Research Paper | **Commerce**

To Analyze Trend in the Profitability Ratios of Pharmaceuticals Industry of India for the period 2004-05 to 2013-14.

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ABSTRACT *Profitability means ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market. In this study trend analysis is carried out for six profitability ratios for the Pharmaceuticals industry of India for the period of 2004-05 to 2013-14. These ratios are Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Return on Capital Employed Ratio, Return on Net worth Ratio and Return on Equity Ratio. The Mann-Kendall trend detection test is used to test the goodness of fit of regression equation representing the trend in these Profitability ratios which are based on a sample of 10 selected companies in Pharmaceuticals industry selected by proportional stratified sampling.*

KEYWORDS : Trend, Profitability ratios, Pharmaceuticals industry, India

[1] Introduction

Trend analysis is tries to predict the future movement of a stock, ratios and etc based on past data. Trend analysis is based on the idea that what has happened in the past gives some an idea of what will happen in the future time. There are three types of trends short, intermediate and long term. Trend analysis tries to predict a trend like a bull stock market run and ride that trend data suggests a trend regarding stock market i.e. bull or bear market. Trend analysis is helpful because moving with trends, and not against them, will lead to profit for an investor. The trend can be linear or quadratic or any higher degree polynomial depending upon the line of regression which fits well with data is linear, quadratic and higher degree polynomial respectively.

T. Narayana, Dr. C. Bhanukiran, Dr. Ch. Ramaprasadrao (2013), Examined "Profitability Performance Analysis of Indian Pharmasector" The main objective of the study is to measure the profitability performance of Dr. Reddy's Laboratory's Ltd. India through profitability ratios and To examined the impact of profitability ratios on ROE with the help of multiple regression. The researcher cover the period from 2002-03 to 2011-12 for this study. Researcher conclude selected profitability ratios have significant impact on return on investment of the company.

Enekwe Chinedu Innocent, Okwo Ifeoma Mary, Ordu Monday Matthew, (2013) examined "Financial Ratio Analysis as a Determinant of Profitability in Nigerian Pharmaceutical Industry" The main objective of the study to measure the relationship between the financial ratio analysis and profitability of the Nigerian Pharmaceutical industry for the period of 11 years spanning from 2001 to 2011. In this study researcher used five profitability ratios calculated from financial. The researcher analyzed that there is a negative relationship between all independent variables with profitability in the Nigerian pharmaceutical industry.

[2] Research Methodology

The study is based mainly on secondary data which is collected from the books, magazine, in-house materials and websites of concerned company on pharmaceutical industry. Quantitative approach is used. In this study proportional stratified random sampling technique is used, which means there is equal chance of selection for each unit in a stratum and the representation of strata in the sample is in proportion of size of the strata. The size of the sample is 10 companies from three strata of pharmaceutical companies listed on BSE/NSE**.** The three strata are consisted of large-cap, mid-cap and small-cap companies. The study period is taken from 2004-05 to 2013-2014. The main objective of the study is to find out trends in six profitability ratios viz. Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Return on Capital Employed Ratio, Return on Net worth Ratio and Return on Equity Ratio. Mann-Kendall trend detection test is used to test the goodness of fit of an equation on the profitability ratios of the industry (see the tables A-2, A-3, A-4, A-5, A-6 and A-7) for the 10 years obtained by weighted means of such ratios of 10 selected companies in pharmaceutical industry for the respective year. The weight factor used for working out the weighted means is the paid-up capitals of

respective years of the respective company (see the table A-1).

[3] Trend Analysis

In the present study six profitability ratios were studied for the pharmaceutical industry like Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Return on Capital Employed Ratio, Return on Net worth Ratio and Return on Equity Ratio.
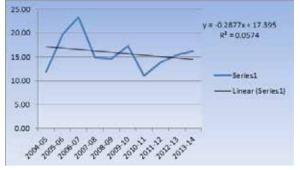
[3.1] Gross Profit Ratio

In this sub-section composite gross profit Ratio of the Industry from the gross profit Ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-14. These ratios are presented in the following table and the chart.

TABLE NO :- 1

Year	Composite Ratio gross profit Ratio (y)	Estimated Ratio from the equation (y^)
2004-05	11.87	17.103
2005-06	19.74	16.816
2006-07	23.28	16.529
2007-08	14.92	16.242
2008-09	14.62	15.955
2009-10	17.25	15.668
2010-11	10.94	15.381
2011-12	13.85	15.094
2012-13	15.43	14.807
2013-14	16.22	14.52

CHART NO :- 1

To test the following H_0 related to goodness of fit, the Mann-Kendall trend detection test is applied.

H_0 = There is no trend in series of Composite gross profit Ratio of the Industry.

H_1 = There is some trend (Liner or Quadratic) in series of Composite gross profit Ratio of the Industry.

From the above trend detection test we found that there is no trend. From fitted linear regression line the R^2 value is 0.057, and p-value is 0.858, It can also analyze from the Mann-Kendall trend detection test p-value is 0.858, hence the given hypotheses is accepted. From which we can say that the both model (Liner or Quadratic) was not good fit.
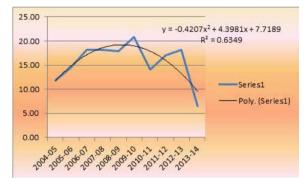
[3.2]   Operating Profit Ratio

In this sub-section composite operating profit Ratio of the Industry from the operating profit Ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-14. They are presented in the following table and the chart.

TABLE NO: - 2

Year	Composite operating profit Ratio (y)	Estimated Ratio from the equation (y^)
2004-05	11.84	11.696
2005-06	14.57	14.834
2006-07	18.15	17.132
2007-08	18.15	18.59
2008-09	17.82	19.208
2009-10	20.78	18.986
2010-11	14.15	17.924
2011-12	16.99	16.022
2012-13	18.19	13.28
2013-14	6.46	9.698

CHART NO: - 2

To test the following H_0 related to goodness of fit, the Mann-Kendall trend detection test is applied.
H_0 = There is no trend in series of Composite operating profit Ratio of the Industry

H_1 = There is some trend (Liner or Quadratic) in series of Composite operating profit Ratio of the Industry

From the above trend detection test we found that there is no trend. From fitted regression line the R^2 value is 0.634, and p-value is 0.928, It can also analyze from the Mann-Kendall trend detection test p-value is 0.928, hence the given hypotheses is accepted. From which we can say that the both model (Liner or Quadratic) was not good fit.
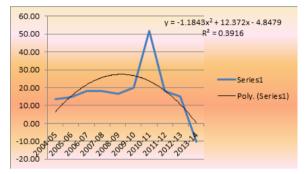
[3.3]   Net Profit Ratio

In this subsection composite net profit ratio of the Industry from the net profit ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-15 and are presented in the following table and the chart.

TABLE NO :- 3

Year	Composite Fixed Assets Turnover Ratio (y)	Estimated Ratio from the equation (y^)
2004-05	13.70	6.339
2005-06	14.60	15.157
2006-07	18.27	21.607
2007-08	18.04	25.689
2008-09	16.55	27.403
2009-10	20.10	26.749
2010-11	51.73	23.727
2011-12	18.23	18.337
2012-13	15.07	10.579
2013-14	-10.29	0.453

CHART NO :- 3

To test the following H_0 related to goodness of fit, the Mann-Kendall trend detection test is applied.

H_0 = There is no trend in series of Composite net profit ratio of the Industry.

H_1 = There is some trend (Liner or Quadratic) in series of Composite net profit ratio of the Industry.

From the above trend detection test we found that there is no trend. From fitted regression line the R^2 value is 0.391, and p-value is 0.858. It can also analyze from the Mann-Kendall trend detection test p-value is 0.858, hence the given hypotheses is accepted. From which we can say that the both model (Liner or Quadratic) was not good fit.

[3.4]   Return on Capital Employed Ratio

In this subsection the composite return on capital employed ratio of the Industry from the return on capital employed Ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-14. These ratios are presented in the following table and the chart.

TABLE NO:- 4

Year	Composite return on capital employed Ratio (y)	Estimated Ratio from the equation (y^)
2004-05	11.74	14.155
2005-06	16.18	16.148
2006-07	20.65	17.689
2007-08	20.16	18.778
2008-09	20.51	19.415
2009-10	21.15	19.6
2010-11	14.97	19.333
2011-12	15.70	18.614
2012-13	17.56	17.443
2013-14	18.47	15.82

CHART NO: - 4

$$y = -0.226x^2 + 2.6716x + 11.718$$
$$R^2 = 0.353$$

To test the following H_0 related to goodness of fit for linear as well as quadratic equations the Mann-Kendall trend detection test is applied.

H_0 = There is no trend in series of Composite return on capital employed Ratio of the Industry.

H_1 = There is some trend (Liner or Quadratic) in series of Composite return on capital employed Ratio of the Industry.

From the above trend detection test we found that there is no trend. From fitted regression line the R^2 value is 0.353, and p-value is 0.721. It can also analyze from the Mann-Kendall trend detection test p-value is 0.721, hence the given hypotheses is accepted. From which we can say that the both model (Liner or Quadratic) was not good fit.
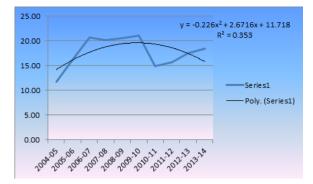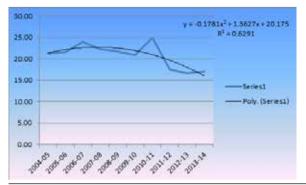
[3.5]   Return on Networth Ratio
In this subsection the composite return on networth ratio of the Industry from the return on networth ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-14. These ratios are presented in the following table and the chart.

TABLE NO: - 5

Year	Composite return on networth ratio (y)	Estimated Ratio from the equation (y^)
2004-05	21.36	21.354
2005-06	21.56	22.182
2006-07	24.01	22.654
2007-08	22.36	22.77
2008-09	21.77	22.53
2009-10	20.88	21.934
2010-11	24.93	20.982
2011-12	17.54	19.674
2012-13	16.68	18.01
2013-14	17.06	15.99

CHART NO: - 5

$$y = -0.1781x^2 + 1.3627x + 20.175$$
$$R^2 = 0.6291$$

To test the following H_0 related to goodness of fit for linear as well as quadratic equations the Mann-Kendall trend detection test is applied.

H_0 = There is no trend in series of Composite return on networth ratio of the Industry.

H_1 = There is some trend (Liner or Quadratic) in series of Composite return on networth ratio of the Industry.

From the above trend detection test we found that there is no trend. From fitted regression line the R^2 value is 0.629, and p-value is 0.152. It can also analyze from the Mann-Kendall trend detection test p-value is 0.152, hence the given hypotheses is accepted. From which we can say that the both model (Liner or Quadratic) was not good fit.

[3.6]   Return on Equity Ratio
In this subsection the composite return on equity ratio of the Industry from the return on equity ratio of the selected 10 pharmaceutical companies are obtained for ten years spanning from 2004-05 to 2013-14. These ratios are presented in the following table and the chart.

TABLE NO:- 5

Year	Composite return on equity ratio (y)	Estimated Ratio from the equation (y^)
2004-05	289.71	44.88
2005-06	415.66	399.92
2006-07	549.80	689.52
2007-08	633.19	913.68
2008-09	641.01	1072.4
2009-10	809.20	1165.68
2010-11	2732.81	1193.52
2011-12	864.67	1155.92
2012-13	925.41	1052.88
2013-14	708.82	884.4

CHART NO: - 6
To test the following H_0 related to goodness of fit for linear as well as quadratic equations the Mann-Kendall trend detection test is applied.

H_0 = There is no trend in series of Composite return on equity ratio of the Industry.

H_1 = There is some trend (Liner or Quadratic) in series of Composite return on equity ratio of the Industry.

From the above trend detection test it was found that there is quadratic trend. However, for the 2nd degree polynomial equation for the series, value of R^2 value is 0.301 and p-value is 0.004. Therefore, it may be concluded that the 2nd degree polynomial equation is good fit and therefore there is quadratic trend in this ratio during the period of study.

[4] Conclusion
From the Table No :- 1 and Chart No :- 1 it can be seen that so far as Gross Profit Ratio is concerned, first year of the decade the ratio was 17.103 and the last year of the ratio was 14.52, it clearly indicate there is no trend during the period of the study. So here I suggested the industry will take some action to improve the gross profit ratio and try to reduce the cost of goods sold and increase its sales.

From the Table No :- 2 and Chart No :- 2 we can see that so far as Operating Profit Ratio is concern, during the decade there was no linear trend. First year of the decade the ratio was 11.70 and the last year of the ratio was 9.70, it clearly indicates there is no trend during the period of the study. It can also can be seen in the chart, the quadratic trend is visible and during the first half of the study period, form 2004-05 to 2008-09, the ratio had increasing trend and then after from 2008-09 to 2013-14 this ratio had downward trend. So here I

suggested that the industry will try to reduce its operating expenses.

From the Table No :- 3 and Chart No :- 3 it can see that so far as Net Profit Ratio is concern, during the decade there was no noticeable trend. However, as can be seen in the chart, the quadratic trend is visible, during the first half of the study period, form 2004-05 to 2008-09, the ratio had increasing trend and then after from 2008-09 to 2013-14 this ratio had downward trend. This is not a good sign from the industry point of view.

From the Chart No :- 4 it can be seen that so far as Return on Capital Employed Ratio is concern, there is no trend in the composite Return on Capital Employed Ratio. I also analyses the quadratic trend is visible, during the first half of the study period, form 2004-05 to 2009-10, the ratio had increasing trend and then after from 2009-10 to 2013-14 this ratio had downward trend. It is bad sign from the industry point of view.

From the Chart No :- 5 it can be seen that so far as Return on Networth Ratio is concern, there is no trend in the composite Return on Networth Ratio. I also analyses the quadratic trend is visible, during the first half of the study period, form 2004-05 to 2008-09, the ratio had increasing trend and then after from 2008-09 to 2013-14 this ratio had downward trend. It is bad sign from the profitability point of view.

It can be seen from the above Chart No: - 6. The equation was Quadratic, and there is found that Quadratic trend in Return on Equity Ratio Table No : - 6 presented the first year of the decade 2004-05 the Return on Equity Ratio was 44.88 and the last year of the decade was 884.4, it clearly indicate trend in this ratio. During the first half of the study period form 2004-05 to 2010-11, the ratio had increasing trend and then after from 2010-11 to 2013-14 this ratio had downward trend. It is not a good sign from the profitability and investor point of view.

Appendix
Table:- A-1
Paid-up capitals of the sampled companies during the period of study

SR. NO.	COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
	PAID UP CAPITAL OF SELECTED COMPANIES										
1	SUN PHARMA	94.16	94.27	98.07	103.56	103.56	103.56	103.56	103.56	103.56	207.12
2	LUPIN	40.14	40.14	80.34	82.08	82.82	88.94	89.24	89.33	89.51	89.68
3	CIPLA	59.97	59.97	155.46	155.46	155.46	160.58	160.58	160.58	160.58	160.58
4	AUROBINDO PHARMA	25.39	26.63	26.67	26.88	26.88	27.86	29.11	29.11	29.12	29.15
5	TORRENT PHARMA	21.16	42.31	42.31	42.31	42.31	42.31	42.31	42.31	42.31	84.62
6	PIRAMAL ENTERPRISES	91.37	95.17	80.17	41.8	41.8	41.8	33.58	34.51	34.51	34.51
7	AJANTA PHARMA	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	17.67
8	GLENMARK PHARMA	43.72	43.74	24.01	24.87	25.05	26.98	27.03	27.05	27.09	27.12
9	DR. REDDY LAB	38.26	38.35	83.96	84.09	84.2	84.4	84.6	84.8	84.9	85.1
10	CADILA HEALTH	31.4	31.4	62.8	62.8	68.2	68.2	102.4	102.4	102.4	102.4
TOTAL		457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95

Table :- A-2
Gross Profit Ratios of the Industry

COMPOSITE GROSS PROFIT RATIO

Composite GrossProfit Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are GrossProfit Ratio

COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	0.00	2621.65	2621.41	622.40	81.81	1021.10	0.00	0.00	0.00	0.00
LUPIN	419.06	685.19	1341.68	1545.57	1422.85	1830.39	1695.56	1488.24	2178.67	2753.18
CIPLA	1360.72	1430.88	3773.01	2667.69	3246.00	3481.37	2720.23	2990.00	3555.24	2850.30
AUROBINDO PHARMA	236.13	276.42	385.65	292.19	417.72	566.95	593.84	325.16	422.24	710.39
TORRENT PHARMA	339.19	696.00	742.54	820.81	818.28	1027.29	819.12	719.69	929.13	2467.52
PIRAMAL ENTERPRISES	1132.07	1611.23	1425.42	718.96	762.43	787.51	-78.91	-635.67	-501.43	-22.78
AJANTA PHARMA	-82.72	103.13	123.78	164.85	179.60	164.61	171.34	200.01	245.44	483.10
GLENMARK PHARMA	891.89	770.70	566.88	853.29	615.23	693.66	589.52	572.92	426.94	548.91
DR. REDDY LAB	521.48	715.23	3245.89	1057.85	1188.06	1662.68	1583.71	1979.23	1683.57	2082.40
CADILA HEALTH	611.36	637.73	1270.44	742.92	654.72	89.34	-611.33	1852.42	1641.47	1721.34
Σ(wjRj)	5429.19	9548.16	15496.71	9486.53	9386.69	11324.90	7483.08	9491.99	10581.27	13594.35
Σ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	11.87	19.74	23.28	14.92	14.62	17.25	10.94	13.85	15.43	16.22
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

Table:- A-3
Operating Profit Ratios of the Industry

COMPOSITE OPERATING PROFIT RATIO									
Composite Operating Profit Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are Operating Profit Ratio									
COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	0.00	109.35	-321.67	867.83	301.36	1411.52	0.00	0.00	0.00	0.00
LUPIN	479.67	736.57	1348.91	1724.50	1609.19	2026.94	1902.60	1707.10	2367.54	479.67
CIPLA	1343.93	1395.50	3586.46	3151.17	3696.84	3955.09	3349.70	3640.35	4147.78	1343.93
AUROBINDO PHARMA	290.21	344.06	396.05	381.70	497.01	648.58	681.76	422.39	513.97	290.21
TORRENT PHARMA	286.29	731.12	810.66	959.59	951.98	1187.64	959.59	849.58	1038.71	286.29
PIRAMAL ENTERPRISES	1087.30	1557.93	1370.11	872.78	913.33	932.98	84.62	-406.87	-309.90	1087.30
AJANTA PHARMA	-27.49	165.44	178.30	193.64	228.21	225.73	232.81	259.95	291.34	-27.49
GLENMARK PHARMA	1013.43	818.81	638.43	906.26	670.59	749.50	636.29	608.35	461.88	1013.43
DR. REDDY LAB	402.88	606.70	2945.32	1464.85	1595.59	2089.74	1988.10	2360.83	1998.55	402.88
CADILA HEALTH	540.71	584.35	1124.75	1016.73	977.99	414.66	-155.65	2203.65	1967.10	540.71
Σ(wjRj)	5416.93	7049.83	12077.30	11539.06	11442.09	13642.39	9679.82	11645.33	12476.98	5416.93
Σ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	11.84	14.57	18.15	18.15	17.82	20.78	14.15	16.99	18.19	6.46
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

Table:- A-4
Net Profit Ratios of the Industry

COMPOSITE NET PROFIT RATIO									
Composit Net Profit Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are Net Profit Ratio									
COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	2333.28	2436.88	2617.49	3211.40	3254.89	3520.00	4340.20	4032.63	2003.89	-19603.91
LUPIN	288.61	440.74	1196.26	1337.90	1166.93	1558.23	1601.86	1332.80	1578.06	2227.65
CIPLA	1080.66	1206.60	2862.02	2554.21	2266.61	3046.20	2400.67	2532.35	2869.56	2307.53
AUROBINDO PHARMA	80.99	130.22	313.11	333.58	122.04	448.27	417.15	-28.82	264.70	475.44
TORRENT PHARMA	225.57	398.14	534.38	658.34	656.23	605.03	693.46	599.11	797.54	1896.33
PIRAMAL ENTERPRISES	1133.90	1105.88	902.71	632.85	463.14	661.69	21820.62	334.40	-448.98	-559.75
AJANTA PHARMA	49.80	59.12	67.50	73.40	78.59	87.91	119.53	129.56	140.89	345.98
GLENMARK PHARMA	555.68	508.26	389.92	697.11	601.95	314.86	471.40	428.20	506.31	496.57
DR. REDDY LAB	155.34	386.57	2435.68	1141.10	1111.44	1559.71	1424.66	1145.65	1252.28	1664.56
CADILA HEALTH	360.79	390.30	842.78	827.08	907.74	1390.60	2106.37	1987.58	1369.09	2125.82
Σ(wjRj)	6264.61	7062.69	12161.84	11466.96	10629.56	13192.51	35395.92	12493.47	10333.35	-8623.78
Σ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	13.70	14.60	18.27	18.04	16.55	20.10	51.73	18.23	15.07	-10.29
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

Appendix:- A-5
Return on Capital Employed Ratios of the Industry

COMPOSITE RETURN ON CAPITAL EMPLOYED RATIO										
Composite Return on Capital Employed Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are Return on Capital Employed Ratio										
COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	0.00	1369.74	1650.52	2507.19	2544.47	1765.70	0.00	0.00	0.00	0.00
LUPIN	496.93	706.87	1509.59	2263.77	1825.35	2000.26	1880.29	1701.74	2910.87	3980.90
CIPLA	1614.99	1599.40	3637.76	2824.71	3480.75	3558.45	2649.57	3073.50	3338.46	2848.69
AUROBINDO PHARMA	150.05	192.00	257.37	316.11	363.69	488.66	508.84	292.26	414.38	771.89
TORRENT PHARMA	249.69	676.11	836.47	894.43	864.39	1089.06	923.20	1130.52	1402.15	2651.14
PIRAMAL ENTERPRISES	1497.55	1772.07	1471.12	1106.45	1128.18	1246.89	99.73	-4.83	39.34	98.01
AJANTA PHARMA	-59.35	140.89	153.87	160.01	150.21	169.45	214.52	281.55	447.57	875.73
GLENMARK PHARMA	626.07	426.03	374.56	770.97	277.55	358.29	230.57	404.67	405.00	443.41
DR. REDDY LAB	204.31	341.32	2585.13	887.15	1133.33	1339.43	1201.32	1629.86	1643.66	1796.46
CADILA HEALTH	588.44	604.45	1264.79	1087.07	1399.46	1868.00	2534.40	2254.85	1442.82	2007.04
∑(wjRj)	5368.68	7828.87	13741.17	12817.85	13167.40	13884.20	10242.45	10764.11	12044.25	15473.27
∑ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	11.74	16.18	20.65	20.16	20.51	21.15	14.97	15.70	17.56	18.47
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

Appendix:- A-6
Return on Networth Ratios of the Industry

COMPOSITE RETURN ON SHARE HOLDERS' FUND (NETWORTH) RATIO										
Composite Return on Networth Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are Return on Networth Ratio										
COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	2603.52	2968.56	2518.44	2494.76	2543.43	1682.85	2144.73	2625.25	686.60	130.49
LUPIN	676.76	1138.77	2731.56	2762.81	2510.27	2378.26	2290.79	1607.05	2327.26	2986.34
CIPLA	1365.52	1620.39	3048.57	2619.50	3602.01	2940.22	2331.62	2389.43	2728.25	2207.98
AUROBINDO PHARMA	108.16	203.99	657.42	640.28	261.54	765.04	672.44	-49.49	491.25	851.47
TORRENT PHARMA	328.61	728.16	1028.98	1124.18	1078.06	995.98	1125.87	1009.09	1400.04	2817.00
PIRAMAL ENTERPRISES	2839.78	1672.14	1428.63	1233.94	967.67	1234.35	3701.86	40.38	-75.58	-139.77
AJANTA PHARMA	86.61	111.39	134.05	156.35	165.79	191.40	254.17	288.51	334.88	727.65
GLENMARK PHARMA	967.96	923.35	719.10	940.83	443.64	195.34	289.49	328.12	414.48	404.63
DR. REDDY LAB	120.90	357.81	2259.36	829.97	897.57	1206.92	1255.46	1151.58	1379.63	1762.42
CADILA HEALTH	671.65	703.36	1456.96	1407.35	1507.90	2117.61	2990.08	2632.70	1753.09	2548.74
∑(wjRj)	9769.48	10427.91	15983.06	14209.97	13977.89	13707.95	17056.52	12022.62	11439.91	14296.95
∑ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	21.36	21.56	24.01	22.36	21.77	20.88	24.93	17.54	16.68	17.06
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

Appendix:- A-7
Return on Equity Ratios of the Industry

COMPOSITE RETURN ON EQUITY RATIO

Composite Current Ratio based on Weighted Mean where weight (wi) are paid up capital & (Ri) are Current Ratio

COMPANY NAME	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
SUN PHARMA	30571.00	46129.00	62893.00	101404.00	126529.00	89865.00	138380.00	169749.00	51655.00	-282852.00
LUPIN	8436.00	18272.00	30206.00	44338.00	41697.00	64893.00	80998.00	80437.00	126043.00	232422.00
CIPLA	40961.00	60764.00	66803.00	70143.00	77681.00	108149.00	96039.00	112396.00	150711.00	138834.00
AUROBINDO PHARMA	3508.00	6938.00	22908.00	29078.00	12854.00	52576.00	59380.00	-4261.00	49599.00	117209.00
TORRENT PHARMA	5292.00	6583.00	11296.00	15552.00	18673.00	20737.00	29086.00	31125.00	54642.00	76234.00
PIRAMAL ENTERPRISES	16957.00	17035.00	18828.00	30148.00	27532.00	44322.00	1289691.00	13072.00	-23156.00	-37000.00
AJANTA PHARMA	744.00	1035.00	1371.00	1779.00	2138.00	2854.00	4645.00	6649.00	10112.00	22086.00
GLENMARK PHARMA	6348.00	6730.00	13480.00	38902.00	21793.00	12846.00	21218.00	26530.00	38611.00	43382.00
DR. REDDY LAB	6546.00	21112.00	117686.00	47522.00	56090.00	84610.00	89340.00	91240.00	126550.00	193280.00
CADILA HEALTH	13140.00	16490.00	20470.00	23620.00	26590.00	50330.00	61040.00	65750.00	49860.00	90360.00
Σ(wjRj)	132503.00	201088.00	365941.00	402486.00	411577.00	531182.00	1869817.00	592687.00	634627.00	593955.00
Σ wj	457.37	483.78	665.59	635.65	642.08	656.43	684.21	685.45	685.78	837.95
	289.71	415.66	549.80	633.19	641.01	809.20	2732.81	864.67	925.41	708.82
	45.74	48.38	66.56	63.57	64.21	65.64	68.42	68.55	68.58	83.80

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