RELATIONSHIP BETWEEN BUSINESS RISK AND ITS RETURN:
A STUDY ON SELECTED INDIAN CEMENT INDUSTRIES

Atul Kumar Paul[*]

ABSTRACT

The main aim of present study is to explore the relationship between business risk and its return of the selected Indian Industries. The selected companies were ranked on the basis of their top five leading Indian Cement Industries for the financial year 2010-2019.The study realised that Return on Capital Employed (ROCE), Return on Equity (ROE) Degree of Operating Leverage (DOL) and Degree of Financial Leverage (DFL) are used as financial indicator. The study is based on secondary data i.e. nine years financial statements of company from 2009-10 to 2018-19. Based on correlation, regression and t-test, study found a strong significant relationship between DOL and OPCE, DOL and DFL i.e. except DFL and ROE.

Introduction

The cement industry is very eminent in India. Originally, the industry comes under the large-scale industry segment. In the world, India is the 2nd largest cement producing country. The cement industry in our country has a pivotal role in the overall growth of the economy.. The cement industry in India is currently undergoing a turnaround phase striving hard to come at par with its global competitors in terms of safety, production and energy efficiency. The Indian top five Cement companies are namely, Ultra-tech Cement, Shree Cement, Ambuja Cement, ACC Cement and Ramco Cement Industries. As on 08-12-2019, the market capitalisation of it's valued as per order Rs.119, 958.13(Cr), 73247.15(Cr), 39,911(Cr), 27,832.89(Cr) and 18,431(Cr) respectively. Some of the world's top cement companies are based in India. Seventy percent of all the cement produced in India belongs to the top 20 companies operating in the industry

The business risk of a firm refers to the variability in the firm's operating earnings over time. Business risk is determined by many factors, including the variability in sales and operating costs over a business cycle, the diversity of a firm's product line, the market power of the firm, and the choice of production technology. Financial risks mention to the additional variability in a company's earnings per share those results from the use of fixed-cost sources of funds, such as debt and preferred stock. Additionally, debt financing increases, the risk of bankruptcy increases. Return explains the money which an investor earned actually on an investment during a period of time. Return includes gains, interest and dividend, but the risk explores the uncertainty related with a particular work. In financial terms, risk is the chance or probability that a certain investment may or may not deliver the actual/expected returns. The risk and return trade off express that the potential return enhances with an increases risk. It is necessary for an investor to decide on a balance between the desires for the highest possible return and the lowest possible risk.

Risk Analysis

Risk in investment arises due to make imperfect or inaccurate forecasts. Risk in investment is explained as the variability that is likely to occur in future cash flows from an investment. The higher variability of cash flows explores higher risk. Variance or Standard deviation (s.d) measures the deviation regarding expected cash flows of each of the possible cash flows and is known as the absolute measure of risk, while the coefficient of variation computes to judge the relative position of risk involved.

---

[*]   Assistant Professor, Department of Commerce, Karimganj College, Karimganj, Assam, India.

Reviews of Literature

Various scholars have studied on business risk and its return from different view and in different environments. Some of the important studies reviewed for the study are as follow:

S. K Gosh. & S. G. Maji. (2006), in their article, "Impact of Operating Leverage on Profitability: An empirical study on selected Indian Industries." The main purpose of this paper is to analysis the effect of operating leverage on profitability of Indian four manufacturing Industries. The four industries are namely, Tea, Chemical, Paper and Pharmaceutical, during 1990-91 to 2001-02. The findings revealed that the two variables were positively related with all the Industries.

D.Sur (2007), in their article, examined the Business Risk and Financial Risk associated with NTPC Ltd. in the pre- and post- liberalisation periods by using statistical method, i.e. Ginny's coefficient of mean difference. The study remarked that the company, being a public enterprise, faced no significant competition in the post-liberalisation era and therefore, the Business Risk of the company starting from economy and industry-specific factors did not increase; rather, the Business Risk arising out of the company-specific factors reduced remarkable during the post-liberalisation era.

Balasundaram.N. & Pratheepkanth, P (2012),"in this paper, "Systematic Risk Management and Profitability: A case study of listed Financial Institutions in Sri Lanka". The main purpose of the paper is to study the effect of systematic risk management on profitability for a period of five years from 2006-07 to 2010-11. In this study, the independent variable is Systematic Risk Management (Degree of Financial Leverage, Degree of Operating Leverage) and dependent variable is Profitability (Net Profit, Return on Capital Employed, and Return on Equity). The finding revealed that the systematic risk management is a positive relationship with profitability, but the systematic risk management is enhanced by Degree of Financial Leverage and Degree of operating Leverage in the study area.

Mr. Prasad Daddikar & Miss Shweta Tarabar (2016), in the research article," Financial Leverage and Firm Value: An Empirical Analysis of Hindalco Industries Limited "The main objective of this paper was to study the effect of financial leverage on firm value with referred to Hindalco from 2009 to 2015. In this article, the correlation and regression analysis was applied by using SPSS. Overall findings indicate that there is significant negative influence of leverage on firm value with reference to Hindalco Industries Limited.

V.Sudha, R.Umamaheswari & P.S. Venkateswaran (2017), in this paper, "Financial Risk analysis of selected Automobile Industries in India" have to set out with the aim of answering the question to what extent the financial risks are bearded by the select automobile industries. The researcher utilizes the facts and information available in various secondary sources to make evaluation and thus the nature of the study become analytical. The analysis oflong-term financial strength as reviewed by debt equity risk, return on investment, working capital to total assets and total assets turnover risk, it is concluded that the long-term financial position of selected automobile companies may be considered satisfactory in the Indian automobile industry.

Objectives of the Study

The following are the specific objectives of the study area:

- To study the relationship between risk and return of selected Indian Cement Industries.
- To analysis the business risk and financial risk associated with the selected Cement Industries.

Research Methodology

The present study is mainly based on secondary data. The selected companies were ranked on the basis of their top five leading Indian Cement Industries for the financial year 2010-2019. The data has been analyzed using various statistical tools like Spearman's Rank Correlation and Regression, t-test by SPSS. The figures for the purpose of the analysis have been collected from various sources like annual reports of the company for a period of nine years from 2009-10 to 2018-19. The following top five Industries are selected to carry out the research are given below.

- Altra-tech Cement Industries.
- Shree Cement Industries'
- Ambuja Cement Industries
- ACC Cement Industries
- Ramco Cement Industries.

Limitation of the Study

- The study is based on secondary data sources.
- Nine years data for selected Indian Cement Industries has been analyzed but the results may not be proper for long run.

Data Analysis

- **Return on Capital Employed**

It is a ratio that indicates the efficiency and profitability of a company's capital investment. It should always be higher than the rate at which the company borrows. Otherwise any increase in borrowing will reduce shareholders earnings.

$$\text{Return on Capital Employed} = \frac{Net\,Profit\,(after\,Tax)}{Equity\,Share\,Capital + Resurve\,\&\,Surplus}$$

- **Return on Equity**

Return on equity (ROE) is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

$$\text{Return on Equity} = \frac{Net\,Profit\,(after\,Tax)}{Equity\,Share\,Capital}$$

- **Degree of Operating Leverage**

The operating leverage is the tendency of the operating profit to change disproportionately with sales. A company is said to have a high degree of operating leverage if it employs a greater amount of fixed costs and small amount of variable costs. On the other hand, if the company employs a greater amount of variable costs and a smaller amount of fixed costs, it is said to have a low operating leverage.

The degree of operating leverage may be defined as the percentage change in profits resulting from a percentage change in Sales. The same is expressed in equation form:

$$\text{Degree of Operating Leverage} = \frac{Percentage\,change\,in\,Operating\,Profit}{Percentage\,change\,in\,Net\,Sales}$$

- **Degree of Financial Leverage**

Also known as 'trading on equity', the financial leverage is the ratio of long- term debt to total funds employed. It may be defined as the tendency of the residual net income to change disproportionately with operating profit or EBIDT. Higher the amount of fixed interest /dividend bearing securities, higher will be the financial leverage and vice versa. Financial leverage reveals the percentage change in EBT (profit before taxes) as a result of Percentage change in the profit (earnings before interest and taxes). It can be computed according to the following formula:

$$\text{Degree of financial leverage} = \frac{Percentage\,Change\,in\,EBIDT}{Percentage\,Change\,in\,EBT}$$

Table 1 Degree of Operating Leverage, Degree of Financial Leverage, Operating Profit to Capital Employed, Return on Owner's Equity Ratio of selected Indian cement Companies under Study.(figure it three places decimal)

Year	DOL	DFL	OPCE	ROE
2010-11	4.130	-.090	.207	4.690
2011-12	1.330	.710	.233	6.973
2012-13	3.400	.480	.224	8.027
2013-14	-6.010	.660	.176	6.836
2014-15	2.250	-12.740	.159	6.359
2015-16	.3.380	.740	.132	6.973
2016-17	5.100	1.070	.114	6.935
2017-18	.2.440	2.260	.112	6.885
2018-19	.1.260	-.360	.109	6.926

Source: Annual Report. Researcher own calculation

Data Analysis and Findings

The major findings of the study are as follows:

- Spearman's rank correlation coefficient between degree of operating leverage(DOL) and Operating profit to capital employed(OPCE) is .967

  Here, n=09, d.f=n-2=09-02=07

  Table value of t at 1% level with 9d.f=3.499

  When R=.967

  $t = .967 \sqrt{\frac{9-2}{(1-.967)^2}}$

  t=10.03

Here, the computed value of t (10.03) is greater than the table value of t at 1% level 3.499. DOL measures the degree of business risk associated with the company and OPCE shows the operating profitability. Pearson's rank correlation coefficient between DOL and OPCE is (+).967 which is found to be statistically significant at 1% level. But the study reveals that high business risk was well compensated by high risk premium, i.e. high operating profitability in the company during the period under study.

- Spearman's rank correlation coefficient between degree of financial leverage(DFL) and Return on owner's equity(ROE) is .753

   Here, n=09,d.f=n-2=09-02=07

   Table value of t at 5% level with 9d.f=3.499

   When R=.753

   $t=.753\sqrt{\frac{9-2}{(1-.753)^2}}$

   t=.3.031

The computed value of t (3.031) is less than the table value of t at 1% level 3.499.DFL measures the degree of financial risk associated with the company and ROE indicates the profitability of the company from the viewpoint of its owners (i.e. owners 'profitability) . Spearman's rank correlation coefficient between DFL and ROE is (+).753 which is found to be statistically significant at 1% level. It indicates that that there is no relation between the two variables. So, the study reveals that high financial risk was not at all compensated by high risk premium, i.e. high owner's profitability during the study period.

- Spearman's rank correlation coefficient between DOL and DFL is .996

   Here, n=09,d.f=n-2=09-02=07

   Table value of t at 5% level with 9d.f=3.499

   When R=.996

   $t=.996\sqrt{\frac{9-2}{(1-.996)^2}}$

   t=29.497

Here, the computed value of t (29.49) is greater than the table value of t at 1% level 3.499 Pearson's rank correlation coefficient between DOL and DFL is (+).996 which is found to be statistically significant at 1% level. It implies that the relationship between the business and financial risks associated with the industry. So the study reveals that there is a strong evidence of positive relationship between business risks and financial risks associated with the company under the study period.

Suggestions and Recommendations

The following suggestions are recommended to increase the Company's income based on Risk and its Return of five selected Indian Cement Industries.

- Profitability standards should be maintained and communicated to the investors. This will help investors to achieve the standard and take better investment decisions.
- Identifying weaknesses of business risk may be best one to improve the company's income, because it indicates the area which decision should be taken.
- Motivating the Business risk mangers to help to achieve the high level of financial performance of selected Indian Cement Industries.
- 4 Equity Share capitals should be increased and it helps to increase the financial performance of the Industries.
- Combined efforts of both operating and financial leverage are the best measure, which suits the risks-bearing capacity of the Industry.
- Political changes are very important factor in the share market. It also determines the Profitability. Therefore, political influence has a possibility to increase the income of the selected Companies.
- For the maximization of the profits with minimum risk, the low operating leverage and a high financial leverage is be considered as an ideal
- The level of a company's business risk is affected by factors that is cost of goods, profit margins, competition, and the overall level of demand for the goods or services that it sells. So, it should be proper maintained.

Conclusion

Risk and return are closely related. The study finds that risk increases with the expectation of a desired return and return increases if financial risks are involved to a greater extent. The Cement Industry is considered as one of the biggest field of investment in which the risk and its return is very high. An analysis of risk and return is essential for an investor to put money into a business and the trade-off in between risk and return is considered in such a case. The present study observes the relationship between the risk and its return from four angles and finds a strong association in between the DOL and OPCE, DOL and DFL which is significant at 1% level but insignificant relation remaining between the two. The suggestions provided can be followed for a better understanding of risk and return.

References

✓ Balasundaram.N. & Pratheepkanth, P (2012),'' Systematic Risk Management and Profitability: A Case Study of Listed Financial Institutions in Sri Lanka," Global Journal of Management and Business Research Volume XII Issue XIV,Vertion-1, https://www.researchgate.net/publication/230553988

✓ Gautam H.C. & Sen. S & Gautam. A (1998), " An Analysis of Financial Structure in Co-operative Socities" " Rawat Publications " ,Jaipur

✓ Gupta K. Saashi& Gupta .K ,(2014), "Financial Management", Kalyani Publishinng House , New Delhi.

✓ https://business.mapsofindia.com/cement/top-10-cement-companies.html

✓ https://www.moneycontrol.com/stocks/marketinfo/marketcap/bse/cement.html.

✓ https://www.wisdomjobs.com/e-university/financial-management-tutorial-289/relationship-between-risk-and-return-6468.html

✓ M.Mohammed & Mukherjee. A (2011) Tusher's Modern Accountancy(1st Edition)".Tushar Publishing House", New Delhi.

✓ Palanivelu.V (2011),"Financial Management", S.Chand, Publishing House, New Delhi.

✓ Sen. & Paul.A.K (2020)," A study on business risk and its returnof NHPC Limited (National Hydroelectric Power Corporation)", Purakala ISSN: 0971-2143 (UGC Care Journal), ISSN: 0971-2143,,Vol-31-17-April-2020

✓ Sen.S & Paul.A.K (2019) "Profitability Analysis of FMCG Companies: A Comparative study."Melange, ISBN: 978-81-921278-1-1 Sri Ganesh Printers, Guwahati, pp.342-355

✓ Sikider S &Gautam.(2012), " Financial Statement Analysis", "New Central Book Agency(P)" Ltd, Kolkata

✓ Sur, D., & Mitra, S. (2011). Business Risk Analysis through Ginni's Coefficient: A Study of Select IT Companies in India. International Journal of Research in Computer Application and Management, 1(1), 49-55

✓ Sur, D., Mitra, S., &Maji, S.K. (2014). Business Risk in FMCG Companies in India during the Post-liberalization Era: An Empirical Analysis. Anweshan, 2(1), 27-50

✓ Verma Sushil (2017) "Impact of leverages on financial position of petroleum companies."Inspira –Journal of Modern Management & Entrepreneurship(JMME) ISSN:2231-167X,Impact Factor:2.3982,Volume 07,No.02,April,2017,pp.292-296

✓ Annual Reports of ACC Cement Company.

✓ Annual Reports of Ambuja Cement Company.

✓ Annual Reports of Ramco Cement Company.

✓ Annual Reports of Shree Cement Company.

✓ Annual Reports of Ultra-Tech Cement Company.

⬤◯⬤