accuracy of 85 0.1 percent, 87.6 percent and 82.6 Drsdpysh to estimate the ratio of total debts to total asset variables and net income to total assets ratio of the separator were his models. Ramsay and Blair (1993) concluded that the increased concentration of ownership of large shareholders is strongly controlled by, managers will provide sufficient incentive to monitor managers' performance. As a result, managers are trying to improve company performance.

Yermack (1996) showed that companies that have an independent Chairman (non- bound), they outperformed companies under the CEO. Beasley (1996) in their empirical study found that the presence of non- duty members of the board, which reduces the risk of fraud in the presentation of financial statements. Grice and Ingram (2001) offer a model the various institutions that Altman and modifying the model can be used to test current models for years, and the results will be able to predict the pattern. Castro and colleagues (2001) found that independent board limited earnings management activities. Chang and Sun (2008) concluded that there are negative correlation between board independence and abnormal accruals. In other words, there is a negative relationship between earnings management and board independence. Rogue et al (2009) study models based on risk rating Altman bankruptcy model studied and concluded that models based on the rating of a rapid and useful tool for assessing the risk of bankruptcy.

V. **Methods**

In this study, it is attempting to influence some aspects of corporate governance, the risk of bankruptcy of the listed companies in Tehran Stock Exchange. This research is applied research. Research designs are quasi-experimental approach using the event (from the past). The data in this study are based on actual figures and stock market data and financial statements of companies. In this study, data collection methods used in the library. To test the hypothesis analysis will be used multivariate regression test in SPSS software. This research was done from 1386 to 1390 and the

population of this study consists of all listed companies in Tehran Stock Exchange. Companies exist in terms of increasing the comparability of the following conditions:
• For the financial year it has not changed at the end of March, and in the interval fiscal year.
• During periods of continuous activity and its stock is traded on an exchange.
• Information required to complete the proposed timeframe is available from 86 to 90.
• Due to the specific nature of the activity, banks and financial institutions are not part of the industry.

VI. **The research model**
In this model, there are four independent variables and three control variables as follows: Independent variables include institutional investors, investment management, non- responsible managers in the composition of the board, board size and control variables include financial leverage ratio (total debt to total assets), liquidity (current ratio means that the company is the ratio of current assets to current liabilities) and firm size (natural logarithm of sales companies). Praise and colleagues (1389), Karimi M. (1390), Anderson et al (1996); dinner Wei (2001), Parker and colleagues (2002), Campbell and colleagues (2008) are used Eberhart and colleagues (2008) in their research these variables.

The dependent variable, the risk of bankruptcy. Bankruptcy risk calculation model, (Z) Altman.

VII. Analysis and hypothesis testing
In figure 1, the significance level of managerial ownership and board independence is less than 0.05. So the 95% significance level between managerial ownership and board independence, there was a significant relationship with the risk of bankruptcy. Also, due to the significant level of control over all the variables in this study is greater than 0.05, thus none of the control variables have not considered the factors affecting the risk of bankruptcy.

VIII. The research model
In this section, according to the results of testing hypotheses has developed bankruptcy risk model for all companies surveyed. Before it became clear that the ownership and management of non- duty members of the board have a significant relationship with the risk of bankruptcy. Figure 1, the coefficients are identified associated with each of the independent variables. Bankruptcy risk model, therefore, the following is extracted:

$$BRz=1.64+0.053IOWN+0.789PMG+0.059SB-1.556IB+0.055FL+0.013CR-0.249SE$$

Picture No. 1: Testing Hypotheses				
Model	Non-standardized coefficients		Standardized coefficients	T-statistics	Significance level
	Beta	Standard error of Beta	Beta		
Constant	1.64	0.744		2.204	0.029
Institutional ownership	0.053	0.136	0.025	0.386	0.7
Property management	0.789	0.269	0.204	2.932	0.004
Size of the Board	0.059	0.122	0.037	0.48	0.632
Independent board	-1.556	0.665	-0.182	-2.338	0.02
Financial Leverage	0.055	0.181	0.02	0.305	0.761
Current Ratio	0.013	0.127	0.007	0.1	0.92
Size Enterprises	-0.249	0.271	-0.07	-0.918	0.36

IX. Model

To evaluate the model, was used ANOVA test. The test statistic is F. The results of these tests are given in table 2. F-statistic of 21.47 and a significant level equal to zero. As a result, the model is verified. Also, in table 2, the coefficient of determination is expressed of regression and correlation coefficients. The coefficient of determination, equal to 8 percent. This value indicates that 8 % of the variance (risk of bankruptcy), based on the model implies that the changes are not

visible in the independent variables affect the rest of the other factors that. Durbin Watson statistic is 1.87, which indicates a lack of correlation between the error component regression model

Picture No. 2: coefficient of determination and F statistics						
Model	The correlation coefficient	The coefficient of determination	Adjusted coefficient of determination	Dobbins coefficient Watson	Standard error of estimate	F-statistic	Significance level of F
1	0.282	0.08	0.074	1.87	0.98399	21.47	0.0000

Conclusions

This study examined the relationship between some aspects of corporate governance and bankruptcy risks listed companies in Tehran Stock Exchange. Hence, in this study, we were reviewing a sample of 55 firms during the years 1386 to 1390. The results of testing hypotheses, indicating that some mechanism of corporate governance, on risks affecting corporate bankruptcy, and some of them have no effect on the risk of corporate bankruptcy. As was stated in the hypothesis test variables, institutional ownership, board size and the risk of bankruptcy of companies have no connection with the ownership and management of non- duty members of the board (board independence), the risk of bankruptcy, have a significant relationship.

References

1. Altman, E. I. (1968). "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy." *The Journal of Finance*, Vol. 23, pp. 589-609.
2. Anderson, R. and S. Sundaresan, (1996)."Design and Valuation of Debt Contracts." *Review of Financial Studies* 9, pp. 37–68.
3. Beasley, M. (1996). "An Empirical Analysis of The Relation Between the Board of Directors Composition and Financial Statement Fraud." *The accounting review*, No. 71, pp. 443-465.
4. Beaver. W. H. (1966). "Financial ratios as predictors of bankruptcy." *Journal of Accounting Research 4*, 71-111.
5. Campbell, J.; Hilscher, J.; and J. Szilagyi (2008). "In Search of Distress Risk." *Journal of Finance* 53, pp. 2899-2939.
6. Chang, J. and H. L. Sun (2008). "The relation between Earning Informativeness, Earnings Management and Corporate Governance in the pre- and post-SOX periods." *Working paper*, SSRN.
7. Chtourou, S. M.; Bedard, j.; and L. Courteau (2001). "Corporate Governance and Earnings Management." *Working Paper*, SSRN.
8. Eberhart, A.; Maxwell, W. and A. Siddique (2008). "A Reexamination of the Trade off between the Future Benefit and Riskiness of R&D Increases." *Journal of Accounting Research 46*, pp. 27-52.
9. Foster, G. (1985). "*Financial statement analysis*." New Jersey, NJ: Prentice-Hill Inc.
10. Grice J. S. and R. W. Ingram (2001). "Tests of the generalizability of Altman's bankruptcy prediction model." *Journa of business research 54*, pp. 53-62.
11. Jensen, M. and W. Meckling (1976). "Theory of the firm: Manageral behaviour, agency costs and ownership structure." *Journal of Financial Economics*, Vol. 3, 305-360.
12. Kaplan, S. (1989). "The Effects of Management Buyouts on Operating Performance and Value." *Journal of Financial Economics*, Vol. 24, pp. 217-254.
13. 25) Keats, B. W. and J. S. Bracker (1988). "Toward a theory of small firm performance: A conceptual model." *American Journal of Small Business*, Vol. 12(summer), pp. 41-58.
14. Kiel, G. and G. Nicholson (2003). "Board composition and corporate performance". Corporate governance, 11(3): 189-205
15. Klein, A. (2002). "Audit committee, Board of director characteristics and earnings management." *Journal of Accounting and Economic*, Vol. 33, pp. 375-400.
16. Liu, Q. and J. Zhou (2007). "Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective." *Journal of Corporate Finance*, Vol. 13, pp. 881–906.
17. Marrakchi, C. S.; Jean, B. and C. Lucie (2004). " Corporate Governance and Earning anagement." available at www. SSRN.com/abstract=275053, (April 21, 2001).
19. Morris, R. C. (1997). " Early warning indicators of corporate failure: A critical review of previous research and further empirical evidence." *Aldershot. England: Ashgate publishing limited.*
18. Menon, K. and J. Williams (1994). "The Use of Audit Committee for Monitoring." *Journal of Accounting and Public Policy*, 13(2), pp. 121-140.
20. Ohlson, j. A. (1980). "Financial ratios and the probabilistic prediction of bankruptcy." *Journal of Accounting Research*, Vol. 18, pp. 109-113.
21. Parker, S.; Peters, G. and H. Turetsky (2002). "Corporate Governance and Corporate Failure: A Survival Analysis." *Corporate Governance 2*, pp. 4-12.
22. Radu, F.; Pacurari, D.; Bordeianu, G.; Pavaloaia, W. and M. Paraschivescu (2009). "The Score-Method Evaluation Instrument for the Bankruptcy Risk." *Economy Transdisciplinarity Cognition*, pp. 233-239.
23. Ramsay, I. and M. Blair (1993). "Ownership Concentration, Institutional Investment and

corporate governance: An empirical investigation of 100 Australian Companies." *Melbourne University Law Review*, 19: 153-194.

24. Rosse, W. and B. Jaffe (1990). "*Corporate Finance*." 2nd Edition Boston: Irwin.

25. 37) Sandin, A. R.; and M. Porporato (2007). "corporate bankruptcy prediction models applied to emerging economies: Evidence from Argentina in the years 1991-1998." *International Journal of Commerce and Management 17*.

26. Shirata, C. Y. (2002). "An attempt to rate companies based on bankruptcy prediction model." Nihon university.

27. Shumway, T. (2001). "Forecasting Bankruptcy More Accurately: A Simple Hazard Model." *Journal of Business* 74, pp. 101-124.

28. Xie, B.; Davidson, W. And P. DaDalt (2003). "Earnings management and corporate governance: The roles of the board and the audit committee." *Journal of Corporate Fiance*, Vol. 9, pp. 295-317.

29. Yermack, D. (1996). "Higher market valuation of companies with a small board of directors." *Journal of Financial Economics*, Vol. 40, pp. 185-211.

30. Zwingli, J. (2010). "Identifying Bankruptcy Risk." *Business Credit*, pp. 16-17.