

Risk Attitudes of the Listed Indian Financial Companies: A Prospect Theory Perspective

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Abstract

The objective of this research study is to analyze the risk-attitudes of the listed Indian financial companies from a behavioural perspective. For the purpose, it examines the implications of Kahneman and Tversky's (1979) and Tversky and Kahneman's (1992) 'prospect theory' for these companies. This study hypothesizes that for below-target returns, a large majority of them would be risk seeking, and for above-target returns, most of these companies would be risk averse. In this respect, this paper uses rates of return on assets and equity and the capital ratios of 34 Indian commercial banks and 21 investment & finance companies from the Indian stock markets over the period 2009-2013. On an overall basis, the Indian financial companies don't show any overwhelming presence of the prospect-theory implications and Bowman's (1980) risk-return paradox. However, it is evident from the empirical results that mostly bigger and some smaller financial companies and their managers are always risk seeking and mostly shareholders-centric in regard to their attitude.

Keywords: Risk-return, Prospect theory, Indian banks, ROA, ROE, Capital ratio.

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1. Introduction

Risk-return associations are an issue of significance and debate to the common man, business man, business executives, finance people, economists, researchers and all others concerned from time immemorial. All of them agree to one viewpoint i.e., higher the risk, higher would be the expected return. The common assumption is that people are basically risk averse until and unless they face some unusual circumstances. However, many researchers (such as, Friedman and Savage, 1948; Kahneman and Tversky, 1979; and Markowitz, 1952) question this assumption of globally seen risk aversion phenomenon both theoretically and empirically. They argue that investment decisions violate the traditional expected utility model because of the probability weighting of expected utility and also due to investors' loss aversion behaviour.

Thus, one of the pioneering studies which deny the positive relationship of risk and return always is that of Kahneman and Tversky's (1979) 'prospect theory'. It describes individuals' risk attitudes and posits that when they are facing prior loss relative to a reference point, they tend to be risk seeking rather than risk averse. Thus, for risky assets with current prices lower than reference prices, average individual investors of these assets face capital losses and thus tend to be risk seeking. As a result, there should be a negative risk-return tradeoff for these risky assets. Thus, a critical element in this theory is the reference point. Also, it is important to note that most individuals exhibit a mixture of risk seeking and risk averse behaviour, depending on whether the outcome is below or above the selected reference point, respectively. Therefore, some testable hypotheses are provided by Kahneman and Tversky's (1979) framework - when performance is below a given target level or reference point, decision makers would be risk seeking and when performance is above that, they would be risk averse.

In another significant study, Bowman (1980) investigates 85 US industries and finds the relationship between firm's risk and return. Interestingly, he finds that for most of these industries, risk and return offers a negative relationship. Thus, Bowman's (1980; 1982) suggestions are of immense interest especially in financial companies' risk-attitude perspective as they provide the root of the famously-known 'risk-return paradox'. He attributes his findings to two important factors. First of all, prudent managers can simultaneously increase return and reduce risk thereby causing the negative risk-return relationship. Secondly, in contradiction with economists' assumption, he states that managers are not risk averse rather they are risk seekers. Therefore, Bowman (1982; 1984) argues that firms' risk-attitudes influence their risk-return profiles and so

‘troubled’ firms take greater risks. Thus, he propagates the prospect-theory implications for these industries.

Post-Bowman, many studies throughout the world investigate Bowman’s (1980; 1982) risk-return paradox in combination with the prospect-theory thoughts in different organizational settings. Fiegenbaum and Thomas (1988) test Kahneman and Tversky’s (1979) hypotheses by using accounting data, defining median returns to be benchmark returns and dividing the sample firms in two groups – above and below target return. Their results strongly corroborate the above presented prospect theory’s predictions. Then, Jegers (1991) replicates Fiegenbaum and Thomas’s (1988) methodology by using Belgian accounting data, investigating some new return and risk variables like ROA (return on assets) in addition to ROE (return on equity), which would take into account the managerial performance view, and cash flow on equity (CFE) and a coefficient of variation (defined as the standard deviation of returns divided by the average return) in addition to the variance of such returns. He calculates each firm’s time average return, ranks firms according to these values and divides the firms into two equally sized groups - those with above and respectively below target returns, the target is defined as the median return. Then, for each group, Spearman’s rank correlations between risk and return, and the negative association ratio are calculated. His results also corroborate to those of Fiegenbaum and Thomas’s (1988) study.

Johnson (1994) also places his analysis of risk-taking attitude in banks in a behavioural finance framework, following Fiegenbaum and Thomas (1988) and using Fishburn’s (1977) measure of risk defined as dispersion about the mean outcome. He tests several measures of return and risk for a sample of US commercial banks for the 1970-1989 period. He uses standard measures of return like ROA and ROE, as well as primary capital ratio (PCR). Risk is measured as standard deviation of outcome. The study aims at investigating historical data to determine whether there is any evidence consistent with the prospect theory, by measuring the relationship between outcome variability and distance from target. He also defines targets as the median values of return variables. Sample banks are classified in two separate groups according to this target, and correlation between distance to target and standard deviations are computed. The statistical tests are based on Kendall’s (1938) τ correlation coefficient. The results obtained also corroborate Fiegenbaum and Thomas’s (1988) conclusions.

However, no such study has ever been conducted on Indian industries or companies. So, it is one of a pioneering nature to measure the implications of

the prospect theory in light with Bowman's (1980; 1982) risk-return paradox. Following Johnson's (1994) framework, this study would make specific contributions in line with its objectives by:

1. Concentrating on the Indian financial companies' risk attitudes over the period 2009-2013, a period of significant crises and after-crisis changes in the industry;
2. Measuring the relationship between distance from target and outcome variability;
3. Examining the issue of an appropriate target for the Indian financial companies; and
4. Testing for group-wise (size vs. sector) effects.

This study is organized as follows: Following introduction in Section 1, Section 2 deals with the proposed hypotheses, risk and return measurement methodology, data descriptions and test design. Section 3 presents empirical results and necessary discussions followed by conclusion in Section 4.

2. Research Methodology

2.1 Hypotheses

As pointed out earlier, Kahneman and Tversky (1979) and Tversky and Kahneman's (1992) prospect theory defines individual investors' utility on a profit-loss basis and posits that when performance is below a given target level or reference point, decision-makers are risk-seeking, and when performance is above that, they are risk-averse. The critical issue here is to identify a measure for the target or reference return's level. Lev (1969: 290) strongly recommends "the desirability of adjusting the firm's financial ratios to predetermined targets which are usually based on industry wide averages." Frecka and Lee (1983) also support Lev's (1969) viewpoint that firms adjust financial ratios in a dynamic fashion to targets that appear to be industry-wide averages of those ratios. In this regard, Jegers (1991) defines the target level as the median return for the firms in the respective industries. For the objective of this study to test the nature of the association between risk and return, the Indian financial companies' median return is used.

In line with the prospect theory and following the findings of the past empirical studies, the following two research hypotheses are tested:

Hypothesis 1: A negative association between risk and return exists for the Indian financial companies below target return levels (i.e., all firms' median returns).
 Hypothesis 2: A positive association between risk and return exists for the Indian financial companies above target return levels (i.e., all firms' median returns).

2.2 Risk and Return Measurement

Fishburn (1977) re-assesses the concept of risk by suggesting that it is not necessarily a measure of dispersion about an expected value rather a function of distance from a target outcome. He put this idea as follows:

$$R(t) = \int_{-\infty}^t (t - x)^{\alpha} dF(x) \quad \text{Equation (1)}$$

where:

$R(t)$ = Measure of risk

t = Target or aspiration level

α = Sensitivity to deviation from target, $\alpha > 0$

$F(t)$ = Probability density function of x

Thus, $R(t)$ is not a function of dispersion of a distribution about its mean, but of the likelihood of below-target outcomes. The positive parameter α measures a firm's attitude toward this below-target results.

Till date many empirical studies have investigated the decision making process in terms of risk-return of mainly the commercial banks. In this regard, the rates of return on assets or equity (ROA/ROE) (see e.g., Blair and Heggstad, 1978; Hart and Jaffee, 1974; Koehn and Santomero, 1980; etc.) from the perspectives of the managers and shareholders, and also the capital ratios (see e.g., Brewer and Lee, 1986; and International Monetary Fund, 1990) from the viewpoints of regulators and financial markets operators have received considerable attention. It is imperative to note that all these three measures are interrelated as follows:

$$ROA = E/TA \times ROE \quad \text{Equation (2)}$$

Where:

ROA = Return on Assets (net income to total assets)

E/TA = The Equity or Capital ratio (equity to total assets)

ROE = Return on Equity (net income to equity)

In this study each of these measures is investigated as a possible industry target. 'Return' is measured as the average return (on assets and equity) over the study period, while 'risk' is operationalized as the standard deviation of returns over

the same period. This study also undertakes accounting data in line with previous empirical studies (see e.g., Fiegenbaum and Thomas, 1988; Jegers, 1991; Johnson, 1994; etc.) for its investigation purpose, because of its universal use among the managers, competitors, shareholders, regulators, etc.

2.3 Data Descriptions

The data for this study were obtained from annual reports of 34 Indian commercial banks and 21 investment & finance companies and other relevant internet resources. All these financial companies are listed in the different indices of the Indian stock markets for the study period. For each of these companies, the annual rates of return on assets and equity (ROA and ROE) and the capital ratio (CR) are computed as follows:

$$ROA_{in} = Ni_{in} / TA_{in} \quad \text{Equation (3)}$$

$$ROE_{in} = Ni_{in} / E_{in} \quad \text{Equation (4)}$$

$$CR_{in} = E_{in} / TA_{in} \quad \text{Equation (5)}$$

Where:

ROA_{in} = Rate of Return on Assets for financial company i in year n

Ni_{in} = Net income for financial company i in year n

TA_{in} = Total assets for financial company i in year n

ROE_{in} = Rate of Return on Equity

E_{in} = Equity for financial company i in year n

CR_{in} = Capital ratio

2.4 Test Design

After the target returns level or reference point (i.e., all firms' median return) was decided, this study relied on time average and their standard deviations measure, and also their respective medians. It undertook three zones:

Zone I – ROA, Zone II – ROE, and Zone III – CR

To incorporate the Fishburn's (1977) measure of risk, this study split the sample in two areas for each zone- ABOVE and BELOW, corresponding respectively to firms/companies above and below the target level, i.e., the median of the variable corresponding to the zone.

The Prospect Theory and Fishburn's measure of risk suggest that decision makers are more willing to accept variability the further below target they find themselves. Thus, the standard deviation of outcome (i.e., returns) should be related to

distance from target when decision makers are above/below target. This study defined distance from target as follows:

$$DTROA_i = MEROA_i - MEDMROA$$

$$DTROE_i = MEROE_i - MEDMROE$$

$$DTCR_i = MECR_i - MEDMCR$$

Where:

$MEROA_i$, $MEROE_i$ and $MECR_i$ = Time series median ROA, ROE and CR respectively, for financial company i.

Also the standard deviation of outcome (i.e., returns) is designated by the following variables:- $SDROA_i$, $SDROE_i$ and $SDCR_i$.

As the data was ordinal or non-normal and as there were outliers, this study used Kendall's (1938) test over and above other correlation tests. Kendall's test was used to measure the correlations between these variables within the relevant groups (all financial companies and group-wise). The possible values of Kendall's range from +1 (perfect positive correlation) to -1 (perfect negative correlation). However, if Kendall's value is consistently negative below target and positive above target, such results would tend to support Fishburn's measure of risk and Prospect Theory's implications.

3. Results and Discussions

Table 1: Group Classification of Indian Financial Companies

Group Classification	Total (100%)	Banking (%)	Investment & Finance (%)
Overall	55	34 (61.82)	21 (38.18)
Size 1	16	03 (18.75)	13 (81.25)
Size 2	14	09 (64.29)	05 (35.71)
Size 3	13	11 (84.62)	02 (15.38)
Size 4	12	11 (91.67)	01 (8.33)

This study undertook 55 Indian financial companies comprising of 34 banks and 21 investment & finance companies for which data was available for all the studied years (see Table 1). All these companies are listed in the Indian stock markets under different indices. The size breakdown of all these companies based on average total assets (in \$ millions) are shown in Table 2. The average total assets amount was taken in such a way so as to include balanced number of companies under different size-classifications. The percentage figure of both

banks and investment & finance companies are shown in brackets under all size-classifications in Table 1. However, as the number of banks are more in the sample, the results will somewhat be skewed towards them especially under size 3 and 4 classifications. Similarly, size 1 classification results will be skewed towards investment & finance companies. Overall, when this study compares the results under the different size-classifications and sector classifications, most of these probable skewed results and ambiguities will be neutralized.

**Table 2: Size Breakdown of Indian Financial Companies
[Based on Average Total Assets in \$ Millions (2009-13 FYs)]**

Size	Amount (in \$ Millions)	Number of Companies
1	≤ 5,000	16
2	5,001-14,999	14
3	15,000-34,999	13
4	≥ 35,000	12

The descriptive statistics of the selected variables overall and under size and sector classifications for all the Indian financial companies are provided in Table 3.

Table 3: Descriptive Statistics

A. Overall (55 Companies)			
	ROA	ROE	CR
Mean	2.369491	-37.79975	0.865496
Standard Deviation	2.949983	386.6495	1.230484
Maximum	10.66000	23.16000	5.963768
Minimum	-7.440000	-2852.820	0.054385
A1. Overall (54 Companies [Prime Securities excluded])			
Mean	2.5511	14.3303	0.7711
Standard Deviation	2.64904	5.82543	1.02135
Maximum	10.66	23.16	5.84
Minimum	-0.20	-6.54	0.05
B. Size			
B1. Size 1:	ROA	ROE	CR
Mean	4.546250	-168.7250	1.796309
Standard Deviation	4.486137	715.7997	1.856857
Maximum	10.66000	20.10000	5.963768
Minimum	-7.440000	-2852.820	0.279614

B2. Size 2:	ROA	ROE	CR
Mean	2.020714	16.04443	0.645452
Standard Deviation	1.861234	4.496539	0.764319
Maximum	7.480000	23.16000	3.121851
Minimum	0.760000	6.780000	0.097332
B3. Size 3:	ROA	ROE	CR
Mean	1.174923	15.66769	0.571567
Standard Deviation	0.740594	2.789427	0.333726
Maximum	2.740000	20.06000	1.181524
Minimum	0.500000	11.72000	0.113268
B4. Size 4:	ROA	ROE	CR
Mean	1.168167	16.02600	0.199554
Standard Deviation	0.526342	4.360611	0.106990
Maximum	2.420000	22.88200	0.394356
Minimum	0.540000	9.560000	0.054385
C. Sector			
C1. Banking:	ROA	ROE	CR
Mean	0.951235	14.63571	0.439292
Standard Deviation	0.419766	5.341568	0.471771
Maximum	1.634000	22.88200	2.779632
Minimum	-0.200000	-1.880000	0.054385
C2.1 Investment & Finance (21):	ROA	ROE	CR
Mean	4.665714	-122.6952	1.555541
Standard Deviation	3.774918	625.5841	1.706467
Maximum	10.66000	23.16000	5.963768
Minimum	-7.440000	-2852.820	0.174730
C2.2 Investment & Finance (20) [Prime Securities excluded]:	ROA	ROE	CR
Mean	5.2710	13.8110	1.3351
Standard Deviation	2.62703	6.68248	1.41117
Maximum	10.66	23.16	5.84
Minimum	1.60	-6.54	0.17

The results indicate that the mean of the rate of ROA is about 2.369491 which imply that the average net income of these companies is around 2.37% of their total assets. Moreover, the mean of the rate of ROE is about -37.80%, and the mean of the ratio of capital is about 0.87%, which shows that on an average the Indian financial companies' capital is about one percent of their total assets. However, when this study excludes Prime Securities (see A1 under Table 3) from the calculations because of disastrous financial results during the study period, the results are completely different. The mean of the rate of ROE for other 54 companies is 14.33% and the standard deviation results also show a massive decline in risk for earning ROE. Thus, due to the presence of Prime Securities, size 1 results are somewhat odd under this study. Inclusion of Prime Securities has thereby made the overall results skewed and ambiguous in nature.

Table 3 also shows how size and sector group companies are contributing towards the overall results. In regard to ROA returns and CR, size 1 financial companies are the front-runners in driving the overall results of all companies. However, their returns are also most risky (higher SD value). This shows the normal risk-return relationships for these companies. In regard to both risk and returns (except ROE) and CR parameter, size 2, 3 and 4 classified companies are following the size 1 companies in that rank only. The sector group results show that investment & finance companies comprising of most size 1 and 2 are contributing a major portion of overall returns (except ROE [due to Prime Securities]) and CR of the Indian financial companies. However, the banking sector companies are also very significant contributor to ROE's overall results. Without Prime Securities, the investment & finance companies are more or less at par with their banking peers for ROE returns. However, in case of ROA returns, the investment & finance companies are well ahead and achieving excellent results in comparison to their banking peers. The CR also shows that the investment & finance companies are much more equity-prone than their banking counterparts. These results strongly present especially the efficiency levels (of investment & finance companies) and shareholders' value added for both sector group companies.

Table 4 shows cross-sectional median values which are used as targets for all the Indian financial companies overall and size and sector group companies. The cross-sectional median values (i.e., Indian financial companies' [overall] median returns and within sub groups) are based on individual companies' median values overall and under all sub groups.

Table 4: Cross-sectional Median Values

	MEDMROA	MEDMROE	MEDMCR
Overall	1.350000	15.80000	0.412912
Size 1	6.300000	11.90000	0.934799
Size 2	1.350000	16.75000	0.338374
Size 3	1.000000	16.50000	0.470634
Size 4	1.000000	16.90000	0.167803
Banking	0.950000	16.00000	0.327738
Investment & Finance	4.900000	15.10000	0.931632

MEDMROA – Overall/Sub Group Median ROA, MEDMROE – Overall/Sub Group Median ROE and MEDMCR – Overall/Sub Group Median CR.

**Table 5: Indian Financial Companies’ Classifications
(Based on Overall/ Sub Group Median Values)**

A. Overall			
	Total	1-Above Target	2-Below Target
ROA	55	28	27
ROE	55	28	27
CR	55	28	27
B. Size			
B1. Size 1:	Total	1-Above Target	2-Below Target
ROA	16	09	07
ROE	16	08	08
CR	16	08	08
B2. Size 2:	Total	1-Above Target	2-Below Target
ROA	14	07	07
ROE	14	07	07
CR	14	07	07
B3. Size 3:	Total	1-Above Target	2-Below Target
ROA	13	07	06
ROE	13	07	06
CR	13	07	06
B4. Size 4:	Total	1-Above Target	2-Below Target
ROA	12	06	06
ROE	12	06	06
CR	12	06	06
C. Sector			
C1. Banking:	Total	1-Above Target	2-Below Target
ROA	34	17	17
ROE	34	17	17
CR	34	17	17
C2. Investment & Finance:	Total	1-Above Target	2-Below Target
ROA	21	11	10
ROE	21	11	10
CR	21	11	10

Table 5 shows the allocation of the Indian financial companies (55 in total) above and below the target returns levels. There are 28 and 27 such companies both above and below the target under ROA, ROE and CR respectively. Companies whose median value equal to or exceed the target outcome (i.e., cross-sectional median values) have a classification of 1, i.e., above-target. Below-target companies have a classification of 2. Similarly there are 16, 14, 13 and 12 companies as divided based on their respective asset size under size 1-4, and 34 and 21 companies based on their sector under banking and investment & finance sub groups. Table 5 also shows the number of companies of different sub groups under both above and below target returns. Generally, equal representation is found in all the sub groups.

Table 6: Kendall's Correlation Results (Overall)

	Total	1-Above Target	2-Below Target
ROA	55	-0.164	0.000
ROE	55	-0.502**	-0.242
CR	55	0.386**	0.521**

Kendall τ correlation coefficients between the standard deviation and the distance to median are shown for each zone. * Correlation is significant at the 0.05 level (2-tailed) and ** Correlation is significant at the 0.01 level (2-tailed).

Table 6 provides the Kendall's correlations results for the 55 Indian financial companies. Generally, the correlations are significant above and below target for CR and for ROE only above target. Results are also mixed.

Contradictory but insignificant Kendall's coefficients are found for overall ROA - negative and rejects hypothesis 2 for above target companies and also indifferent (as 0 is the value) and thereby rejects hypothesis 1 for below target ones. This does not show any risk-averse behavior (rather risk-seeking nature is evidenced) for the above target financial companies, and neither the risk-seeking behavior of below target ones are documented by these results. So, the prospect theory implications are not present in regard to ROA. However, the ROE result (i.e., negative and accepts hypothesis 1) for the below target companies in the correlation results between distance from target and standard deviation for below target outcomes show that they are risk-seeking. However, the ROE result for above target companies significantly contradicts the existing literature results and rejects hypothesis 2. However, the CR result also accepts hypothesis 2 for above target companies significantly. Thus, it implies that Indian financial companies located above target levels in terms of ROA and ROE exhibit a risk-

seeking behavior. This also indicates that the prospect theory implications does not hold true for these companies. The CR of below target companies is significantly positive which also rejects hypothesis 1. So, it is evident that these financial companies also contradict with the prospect theory and risk-return paradox implications and as a result are mostly showing risk-averse behavior.

Table 7: Kendall's Correlations Results (Size and Sector Groups)

A. Size			
A1. Size 1:	Total	1-Above Target	2-Below Target
ROA	16	-0.167	-0.524
ROE	16	-0.571*	-0.714*
CR	16	-0.214	0.786**
A2. Size 2:	Total	1-Above Target	2-Below Target
ROA	14	-0.143	0.195
ROE	14	-0.714*	0.878**
CR	14	0.714*	0.429
A3. Size 3:	Total	1-Above Target	2-Below Target
ROA	13	-0.333	-0.500
ROE	13	-0.143	-1.000**
CR	13	0.524	0.733*
A4. Size 4:	Total	1-Above Target	2-Below Target
ROA	12	-0.200	0.867*
ROE	12	-0.600	0.600
CR	12	-0.067	0.200
B. Sector			
B1. Banking:	Total	1-Above Target	2-Below Target
ROA	34	-0.376*	0.122
ROE	34	-0.376*	-0.103
CR	34	0.338	0.309
B2. Investment & Finance:	Total	1-Above Target	2-Below Target
ROA	21	-0.164	-0.114
ROE	21	-0.587*	-0.378
CR	21	0.236	0.733**

Kendall τ correlation coefficients between the standard deviation and the distance to median are shown for each zone. ** Correlation is significant at the 0.01 level (2-tailed) and * Correlation is significant at the 0.05 level (2-tailed).

Table 7 provides Kendall's correlation results for size and sector sub groups for the Indian financial companies. The results are inconsistent for below target companies, but more or less consistent for above target ones under different sub groups. However, contradictory results are observed in comparison to the past empirical literature.

In case of size 1 companies comprising of more investment & finance ones, hypothesis 2 is rejected in all ROA, ROE and CR parameters. Thus, all these companies are risk-seeking. Hypothesis 1 is also rejected significantly for below target ones under CR. However, results show that for below target companies both returns measure accept hypothesis 1. This implies that these companies are risk-seeking in line with the prospect theory and risk-return paradox. The Kendall's correlations results for size 2 companies also show that except CR (which is positive), both returns measure indicate risk-seeking attitude of the above target ones as they reject hypothesis 2. Hypothesis 1 is rejected in all cases for below target size 2 companies which imply that contradictorily these are risk-averse as per the theoretical implications.

Size 3 companies' results in Table 7 also show negative correlations for the above target companies except CR which indicates that these companies are risk-seeking. This is due to the fact as they nullify hypothesis 2. However, below target companies under both returns measure accepts hypothesis 1. This implies that these companies are also risk-seeking in line with the prospect theory and risk-return paradox implications. Size 3 companies mainly comprise of banking companies.

In case of size 4 companies which also mostly comprise of banking companies, the negative and positive correlations results for both above and below target companies reject hypotheses 2 and 1 respectively. Thus, all these companies contradict with the above theoretical implications. In this case, the above target companies are risk-seeking and below target ones are risk-averse.

The Kendall's correlations results for the Indian banks show negative results for both ROA and ROE for the above target ones. This rejects hypothesis 2 and implies that the prospect theory and risk-return paradox implications are not present in them. Rather they are risk-seeking. However, the CR results contradict with this conclusion. However, in case of below target companies also, hypothesis 1 is rejected under both ROA and CR. This indicates towards their risk-averse attitude as per the prospect theory.

Above target investment & finance companies reject hypothesis 2 (except under CR) and implies the risk-seeking attitude of them. The below target such companies show negative Kendall's correlations results for both returns measure ROA and ROE. This accepts hypothesis 1 and indicates their risk-seeking attitude also. However, the CR results contradict with this significantly.

4. Conclusion

On an overall basis, the Indian financial companies don't show overwhelmingly the presence of the prospect-theory implications and Bowman's (1980) risk-return paradox. Rather somewhat insignificant (however, in some cases they show significant results) and mostly contradictory results in terms of risk-return parameters are found under this study. It implies that in such Indian companies, it is company-specific situations and requirements that make the managers to become risk averse or risk seeking. However, it is evident from the above results that mostly bigger and some smaller financial companies and their managers are always risk seeking and mostly shareholders-centric in regard to their attitude.

Size 1 companies mostly comprising of investment & finance companies are risk seeking in nature. Also, it is found that size 3 companies which mostly comprise banking companies are risk seeking. However, size 2 and 4 companies show fully contradictory results as above-target financial companies are risk seeking and below-target ones are risk averse. This is against the prospect theory and risk-return paradox implications.

The sector-group results are also somewhat contradictory in comparison to the previous literature. The banking-sector companies' results show that the above-target ones are risk seeking whereas the below-target Indian banks are showing risk-averse attitude. On an overall basis, the Indian investment & finance companies are showing risk-seeking attitude which at least in part (for the below-target companies) are showing the presence of the prospect theory and Bowman's (1980) risk-return paradox.

Thus, it is evident that some of the Indian financial companies under different groups and selected parameters are showing the prospect theory's implications and risk-return paradoxical presence. Nonetheless, on a consistent basis, these implications are not present in these companies, overall or under different groups.

Although this study is based on ex-post accounting data such as the ROA, ROE, etc. of the companies, future studies can take into consideration market-based measures to incorporate expectations or can use a questionnaire-based test approach to examine the prospect theory implications among the Indian financial companies.

¹ Note that when α falls within the interval $(0,1)$, $R(t)$ is a concave function. Accordingly, by Jensen's inequality, the risk of a below-target gamble will be less than the risk of a certain below-target outcome, even if the expected value of the gamble is exactly equal to the certain outcome. In the traditional sense, when a firm selects the alternative with a greater variance and the same expected return, it is considered to be risk-seeking. When α is greater than 1, $R(t)$ is a convex function, the reverse inequality is true, and the decision maker is considered risk-averse.

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