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Impact of solvency and working capital on profitability of select multinational pharmaceutical companies in India

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Abstract
Indian Pharmaceutical Industry has played a key role in promoting and sustaining development in the vital field of medicines. It ranks very high in the third world, in terms of technology, quality and range of medicines manufactured. Liquidity or Solvency management is very important for every organization it analyzed on the basis of short term and long term solvency or liquidity. The objective of the study is to find out the impact of solvency and working capital on profitability of select multinational pharmaceutical companies in India. The period of the study is from 2000-01 to 2014-15. Secondary data is used for the study. The data analysis was done using Ratio analysis and statistical tools like mean, standard deviation, coefficient of variation, compound annual growth rate and multiple regression. The results of regression analysis point out that the GlaxoSmithKline laboratories, Lupin, Sun Pharma and Cipla Pharma has significant influenced on Profitability ratios of Net Profit, Return on Assets and Return on Capital Employed. Abbott Pharma, Biocon, Pfizer, Ranbaxy, Dr.Reddy's and Aurobindo Pharma has not significant influenced on Profitability ratios. Hence these pharmaceutical companies should pay more attention to improve Net Profit, Return on Assets and Return on Capital Employed.

Keywords: pharmaceuticals, working capital, net profit, return on assets, return on capital employed, return on equity, solvency and liquidity

1. Introduction
The Indian Pharmaceutical business is an achievement story providing employment for millions and ensuring that fundamental drugs at reasonable prices are accessible to the huge population of this sub-continent. The Indian Pharmaceutical business nowadays is in the facade rank of India's science-based industries with extensive capabilities in the intricate field of drug construct and expertise. It's position extremely high in the third globe, in terms of technology, worth and series of medicines manufactured. Nearly every kind of medication is now made indigenously and it is in performance an input role in promoting and supporting expansion in the very important field of medicines. Indian Pharmacy manufacturing boasts of excellence producers and numerous units have been permitted by the regulatory authorities in United States of America and United Kingdom. Worldwide companies connected with this segment have inspired, assisted and spearheaded this energetic improvement in the past 53 years and helped to put India on the pharmaceutical record of the globe. The Indian Pharmaceutical sector is extremely uneven with more than 20,000 registered units. It has extended considerably in the last two decades. The top 250 Pharmaceutical Companies is in charge of 70 per cent of the market with market head holding virtually 7 per cent of the market share. It is an extremely split market with severe price competition and government price control. The Pharmaceutical Industry in India has little costs of manufacturing, low Research and development costs, original scientific manpower, strength of national laboratories and an increasing balance of trade. The Pharmaceutical industry, among its rich scientific talents and research capabilities supported by intellectual property protection system is well set to take on the worldwide market place.

2. Review of Literature
Rajmohan and Vijayaragavan (2008) [1] while analyzing the applying comparative production performance of Madras Cements Limited and all cement units in India by Mann-Whitney U- test, found that the production performance of selected unit was equal to production performance of all cements in India.
Penrose (2008) [2] has rightly remarked that shareholders, i.e., owners are directly interested in the relationship between profits (after fixed interest payments) and the nominal capital issued, while managers are in the 'effective' utilization of capital, i.e., relationship between profits (before interest payments) and the total real capital employed. Therefore, a company's performance can be measured incorporating both these dimensions, i.e., growth and profitability. Thus, the present study is an attempt to analyze a company's performance on profitability dimensions.
Rafuse (2008) [3] examined that attempts to improve working capital by delaying payment to creditors are counter-productive, and that altering debtor and creditor levels for individual tiers within a value system will rarely produce any net benefit. He proposed that stock reduction generates system-wide financial improvements and other important benefits, and suggested that to achieve this, companies should focus on stock management strategies based on "lean supply-chain" techniques.
Mr. N.Suresh Babu and Prof. G.V.Chalam (2014) [4] Suggest that managers can create value for their shareholders by

reducing the number of day's accounts receivable and increasing the account payment period and inventories to a reasonable maximum and also suggests that managers of these firms should spend more time to manage cash conversion cycle of their firms and make strategies of efficient management of working capital.

3. Statement of the problem

The growth of industries depends on numerous factors such as monetary, human resources, technology, excellence of the produce and selling. Out of these, financial and operating aspects presume a momentous role in determining the expansion of industries. All of the company's operations practically have an effect on its need for cash. The majority of the statistics covering operational areas are however the straight responsibility of the financial executive. Unless the top administration appreciates the value of a good monetary and operating examination, there will be enduring difficulty for the monetary executives to find the profitability, liquidity, solvency and working capital position of the concern. The firms whose present operations are naturally complicated should try to make their financial analysis to facilitate their management to stay on top of its working position. Hence, the researcher wants to know the answers for the following research questions.

- What is the solvency and working capital position of select multinational pharmaceutical companies in India?
- To what extent have the solvency and working capital affect the profitability of select multinational pharmaceutical companies in India?

4. Objectives of the study

The objectives of the study are

- To analyze the solvency and working capital position of select multinational pharmaceutical companies in India.
- To find the impact of solvency and working capital on profitability of select multinational pharmaceutical companies in India.
- To offer findings, suggestions and conclusion of this study.

5. Hypotheses of the study

The following hypotheses have been framed in consonance with the objectives of the study.

- **H_{01}**: There is no significant impact of Solvency and Working capital on Net Profit Ratio.
- **H_{02}**: There is no significant impact of Solvency and Working capital on Return on Assets Ratio.
- **H_{03}**: There is no significant impact of Solvency and Working capital on Return on Capital Employed Ratio.

6. Research Methodology

Sources of data

Secondary data is used for the study. The required data for the study is collected and compiled from money control website and "PROWESS" database of Centre for Monitoring Indian Economy (CMIE) for the period from 2000-01 to 2014-15 which is a reliable and empowered corporate database. In addition to this, supportive data is collected from books, journals, annual reports and various news-papers.

Period of the Study

The study covers a period of fifteen years from the financial year 2000-01 to 2014-15.

Selection of the Sample

There are 236 companies listed in Indian Pharmaceutical Sector, from these companies, there are 201 companies consistently listed and out of which sample of 10 Multinational Pharmaceutical companies have been selected on the basis of market capitalization for the study. Certain companies are excluded owing to irregular and / or inconsistent financial data support.

List of Companies

Abbott India Ltd, Biocon Ltd, GlaxoSmithKline Pharmaceuticals Ltd, Ranbaxy Laboratories Ltd, Pfizer Ltd, Sun Pharmaceuticals Ltd, Lupin Ltd, Dr.Reddy's Ltd. Aurobindo Pharmaceuticals and Cipla Pharmaceuticals Ltd.

Tools used for analysis

The data analysis was done using Ratio analysis and statistical tools like mean, standard deviation, coefficient of variation, compound annual growth rate and multiple regression.

List of Abbreviations

Solvency Ratios

- **DER** - Debt Equity Ratio
- **ICR** - Interest Coverage Ratio
- **PR** - Proprietary Ratio
- **TATD** - Total Assets to Total Debt Ratio

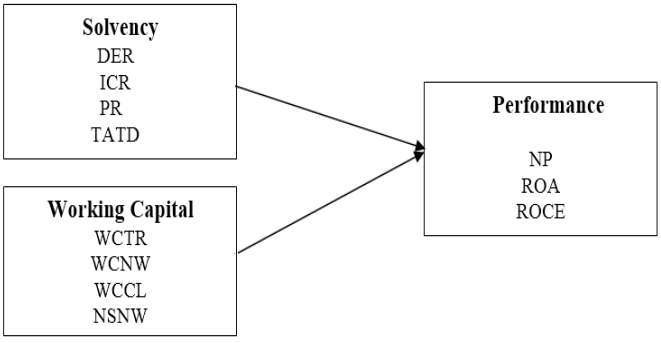
Working Capital Ratios

- **WCTR** - Working Capital Turnover Ratio
- **WCNW** - Working Capital to Net Worth Ratio
- **WCCL** - Working Capital to Current Liabilities Ratio
- **NSNW** - Net Sales to Net Worth Ratio

Profitability Ratios

- **NP** - Net Profit
- **ROA** - Return on Assets
- **ROCE** - Return on Capital Employed

Theoretical Framework



7. Analysis of Descriptive Statistics of Solvency and Working Capital of Select Multinational Pharmaceutical Companies in India.

Table 1

Company Names	Ratios	Solvency				Ratios	Working capital			
		Mean	S.D	C.V	CAGR		Mean	S.D	C.V	CAGR
Abbott India Ltd	DER	0.07	0.06	83.12	0.17	WCTR	10.57	7.92	74.90	0.13
	ICR	751.28	149.57	19.91	0.01	WC to NW	0.62	0.66	105.78	0.13
	PR	0.09	0.12	133.85	0.11	WC to CL	1.80	1.39	77.25	0.19
	TATD	92.88	80.43	86.60	0.12	NS to NW	2.69	0.33	12.36	0.01
Biocon Ltd	DER	7.92	13.27	167.64	0.21	WCTR	5.96	5.87	98.52	0.05
	ICR	211.56	240.97	113.90	0.36	WC to NW	0.51	1.08	210.47	0.01
	PR	0.04	0.02	46.89	0.05	WC to CL	0.86	0.44	51.00	0.07
	TATD	12.34	9.49	76.93	0.20	NS to NW	1.06	0.52	48.62	0.06
GSK Ltd	DER	0.05	0.03	47.83	0.12	WCTR	19.93	27.16	136.26	0.07
	ICR	847.85	638.08	75.26	0.37	WC to NW	0.42	0.45	108.07	0.07
	PR	0.07	0.03	47.04	0.06	WC to CL	1.56	2.17	138.76	0.06
	TATD	245.49	128.02	52.15	0.01	NS to NW	1.42	0.28	19.56	0.01
Ranbaxy Ltd	DER	13.17	10.40	78.93	0.17	WCTR	2.57	7.37	286.25	1.99
	ICR	26.49	32.66	123.27	0.05	WC to NW	0.07	0.83	1211.12	2.12
	PR	0.05	0.02	46.99	0.03	WC to CL	0.66	0.68	104.45	0.04
	TATD	26.70	70.55	264.27	0.11	NS to NW	2.49	2.11	84.66	0.14
Pfizer Ltd	DER	0.20	0.39	195.97	0.11	WCTR	7.79	6.77	86.92	0.08
	ICR	843.86	864.05	102.39	0.07	WC to NW	0.36	0.28	77.86	0.03
	PR	0.05	0.04	65.21	0.12	WC to CL	2.01	2.40	119.36	0.05
	TATD	35.92	27.34	76.13	0.07	NS to NW	1.35	0.52	38.74	0.05
Sun Pharma	DER	6.54	8.80	134.54	0.27	WCTR	2.06	7.33	355.39	2.15
	ICR	332.96	277.38	83.31	0.23	WC to NW	0.19	0.11	57.74	1.78
	PR	0.03	0.03	72.21	0.07	WC to CL	1.65	1.26	76.40	1.78
	TATD	72.73	85.40	117.43	0.06	NS to NW	0.70	0.34	48.48	0.08
Lupin Ltd	DER	10.01	5.73	57.28	0.10	WCTR	4.56	1.63	35.62	0.01
	ICR	73.64	184.62	250.71	0.47	WC to NW	0.46	0.15	33.75	0.06
	PR	0.03	0.01	43.52	0.05	WC to CL	1.19	0.59	49.77	0.00
	TATD	21.16	58.09	274.51	0.39	NS to NW	1.98	0.56	28.53	0.05
Dr.Reddy's Ltd	DER	12.75	11.27	88.37	0.08	WCTR	3.93	1.81	46.14	0.02
	ICR	55.88	58.54	104.75	0.14	WC to NW	0.29	0.16	55.20	0.02
	PR	0.01	0.01	46.05	0.07	WC to CL	1.41	0.79	55.87	0.02
	TATD	19.52	29.01	148.66	0.04	NS to NW	0.93	0.23	25.07	0.04
Aurobindo Pharma	DER	58.02	30.45	52.49	0.15	WCTR	2.53	0.46	18.20	0.04
	ICR	6.38	5.60	87.84	0.12	WC to NW	0.78	0.17	21.59	0.01
	PR	0.02	0.01	56.89	0.09	WC to CL	1.88	0.37	19.50	0.01
	TATD	2.07	0.36	17.53	0.02	NS to NW	1.92	0.53	27.62	0.05
Cipla Ltd	DER	3.37	2.86	84.87	0.23	WCTR	2.98	0.38	12.78	0.01
	ICR	58.75	28.73	48.91	0.11	WC to NW	0.40	0.10	24.94	0.02
	PR	0.03	0.02	59.58	0.13	WC to CL	1.64	0.27	16.46	0.01
	TATD	13.77	8.21	59.62	0.08	NS to NW	1.18	0.25	20.75	0.03

***Source*:** Computed data

Solvency Ratios

Table 1 reveals the solvency and working capital analysis of select multinational pharmaceutical companies in India. It is inferred from the analysis of Aurobindo Pharma Ltd has the highest average debt equity ratio of 58.02 per cent and the GlaxoSmithKline has the lowest average debt equity ratio of 0.05 per cent. The Pfizer Ltd has the highest co-efficient variance of debt equity ratio of 195.97 per cent. The GlaxoSmithKline Ltd has the lowest co-efficient variance of debt equity ratio of 47.83 per cent and it is found that there is more consistency in debt equity ratio than the other Multinational Pharmaceutical Companies. The Sun Pharma Ltd has the highest growth rate of debt equity ratio of 0.27 per cent. The Biocon Ltd has the low growth rate of Debt equity ratio of -0.21 per cent and it is found to be unstable in Debt equity ratio.

The GlaxoSmithKline has the highest average interest coverage ratio of 847.85 per cent and the Aurobindo Pharma Ltd has the lowest average interest coverage ratio of 6.38 per cent. The Lupin Pharma Ltd has the highest co-efficient variance of interest coverage ratio of 250.71 per cent. The Abbott Ltd has the lowest co-efficient variance of interest coverage ratio of 19.91 per cent and it is found that there is more consistency in interest coverage ratio than the other Multinational Pharmaceutical Companies. The Lupin Pharma Ltd has the highest growth rate of interest coverage ratio of 0.47 per cent. The Cipla Ltd has the low growth rate of interest coverage ratio of -0.11 per cent and it is found to be unstable in interest coverage ratio.

The Abbott Ltd has the highest average proprietary ratio of 0.09 per cent and the Dr.Reddy's Laboratories Ltd has the lowest average proprietary ratio of 0.01 per cent. The Abbott

Ltd has the highest co-efficient variance of proprietary ratio of 133.85 per cent. The Lupin Ltd has the lowest co-efficient variance of proprietary ratio of 43.52 per cent and it is found that there is more consistency in proprietary ratio than the other Multinational Pharmaceutical Companies. The Biocon Ltd has the highest growth rate of proprietary ratio of 0.05 per cent. The Cipla Ltd has the low growth rate of proprietary ratio of -0.13 per cent and it is found to be unstable in proprietary ratio. The GlaxoSmithKline Ltd has the highest average total assets to total debt ratio of 245.49 per cent and the Aurobindo pharma Ltd has the lowest average total assets to total debt ratio of 2.07 per cent. The Lupin Ltd has the highest co-efficient variance of total assets to total debt ratio of 274.51 per cent. The Aurobindo pharma Ltd has the lowest co-efficient variance of total assets to total debt ratio of 17.53 per cent and it is found that there is more consistency in total assets to total debt ratio than the other Multinational Pharmaceutical Companies. The Lupin Ltd has the highest growth rate of total assets to total debt ratio of 0.39 per cent. The Abbott Ltd has the low growth rate of total assets to total debt ratio of -0.12 per cent and it is found to be unstable in total assets to total debt ratio.

Working Capital Ratios

The GlaxoSmithKline Laboratories Ltd has the highest average working capital turnover ratio of 19.93 per cent and the Sun pharma Ltd has the lowest average working capital turnover ratio of 2.06 per cent. The Sun Pharma Ltd has the highest co-efficient variance of working capital turnover ratio of 355.39 per cent. The Cipla Ltd has the lowest co-efficient variance of working capital turnover ratio of 12.78 per cent and it is found that there is more consistency in working capital turnover ratio than the other Multinational Pharmaceutical Companies. The Lupin Ltd has the highest growth rate of working capital turnover ratio of 0.01 per cent. The Sun Pharma Ltd has the low growth rate of working capital turnover ratio of -2.15 per cent and it is found to be unstable in working capital turnover ratio

The Aurobindo Pharma Ltd has the highest average working capital to net worth ratio of 0.78 per cent and the Ranbaxy Ltd has the lowest average working capital to net worth ratio of 0.07 per cent. The Ranbaxy Ltd has the highest co-efficient variance of working capital to net worth ratio of 1211.12 per cent. The Aurobindo Pharma Ltd has the lowest co-efficient variance of working capital to net worth ratio of 21.59 per cent and it is found that there is more consistency in working capital to net worth ratio than the other Multinational Pharmaceutical Companies. The Abbott Ltd has the highest growth rate of working capital to net worth ratio of 0.13 per cent. The Ranbaxy Ltd has the low growth rate of working capital to net worth ratio of -2.12 per cent and it is found to be unstable in working capital to net worth ratio.

The Pfizer Ltd has the highest average net working capital to current liabilities ratio of 2.01 per cent and the Ranbaxy Ltd has the lowest average net working capital to current liabilities ratio of 0.66 per cent. The GlaxoSmithKline Ltd has the highest co-efficient variance of net working capital to current liabilities ratio of 138.76 per cent. The Cipla Ltd has the lowest co-efficient variance of net working capital to current liabilities ratio of 16.46 per cent and it is found that there is more consistency in net working capital to current liabilities ratio than the other Multinational Pharmaceutical Companies. The Abbott Ltd has the highest growth rate of net working capital to current liabilities ratio of 0.19 per cent. The Sun Pharma Ltd has the low growth rate of net working capital to current liabilities ratio of -1.78 per cent and it is found to be unstable in net working capital to current liabilities ratio.

The Abbott Ltd has the highest average net sales to net worth ratio of 2.69 per cent. The Abbott Ltd has the lowest co-efficient variance of net sales to net worth ratio of 12.36 per cent and it is found that there is more consistency in net sales to net worth ratio than the other Multinational Pharmaceutical Companies. The Ranbaxy Ltd has the highest growth rate of net sales to net worth ratio of 0.14 per cent.

8. Multiple Regression Analysis of Solvency and Working capital on Net Profit.

Impact of Solvency and Working Capital on Net Profit of Select Multinational Pharmaceutical Companies in India.

H_{01}: There is no significant effect of Solvency and Working Capital on Net Profit.

Table 2: Model Summary of Solvency and Working Capital on Net Profit

Company's Name	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change	Durbin-Watson
Abbott Pharma	1	.494[a]	.245	-.511	5.59305	.920	2.227
Biocon	1	.605[a]	.366	-.479	13.89153	.864	2.201
GlaxoSmithKline	1	.940[a]	.883	.728	5.11195	.024	2.182
Pfizer	1	.738[a]	.545	-.062	15.54196	.569	1.770
Ranbaxy	1	.818[a]	.670	.230	15.46409	.313	2.707
Sun Pharma	1	.968[a]	.938	.854	14.33850	.004	2.760
Lupin	1	.930[a]	.864	.683	3.67338	.036	2.253
Dr.Reddy's	1	.786[a]	.618	.108	6.73119	.419	1.869
Aurobindo	1	.857[a]	.734	.379	4.13832	.196	2.165
Cipla	1	.734[a]	.538	-.077	2.31091	.582	2.337

a. Predictors: (Constant), NSNW, WCNW, WCTR, TATD, PR, ICR, DER, NWCCL

b. Dependent Variable: NP

c. Statistically Significant at 5% level

Table 2 shows that the Multiple Regression Analysis of Solvency and Working Capital on Profitability of Select Multinational Pharmaceutical Companies in India in the period of 2000-01 to 2014-15. The Sun Pharma shows the highest R-Square value of .938, followed by GlaxoSmithKline Laboratories on R-Square value of .883. The lowest R-Square value shows in the Abbott Pharma .245. It is implying that independent variables having 93.8 per cent influence on dependent variable.

The Durbin- Watson value for most of the Pharmaceutical Companies is around 2 which indicates no problem of auto correlation.

GlaxoSmithKline Laboratories, Sun Pharma and Lupin Pharma P-Value of significant F change are .024, .004 and .036 which is less than 0.05 at 5 per cent level of significance. Other Pharmaceutical Companies having more than 0.05 at 5 per cent level of significance so, it is not significant in Net Profit.

Hence, it is concluded that R-Square value is more than 60 per cent for most of the Pharmaceutical Companies in India which indicates that variation in the dependent variable is explained by the independent variable.

9. Impact of Solvency and Working Capital on Return on Assets of Select Multinational Pharmaceutical Companies in India.

H_{02}: There is no significant effect of Solvency and Working Capital on Return on Assets.

Table 3: Model Summary of Solvency and Working Capital on Return on Assets

Company's Name	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change	Durbin-Watson
Abbott Pharma	1	.517[a]	.268	-.465	13.94224	.896	2.244
Biocon	1	.618[a]	.382	-.442	6.65776	.845	2.182
GlaxoSmithKline	1	.869[a]	.755	.428	8.54086	.162	2.052
Pfizer	1	.703[a]	.494	-.180	13.49044	.667	2.360
Ranbaxy	1	.865[a]	.748	.411	16.29700	.173	2.404
Sun Pharma	1	.982[a]	.964	.916	4.54376	.001	2.777
Lupin	1	.944[a]	.892	.748	3.75263	.020	2.660
Dr.Reddy's	1	.867[a]	.752	.421	5.46125	.166	1.967
Aurobindo	1	.907[a]	.823	.586	3.55540	.073	3.150
Cipla	1	.946[a]	.894	.753	2.48612	.019	2.375

a. Predictors: (Constant), NSNW, WCNW, WCTR, TATD, PR, ICR, DER, NWCCL
b. Dependent Variable: ROA
c. Statistically Significant at 5% level

Table 3 represents the Multiple Regression Analysis of Select Multinational Pharmaceutical Companies in India. The R^2 states that all the independent variables that net sales to net worth ratio, working capital turnover ratio, total assets to total debt ratio, proprietary ratio, interest coverage ratio, debt equity ratio and net working capital to current liabilities ratio have influence on the dependent variable of return on assets ratio.

The results shows that the R-Square value is more than 70 per cent for most of the Pharmaceutical Companies in India except Abbott Pharma, Biocon Pharma and GlaxoSmithKline Laboratories which is less than 60 per cent which indicates that variation in the dependent variable is explained by the independent variable.

The Durbin- Watson value for most of the Pharmaceutical Companies is around 2 which indicates no problem of auto correlation.

Sun Pharma, Lupin Pharma and Cipla Pharma P-Value of significant F change are .001, .020 and .019 which is less than 0.05 at 5 per cent level of significance. Other Pharmaceutical Companies have more than 0.05 at 5 per cent level of significance so; it is not significant in Return on Assets Ratio.

10. Impact of Solvency and Working Capital on Return on Capital Employed of Select Multinational Pharmaceutical companies in India

H_{03}: There is no significant effect of Solvency and Working Capital on Return on Capital Employed.

Table 4: Model Summary of Solvency and Working Capital on Return on Capital Employed

Company's Name	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change	Durbin-Watson
Abbott Pharma	1	.810[a]	.656	.312	27.41239	.207	2.302
Biocon	1	.959[a]	.920	.812	13.36777	.009	2.577
GlaxoSmithKline	1	.984[a]	.969	.927	10.99870	.001	2.469
Pfizer	1	.850[a]	.722	.352	17.13876	.216	2.176
Ranbaxy	1	.974[a]	.950	.882	.85344	.002	2.715
Sun Pharma	1	.894[a]	.800	.533	6.44127	.099	2.597
Lupin	1	.981[a]	.963	.913	.60798	.001	1.459
Dr.Reddy's	1	.968[a]	.937	.854	.92119	.004	2.155
Aurobindo	1	.956[a]	.915	.801	.37866	.010	3.158
Cipla	1	.988[a]	.976	.943	.44431	.000	2.780

a. Predictors: (Constant), NSNW, WCNW, WCTR, TATD, PR, ICR, DER, NWCCL
b. Dependent Variable: ROCE
c. Statistically Significant at 5% level

Table 4 shows the Multiple Regression Analysis of Select Multinational Pharmaceutical Companies in India. The R^2 value states that all the independent variables that net sales to net worth ratio, working capital turnover ratio, total assets to total debt ratio, proprietary ratio, interest coverage ratio, debt equity ratio and net working capital to current liabilities ratio have influence on the dependent variable of return on capital employed ratio.

The results shows that the R-Square value is more than 70 per cent for most of the Pharmaceutical Companies in India except Abbott Pharma which is less than 60 per cent which indicates

that variation in the dependent variable is explained by the independent variable.

The Durbin- Watson value for Most of the Pharmaceutical Companies is around 2 which indicates no problem of auto correlation.

Biocon Pharma, GlaxoSmithKline Pharma, Ranbaxy, Lupin Pharma, Dr.Reddy's Pharma, Aurobindo Pharma and Cipla Pharma P-Value of significant F change are .009, .001, .002, .001, .004, .010 and .000 which is less than 0.05 at 5 per cent level of significance. Other Pharmaceutical Companies have more than 0.05 at 5 per cent level of significance so; it is not significant in Return on Capital Employed.

11. Findings

- Aurobindo Pharma Ltd has the highest average debt equity ratio of 58.02 per cent and the GlaxoSmithKline has the lowest average debt equity ratio of 0.05 per cent.
- The GlaxoSmithKline has the highest average interest coverage ratio of 847.85 per cent and the Aurobindo Pharma Ltd has the lowest average interest coverage ratio of 6.38 per cent.
- The GlaxoSmithKline Laboratories Ltd has the highest average working capital turnover ratio of 19.93 per cent and the Sun pharma Ltd has the lowest average working capital turnover ratio of 2.06 per cent.
- The Ranbaxy Ltd has the highest co-efficient variance of working capital to net worth ratio of 1211.12 per cent. The Aurobindo Pharma Ltd has the lowest co-efficient variance of working capital to net worth ratio of 21.59 per cent and it is found that there is more consistency in working capital to net worth ratio than the other Multinational Pharmaceutical Companies.
- GlaxoSmithKline Laboratories, Sun Pharma and Lupin Pharma P-Value of significant F change are .024, .004 and .036 which is less than 0.05 at 5 per cent level of significance. Other Pharmaceutical Companies having more than 0.05 at 5 per cent level of significance so, it is not significant in Net Profit.
- Sun Pharma, Lupin Pharma and Cipla Pharma P-Value of significant F change are .001, .020 and .019 which is less than 0.05 at 5 per cent level of significance. Other Pharmaceutical Companies have more than 0.05 at 5 per cent level of significance so; it is not significant in Return on Assets Ratio.

12. Suggestions

- Sun Pharma, Lupin and GlaxoSmithKline Laboratories has the significant influenced the Net Profit ratio, in some of other multinational pharmaceutical companies has not significant influenced with net profit ratio. Hence in order to take up initiative these ratios.
- Aurobindo Pharma Ltd has the high average debt equity ratio, it may reduce its usage of debt to avoid risk at higher level.
- Abbott pharma, Biocon, GlaxoSmithKline, Pfizer, Ranbaxy, Dr.Reddy's and Aurobindo pharma has the not significant influenced with Return on Assets Ratio. Hence these companies should use more assets to generate earnings.
- Sun Pharma Ltd has the lowest average working capital turnover ratio. In order to increase the sales, the usage of short-term assets and liabilities can be raised.

13. Conclusion

The present study is attempted to know the solvency and working capital on profitability of select multinational pharmaceutical companies in India during the study period. The present study concluded that the GlaxoSmithKline laboratories, Lupin, Sun Pharma, Abbott Pharma and Cipla Pharma has significant influenced on Profitability ratios of Net Profit, Return on Assets and Return on Capital Employed. The Biocon, Pfizer, Ranbaxy, Dr.Reddy's and Aurobindo Pharma has not significant influenced on Profitability ratios. Hence these pharmaceutical companies should pay more attention to improve Net Profit, Return on Assets and Return on Capital Employed. The study suggested that the profitability position of some selected companies has fluctuating trend, so the companies should pay more attention to improve their profitability. The industries should try to retain the talented workforce to improve the operational efficiency of the pharmaceutical industries. The management should further try to control the over the expenses and disbursement cost in order to increase the profit.

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