Factors Influencing Financial Risk – A Case Study of NSE NIFTY Companies

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ABSTRACT

Risk Management is the application of proactive strategy to set up, lead, organize, and Control the wide selection of risks that are rushed into the fabric of an organization's daily and long-term functioning. Companies face business risks, which in worst case can cause financial distress and lead to bankruptcy. This paper attempts to analyze the factors influencing the financial risk of companies. The present paper analyses the factors influencing the financial riskof NIFTY 50 companies excluding banks. The data required for the analysis is collected from the annual reports of the companies. Alexander Bathory Model is used to measure the financial risk and Multiple Regression Analysis is used to study the relationship between the financial risk and the factors causing financial risk.

Key Words : Financial Risk, Alexander Bathory Model, Multiple Regression Analysis, Risk Management

INTRODUCTION

Risk is the probability that an investment's actual return will be different than predictable return. Financial risk arises from the firm's financial decisions. The financial risk can be alienated into the following categories: Basic risk, Capital risk, Country risk, Default risk, Delivery risk, Economic risk, Exchange rate risk, Interest rate risk, Liquidity risk, Operations risk, Payment system risk, Political risk, Refinancing risk, Reinvestment risk, Settlement risk, Sovereign risk, and Underwriting risk.

Risk management is the detection, evaluation, and prioritization of risks followed by synchronized and economical application of resources to minimize, supervise, and control the possibility and/or impact of adverse events or tomake the most of the knowledge of opportunities. Mostly, risk management occurs anytime an investor or fund manager analyzes and attempts to evaluate the potential for losses in an investment and then takes the proper action given their investment objectives and risk tolerance.

Financial risk has been gained attention over the past some years. Risk can be of different forms i.e. internal or external according to the changes financial market. Internal risk is the risk which occurs inside the company itself for the poor management or due to the loss or due to some failure etc. whereas external risk which occurs outside the firm and this beyond the control of firm. And it can be political reason or advancement of technology or change in market condition etc. The present paper focuses on understanding the financial risk and factors influencing the financial risk of NIFTY 50 companies.

REVIEW OF LITERATURE

Bhunia and Mukhati (2012)[i] conducted a study on "Financial risk measurement of small and medium sized companies listed in Bombay stock exchange. They carried out the study by using Alexander Bathory Model for finding out the risk and regression and correlation for showing the relationship between dependent and independent variable.

ZhouChunsheng and Zhao Duanduan(2006)[ii] conducted an empirical study to the financial risks of listed private firms with Z value and found that average level of private listed companies' financial risk is significantly higher than that of state-owned holding listed companies.

Andes Barbro, and **MiguelJBagajewicz (2004)**[iii]stated a new two-stage random management pattern to reduce financial risk from enterprise management of view.

Georges Dionne(**2013)**[iv]did a empirical study on "Risk management: History, Definition and Critique".He explained that risk management improve companies' capital structure which suggest that companies in a superior financial health should use their information benefit to set up strategies for hedging future price. Companies also need incorporated financial risk management which would let them profit from different sources. Companies should take better care of internal and external risk factors to safeguard themselves from risk. Financial risk arises from unfavourable changes over moderately shorter time horizons in interest rates, commodity prices, equity prices, and foreign currency values. Unfavourable changes in these factors transform into real losses in shareholder value.

Ali Fatemi and **Carl Luft (2002)** [v]conducted an empirical study on "Corporate risk management cost and benefits" and they proposed that risk management strategies should be pursued to improve the value of shareholders. Although methodical hedging of all differences in the net cash flows may be in the best interest of the management, such behaviour is contradictory with maximizing the value of the firm and the value of the shareholder.

Cao Defang and **ZengMurong (2005)** [vi] in their study used enterprises' financial leverage coefficient as the dependent variable. They carried out an empirical research for the large scale firms' financial risk. They proposed that the financial risks of firms are associated with firms liability scale and liability structure, and they have a negative correlation with profitability and operation ability. They don't have any clear linear correlation with enterprise debt interest rates and solvency.

OBJECTIVES OF THE STUDY

The main objectives of the present study are :

1. To measure the financial risk of the NIFTY 50 companies excluding banks.
2. To identify the factors affecting the financial risk of the NIFTY 50 companies excluding banks.

METHODOLOGY OF THE STUDY

Selection of Sample :

A sample of 41 companies representing NIFTY index of National Stock Exchange are selected for the study.

Data Collection :

The data required for the study is collected from the annual reports of the select companies for the financial year 2014-15.

Tools and Techniques :

Alexander Bathorymodel :

Risk is measured by using Alexander Bathory model. And this id represented as FR .Which can be expressed as below

$FR_{it}= SZL_{it}+SY_{it} +GL_{it} +YF_{it} +YZ_{it}$

$FR_{it}$is taken here as dependent variable which measures the financial risk of the index.

SZL_{it}= (profit before tax + depreciation + deferred tax) / current asset

SY_{it}= Pre-tax profit/operating capital,

GL_{it}=Shareholders' interests / current liabilities,

YF_{it}=Net tangible assets / total liabilities,

YZ_{it}=Working capital / total assets.

According to Alexander Bathory more is the value of FR_{it}, more is the strength of company and less is the financial risk.

Multiple Regression Analysis :

Multiple regression analysis has been used to study the relationship between the financial risk as measured by using Alexander Bathory model and financial risk factors. Multiple regression analysis helps in understanding how the value of a dependent variable changes when any one of the independent variables.

The factors affecting the company's financial risk are measured by using five main ratios viz., Investment valuation ratio, Profitability ratio, liquidity ratio,Solvency ratio and efficiency ratio. The following financial ratios are considered under each category :

Investment Valuation Ratios : 1. Dividend per share (DPS)
2. Net operating Profit per share (NOPS).

High value of Investment valuation ratio shows that the companies have a very good future.

Profitability ratios : 3. Operating profit margin (OPM)
4. Net profit margin (NPM)
5. Return on long-term funds (ROLF)

High value of the profitability ratio shows that the company is doing well and it is making good profit and revenue.

Liquidity Ratios : 6. Current ratio (CR)
7. Quick ratio (QR)

Liquidity ratios measure the ability of the company to meet shot term obligations. Higher the ratio, higher is the liquidity position.

Solvency Ratios : 8. Interest Coverage Ratio

9. Financial charge coverage ratio post tax (FCCRPT)

Higher ratio is favorable for the company because the debt is effectively managed and the lower value is not favorable for the company.

Efficiency Ratios :
10. Inventory turnover ratio (ITR)
11. Fixed asset turnover ratio (FATR)
12. Total asset turnover ratio (TATR)

The higher the asset turnover ratios, the more sales the company is generating from its asset.

The indexes of these 12 ratios are taken as independent variables and the financial risk is taken as dependent variableand the multiple regression analysis is used to study the impact of these ratios on the financial risk of the firm. The Excel and SPSS are used for carrying out the analysis.

FACTORS INFLUENCING THE FINANCIAL RISK OF THE COMPANIES :

Financial Riskis taken as dependent variable and the value of twelve ratios are taken as independent variable and the multiple linear regression analysis is used to understand the relationship between the dependent variable and independent variables. The results of the analysis is presented in Table-1

TABLE – 1

RESULT OF MULTIPLE REGRESSION ANALYSIS

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Standard Error	Beta
	(Constant)	-13.648	10.515	
1	Dividend Per Share	.024	.544	.012
2	Net Operating Profit Per Share	-.002	.017	-.051
3	Operating Profit Margin	.309	.144	.378
4	Net Profit Margin	1.443	.388	.963
5	Return on Long Term Funds	-.324	.254	-.344
6	Current Ratio	2.230	9.517	.221
7	Quick Ratio	-4.870	9.592	-.478
8	Interest Coverage Ratio	-0.005	.006	-2.881
9	Financial Charge Cover Ratio Post Tax	0.004	.004	2.707
10	Inventory Turnover Ratio	0.000	.000	-.079
11	Fixed Asset Turnover Ratio	2.970	4.449	.224
12	Total Asset Turnover Ratio	0.000	0.088	-.001

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780	.609	.375	21.76492

As the R value in the regression model 0.780 which is nearer to one, the results of the multiple regression analysis can be hold good.

The regression equation of the financial risk can be expressed as :
FR = -13.648+0.024 (DPS) -0.002 (NOPS) +0.309 (OPM) + 1.443 (NPM) - 0.324 (ROLF) +2.230 (CR) -4.870 (QR)- 0.005 (ICR) + 0.004 (FCCRPT) +0.000 (ITR)+ 2.970 (FATR) +0.000 (TATR).

The major observations are :

1. Among the twelve ratios considered for the analysis, the fixed asset turnover ratio has strong positive relationship with the financial risk.
2. Out of the twelve ratios, the quick ratio has a strong negative relationship between with the financial risk.
3. The financial risk is positively related to Dividend Per Share, Operating Profit Margin, Net Profit Margin, Current Ratio, Financial Charge Cover Ratio Post Tax and Fixed Asset Turnover Ratio.
4. The financial risk is negatively related to Net Operating Profit Per Share, Return on Long Term Funds, Quick Ratio, Interest Coverage Ratio.
5. The financial risk is found unrelated to Inventory Turnover Ratio and Total Asset Turnover Ratio.

CONCLUSION

Financial risk represents the impact of the firm’s financing decision. It has an impact on the firm’s financial performance. The financial risk influences the return earned by the equity shareholders of the company. So the company should clearly understand the factors influencing the financial risk and should take necessary measures to manage financial risk. The findings of the present study serve as an input to the companies in understanding the factors influencing the financial risk and for better management of the financial risk.

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