Free Cash Flow and Firm Performance: Evidence from Indian Stock Market

Poornima Joshi

Ph.D Scholar

Abstract

The objective of this paper is to investigate the relationship between free cash flow and firm performance. The sample consists of non financial firms included in the S&P BSE 500 index from 2006 to 20016. The firms' performance is measured by accounting performance which is measured by return on assets (ROA). Size of the company and the debt ratio however, served as the control variable. The data were subjected to statistical analysis using correlation technique. The result of the study revealed that free cash flow as the independent variable has a significant and strong positive relation with firm performance. This study suggests the use of free cash flow in evaluating performance which will help investors make good decisions.

Key Words: Free Cash Flow, Return on Asset, Firm Performance

1. Introduction

The validity of the accounting profits for listed companies are constantly questioned as they can be easily operated. Financial and investment analysts seek to find new variables to avoid these human factors. Therefore, free cash flow may be a better choice. Western accounting theorist had set off a wave of cash flow in 1980s. They believed that cash flow was a basis on measuring corporate performance and respected that 'cash is the king'. The concepts of free cash flow (FCF) or idle cash flow is initiated by Michael Jensen (1986). He defines free cash flows as the remainder of cash flows after financial providing of all projects with positive present value (Jensen, 1986:324). The free cash flow, "is defined as cash flow beyond what is necessary to maintain assets in place and to finance expected new investments" (Scott Richardson, 2006). At a more specific level, it is "the amount of operating cash flow generated in excess of the cash needed for important spending such as for capital expenditures" (Derrald, Earl, James, 2017). Free cash flows are a criterion for measuring the performance of firm which shows the amount of cash possessed by the firm after spending the amount of costs which are required for keeping or expanding the properties and other expenses. Free cash flows are important since they allow the firm to chase opportunities which increase stockholder's assets. Without cash, expansion of new products, conducting business educations, paying cash profits to stockholders and decreasing debts are not possible (Gholamzade Ledari, 2009:10). It has become the most widely used and robust index. US SEC even requires all companies to disclose this index in their annual report. However, in the relationship between firm managers and stockholders, both parties seek the maximum amount of interest for themselves which brings about different ideas about choosing the best strategy for the firm.

However, various researches have been done to investigate that free cash flow is really the representative of the financial performance of an enterprise. While in India, the empirical research on relationship between free

cash flow and financial performance of a firm are still lack of. However, this research has only analyzed the relationship between free cash flow of firm and its performance, without taking account of its investment opportunities as stated by the free cash flow theory. This study will contribute to the literature for future research. Moreover, the empirical evidence of free cash flow theory is not only important to investors, but also to firm executives in order to establish more effective management policies. It is of great significance to evaluate listed companies' performance comprehensively and objectively and promote the free cash flow's spread and application in our practice

2. Literature Review

Brush &et al (2000), studied free cash flow theory and its relationship with companies' performance and sales growth. The findings of the study revealed that the ownership of management in free cash flow generating companies have appositive role in setting negative effects of free cash flow on companies' performance ,while it provide a higher sales growth.

Yuan and Wang (2008), investigated the influence of proportion of largest shareholders on profitability of companies' sales growth. The results showed negative relationship between free cash flow and sensitivity of sales growth which is if company had higher free cash flow, the lower sensitivity of sales growth and as there is increase in the proportion of largest shareholders, sales growth sensitivity also increases.

Boumosleh (2009), studied the relationship between free cash flow, agency cost and managers right of stock purchase. The findings of the study revealed that the authority to purchase stocks given to the managers as a reward puts the interest of managers and stockholders in line with each other when free cash flow increase.

Wang (2010), investiaed the relationship between free cash flow and financial performance of companies in Taiwan. Findings of the study revealed strong and positive relationship between free cash flow and companies' performance . The results were inconsistent with Jensen's free cash flow hypothesis.

Chung et al. (2005), Bukit and Iskandar (2009) and Mojtahedzadeh and Nahavandi (2011) concluded that firms with higher free cash flow and low growth opportunity have negative impact on their performance. Researchers revealed that issues related to agency cost may cause negative impact in the performance of firms

Iman heydari &et al (2014) investigated the relationship between free cash flow and performance of firms listed in Tehran stock exchange. Findings of the study revealed that with the increase in free cash flow there is increase in the conflict of interest between managers and property owners, which leads to decrease in firm's performance. So the results of the study are consistent with free cash flow hypothesis.

Le Long Hau (2017) examined the impact of free cash flow on performance of firms listed on Hochiminh Stock Exchange. Findings revealed positive effect of free cash flow on firm performance. However there is difference in the performance of the firms with and without investment opportunities. This shows consistency with Jensen's free cash flow theory.

Eyup Kadioglu &et al (2017) tested whether free csh flow influence the performance of the firm listed in Borsa Istanbul during the period 2009-2015. Researchers found a significant negative relationship between free cash flow and firm's performance. They also found that leverage and dividend payments have positive impact on performance. So there is relevance of free cash flow hypothesis for Turkey.

Elaine Kok Suit Lai&et al (2017) investigated the impact of free cash flow on firms performance in Malaysia for the period 2008 to 2012. Using return on asset (ROA), return on equity(ROA), Tobin's Q and the stock return as measure of performance , researchers revealed that free cash flow have negative relationship with

firm performance measured by return on assets (ROA) and Tobin's Q. In addition free cash flow have significantly positive relationship with return on equity(ROA),and stock return

3. Methodology

3.1 Research Design and Data Collection

The present study is descriptive and quantitative in nature which seeks to investigate the relationship between free cash flows and firm's performance. The annual financial statement figures and stock market data has been collected from the prowess database maintained by Centre for Monitoring Indian Economy (CMIE). Further, additional data has been collected from the annual reports of companies, publications of the Reserve Bank of India, Bombay Stock Exchange (BSE).

3.2 Sample

The sample consists of companies included in the S&P BSE 500 index for the period 2006 to 2016, which are broad based index representing major industries in the Indian economy.

Banking and financial companies are excluded from the sample because of their unique accounting mechanism and are subject to strict regulations. Companies which have incomplete disclosure of financial data are also not included in the sample.

Finally, the sample consists of 226 companies. BSE Sensex 30 has been selected as market proxy as it is the benchmark index and comprises of thirty of the largest and most actively traded stocks.

3.3 Variables Determining

This study established the Return on asset as dependent variables, selected free cash flow and several control variables as explanatory variables, and established the model of multivariate linear regression.

Independent variable -

Free Cash Flow (FCF) has been used as independent variable. Traditional measure of free cash flow has been used in this study

FCF=NCFO - CAPEX

Where

FCF = Free cash flow

NCFO = net cash flows from operations

CAPEX = Capital expenditure = Net change in fixed assets +depreciation

Dependent Variable -

Return on assets ratio (RoA)

Return on assets is one of the returns ratios used to gauge a firm's profitability. Return on assets shows how efficiently a company generates profit growth from its capital It measures profit earned in relation to a firm's investment in its total assets. The following equation is used for estimating return on asset.

ROA_{it} = Profit after tax / Average total assets

Control variables -

Size of firm and financial leverage are the control variables.

Firm size

Different indexes have been used in variouse researches in order to determine the size of the firm. In this paper, taking the natural logarithm of total assets of the company (ln assets) Abor (2008), is used to measure the size of company. In general, the size of the company would influence its financial performance, it is mainly due to that large-scale enterprises will generate economies of scale and also can make the benefits reflect in the operating results.

Financial leverage

Most of the previous studies show that the enterprise's better performance leads to the lower borrowing tendency. For example, Stieglitz concluded that the operating performance and leverage ratio had a negative correlation [10]. One of the most important scales of leverage is debt ratio which is calculated through the following equation (Bozorgasl, 2006:85).

3.4 Model estimation

To investigating the relationship between free cash flows and firm performance, multiple linear regression model is used. Through the introduction of the two control variables which are asset scale (SIZE) and debt levels (Lev), the model's ability to explain and integrity can be improved.

Multiple linear regressions is run with the following model

$$ROA_{it} = \alpha + \beta_1 FCF_{it-1} + \beta_2 Size + \beta_3 FL + \varepsilon_{it}$$

Where,

ROA_{it} : return on asset of i firm in the year t;

FCF_{it} : free cash flows of i firm in the year t;

$Size_{it}$: size of i firm in the year t;

FL_{it} : financial leverage of i firm in the year t;

ε_{it} : error term .

4. Research Findings

Descriptive statistical data

Variables descriptive statistics for the sample firms in Table (1) is presented.

Table 1: Descriptive statistical data of research variables

Variables	**Mean**	**Std. Dev.**	**Kurtosis**	**Skewness**	**Minimum**	**Maximum**
FCF	309.893	2379.164	129.141	2.034	-40297.130	41438.000
ROA	0.097	0.091	12.756	1.854	-0.418	1.162
FL	0.514	0.178	-0.220	-0.094	0.002	1.399
SIZE	7.673	1.443	0.633	0.432	2.598	13.086

Descriptive statistics of variables is presented in table 1 which shows that firm size has the highest mean(7.67) with highest standard deviation (1.443) among control variables. Mean of independent variable which is free cash flow is (309.893) with standard deviation 2379.164 and mean value of dependent variable which is return on asset (ROA) is 0.097 with the standard deviation of 0.091.Kurtosis and skewness values are within the limits except in the case of free cash flow.

Regression Analysis

With Return on Asset (RoA) as the dependent variable, Free Cash Flow (FCF) as an independent variable, and the Size and financial leverage as control variables, the multiple regression equation is established.

The results of the analysis are given in table 1

Table 2 Multivariate Regression Results

Variable	**B**	**Std. Error**	**t-Statistic**	**Sig.**
Intercept	.159	.009	17.717	.000**
Free cash flows	.067	.00	3.437	.001**
Firm size	.044	.01	2.260	.024*
leverage	-.346	.010	-18.131	.000**
R2(Adj. -R2	.357 (.126)			
F （Sig.）	120.202 (0.000)			

*, ** denote the significance levels of, 5% and 1%

According to the above regression data and statistical test data, it can get the relationship between enterprise's free cash flow and financial performance as follow regression equation:

$ROA_{it} = 0.159 + 0.067FCFit_{-1} + 0.044\ Size - 0.346FL + \varepsilon_{it}$

5. Discussions

Results show that The estimated coefficients of free cash flow (FCF) are found to be significantly positive at 1% level .This shows that free cash flow has significantly positive impact on firm performance. Results are in line with previous studies (E.g., Liao, 2008; Brush et al., 2000; Yungchih, 2010), for control variables the results show that estimated coefficient of firm size is positive (0.044) and statistically significant at 5% level. This shows that scale-up bring benefits for firms. As the scale increases, the firms perform better due to economies of scale .The coefficient of financial leverage is negative (-0.346), while it is significant st 1% level. This conclusion is consistent with the explanations of the agency cost theory. At higher levels of debt, company's manager may refuse the projects which NPV is greater than zero, and to turn to high risk investments, because if these investments are successful, the enterprise would gain the most benefits, but if they fail, the creditors would stand for most losses.

6. Conclusion

There is a significant positive correlation between the company's financial performance and free cash flow. In addition, the performance of the company is positively correlated with its size, and negatively associated with the level of debt.

For investors, in addition to the use of traditional financial index based on profits, more attention should be paid to the free cash flow and as it is harder to manipulation by company's manager. It appears that an investment in high FCF firms will outperform low FCF firms in terms of Corporate returns after adjusting for a range of risks

8. References

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