"ANALYSIS OF RELATIONSHIP BETWEEN PROFITABILITY AND FREE CASH FLOW TO FIRMS"

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Abstract

In this paper an attempt has been made to study the relationship between free cash flow and profitability of firms. The study is based on the comparison of profitability and free cash flow of four fast moving consumer goods companies- Britannia Industries Ltd, Jubilant Food Works Ltd, Godrej Consumer Products Ltd and Marico Ltd over a period of 5 years (2009 to 2014). The relationship between data and statistics of free cash flows and profit variables is measured by correlation. The results of this study signify that there is a positive relationship between profits and free cash flows. However, the study confirms that profits do not guarantee availability of free cash flow to firms.
Index words: Profitability, Britannia Industries Ltd, Jubilant Food Works Ltd, Godrej Consumer Products Ltd , Marico Ltd, Correlation

I. Introduction

There has been a long debate between the relative importance of profitability and cash flows. Our research tries to examine the relationship between free cash flow and profitability. Every business wishes to understand the most important focal point of their business- cash or profit. The confusion to make the choice between the two is more prominent in the case of a small business. The reasoning behind comparing operating cash flow and net income is to identify these gimmicks. In this situation, investors should determine the source of the cash extravasate (receivables, inventories, etc.) and whether the situation is a short-term issue or long-term problem. Free cash flow is generally defined as net operating cash flow less capital expenditures. A consistent, steady generation of free cash flow is a highly positive or favorable investment quality. So it is important to look for a company that shows steady and growing free cash flows.

For the sake of conservatism, we can go one step ahead by expanding what is included in the free cash flow value. For instance, in addition to capital expenditures, you could also include dividends for the amount to be subtracted from net operating cash flow to get a more clear and comprehensive sense of free cash flow. This could then be compared to sales to find the relationship between them. As a practical issue, if any company has a history of dividend payments, it cannot easily eliminate or suspend them without causing shareholders some real pain. Even reductions in dividend payout, although less injurious, are problematic for many shareholders. In general, the market considers dividend payments to be in the same category as capital expenditures, as necessary cash outlays.
But the important thing here is to look for stable levels. This not only shows the company's ability to generate cash flow but it also signals or reflects that the company should be able to continue funding its operations.

II. Literature Review

(Al-Shattarat, Husni K.; Al-Shattarat, Wasim K.; Al-Attar, Ali M.; Al-Omoush, Ahmad M.PUB, (July 2011). *THE EFFECT OF CASH FLOW ADDED (CVA) ON ANNUAL STOCK PRICES IN AMMAN STOCK EXCHANGE*.)The purpose of this study was to investigate the relationship between operating profit (OP), cash-value-added (CVA), and operating cash-flows (OCF) with annual or yearly stock prices. A sample of 59 companies which are listed in Amman Stock Exchange (ASE) during 2000-2005 were studied. It said that there is a relevance of cash-value-added, operating profit and operating cash-flows for decision-making and it also revealed a significant relationship with annual stock price.

Brush T. H., Philip B., and Margaretha H., 2000. The Free cash Flow Hypothesis for Sales Growth and Firm Performance. Strategic Management Journal, Vol. 21, pp. 455-472, this theory investigated the free cash flows and its relationship with sales growth and companies' performance. Their findings indicated that in companies with more free cash flows, the ownership of management have a positive role in settling negative effects of free cash flows on companies' performance. This provides a higher sales growth. Hence a positive relationship exists between free cash flow and sales growth.

III. Research Design

Scope of Study: We are studying the relationship between profitability and free cash flow available to firms in our research paper. We have chosen four fast moving consumer goods (FMCG) companies to study such relationship. The companies chosen are namely:

1. Britannia Industries Limited
2. Godrej Consumer Goods Limited
3. Jubilant FoodWorks Limited
4. Marico Limited

2. To study such relationship we have chosen time frame of five years that is from April 2008 to March 2014.

Statement of Problem: There exists a vague relationship between profitability and cash flow of the companies. Many a times investors mistake profitability of the company as a key indicator of financial strength of companies and ignore its cash flow situation. Therefore, through this paper we try to understand the relationship between profitability and free cash flow of firms.

Objective of Study: To determine the relationship between profitability and free cash flow available to firm and interpret the data.

Source of Data: We have taken secondary data for the purpose of our research on the relationship between free cash flow and profitability of firm.

1. The company profiles have been taken from their respective company websites.

- http://www.britannia.co.in/companyoverview_overview.htm
- http://www.godrejcp.com/about-us.aspx
- http://www.jubilantfoodworks.com/
- http://marico.com/india/about-us/overview

2. The financial statements for 6 years (2009 to 2014) of the chosen companies were obtained from www.moneycontrol.in.

Limitations of Study

1. Only one technique that is correlation, is used by us to study the relationship between profitability and free cash flow available to firm. However, there are various other techniques such as multiple regession analysis,Chi Square, Herfindahl-Hirschman Index(HHI), hypothesis test, Tobin's q ratio to determine relationship between the variables which can give different results.
2. We have used only five FMCG companies to study the relationship between free cash flow available to firm and profitability of companies.
3. Also, the study is conducted for a period of five years April, 2008 to March, 2014.

IV. Method Of Analysis

There are various ways of calculating free cash flow to firm. Free Cash Flow formula can be represented in the following three ways –

1) FCFF Formula starting with EBIT

Free Cash Flow to Firm or FCFF = EBIT x (1-tax rate) + Non Cash Charges + Changes in Working capital – Capital Expenditure

Formula	**Reasoning**
EBIT x (1-tax rate)	Flow to total capital, Removes capitalization effects on earnings
Add: Non Cash Charges	Add back all non cash charges like Depreciation, Amortization
Add: Changes in working capital	Can be outflow or inflow of cash. One should watch for large fluctuations in forecasted working capital
Less: Capital expenditure	Critical to determine Capital Expenditure levels required to support sales and margins in forecast

2) FCFF formula beginning with Net Income

Net Income + Depreciation & amortization + Interest x (1-tax) + changes in Working Capital – Capital Expenditure

3) FCFF Formula starting with EBITDA

EBITDA x (1-tax rate) + (Depreciation & Amortization) x tax rate + changes in Working Capital – Capital Expenditure

Amongst the various formulas, we have chosen the formula that started with EBIT to calculate free cash flow to firm as we found it easier to use. **Additional notes on FCFF Formula Items**

Net Income

- From Income statement, we can directly obtain net income.
- It represents the income available to shareholder's after taxes, amortization,depreciation, interest expenses and the payment to preferred dividends

Non Cash Charges

- Non cash charges are items that affect net income but do not involve the payment of cash. Some examples of the common non-cash items are as follows:

Non-cash items	Adjustment to Net Income
Depreciation	Addition
Losses	Addition
Amortization	Addition
Gains	Subtraction
Amortization of bond discount	Addition
Reversal of restructuring reserve (income)	Subtraction
Deferred taxes	Addition
Amortization of bond premium	Subtraction
Restructuring charges (expense)	Addition

After tax Interest
- To the net income, we add back after-tax interest as interest is tax-deductible.
- Interest forms a part of FCFF as interest cost is a cash flow to one of the stakeholder's of the firm (debt holders).

Capital Expenditure
- In order to maintain and grow company's operations, investment in fixed assets is required as a cash outflow.
- A company can also acquire assets without expending cash by using stock or debt.
- The asset acquisitions may not have used cash in the past, but may affect the forecast of future FCFF hence providing the need to review footnotes by the analyst.

Change in Working Capital
- Working capital changes and FCFF are affected by items such as accounts receivables, inventories.
- Working capital for FCFF calculation excludes cash and cash equivalents and short-term debt (the current portion of long term debt payable and notes payable).
- It does not include non-operating current assets and liabilities such as dividends payable etc

Based on our above understanding, we proceed to calculate free cash flow to firm. The value of such free cash flows obtained has been used for comparison with the profits of the firm. This process has been efficiently used to examine relationship between free cash flow to firms and their profitability by using correlation as the tool.

Company: Britannia Industries Limited

Table 1

Calculation of Correlation		
Year	**Free Cash Flow**	**Reported Net Profit**
2010	157.81	116.51
2011	190.42	145.29
2012	585.27	186.74
2013	-52.08	233.87
2014	434.60	369.83
Correlation	**0.27**	

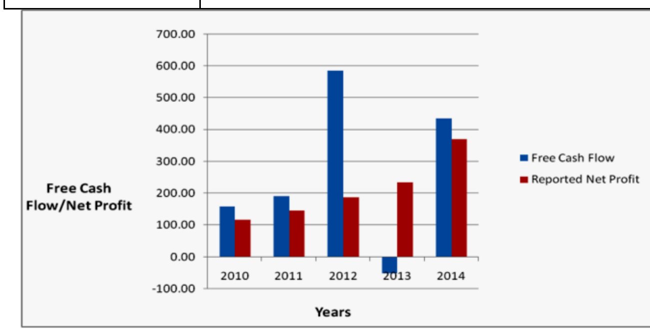

Chart 1: Year wise Comparison of Profitability and Free Cash Flow of Britannia Industries Limited

Company:Godrej Consumer Products Ltd.

Table 2

Calculation of Correlation		
Year	**Free Cash Flow**	**Reported Net Profit**
2010	305.74	248.12
2011	-791.82	434.95
2012	769.19	604.39
2013	781.73	510.94
2014	1049.12	564.84
Correlation	**0.46**	

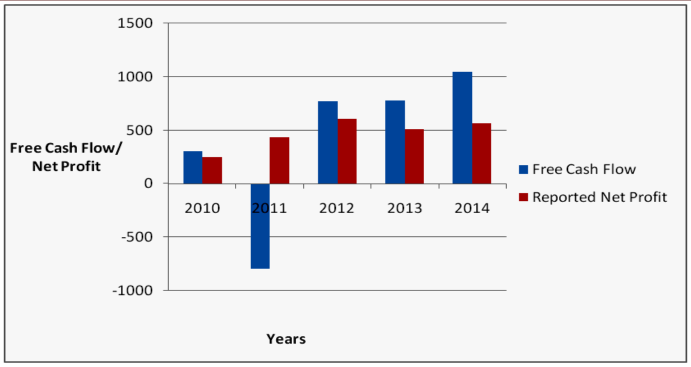

Chart 2: Year wise Comparison of Profitability and Free Cash Flow of Godrej Consumer Products Limited

Company: Jubilant FoodWorks Ltd

Table 3

Calculation of Correlation		
Year	**Free Cash Flow**	**Reported Net Profit**
2010	20.16	32.97
2011	65.1	72
2012	102.25	105.64
2013	63.29	135.11
2014	72.71	125.8
Correlation	**0.68**	

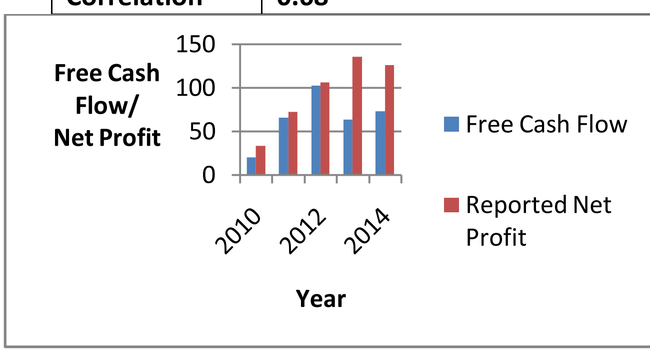

Chart 3: Year wise Comparison of Profitability and Free Cash Flow of Jubilant FoodWorks Limited

Company: Marico Ltd

Table 4

Calculation of Correlation		
Year	**Free Cash Flow**	**Reported Net Profit**
2010	168.57	235.02
2011	78.04	315.32
2012	375.57	336.59
2013	363.92	429.09
2014	705.36	577.22
Correlation	**0.90**	

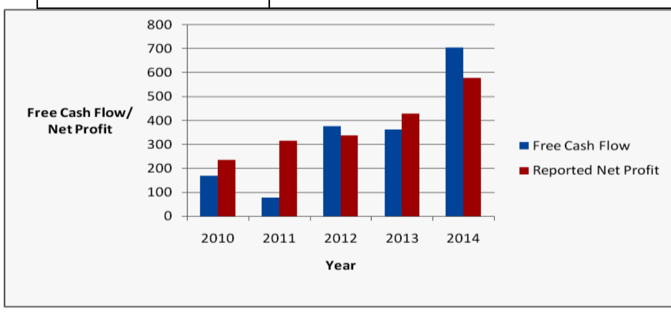

Chart 4: Year wise Comparison of Profitability and Free Cash Flow of Jubilant FoodWorks Limited

V. **<u>Findings:</u>** The major company wise findings from our study of the relationship between profitability and free cash flow to firms are as below:

Britannia Ltd:

1. The correlation coefficient of profit and free cash flow available to the company is weak as it is just 0.27.
2. The free cash flow is negative during the year 2013 due to a high increase in current assets.
3. The net working capital is negative in the year 2010, 2011, 2012 and 2014 which in turn results in a higher cash flow available.
4. The capital expenditure made by the company has increased over the years.

Godrej Ltd:

1. The correlation coefficient of profit and free cash flow available to the company is approximately 0.5. Hence the correlation coefficient is moderate.
2. The free cash flow for the year 2011 in the negative due to excess capital expenditure.
3. The company has reduced its capital expenditure in the year 2013 and 2014 which has resulted in a positive cash flow in the respective years.

Jubilant Ltd:

1. The correlation between profits and free cash flow available to the company is strong as it is approximately 0.7

2. There are free cash flows in all the years.
3. A continuous increase in current liabilities has resulted in more cash flow available to the company for all the year.
4. In spite of an increase in capital expenditure over the years there is positive cash flow in the company. This is because of strong profits available to the company.

Marico Ltd:

1. The correlation coefficient of profits and free cash flow available to the company is very strong because it is approximately 0.9.
2. Compared to all the five years, free cash flow in the year 2014 is very high. This sudden increase in funds is due to more current liabilities.
3. As compared to the year 2010, free cash flow in the year 2011 has reduced. This is mainly because of high capital expenditure and purchase of more current assets.

VI. Conclusion

Findings show that there is a positive correlation between free cash flow of the firms and its profitability. However the degree of relationship between these two variables (free cash flow and profitability) differs in each of the 4 companies chosen for the study. Britannia Industries Ltd and Godrej Consumer Products Ltd are typical examples which show that even though the company has a positive or a decent level of profit in its income statements, the free cash flow available for that firm during the year is negative. Hence it proves that actual cash available with the firm often differs from the profits mentioned in its financial statements. A company requires stable cash flows, along with profits for its survival. As an investor in addition to the use of traditional financial index based on profits, more attention should be paid to the free cash flow of the company. This simply means that a company with positive profits tends to attract the stakeholders of the company. Along with profit one should look at the free cash flow available in the company. This will ensure that employees are getting their salaries in time, investors get paid dividends on time, and the business is able to meet its loan obligations. This research emphasizes the importance of free cash flow to the profitability of the firm. The mere availability of free cash is not enough for the organization to survive. A control on the use of cash in the form of capital expenditures and any non productive investments is to be ensured.

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