

DETERMINANTS OF PROFITABILITY: SECTOR LEVEL **STUDY OF THESELECTFMCG COMPANIES IN INDIA**

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Abstract

The profit of a business may be measured by studying the Profitability of investment in it. It is a test of efficiency, powerful motivational factor and the measure of control in any business. Profitability is highly sensitive economic variable which is affected by host of factors operating in a variety of ways. The objective of the study is to examine the determinants of Profitability of the select FMCG companies in India. Determinants of Profitability are analysed using the technique of ordinary least square. The result reveals that, the size is the most influencing factor among the determinants of the profitability followed by other variables and so the companies should consider all the possible determinants while considering its Profitability.

Keywords:

Determinants of Profitability, FMCG Companies, Multiple Regression Analysis, Sector level.

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1. Introduction

FMCG companies are currently growing at double digit growth rate and are expected to maintain a high growth rate. Growing awareness, easier access, and changing lifestyles have been the key growth drivers for the sector. The FMCG industry plays a significant role in shaping a country's economy and development. This sector can drive growth, enhance quality of life, create jobs and support penetration of technology. The FMCG sector in India involves a strict competition between the organized and unorganized sectors of consumer durables¹. By the turn of the 20th century, Indian FMCG sector has changed significantly with the liberalization and growth of economy. India has come up as one of the major emerging economies of the world in the recent years. Owing to this enormous growth, personal disposable income of consumers has increased to satisfy their lifestyle needs. Rural areas are found to be the major driver for FMCG, as growth continues to be high in these pockets. Companies are also working towards creating specific products specially targeted for the rural market. The Government of India has also been supporting the rural population with higher Minimum Support Prices (MSPs), loan waivers, and disbursements through the National Rural Employment Guarantee Act (NREGA) programme. With the rise in personal disposable income, mid and high income consumers in urban areas have shifted their purchasing trend from essential to premium products. In response, firms have started enhancing their premium products portfolio. Indian and multinational FMCG players are leveraging India as a strategic sourcing hub for cost-competitive product development and manufacturing to cater international markets². Rising income and growing youth population are the key growth drivers for the sector. Brand consciousness has also aided demand. This backdrop has encouraged the researcher to analyse the Profitability of the select FMCG companies in India.

1.1 Theoretical Background and the Development of Hypothesis:

The study of Profitability levels of firms has been the main task of industrial organizations for the last five decades. To determine the factors influencing the performance diversity, literature dealing with such work suggests that industrial performance and performative differences among firms can be studied and explained as arising from various characteristics; those which are firm-specific and industry-specific (Capon, Farely & Hoening³, 1990). Many of the theoretical and empirical developments on the determinants of corporate profit margin emanate from the two basic paradigm notions, i.e., collusion hypothesis and efficient market hypothesis.

Owing to the importance of this subject, a large volume of literature had examined the factors influence Profitability of the firms. These studies includes Vijayakumar A. (2011)⁴, Vijayakumar A and Sridevi (2013)⁵, Sivathaasan N (2013)⁶, Vijayakumar A and Vijayanthimala (2014)⁷, Aloy Nireesh J and Velnampy (2014)⁸, Aparna (2015)⁹, Mohamed Khaled Al-Jafari and Hazem Al Samman (2015)¹⁰, Ramamsamy Velmurgan and Arumugam Dharmaraj (2017)¹¹, Balakrishanan C (2016)¹², Sathya P and Vijayakumar A (2016)¹³, Anas Khan (2017)¹⁴, Divya Aggarwal and Purna Chandra Padhan (2017)¹⁵, Kwadwo Boateng Prempeh and Allan Mcbright Sekyere (2018)¹⁶. The reviews of the above empirical works facilitate an understanding of various structural and non-structural variables that determine Profitability. Determinants of Profitability are analysed using the technique of ordinary least squares. Based on existing theories and relevant econometric empirical works, variables are selected. While using the regression technique, efforts are made to reduce the problem of multi-collinearity and auto correlation.

Despite the influence, either negative or positive on the firm's Profitability, specific responses might strengthen the prevailing serious impediments to a firm's success. Other firm specific factors such as capital structure, tangibility, current ratio, leverage, liquidity, inventory turnover ratio, fixed assets turnover ratio, past profitability, growth and gross domestic products also affect Profitability. Extending the argument, this study is a logical approach to add to this literature, in studying the determinants of Profitability by examining the major factors such as size, leverage, liquidity, inventory turnover ratio, fixed assets turnover ratio, past profitability, growth and gross domestic products.

1.2 Statement of the Problem

Rate of profit is an indicator of sources and a need for the expansion of the business by reinvestment and by attracting and absorbing new capital in the industry. So, investors and lenders are interested in knowing the profitability of a concern over time or at a point of time. The study, therefore, intends to empirically examine whether the rates of profit in the select FMCG companies in India have a tendency to rise or fall over a long period of twelve years. The objective here is not to test the validity of classical hypothesis as the economic conditions assumed by classical writers do not prevail in India. However, knowledge about whether the profitability is rising or falling over the period from 2005-06 to 2016-17 would pave way for the formulation of future policies. Obviously, Profitability is a highly sensitive economic variable which is affected by many factors operating in a variety of ways. Some of them affect product prices and qualities; some affect the cost of production while others make changes in capital stock, size, market share and the growth of the firm. Further, a corporate policy relating to various functions will affect Profitability. Some of them are relevant in the short-run while the others have impact in the long-run. It is difficult to build the theory of the Profitability which accounts for all such factors. Because of these difficulties, it is quite natural to analyse the variation in Profitability by taking into account certain major variables. So, in this study an attempt has been made to analyse the major determinants of Profitability of the select FMCG companies in India during the study period.

1.3 Objectives of the Study

The study attempts to analyse the determinants of profitability of the select FMCG companies in India.

2. Research Methodology

The study is mainly based on the secondary data. The major source of data analysed and interpreted in this study is related to all those companies selected from “PROWESS” database which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy (CMIE) and “CAPITALINE” database. The other relevant data have been collected from BSE websites, money control.com, internet, books and magazines. The FMCG companies are operating in four sectors in which 82 companies are in operation. Out of the 82 companies, 33 operate under Large Healthcare, 19 under MNC Food and Dairy products, 17 under Multinational Healthcare and 13 companies under Cigarette industry. Among the FMCG companies operating in India, top ten companies have been chosen for study with market capitalisation for the year 2014 as the parameter is given in the Table (1). The period from 2005-2006 to 2016-2017 is considered for the study. Collected data is analysed and interpreted with the help of the descriptive and statistical tools such as Correlation coefficient and Multiple regression model.

Table 1
List of sample companies included in the present study

| S.No | Name of the company | Sector | Year of Incorporation | Sales (Rs. in crore) | Profit (Rs. in crore) | Market capitalisation (Rs. in crore) |
|------|------------------------------|-----------------------------|-----------------------|----------------------|-----------------------|--------------------------------------|
| 1. | ITC LTD | Cigarette | 1910 | 29,901 | 7,418 | 2,67,930 |
| 2. | Hindustan Unilever Limited | Multinational Health care | 1933 | 28,019 | 3,867 | 1,38,092 |
| 3. | Nestle India Ltd | MNC-Food and Dairy Products | 1959 | 9,101 | 1,117 | 47,258 |
| 4. | Dabur India Ltd | Large Health care | 1975 | 4,349 | 590 | 33,561 |
| 5. | Godrej Consumer Products Ltd | Large Health care | 2000 | 3,581 | 510 | 30,147 |
| 6. | Colgate-Palmolive India Ltd | Multinational Health care | 1937 | 3,159 | 496 | 19,400 |
| 7. | Marico India Ltd | Large Health care | 1958 | 1,069 | 141 | 16,315 |
| 8. | Procter and Gamble India ltd | Multinational Health care | 1964 | 1700 | 207 | 12,561 |
| 9. | Britannia Industries Ltd | MNC-Food and Dairy Products | 1918 | 5,615 | 233 | 10,611 |
| 10. | Emami Ltd | Large Health care | 1983 | 1,627 | 221 | 10,351 |

Source: <http://www.mbaskool.com/fun-corner/top-brand-lists/9885-top-10-FMCG-companies-in-India-2014.html>

2.1 Selection of Variables

In this study, a number of key financial variables have been identified for the purpose of analysis. The computation of these variables has been made for the period of 12 years. An epigrammatic explanation of the selected variables is outlined below.

Description of variables and Measurement

| Variable | Indicator | Measurements Used by | Proxy |
|-----------------------|---------------------------------------|--|--|
| Dependent variable | Return on capital employed | (Sathya P & Vijayakumar A, 2016; Kamaladevi S & Vijayakumar A 2017 ¹⁷) | Ratio of profit before interest and taxes to capital employed |
| Independent variables | Size | (Kwadwo Boateng Prempeh et al., 2018; Abdurahman et al 2003 ¹⁸) | Natural logarithm of net sales (Ln netsales) |
| | Leverage | (Kwadwo Boateng Prempeh et al., 2018) | Debt equity ratio |
| | Liquidity | (Kwadwo Boateng Prempeh et al., 2018) | Quick ratio |
| | Inventory turnover ratio | (Sathya P & Vijayakumar A, 2016; Dharmaraj A & Velmurugan, 2014) | Cost of goods sold / Average Inventory |
| | Fixed assets turnover ratio | (Sathya P & Vijayakumar A, 2016) | Net sales to fixed assets |
| | Past profitability | (Sathya P & Vijayakumar A, 2016) | One year lagged profitability |
| | Growth | (Lujie, 2007) ¹⁹ | (Current year's sales - Last year's sales) / Last year's sales * 100 |
| | Gross Domestic Product | (Kwadwo Boateng Prempeh et al., 2018) | Natural log of GDP |
| Interest rate | (Kwadwo Boateng Prempeh et al., 2018) | Annual interest rate | |

2.2 Hypothesis of the Study

The study has tested the following hypothesis in relation to the determinants of Profitability of the select FMCG companies in India

1. Firm size is positively associated with Profitability.
2. Leverage is negatively associated with Profitability.
3. Liquidity is negatively associated with Profitability.
4. Inventory turnover ratio is positively associated with Profitability.
5. Fixed assets turnover ratio is positively associated with Profitability.
6. Past profitability to sales is positively associated with Profitability.
7. Growth rate of sales is positively associated with Profitability.
8. Gross Domestic Product is positively associated with Profitability.
9. Interest rate is negatively associated with Profitability.

2.3 Specification of Profitability Model

In order to explain the determinants of Profitability of the select FMCG companies in India, the following regression model is used.

$$PR = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Leverage} + \beta_3 \text{ Liquidity} + \beta_4 \text{ Inventory Turnover Ratio} + \beta_5 \text{ Fixed Assets Turnover Ratio} + \beta_6 \text{ Past Profitability} + \beta_7 \text{ Growth} + \beta_8 \text{ Gross Domestic Product} + \beta_9 \text{ Interest Rate}$$

Where,

| | |
|------------------------------|---|
| PR | - Measures the firm's profitability with Return on Capital employed as a percentage of sales turnovers for the firm (i) in the year (t) |
| Size | - Natural logarithms of firm's sales for firm (i) in the year (t) |
| Leverage | - Measures debt to equity for firm (i) in the year (t) |
| Liquidity | - Quick ratio for the firm (i) in the year (t) |
| Inventory Turnover Ratio | - Inventory Turnover ratio for the firm (i) in the year (t) |
| Fixed assets turnover ratio | - Fixed assets turnover ratio for the firm (i) in the year (t) |
| Past Profitability | - One year lagged profitability for the firm (i) in the year (t) |
| Growth | - Growth of firm's sales for the firm (i) in the year (t) |
| Gross Domestic Product (GDP) | - Gross Domestic Product for the firm (i) in the year (t) |
| Interest Rate | - Interest rate of the firm (i) in the year (t) |

3. Analysis of results

The model defined above has been estimated of the select FMCG Companies in India. The results are shown in Tables 2 to 5. It offers beta coefficient and t values of the variables.

3.1 Cigarette Industry

Table 2 shows that the estimated value of R^2 is 0.99 for Cigarette Industry. The total variation in profitability of the company ITC Ltd., is provided by the linear function to the extent of 99 percent denotes that more than 99 percent of the variation in Profitability is jointly determined by the said variables. The value of F-statistics shows that the overall model is fit. The Durbin-Watson statistics is also close to 2 which shows that the successive value of estimated residuals is not depending on each other. This means that there is no auto correlation problem in the estimated model.

The analysis shows that all the selected independent variables are found to be statistically significant in explaining the Profitability of both industry and company. The result illustrates that size and fixed assets turnover ratio are the strongest of all the determinants for the industry and company respectively, followed by inventory turnover ratio, past profitability, growth, gross domestic product, interest rate, liquidity and leverage. The coefficient of all the selected variables supports hypothesis with expected sign. The entire explanatory power of regression appears to be good. Thus, it can be decided that industry and company should take into account all the possible determinants while considering its Profitability.

Table 2
Determinants of Profitability – Multiple Regression Model
Cigarette Industry (ITC Ltd)
Dependent Variable: Return on Capital Employed (PR)

| Particulars | Constant | S | LEV | LIQ | ITR | FATR | PP | G | GDP | IR | R ² | Adj R ² | F value | DW |
|---------------------------|---------------|-----------------------------|--------------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|----------------|--------------------|--------------|-------------|
| ITC Ltd | -33.12 | 3.76 (7.34) * | -46.03 (-4.60) * | -1.93 (-13.90) * | 2.32 (26.05) * | 4.34 (-13.90) * | 0.45 (19.51) * | 0.22 (19.11) * | 0.12 (4.97) * | -0.31 (1.67) * | 0.99 | 0.99 | 3553.30 | 1.6 |
| Cigarette Industry | -27.85 | 3.62 (2.45) ** | -20.74 (1.46) *** | -2.79 (2.29) ** | 2.13 (2.17) ** | 2.14 (2.45) ** | 0.19 (1.85) ** | 0.07 (1.54) *** | 0.05 (1.36) *** | -3.06 (2.80) * | 0.99 | 0.98 | 97.97 | 0.01 |

DW – Durbin Watson; * - Significant at 0.01 level; ** - Significant at 0.05 level; ***- Significant at 0.10 level;
Source: Computed.

3.2 Multinational Health Care Industry

Table 3 defines that the estimated value of co-efficient of determination (R²) for Multinational Healthcare Industry is 0.97, Hindustan Unilever Ltd., is 0.99, Colgate-Palmolive Ltd., is 0.97 and Procter and Gamble India Ltd., is 0.94 which implies that percentage of variation in profitability is 97 per cent, 99 per cent, 97 per cent, 94 per cent respectively, jointly determined by the said variables. The result illustrates that the size is the strongest of all the determinants of Profitability, tailed by fixed asset turnover ratio, inventory turnover ratio, gross domestic product, past profitability, growth, interest rate, liquidity and leverage for the industry. The size is the strongest of all the determinants of Profitability, tailed by fixed assets turnover ratio, inventory turnover ratio, growth, past profitability, gross domestic product, interest rate, liquidity and leverage for Hindustan Unilever Ltd. In case of Colgate-Palmolive Ltd., the size is the strongest of all the determinants of Profitability, tailed by fixed asset turnover ratio, inventory turnover ratio, gross domestic product, growth, past profitability, interest rate, liquidity and leverage. And for Procter and Gamble India Ltd., the fixed assets turnover ratio is the strongest of all the determinants of Profitability, tailed by inventory turnover ratio, size, past profitability, growth, gross domestic product, interest rate, liquidity and leverage.

The value of F statistics shows that the overall model is good. The Durbin-Watson statistics is also close to 2 which illustrates that the successive value of estimated residuals is not depending on each other. This means that there is no auto correlation problem in the estimated model. The analysis shows that all the selected independent variables are found to be statistically significant in explaining the Profitability of Industry and companies except growth in Colgate Palmolive Ltd., and Interest Rate in Procter and Gamble India Ltd. The coefficient of all the selected variables supports hypothesis with expected sign except growth in Industry. It is concluded that the value of F statistics and Adjusted R² shows the good fitness of the model. Thus, it can be decided that Industry and the companies should consider all the possible determinants while considering its Profitability.

Table 3
Determinants of Profitability – Multiple Regression Model
Multinational Healthcare Industry (Hindustan Unilever Ltd, Colgate- Palmolive Ltd, Procter and Gamble India Ltd.)
Dependent Variable: Return on Capital Employed (PR)

| Particulars | Constant | S | LEV | LIQ | ITR | FATR | PP | G | GDP | IR | R ² | Adj R ² | F value | DW |
|---|---------------|------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|----------------|--------------------|-------------|-------------|
| Hindustan Unilever Ltd | 239.35 | 36.2 (3.61) * | -198.61 (2.71) * | -68.23 (-2.94) * | 2.15 (1.76) *** | 13.88 (2.93) * | 1.02 (2.65) ** | 1.34 (1.71) *** | 0.13 (3.08) * | -1.99 (2.34) ** | 0.99 | 0.94 | 19.13 | 0.05 |
| Colgate-Palmolive Ltd. | -306.65 | 41.46 (2.72) * | -1650.8 (3.63) * | -54.91 (2.25) ** | 4.95 (4.52) * | 27.82 (2.18) ** | 0.45 (1.8) * | 1.78 (0.34) NS | 3.74 (-7.21) * | -13.14 (1.88) ** | 0.97 | 0.85 | 8.07 | 0.11 |
| Procter and Gamble India Ltd. | 91.23 | 0.89 (3.06) * | -627.36 (2.21) ** | -2.41 (3.58) * | 2.77 (1.82) ** | 4.04 (1.69) *** | 0.22 (3.45) * | 0.2 (1.44) *** | 0.1 (2.13) ** | -0.73 (0.16) NS | 0.94 | 0.89 | 11.39 | 0.24 |
| Multinational Health Care Industry | 266.26 | 68.58 (3.32) ** | -98.52 (2.47) *** | -18.66 (1.59) *** | 12.43 (1.47) *** | 29.66 (1.48) *** | 0.91 (1.82) ** | -0.14 (1.41) *** | 2.51 (2.51) ** | -8.74 (1.65) *** | 0.97 | 0.89 | 8.36 | 0.11 |

DW – Durbin Watson; * - Significant at 0.01 level; ** - Significant at 0.05 level; ***- Significant at 0.10 level;
Source: Computed.

3.3 Large Healthcare Industry

Table 4 defines that the estimated value of co-efficient of determination (R^2) for Large Healthcare Industry is 0.86, Dabur India Ltd., is 0.98, Godrej Consumer Products Ltd., is 0.99, Marico India Ltd., is 0.97 and Emami Ltd., is 0.89 which implies that percentage of variation in profitability is 86 per cent, 98 per cent, 99 per cent, 97 per cent respectively, jointly determined by the said variables. The result illustrates that for the industry, the size is strongest of all the determinants of Profitability, trailed by fixed assets turnover ratio, inventory turnover ratio, gross domestic product, growth, past profitability, liquidity, leverage and interest rate. For the Dabur India Ltd., the size is the strongest of all the determinants of Profitability, trailed by fixed assets turnover ratio, inventory turnover ratio, gross domestic product, past profitability, growth, liquidity, interest rate and leverage. In case of Godrej Consumer Products Ltd., the size is the strongest of all the determinants of profitability, trailed by gross domestic product, past profitability, growth, inventory turnover ratio, leverage, fixed assets turnover ratio, liquidity and interest rate. This size is the strongest of all the determinants of Profitability, trailed by interest rate, fixed assets turnover ratio, gross domestic product, past profitability, growth, inventory turnover ratio, leverage and liquidity for Marico India Ltd. And for Emami Ltd., the size is the strongest of all the determinants of Profitability, trailed by gross domestic product, past profitability, inventory turnover ratio, growth, fixed assets turnover ratio, liquidity, interest rate and leverage.

The value of F statistics shows that the overall model is good. The Durbin-Watson statistics is also close to 2 which illustrates that the successive value of estimated residuals is not depending on each other. This means that there is no auto correlation problem in the estimated model. The analysis shows that all the selected independent variables are found to be statistically significant in explaining the profitability of Industry and companies except a few. The variables interest rate and past profitability in Industry, fixed asset turnover ratio in Dabur India Ltd., and Emami Ltd., past profitability in Godrej Consumer Products Ltd., and inventory turnover ratio in Marico India Ltd. are not statistically significant in explaining the Profitability. The coefficient of all the selected variables supports hypothesis with expected sign except fixed asset turnover ratio in Emami Ltd., growth in Dabur India Ltd., interest rate, fixed asset turnover ratio and growth in Godrej Consumer Products Ltd., and interest rate in Marico Ltd. It is concluded that the value of F statistics and Adjusted R^2 shows the good fitness of the model. Thus, it can be decided that Industry and companies should consider all the possible determinants while considering its Profitability.

Table 4
Determinants of Profitability – Multiple Regression Model
Large Healthcare Industry (Dabur India Ltd, Godrej Consumer Products Ltd, Marico India Ltd, Emami Ltd)
Dependent Variable: Return on Capital Employed (PR)

| Particulars | Constant | S | LEV | LIQ | ITR | FATR | PP | G | GDP | IR | R^2 | Adj R^2 | F value | DW |
|----------------------------------|--------------|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------|-------------|--------------|-------------|
| Dabur India Ltd. | -36.54 | 39.11 (3.26) | -38.92 (2.41) | -18.91 (1.62) | 6.1 (1.96) | 10.6 (0.48) NS | 0.75 (2.76) * | -0.61 (2.51) ** | 2.63 (1.91) ** | -27.52 (-2.92) | 0.98 | 0.92 | 12.0 | 0.08 |
| Godrej Consumer Products Ltd. | 921.41 | 22.47 (1.82) ** | -14.97 (2.57) ** | -56.36 (-6.8) | -2.91 (3.12) | -38.86 (-3.11) * | 0.03 (0.12) NS | -0.17 (1.94) ** | 2.51 (1.75) *** | -65.54 (-4.2) | 0.99 | 0.98 | 15.95 | 1.91 |
| Marico India Ltd. | 25.40 | 23.97 (-1.78) *** | -14.58 (1.95) ** | -27.97 (3.94) | 0.74 (0.41) NS | 3.38 (1.69) *** | 0.56 (2.62) ** | 0.3 (-2.56) ** | 2.31 (3.15) * | 10.21 (2.17) ** | 0.97 | 0.92 | 16.67 | 0.14 |
| Emami Ltd. | 63.17 | 20.82 (4.36) * | -12.34 (1.88) ** | -5.4 (2.12) ** | 0.53 (3.23) * | -0.73 (-0.12) NS | 0.56 (2.62) ** | 0.28 (1.51) ** | 1.66 (3.31) * | -7.14 (2.88) ** | 0.89 | 0.81 | 17.74 | 0.41 |
| Large Healthcare Industry | 57.45 | 5.55 (2.54) ** | -1.5 (2.96) * | -0.28 (3.36) * | 1.41 (2.50) ** | 3.84 (2.69) ** | 0.02 (1.04) NS | 0.03 (4.26) ** | 0.14 (2.14) ** | -0.32 (0.11) NS | 0.86 | 0.80 | 13.31 | 0.50 |

DW – Durbin Watson; * - Significant at 0.01 level; ** - Significant at 0.05 level; ***- Significant at 0.10 level;
Source: Computed.

3.4 MNC-Food and Dairy Products Industry

Table 5 defines that the estimated value of co-efficient of determination (R^2) for MNC Food and Dairy Product Industry is 0.99, Nestle India Ltd., is 0.86 and Britannia Industries Ltd., is 0.92 which implies that percentage of variation in Profitability is 99 per cent, 86 per cent and 92 per cent respectively, jointly determined by the said variables. The result illustrates that in the Industry, the fixed assets turnover ratio is the strongest of all the determinants of Profitability, trailed by size, inventory turnover ratio, past profitability, gross domestic product, growth, leverage, liquidity and interest rate. In case of Nestle India Ltd., fixed assets turnover ratio is the strongest of all the determinants of Profitability, trailed by size, gross domestic product,

inventory turnover ratio, past profitability, growth, interest rate, liquidity and interest rate. And for Britannia Industries Ltd., size is the strongest of all the determinants of Profitability, tailed by fixed assets turnover ratio, inventory turnover ratio, gross domestic product, growth, past profitability, interest rate, leverage and liquidity.

The value of F statistics shows that the overall model is good. The Durbin-Watson statistics is also close to 2 which illustrates that the successive value of estimated residuals is not depending on each other. This means that there is no auto correlation problem in the estimated model. The analysis shows that all the selected independent variables are found to be statistically significant in explaining the Profitability of Industry and companies except a few. The variables fixed asset turnover ratio and past profitability in Industry and fixed asset turnover ratio and growth in Britannia Industries Ltd., are not statistically significant in explaining the profitability. The coefficient of all the selected variables support hypothesis with expected sign. It is concluded that the value of F statistics and Adjusted R² shows the good fitness of the model. Thus, it can be decided that Industry and the companies should consider all these possible determinants while considering its Profitability.

Table 5

Determinants of Profitability – Multiple Regression Model
MNC Food and Dairy Products Industry (Nestle India Ltd and Britannia Industries Ltd)
Dependent Variable: Return on Capital Employed (PR)

| Particulars | Constant | S | LEV | LIQ | ITR | FATR | PP | G | GDP | IR | R ² | Adj R ² | F value | DW |
|---|---------------|-----------------------------|------------------------------|-----------------------------|----------------------------|------------------------------|-----------------------------|----------------------------|------------------------------|-----------------------------|----------------|--------------------|--------------|-------------|
| Nestle India Ltd. | -430.26 | 48.56 (4.37) * | -69.3 (-6.60) * | -31.2 (-2.66) ** | 0.8 (2.22) ** | 60.95 (2.66) ** | 0.45 (3.24) * | 0.28 (1.65) *** | 4.41 (2.18) ** | -5.18 (1.92) ** | 0.86 | 0.79 | 13.95 | 0.48 |
| Britannia Industries Ltd. | -20.28 | 11.54 (3.55) ** | -12.52 (2.80) * | -27.67 (1.66) *** | 0.72 (2.49) ** | 2.16 (0.27) NS | 0.11 (3.10) * | 0.59 (-1.0) NS | 0.68 (2.26) ** | -7.75 (1.98) ** | 0.92 | 0.85 | 17.16 | 0.29 |
| MNC-Food and Dairy Products Industry | 161.42 | 11.40 (4.31) * | -0.84 (2.01) ** | -1.67 (3.21) * | 0.5 (2.15) ** | 16.92 (0.29) NS | 0.3 (-0.08) NS | 0.02 (3.11) * | 0.29 (1.68) *** | -3.0 (2.18) ** | 0.99 | 0.98 | 69.56 | 0.01 |

DW – Durbin Watson; * - Significant at 0.01 level; ** - Significant at 0.05 level; ***- Significant at 0.10 level;
 Source: Computed.

4. Conclusion

This paper has empirically examined the determinants of Profitability of the select FMCG companies in India for the period from 2005 to 2017 by using the multiple regression analysis. It is evident that the selected variables determine more than 85 per cent variation in Profitability of the select FMCG companies in India. The result reveals that the size is the most influencing factor determining the Profitability, followed by other variables. The selected variables have both positive and negative contribution in variation of profit rate. It can be concluded that the value of F statistics and adjusted R² shows good fitness of the model and all the selected companies and industries should consider all these possible determinants while considering its Profitability. While the study is limited to the sample of select FMCG companies, the findings from this study could be generalised to the companies similar to this category. Further, the study concludes that large growing companies that manage their working capital efficiently command higher profits. On the other hand, increasing risk by using more debt would increase the required rate of returns and also could negatively impact profit.

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