

CORPORATE GOVERNANCE AND PROSPECT THEORY: A Case Study of Pakistan

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Abstract

Risk averse and risk seeking attitude of individuals is advocated by the Prospect Theory. Its application has also been examined at the organizational level. This study grants extension to the work already conducted by researchers in which application of prospect theory has been examined in the contextual framework of corporate sector of Pakistan, by evaluating whether irrational behavior of the prospect theory is applicable in capital investment decisions of companies in Pakistan. Previous results have been used in the present study in order to examine the implications of corporate governance for controlling these risk-averse and risk-seeking attitudes. Data set of this study, consist of 139 non-financial companies listed with the Karachi Stock Exchange (KSE), during the period of 2006 to 2011. It has been found that risk-averse attitude of companies is controlled by good corporate governance when Return on Assets (ROA) was used as a measure of companies' financial performance; whereas, it has helped in controlling such behavior partly when Return on Equity (ROE) was used as a measure of financial performance. However, it has all together no effect on risk seeking attitude of companies. Findings of this study are similar in both measures of financial performance, i.e., ROA and ROE. Thus, this study creates a nexus between behavioral finance and corporate governance.

Key words: Risk Seeking Attitude, Board Size, Duality, Financial Performance and Shareholders Activism.

JEL Classification: D03.

I. Introduction

The role of corporate governance for controlling risk averse and risk seeking behavior of firms is much obvious in the literature. Risk-averse and risk-seeking behavior of firms under Prospect Theory has been described as an irrational behavior of firms and mechanism of good corporate governance is helpful in abating this irrational behavior. It improves the value and performance of firms. Variables of corporate governance have positive association with decision to make capital investment in situation of gain and these variables have negative relationship with capital investment decision in loss domain [Wen (2010)].

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Improvement in corporate governance practice helps in increasing the firm valuation significantly [Morey, et al. (2009)]. It has been found that improvement in corporate governance mechanism in countries with poor laws of investors' protection will help to improve performance and value of firms in those countries. Firms can make improvement independently, in right of their minority shareholders and environment for protection of their investors up to an extent; but these firm level reforms cannot be a substitute of external governance mechanism in the form of country level reforms in legal infrastructure [Klapper and Love (2002)].

Studies on the worst financial crisis of 1997 which affected Thailand and most of its neighboring economies revealed that poor governance practice was the cause of poor investment and financing policies of firms which ultimately led towards this horrible crisis. Connelly, et al. (2012) examined the relationship between corporate governance standard practices and value of firms in business environment of Thai firms which have complex pyramidal ownership structure. They found positive relationship between the corporate governance and the firms value as depicted by corporate governance index and Tobin q ; while the presence of pyramidal ownership structure will nullify the benefits indicating that whenever the ownership structure of firms is not transparent, it will raise questions about effectiveness of the governance mechanism.

This study is an extension of a study in which Mahmood and Shah (2015) have tested the application of Prospect Theory in practical context of an area of corporate finance in Pakistan. This area relates to capital investment decisions of corporate firms in Pakistan. In this study, change in capital investment (ΔCI) was used as dependent variable and financial performance of companies as represented through ROA and then through ROE which were used as independent variables, simultaneously. Findings of this study revealed that during the data period of 2006-2011, when ROA was used as measure of financial performance, risk averse and risk seeking attitude of prospect theory were found during the year 2006 only. These attitudes were found at α and β value of 0.35; whereas, in case of ROE an independent variable (risk averse attitude) was found during the years 2006 to 2010; but except the year 2007, the risk seeking attitude was observed during all these years. These attitudes were observed at α values of 0.45, 0.5, 0.1 and 0.01 and then at β with the same values. The main objective of this study is to investigate implications of a good corporate governance mechanism for controlling irrational behavior of risk aversion and risk seeking as described above in context of the prospect theory. Rest of the study has been organized as under: Section II deals with review of literature and Section III is related to data and methodology used in the study; while, Sections IV and V, are concerned with results and conclusion, respectively.

II. Review of Literature

Li, et al. (2012) studied the causal relationship between the stock market liquidity, corporate governance and firms' value in Russian market. They found that in a country

where business is not controlled by a strong legal infrastructural framework, involvement of state is at higher level, equity markets are underdeveloped and concentration of ownership is high. The improvement in governance level in such countries can significantly increase the profit. They have concluded that increase in liquidity will positively affect corporate governance mechanism and improvement in corporate governance will ultimately increase the value of firms.

Guo and KGA (2012) studied the impact of various corporate governance variables on performance of the listed firms in Sri Lanka. Among these variables, the impact of non-executive directors, board size and CEO duality on ROA and Tobin Q was checked as measures of firms' performance. They concluded that there was a negative but insignificant relationship between the non-executive directors and firms' performance. This view was contrary to other findings, indicating a positive relationship between these two variables. Although, the impact of CEO duality on firms' performance, do also have mixed view in the literature, yet this study has examined an insignificant relation between these two. Likewise, the relationship between the board size and firms performance was also found to be negative indicating that large board is not recommended. In other words, the study indicates that small board assists in improving the firms' performance.

Institutional investors, board of director size, CEO duality, and independence of directors have its implications regarding debt ratio of companies. The literature indicates that level of corporate governance reforms is very important in framing the attitude of investors for their willingness to make investment. Countries where corporate governance mechanism is weak, domestic investors hesitate to make investment. Anyhow, institutional investors make investment in such markets which are of emerging nature. Thus, the role of institutional investors in emerging markets, become very prominent. Pushner (1995) examined in his study on companies listed in Japan and stated that institutional ownership affects corporate leverage showing negative relationship between the institutional investors and financial leverage.

Effectiveness to separate management and decision control in an organization is widely accepted in the literature. The role of CEOs duality in improving the organizational performance and ultimate value is of great importance. Agency theory and Stewardship theory describe the conflicting role of CEOs duality. According to the Agency theory, managers may pursue their personal benefits and interest which depart from the interest of investors. Dual role of such managers may become the cause of inefficiency and decrease the value of firms; while, Stewardship theory explain that the role of executive managers who are on the board as well and, they help to increase the value of firms. Such managers are in a position to implement strategic decisions of firms in an effective and faster style because of their dual role in an effort to become good steward of assets of their firms.

A common view regarding CEO-Chairman duality found in academic debates is that to develop better leadership structure in an organizational context, the position of CEO should be separated from the position of the chairman. Separating these two posi-

tions will help to increase performance and value of firms; but in their study Brickley, et al. (1997) presented a contrary view on US firms by challenging this traditional view. They conducted the cost and benefit analysis of separating these two positions by keeping in view the agency cost, cost of changing successive process, and information cost involved in it. It was also found that in large US firms the cost of separating these positions is higher than its benefits. Similarly, separation of CEO from chairman does not become the cause of increase in market price of shares owned by shareholders. Thus, combining the title of CEO and chairman in companies is in the interest of shareholders.

Guillet, et al. (2013) examined the role of CEOs duality in the perspective of Stewardship theory in the US restaurant industry. They found that the role of CEOs duality in improving the firms' performance, and the value is positive and significantly important in full service restaurants due to intensiveness of labor and complex operations of such restaurants, as compared to quick service restaurants. They have explained the role of restaurant type in moderating relationship between CEOs duality and the firms' value which is of great importance. The CEOs duality results in eliminating information asymmetry which ultimately leads towards availability of more loans through external sources. Moreover, duality reduces the problems which are associated with management and ownership separation [Fosberg (2004)].

Although the board of director's size is very important in development of corporate governance mechanism, yet this issue is not debated, conclusively. To run an organization effectively, the role of outside directors is very obvious than the role of inside directors, because they have to work for their reputation [Weisbach (1988)]. Firms which are owned by 'inside directors' often have to make capital investment which is entirely dependent upon their cash flow because management of such firms do not wish to lose its control, due to dilution of their ownership position [Morck, et al. (1988)]. Importance of non-executive directors on the board increases the evaluating and independency state of the board. The role of such directors is very important as they evaluate the performance of executive directors of the firm. Existence of more non-executive directors in the board protect firms against uncertainties and become the cause of reducing friction and conflicts between the management of firms and its owners [Arbor (2007)].

Importance of independent board of directors and its chairman has been recognized as a tool for improving governance, performance and controlling various scandals relating to trading activities of mutual funds in the United States. In this perspective, SEC proposed that 75 per cent of the directors on the board of firms should be independent, i.e., non-executive directors; but Ferris, et al. (2007) presented a contrary view in their study and found that independent board and chairman, both are not related to reducing scandals of late trading and the market timings, in mutual fund industry. In other words, these variables do not help in improving the governance and overall performance of mutual fund.

Ownership of firms by managers is found to be positively related to firms' value, indicating that internally owned firms exhibit better performance [Chen, et.al. (2003)].

Concentration of ownership is the cause of poor performance in companies. Thus, CEO–Chairman duality is negatively related to firms' performance [Chen, et al. (2005)]. The study of Lin, et al. (2009) conducted on Chinese public listed firms provides that ownership and firms efficiency are found to be negatively related while positive relationship is found between the firms efficiency and public, as well as employees' sharing ownership firms in China. Moreover, the ownership concentration and firms' efficiency relationship indicate the involvement of largest shareholder in tunneling activities. Among different types of shareholders, the worst impact on efficiency is exerted by the state. Number of board meetings and existence of outside directors on the board assist to improve efficiency. Development of provincial markets as an indicator of checking the strength of mechanism for external governance has positive relationship with efficiency. It has also been found that state owned organizations show better efficiency after restructuring.

Xu and Wang (1999) have also investigated the impact of ownership structure on performance of listed firms in China and have examined that ownership structure is very much concentrated. There are three groups of shareholders, i.e., state, individuals and institutions (legal persons) and each of them holds approximately thirty per cent shares in typical public listed firms where consistently, the findings [Claessens et al. (2002)] of ownership concentration is positively correlated to profitability of firms. Profitability is positively related to institutional segments of ownership which indicates that institutional owners have strong incentive of increasing profitability by exercising good corporate governance mechanism in management affairs of the firms. The findings indicate that when mix-ownership and its concentration, both are considered for analysis, the results become stronger; thereby, meaning that both these variables have stronger impact on profitability.

In an attempt to examine the effect of ownership concentration on value of Indian firms within the analysis framework of agency problems between the two block holders (insiders and outsiders); Selarks (2005) found a curvilinear U-shaped relationship between the market value of firms and fraction of the shareholding by insiders till the point when ownership of this block reaches at the substantial level. It means that such shareholders expropriate until their ownership reaches at a higher level after which such incentive decreases, due to the effect of involvement of their personal wealth. In this situation of owning substantial level of shares in a firm and positive relationship by insiders develop between ownership by insiders and the market value of firms. Therefore, as far as the impact of outsiders' ownership on value of firms is concerned, it has been found that when ownership by this block- holders is at lower or higher level, it does not affect the value of firm. However, when ownership by these block-holders is at moderate level, it negatively affects the firms' value.

It has been documented that whenever companies are controlled by the major shareholders they expropriate wealth of such companies which are in pursue of seeking personal benefits. Actually, they do so at the cost of minority shareholders. Therefore, separation of management and control is recommended [La Porta, et al. (1999)]. Positive

relationship between cash flow ownership of majority shareholders and firms value have also been observed. There should be a balance between cash flow rights and the control rights of majority shareholders. If control rights of such shareholders are more than their cash flow rights, it will negatively affect the value of firms [Claessens, et al. (2002)]. Leung, et al. (2013) also found a relationship between the corporate governance and value in Chinese listed firms. They found that ownership of the largest shareholders of state controlled listed firms of China and firms value exhibit a non-linear relationship due to tunneling effect through which shareholders governing resources of these firms, use them for personal and political benefits at the cost of other shareholders.

However, expropriation of minority shareholders interest by the controlling shareholders can be minimized by an effective board. But however, the problem of influencing the board composition by the controlling shareholders is again there, because influencing election of the board of directors and appointment of senior management of companies by the controlling family has been found very commonly [Claessens, et al. (2000)]. Affiliation of the board with controlling families will result in negative effect on value of firms [Yeh and Woitke (2005)]. If directors and managers in a company are appointed independently, they will try to make rational decisions in the best interest of that company and will ultimately improve its value. It means that capital investment decisions will be made rationally [Balbat, et al. (2004)].

A study on the topic of corporate governance and value of firms conducted by Ammann, et al. (2011) used data set of about twenty-three hundred companies from the twenty-two developed countries. A salient feature of this study is that it has investigated the impact of governance related social attributes, like charge of political donations by companies and violation of workplace safety measures within the perspective of corporate social responsibility on value of firms along with the impact of governance indices constructed from sixty-four governance related attributes on firms value. It has been concluded in this study that cost of implementing corporate governance is relatively less than the benefits of its monitoring. It will ultimately lower the cost of firms' capital and increase cash flow of the firms' shareholders.

Independence of audit committee also has its implications for quality of firms' earning as depicted by its accruals. If audit committee is independent, it will assist to select high quality accruals of a firm and if audit committee is not independent, accruals of low or poor quality will be selected. It has also been found that if CEO and chairman is the same person in the firm (i.e., dual role is performed by one person), it will adversely affect the independent level of audit committee, in spite of the fact that all directors in the audit committee are independent. It means that CEO's dual position will have negative effect on independent status of the audit committee. When independent level of audit committee is low it will affect the earning quality negatively. Moreover, it has been investigated that although CEO-Chairman duality does not directly lesser the quality of earning but it becomes the cause of affecting relationship between the audit committee independency and the earning quality [Kamaruddin (2012)].

Research has also documented the impact of shareholders activism on performance and value of firms. Choi and Cho (2003) examined the impact of shareholders activism on performance of companies in Korea in comparison to shareholders activism in USA and found that shareholders activism in Korea does not have negative impact on financial performance of companies and on wealth of shareholders. Comparing US companies where shareholders activism is mainly led by institutional shareholders, activism of shareholders in Korea is led by NGO named Peoples' Solidarity for Participatory Democracy. They found that outcome of this NGO led activism of shareholders in Korea which are less successful than the outcome of shareholders activism in USA, in improving the financial performance of companies.

III. Data and Methodology

Although, the population of this study consist of 450 companies listed on the Karachi Stock Exchange but due to data availability problems, the purposive sample of this study is based on 139 non-financial companies. Data analysis period of this study is 2006-2011. Investment projects of companies are decided on long-term basis and are not changed frequently in the short-run. Moreover, financial performance of companies is also evaluated on yearly basis, more appropriately. Therefore, the annual data is used in this study. The data was collected from various published sources like Balance Sheets Analyses by State Bank of Pakistan, annual reports of companies, web sites of the Karachi Stock Exchange and Business Recorder. Initially, the data was longitudinal, but in an effort to find reference point having pivotal role in the prospect theory, when the same data was rearranged on the bases of measure of financial performance (i.e., from the lowest to the highest), its sequence changed from arrangement with respect to years. When reference point was determined the data started showing mixed pattern. It was neither time-series nor cross-section because a company which was in gain domain in one year was found to be relatively in loss-domain, to the reference-point in the forthcoming year or years and vice versa. In this situation, it was more appropriate to examine the prospect theory relationship (i.e., the impact of financial performance of companies on change in long-term investment and then the impact of corporate governance variables on this prospect theory relationship, on yearly bases.

This theory extends the scope of two phase value function of cumulative prospect theory in contextual frame work of financial performance of companies and their long-term investments. The first part of this basic function, apply to risk averse attitude of companies in the gain domain; the second part of it apply to examine their risk seeking attitude in the loss domain. First of all, we examined the application of prospect theory throughout the data years, one by one. Later, we have examined the impact of corporate governance variables to control this irrational behavior of risk aversion and risk seeking during those years in which application

of prospect theory's implications was found. Basic model of prospect theory favors the OLS regression because we have to calculate the coefficient values of risk aversion and risk seeking, by applying regression model.

Change in capital investment (ΔCI) is calculated by dividing the change in net fixed assets by firms' sales; which follows Wen (2010) and is used as dependent variable. While ROA (Return on Assets) and ROE (Return on Equity) are used as independent variables they are taken as measures of firms' financial performance. Following, Brealey and Myers (2007), (ROA) is calculated by dividing the net profit (before tax) by total assets of firms, and (ROE) is calculated by dividing net-profit (after tax) by owners' equity. Apart from these variables, corporate governance is also used as a control variable. Therefore, as far as measures of corporate governance are concerned, it consist of the board size (BSI) represented by natural log of total number of directors on the board [Shah (2009)]. CEO-Chairman duality (DUA) whether or not he/she is the same person, depends on the audit committee independence (IND), i.e., number of non-executive directors divided by the total number of directors in audit committee; shareholders activism (ACT), i.e., number of meetings attended by more than 70 per cent directors divided by the total number of meetings; institutional ownership (IO), i.e., number of shares held by institutional investors divided by the total number of shares; ownership concentration (OC), i.e., shares held by the top ten shareholders divided by total number of shares; and the board independence (IND), i.e., non-executive directors on the board divided by the total number of directors. In order to examine the impact of corporate governance on prospect theory behavior of companies, the technique of regression analysis has been applied.

The following regression model has been applied to evaluate the impact of corporate governance on risk averse attitude of firms in their domain of gain:

$$\Delta CI_i = \gamma (\text{Fin Per}_i^{\alpha 1} \cdot \text{BSI}_i^{\alpha 2} \cdot \text{IND}_i^{\alpha 3} \cdot \text{DUA}_i^{\alpha 4} \cdot \text{ACT}_i^{\alpha 5} \cdot \text{ACI}_i^{\alpha 6} \cdot \text{IO}_i^{\alpha 7} \cdot \text{CON}_i^{\alpha 8}) + \varepsilon_i \quad (1)$$

where,

- ΔCI_i = Annual change in ratio of capital investment to sales.
- γ = Co-efficient for curvature of utility from financial performance.
- Fin Per_i = Financial performance of companies reflected through their return on assets (ROA), and return on equity (ROE) i.e., gain or loss relative to a reference point.
- α = Exponent or power function used for reflecting condition of risk aversion in the situation of gain.
- ε_i = Error term.

To evaluate the impact of corporate governance on risk seeking attitude of firms in the domain of loss, following regression equation has been used:

$$\Delta CI_i = -\lambda [(-Fin Per_i)^{\beta_1} (-BSI_i)^{\beta_2} (-IND_i)^{\beta_3} (-DUA_i)^{\beta_4} (-ACT_i)^{\beta_5} (-ACI_i)^{\beta_6} (-IO_i)^{\beta_7} (-CON_i)^{\beta_8}] + \varepsilon_i \quad (2)$$

where,

λ = Co-efficient of loss aversion.

β = Exponent or power function used for reflecting condition of risk seeking in the situation of loss.

IV. Results and Discussion

Table 1 reflects the results of descriptive analysis where change in capital investment is dependent variable and return on equity is independent variable. The control variables relating to financial constraints and corporate governance of companies for data span of 2006-2011. Mean value of the board size (i.e., 328.0962) is the highest and the board independency (0.087055) is lowest, indicating that companies in Pakistan attention on their board size and thus maintain fair size of their board of directors, but independency of the board of directors is at very low level. Mean value of CEO duality (129.2898) is also higher but it is less than the board size. Mean values of all other variables are at very low level but are greater than the value of board independency.

TABLE 1
Descriptive Statistics of Variables ROE Independent Variable 2006-2011

| | Mean | Median | Maximum | Minimum | Std. Dev. | Skewness | Kurtosis |
|-------------|----------|----------|----------|----------|-----------|----------|----------|
| ACI | 0.579655 | 0.041669 | 388.5976 | -80.72 | 13.90865 | 26.19868 | 739.2209 |
| IND | 0.087055 | 0.021221 | 85.48 | -33.3027 | 3.235358 | 21.02786 | 604.9724 |
| BSI | 328.0962 | 0.00981 | 266883.8 | -31.7 | 9302.896 | 28.63525 | 820.9854 |
| Δ CI | 0.443257 | 0.02487 | 369.7 | -1420 | 70.12658 | -13.2022 | 244.2463 |
| DUA | 129.2898 | 0.00797 | 4375.6 | -211.6 | 278.3416 | 7.129277 | 84.62456 |
| DER | 0.128763 | 0.058241 | 26.35455 | -10.5192 | 1.222917 | 15.34409 | 322.3745 |
| DPO | 0.718707 | 0 | 472 | -15.4581 | 16.46229 | 28.55913 | 818.1194 |
| FAR | 0.694565 | 0.502615 | 47.47475 | -16.9349 | 2.874675 | 12.26667 | 174.7824 |
| FCF | 2.03874 | 1.94591 | 3.157015 | 1.2451 | 0.296415 | 1.092988 | 4.580449 |
| CON | 0.939385 | 1 | 1 | 0 | 0.214074 | -3.82392 | 16.51725 |
| IO | 0.26853 | 0 | 1 | 0 | 0.443464 | 1.044553 | 2.091092 |
| OCF | 0.946325 | 1 | 1 | 0 | 0.219403 | -4.00921 | 17.30809 |
| ACT | 0.628094 | 0.6943 | 1.243814 | 0.002159 | 0.265098 | -0.6486 | 2.496751 |
| ROE | 0.308231 | 0.0241 | 369.7 | -1420 | 70.09963 | -13.212 | 244.5201 |

It is also clear from the same descriptive analysis that value of standard deviation for board size is also highest, i.e., 9302.896 indicating maximum volatility of this variable, while the lowest value of standard deviation is observed for ownership concentration indicating its lowest volatility. Standard deviation of CEO duality which is 278.3416 is higher than all other variables but less than the standard deviation of the board size.

Skewness values indicate that change in capital investment, operating cash flow to sales, shareholders activism, ownership concentration and return on equity are negatively skewed indicating that deviations from mean values of these variables are negative; whereas Kurtosis values are low for CEO duality, free cash flow to sales, institutional ownership, ownership concentration, operating cash flow to sales and shareholders activism. These lower values of kurtosis indicate that greater part of the variance from mean are due to frequent and moderate size deviations.

Table 2 shows the results of descriptive statistics among dependent variables change in capital investment, independent variable return on assets, financial constraints and corporate governance related to control measures. The table, clearly indicates that the board size has highest mean value of 326.5093 with CEO duality, having the second highest value of 128.6644 while the board independency has the lowest mean value of 0.085954. Value of free cash flow to sales is also at lower level but it is relatively higher than the other control variables. The highest value of standard deviation for board size which is 9280.371 shows the highest volatility of this variable,

TABLE 2
Descriptive Statistics, ROA Independent Variables 2006-2011

| | Mean | Median | Maximum | Minimum | Std. Dev. | Skewness | Kurtosis |
|-----|----------|----------|----------|----------|-----------|----------|----------|
| ACI | 0.583974 | 0.042558 | 388.5976 | -80.72 | 13.87511 | 26.26035 | 742.7438 |
| IND | 0.085954 | 0.021192 | 85.48 | -33.3027 | 3.227586 | 21.07852 | 607.8878 |
| BSI | 326.5093 | 0.00981 | 266883.8 | -31.7 | 9280.371 | 28.70501 | 824.9853 |
| ΔCI | 0.441125 | 0.02459 | 369.7 | -1420 | 69.95659 | -13.2342 | 245.4317 |
| DUA | 128.6644 | 0.0071 | 4375.6 | -211.6 | 277.8119 | 7.141664 | 84.92298 |
| DER | 0.128388 | 0.058241 | 26.35455 | -10.5192 | 1.219966 | 15.38174 | 323.9458 |
| DPO | 0.71715 | 0 | 472 | -15.4581 | 16.42241 | 28.62859 | 822.101 |
| FAR | 0.693757 | 0.502615 | 47.47475 | -16.9349 | 2.867745 | 12.29679 | 175.6362 |
| FCF | 2.038182 | 1.94591 | 3.157015 | 1.2451 | 0.296024 | 1.09543 | 4.593013 |
| CON | 0.938469 | 1 | 1 | 0 | 0.216071 | -3.7876 | 16.20662 |
| IO | 0.26844 | 0 | 1 | 0 | 0.443416 | 1.045068 | 2.092167 |
| OCF | 0.945375 | 1 | 1 | 0 | 0.221356 | -3.96685 | 16.96111 |
| ROA | 1.163964 | 1 | 2.5 | 0 | 0.412554 | 0.282792 | 3.032825 |
| ACT | 0.628 | 0.694 | 1.244 | 0.002 | 0.265 | -0.65 | 2.497 |

while the lowest value of its deviation is for ownership concentration at 0.216071. The value of standard deviation of CEO duality at 277.8119 indicates that volatility of this variable is at moderate level.

All variables except the changes in capital investment, ownership concentration, operating cash flow to sales and shareholders activism are positively skewed. As the values of skewness for return on assets and shareholders activism are near to zero, they are skewed slightly. Higher values of kurtosis for board independency, audit committee independency, board size, debt equity ratio, dividend payout and change in capital investment indicate that larger part of variance in distribution is due to irregular and extreme deviations which are not of frequent, regular and moderate type.

As risk averse behavior described under prospect theory was found only in the year 2006; out of the entire data period of 2006-2011, therefore, the impact of corporate governance variables was examined for the same year. It is clear from the first panel of Table 3 that coefficient value of ROA was found to be -0.18 indicating that ROA and capital investment are negatively correlated, although this value is not significant. As this value is not different from zero, significantly it can be said that corporate governance has contributed in eliminating risk averse behavior of companies in the domain of gain. This result is as per theoretical background. Moreover, R-square value of 0.978 has indicated that explanatory variables have explained about 98 per cent variation in capital investment. Thus, as far as the impact of corporate governance on risk seeking

TABLE 3
Effect of Corporate Governance on Risk Averse and
Risk Seeking Behavior ROA Independent Variable 2006

| Variables | Risk Averse Behavior | | Risk Seeking Behavior | |
|-------------|----------------------|---------|-----------------------|---------|
| | Co-efficient | t-stat. | Co-efficient | t-stat. |
| ROA | -0.18 | -0.353 | 5.215 | 2.74** |
| BSI | 0.804 | 3.674* | 0.385 | 0.874 |
| IND | 0.771 | 2.251** | -0.048 | -0.172 |
| DUA | 0.113 | 0.675 | -0.048 | -0.172 |
| ACI | 1.207 | 2.694* | -2.721 | -1.194 |
| ACT | 0.356 | 2.093** | 0.36 | 1.194 |
| IO | 0.01 | 0.034 | 0.456 | 1.312 |
| CON | 1.373 | 3.194* | 0.578 | 0.751 |
| R Square | 0.978 | | 0.98001 | |
| Adjusted R2 | 0.9666 | | 0.93001 | |
| F-stat | 562.229 | | 179.763 | |

*Significant at 99%, **Significant at 95%.

attitude of companies is concerned, it is revealed from the second panel of Table 2 that coefficient value of independent variable ROA was 5.215. This value was significant at 5 per cent level. As this value was significantly different from zero, it could be implied that corporate governance had not affected the risk seeking behavior of companies in the loss domain; while R-square has shown that explanatory variables have explained about 98 per cent of the variations in capital investment.

In order to examine the impact of corporate governance mechanism on prospect theory behavior of companies' risk aversion in situation of gain with ROE as a measure of financial performance, multiple regressions were run with change in capital investment as dependent variable; ROE as an independent variable and the variable of corporate governance as control variable. As depicted earlier, during the data period of 2006-2011 the risk averse behavior was observed in 2006, 2007, 2008, 2009 and 2010 only. Regression results of Table 4 reveal that coefficients of independent variable ROE (for table years) were different from zero for all years, except 2006 in which it was -0.197. It means that corporate governance mechanism eliminated the risk averse behavior of companies, only for that year, in which the coefficient value was also significant at 1 per cent level. Corporate governance did not contribute in eliminating or controlling risk averse behavior of companies in the years 2007, 2008, 2009 and 2010. Finding of these years was not as per prediction which means that impact of corporate governance was dependent on specific measure of financial performance which was used. It was also found that board size, board independency, audit committee independency, shareholders activism and ownership concentration were positively correlated with capital investment, although these coefficient values were insignificant.

As explained earlier the risk seeking behavior prevailed in companies during the years 2006-2010 except for 2007; this year was not included for examining influence of the corporate governance on risk seeking behavior of companies (Table 5). When the impact of corporate governance was checked on risk seeking behavior of companies in their domain of loss, it was found that coefficient value of independent variable ROE in different table years was significantly different from zero. It means that corporate governance did not control the risk seeking behavior of companies in all the table years. This result does not support the theoretical background and predictions while, R-square values indicate that more than 98 per cent of the variation in capital investment was expressed by the explanatory variables.

V. Conclusion

Risk averse and risk seeking behavior of companies under the notion of Prospect Theory is described as an irrational behavior and role of corporate governance in abating this irrational behavior, evident in the studies. In this present study, practical implication of corporate governance mechanism has been examined in context to the irrational behavior. The results indicate that corporate governance is helpful to reduce

TABLE 4
Effect of Corporate Governance on Risk Averse Behavior
ROE Independent Variable 2006-2011

| Variables | Year | | | | | | | | | | | | | |
|-------------|--------------|---------|--------------|---------|--------------|----------|--------------|----------|--------------|---------|--------------|---------|--------------|---------|
| | 2006 | | | 2007 | | | 2008 | | | 2009 | | | 2010 | |
| | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. |
| ROE | -0.197 | -8.81* | 2.325 | 7.725* | 45.814 | 13.331* | -5.077 | -0.458 | 2.767 | 1.18 | | | | |
| BSI | 0.095 | 0.757 | 0.982 | 0.491 | -9.933 | -2.607** | 0.545 | 5.18** | 0.003 | 0.021 | | | | |
| IND | 0.097 | 0.529 | -5.424 | -1.451 | -21.607 | -3.857* | -1.427 | -1.169 | -0.143 | -0.293 | | | | |
| DUA | 0.0001 | 0.001 | -2.264 | 1.394 | 2.518 | 0.833 | 0.232 | 2.404*** | -0.084 | -1.277 | | | | |
| ACI | 0.276 | 1.27 | -0.714 | -0.205 | 2.609 | 0.489 | 6.031 | 0.529 | -1.418 | -0.515 | | | | |
| ACT | 0.06 | 0.644 | 1.568 | 1.011 | 0.21 | 0.067 | 0.027 | 0.197 | -0.025 | -0.369 | | | | |
| IO | -0.068 | -0.393 | -5.265 | -1.937 | 5.016 | 0.95 | -0.363 | -1.621 | -0.029 | -0.185 | | | | |
| CON | 0.269 | 1.144 | -2.243 | -0.616 | -30.813 | -4.331* | 0.616 | 1.621 | 0.002 | 0.011 | | | | |
| R2 | 0.4717 | | 0.4484 | | 0.8489 | | 0.9993 | | 0.9984 | | | | | |
| Adjusted R2 | 0.4242 | | 0.3926 | | 0.8215 | | 0.6644 | | 0.854 | | | | | |
| F-stat. | 11.051 | | 8.8435 | | 52.701 | | 573.157 | | 559.0449 | | | | | |

*Significant at 99%, **Significant at 95%, *** Significant at 90%.

TABLE 5
Effect of Corporate Governance on Risk Seeking Behavior
ROE Independent Variable 2006-2011

| Variables | Year | | | | | | | |
|-------------|--------------|----------|--------------|---------|--------------|---------|--------------|---------|
| | 2006 | | 2008 | | 2009 | | 2010 | |
| | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. | Co-efficient | t-stat. |
| ROE | 1.616 | 8.075* | 1.849 | 4.902* | 3.131 | 6.703* | 1.185 | 5.379* |
| BSI | 0.126 | 0.523 | 0.044 | 0.249 | -0.055 | -0.368 | -0.021 | -0.379 |
| IND | 0.067 | 0.271 | -0.31 | -0.815 | 0.023 | 0.141 | 0.087 | 1.236 |
| DUA | -0.086 | -0.576 | 0.123 | 1.033 | 0 | 0.007 | -0.052 | -1.212 |
| ACI | -1.304 | -2.272** | 0.166 | 0.69 | -0.203 | -0.988 | 0.035 | 0.391 |
| ACT | -0.015 | -0.096 | -0.014 | -0.123 | -0.017 | -0.163 | 0.097 | 1.947 |
| IO | 0.122 | 0.4 | -0.145 | -0.836 | 0.071 | 0.419 | 0.158 | 1.999 |
| CON | 0.513 | 1.252 | 0.026 | 0.084 | 0.341 | 1.144 | -0.305 | -1.815 |
| R2 | 0.9942 | | 0.9824 | | 0.9855 | | 0.9882 | |
| Adjusted R2 | 0.9469 | | 0.9574 | | 0.9733 | | 0.9665 | |
| F-stat. | 475.441 | | 314.556 | | 769.2971 | | 523.4513 | |

*Significant at 99%, **Significant at 95%.

risk averse and risk seeking attitude of companies when ROA is a measure of financial performance; but its role in controlling such a behavior is not very much strong in case of ROE, as a measure of financial performance. It means that the role of corporate governance which largely depends on specific measure of financial performance is not uniform. The role of this controlling variable in narrowing risk seeking attitude of companies does not seem to be promising. It can be implied from the results that the scope of this study can be enhanced in future and efforts should be made to find another variable like financial constraints of companies which can assist to control risk averse, as well as risk seeking attitude of companies, irrespective of the measure of financial performance used.

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