

## Efficiency Ratios of FMCG Sector of India for the Period from 2004-05 to 2013-14

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### ARTICLE DETAILS

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### ABSTRACT

In this research paper attempt have been made to analyses the efficiency of FMCG Sector of India for the period of 10 years by taking a sample of 16 companies listed on BSE or NSE. The financial data have been collected for the period of 10 years from 2004-2005 to 2013-2014 of 16 companies and found out 4 efficiency ratios-Debtors Turnover Ratio, Inventory Turnover Ratio, Assets Turnover Ratio, Fixed Assets Turnover Ratio. From all these ratios researcher have worked out composite ratios by using 'paid-up share capital' as weight and found out weighted mean of these ratios for 10 years. The researcher has used ratio analysis and various statistical techniques such as Average, Coefficient of correlation, Coefficient of Determination, Trend Analysis and Mann Kendal test. The study reveals that there was a speedy realization of cash from debtors. However, cost of collection from debtors increases during the year 2010-2011(25.40). Inventory Turnover ratio is maintained at the desired level. The Assets Turnover Ratio for the sector was 1.68 in the year 2004-2005 and reached to 2.05 in the 2013-2014. It indicates that there is efficient utilization of assets which resulted in to increase in sales during the study period. So we can say that there is effective and profitable utilization of assets in the sector. Fixed Assets Turnover has upward risen trend during the study period. It means there is efficient utilization of fixed assets in the business.

### 1. Introduction

Fast-moving consumer goods (FMCG) are products that are sold quickly and at relatively low cost. FMCG include non-durable goods such as soft drinks, toiletries, OTC drugs and many other consumables. FMCG have a short life, either as a result of high consumer demand or because the product deteriorates rapidly. FMCGs includes meat, fruits and vegetables, dairy products, and baked goods as well as alcohol, toiletries, pre-packaged foods, soft drinks, chocolate, candies, and cleaning products.

### 2. Indian scenario of FMCG sector

The FMCG segment is the fourth largest sector in the Indian economy. The market size of FMCG in India is estimated to grow from US\$ 31.6 billion in 2011 to US\$ 52.74 billion in 2018. At present the FMCG Sector is worth US\$ 13.1 billion. FMCG Sector in India include segments like cosmetics, toiletries, glassware, batteries, bulbs, pharmaceuticals, packaged food products, white goods, house care products, plastic goods, consumer non-durables, etc. The FMCG market is highly concentrated in the urban areas. The reason behind this is the rise in the income of the middle-income group and it is one of the major reason for the growth of the Indian FMCG market. There is increase in demand for Ayurved products so we can see significant growth of Patanjali Ayurveda with a revenue of US \$ 1.57 billion in 2017.

### 3. Literature Review

**Deloof (2003)** has selected 1009 firms over the 1992-96 periods. The expert has used ratio analysis and various statistical techniques like Correlation Analysis, Regression Analysis. The expert has found out a significant negative

relation between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian Firms.

**B.Kamurui (2012)** has conducted the study of 10 FMCG companies in India for a period of 10 years from 2000-01 to 2009-10. They have empirically investigated the effect of working capital management on the firm's profitability. Profitability has been measured in terms of ROA. Cash Conversion Cycle, (CCC), Interest Coverage Ratio (ICR), Age of Inventory (AI), Age of Creditors (AC), Age of Debtors (AD) and Debt-Equity Ratio (DER) has been used as explanatory variables. Pearson's correlation and pooled ordinary least squares regression analysis are used in the study. The study revealed that there is a strong negative relationship between the variables of the WCM and profitability of the firm.

**Ganesan (2012)** has undertaken studies on two public sector drug & pharmaceutical enterprises, namely KALP & RDPL. The study covers the period from 1998-99 to 2009-10. The researchers have used Ratio analysis and also various statistical tools like Mean, S.D., C.V. Linear Multiple Regression analysis & t-test. The study concluded that liquidity position was strong in case of both the companies thereby reflecting the ability of the companies to pay short-term obligations on the due date. Long term solvency ratio shows that companies relied more on external funds in terms of long term borrowings.

**Tandel (2013)** has conducted the study on Financial Analysis of Selected Plastics Manufacturing Industrial Units of Gujarat for the period 2000-01 to 2009-2010. The study focuses on various composite ratios relating to profitability,

liquidity, solvency and activity. The researcher has used various statistical tools such as Trend Analysis, Average, Weighted Average, ANOVA, etc. The study reveals that performance of the Plastics Manufacturing Unit of Gujarat is not satisfactory in terms of profitability and liquidity, but it is satisfactory in terms of activity and solvency.

#### 4. Research Methodology

##### 4.1 Research Statement

Efficiency Ratios of FMCG Sector of India for the period from 2004-05 to 2013-14.

##### 4.2 About The Research Problem

The present study emphasis on the Efficiency aspect of FMCG Sector of the India for a period from 2004-05 to 2013-14. One of the significant factors affecting the functioning of an industrial unit is the size of that unit. As far as financial analysis is concerned, one of the most important parameters of judging the size of a industrial unit is the paid –up share capital of that unit. Researcher have tried to innovate in analyzing the ratios by combining them with the paid-up capital, at respective point of time and working out composite ratios for ten years duration for the companies. Then such composite ratios have been used in carrying out trend analysis and comparative analysis through various tests of hypothesis.

##### 4.3 Research Design

The present study entitled “Efficiency Ratios of FMCG Sector of India for the period from 2004-05 to 2013-14” is an analytical, conclusion oriented and hypothesis testing type of research study.

##### 4.4 Objectives of the study

- To analyze and evaluate the turnovers of selected companies in particular and the FMCG sector in general.
- To study overall financial health of selected FMCG companies.

- To study the pattern of growth and development of FMCG sector of India.
- To make suggestions/comments about the functioning and development of FMCG sector of India.

##### 4.5 Nature And Sources Of Data

The present study is mainly based on secondary data. These data has been collected from annual reports of the selected companies from ACE Equity software. Other information has been collected from research publications, consultants' reports, other periodicals, journals, and websites of respective companies and other various documents of the companies.

##### 4.6 Period of study

The present study covers the period of ten years from 2004-05 to 2013-14.

##### 4.7 Sample Design

The sample has been selected by two stage sampling method. For selecting the first stage sample, convenient sampling method is used, whereas for selecting the second stage sample proportional stratified sampling is used.

##### 4.8 Population

The population consists of all the FMCG companies in India.

##### 4.9 Sampling Units And Sample Size

FMCG companies working in India are the sampling units for drawing the first stage sample, where as the companies listed on BSE or NSE or both are considered as the sampling units for drawing the second stage sample. For convenience, the size of the first stage sample is fixed at 76. Out of 76 total numbers of companies, researcher has selected 16 companies in a sample on the basis of average paid up share capital, classified all the units of population on the basis of size of the company.

#### CLASSIFICATION OF COMPANIES BASED ON DIFFERENT SIZES

Size of the company (On the basis of Average Paid up capital) Indian Rupees in Crores (Stratum)	No. of companies (Size of Strata)	No. of units to be selected from the Stratum
Small-cap (Less than 5 Crores)	24	5
Mid-cap (5 Crores or more but less than 30 Crores)	39	8
Large-cap (30 Crores or more)	13	3
<b>Total</b>	<b>76</b>	<b>16</b>

#### LIST OF SELECTED COMPANIES

Sr. no	Name of the company	Average Paid Up Share Capital (Indian Rupees in Crores)
1	Hindustan Unilever Ltd.	217.95
2	Colgate Palmolive (India) Ltd	50.32
3	Himalya International Ltd.	36.35
4	Godrej Consumer Products Ltd.	28.14
5	Britannia Industries Ltd.	23.90
6	Lotus Chocolate Company Ltd.	20.24
7	Modern Dairies	18.41
8	MFL India Ltd.	15.49
9	Emami Ltd.	14.48
10	Hind Industries Ltd.	8.96

11	Vadilal Industries	7.19
12	Milk Food Ltd.	4.89
13	Paramount Cosmetics (India) Ltd.	4.86
14	Madhur Industries Ltd.	4.09
15	Hipolin Ltd.	3.13
16	Pee CeeCosmaSope Ltd.	2.63

#### 4.10 Tools and techniques

**Accounting Technique:** Ratio analysis

**Statistical Technique:** Average (Mean  $\bar{X}$ ), Coefficient of correlation (r), Coefficient of Determination ( $R^2$ ), Trend Analysis, Mann Kendall Test

#### 5. Efficiency Ratios

Efficiency ratio measure the ability of a business to use its assets and liabilities to generate sales. A highly efficient

organization has minimized its net investment in assets, and so requires less capital and debt in order to remain in operation. In short, efficiency ratios show how efficiently the resources of the business are being used to generate revenue.

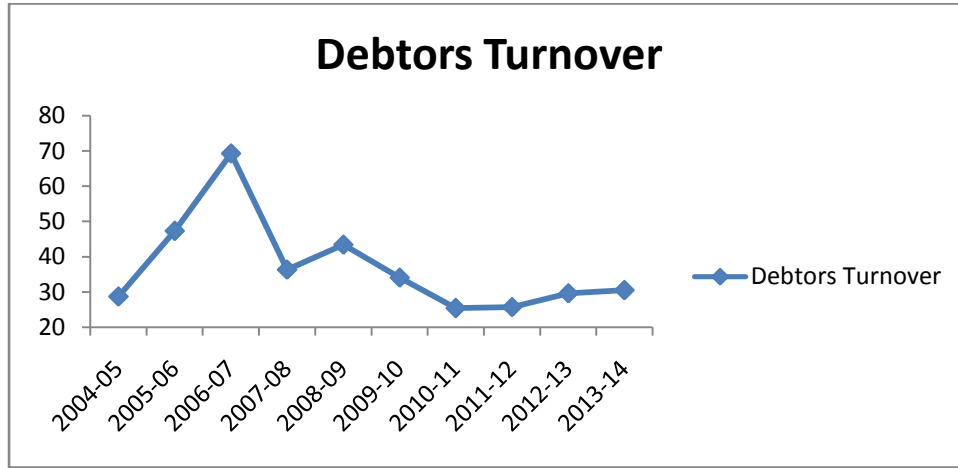
#### 5.1 Debtors Turnover Ratio

In this section composite Debtors Turnover ratios of the sector are obtained for the ten years period under study. These ratios are presented in the following table.

**Table No. 5.1**  
**Composite Debtors Turnover Ratio**

Composite Debtors Turnover Ratio based on weighted Mean where weight (Wi) are paid up capital and Ri are Debtors Turnover Ratio														
Name of the Companies	Year										Sum Wi	Sum WiRi	R̄	W̄
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Hindustan Unilever Ltd.	4992.412	5208.1338	5973.753	7250.942	9628.618	6577.826	5519.682	6177.567	7802.3	7748.9541	2179.45	66880.1883	30.6866994	217.95
Colgate Palmolive (India) Ltd.	5838.179	13898.485	2384.501	2282.048	2353.307	2634.398	761.81598	469.30149	536.61654	758.55222	503.172	53377.7164	106.082446	50.317
Himalya International Ltd.	54.18853	74.9088	82.84032	125.0899	128.4804	143.2545	188.11136	285.80624	396.32484	434.09	363.477	1913.09487	5.26331754	36.348
Godrej Consumer Products Ltd.	1483.051	2671.4614	2205.328	1885.312	2639.133	1857.153	1210.264	1068.2017	1191.7306	1119.916	281.368	17331.551	61.5974488	28.137
Britannia Industries Ltd.	1216.957	1333.062	2238.732	1668.717	1565.273	1837.619	2101.8422	2198.1189	2109.1011	2356.0579	239.02	18625.4787	77.9243524	23.902
Lotus Chocolate Company Ltd.	307.572	199.31475	163.9035	165.32	176.6516	201.9453	195.26775	183.3291	116.1489	126.06405	202.35	1835.51685	9.071	20.235
Modern Dairies Ltd.	110.3396	109.4604	99.96504	280.0182	424.6666	511.7957	639.56942	736.97645	584.20859	566.45575	184.075	4063.45576	22.0750007	18.408
MFL India Ltd.	26.41058	37.62312	4.30434	2.71014	24.12556	0	42.5049	110.60903	125.74121	127.90295	154.885	501.93183	3.24067424	15.489
Emami Ltd.	69.5887	104.5665	154.098	182.4577	216.8861	246.7866	225.60321	251.77984	315.48135	506.82401	144.769	2274.07199	15.70828	14.477
Hind Industries Ltd.	39.77796	34.0442	38.25493	35.74641	38.34452	42.37607	46.85557	36.82149	33.86502	28.48962	89.59	374.57579	4.181	8.959
Vadilal Industries	42.33732	44.85312	42.62484	38.67144	37.30572	44.06244	60.7386	71.73624	96.82236	167.55228	71.88	646.70436	8.997	7.188
Milk Food	117.3866	102.82925	135.9984	150.4092	168.044	268.4796	180.89155	243.4242	213.5463	232.9596	48.865	1813.9686	37.1220424	4.8865
Paramount Cosmetics (India) Ltd.	13.73965	12.5259	11.652	14.8563	15.58455	12.9143	17.1867	18.49755	19.6142	21.0707	48.55	157.64185	3.247	4.855
Madhur Industries Ltd.	10.2659	7.4847	0	195.2975	69.0801	22.5768	24.2537	16.2782	18.6095	21.1453	40.9	384.9917	9.413	4.09
Hipoline Ltd.	8.92335	13.4633	14.24605	12.74317	12.8371	11.45946	11.05243	12.17959	13.02496	14.55915	31.31	124.48856	3.976	3.131
Pee CeeCosmaSope Ltd.	36.516	41.028	53.916	69.696	110.784	85.5	59.784	198.39708	555.1436	430.15863	26.303	1640.92331	62.3854051	2.6303
SumWi	500.515	505.502	506.056	395.082	405.691	425.407	444.178	469.586	476.938	481.011	<b>4609.97</b>			
Sum WiRi	14367.65	23893.244	35064.63	14360.03	17609.12	14498.15	11285.423	12079.024	14128.279	14660.752		<b>171946.3</b>		
R̄	28.70572	47.266369	69.29002	36.34697	43.40526	34.08065	25.407434	25.722709	29.622884	30.479037			<b>37.2988217</b>	
W̄	31.28219	31.593875	31.6285	24.69263	25.35569	26.58794	27.761125	29.349125	29.808625	30.063188				

Chart No: 5.1  
The trend curve/line for the Debtors Turnover Ratios for the sector



To test the following H0 related to goodness of fit, the Mann-Kendall test is applied to test the following hypothesis.

**H0:** There is no trend in the series of the Composite Debtors Turnover Ratio of the sector.

**H1:** There is some trend in the series of the Composite Debtors Turnover Ratio of the sector.

Here, from the above chart we can clearly say that there is no trend in Debtors Turnover. We checked significance of Debtors Turnover using Mann-Kendall test and found that Mann Kendall Statistic is -15 with p-value 0.099, which is greater than the predefined significant level  $\alpha=0.05$ . So we can

say that there is no significance trend in Debtors Turnover. And we cannot fit any model on it.

**Conclusion:** From above table no. and chart no. 5.1, it becomes clear that no trend is found in Debtors Turnover Ratio of FMCG Sector of India during a study period. The highest ratio of 69.29 was observed in the year 2006-2007, which means that there was a speedy realization of cash from debtors.

**5.2 Inventory Turnover Ratio**

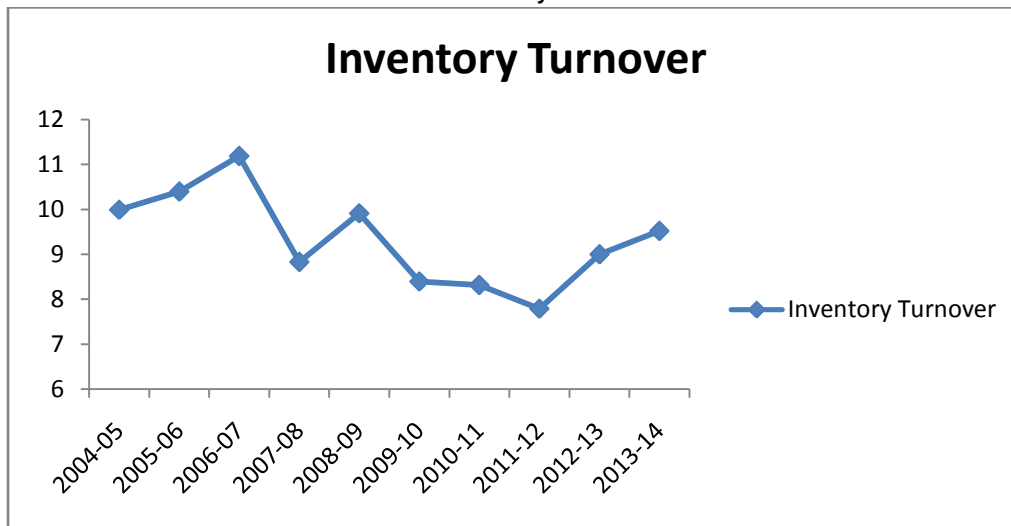
In this section composite Inventory Turnover ratios of the sector are obtained for the ten years period under study. These ratios are presented in the following table.

Table No. 5.2  
Composite Inventory Turnover Ratio

Composite Inventory Turnover Ratio based on weighted Mean where weight (Wi) are paid up capital and Ri are Inventory Turnover Ratio														
Name of the Companies	Year										Sum Wi	Sum WiRi	R̄	W̄
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Hindustan Unilever Ltd.	1675.144	1888.6639	2005.963	1831.244	2105.783	1688.636	1785.9065	1880.505	2339.825	2424.3867	2179.45	19626.0568	9.00504202	217.95
Colgate Palmolive (India) Ltd.	2143.25	2224.8455	2435.635	270.8921	302.5778	285.307	245.32596	205.48089	224.3835	250.90155	503.172	8588.59854	17.0689119	50.317
Himalya International Ltd.	37.20153	65.87568	87.46704	142.0978	131.6563	144.0661	193.65888	126.45384	132.62232	156.9	363.477	1217.99947	3.3509671	36.348
Godrej Consumer Products Ltd.	222.118	193.31904	175.4777	147.0218	199.1363	270.5908	348.1936	285.5117	266.1146	284.234	281.368	2391.71755	8.50031827	28.137
Britannia Industries Ltd.	301.014	271.8682	276.6462	242.0057	270.4348	313.6757	350.9441	346.6439	381.8427	441.416	239.02	3196.4913	13.3733215	23.902
Lotus Chocolate Company Ltd.	207.6111	201.5406	237.3566	209.6346	197.2913	162.0824	92.06925	131.32515	207.00405	269.1255	202.35	1915.0404	9.464	20.235
Modern Dairies Ltd.	86.42536	93.72272	86.07368	189.1351	271.4316	312.3098	292.68827	257.64977	216.53793	194.58047	184.075	2000.55471	10.86815	18.408
MFL India Ltd.	9.19322	9.14008		63.55544	166.0094						154.885	247.8981	1.60053007	15.489
Emami Ltd.	81.4518	102.4874	163.1482	179.1019	162.1985	200.6371	184.29558	185.05213	226.81369	317.07709	144.769	1802.26329	12.4492349	14.477
Hind Industries Ltd.	76.33068	49.18491	44.97418	48.10983	48.64737	40.67386	37.26944	33.1483	33.23789	30.90855	89.59	442.48501	4.939	8.959
Vadilal Industries	41.54664	46.07508	40.89972	34.5024	31.33968	29.32704	30.47712	33.4242	30.69276	28.68012	71.88	346.96476	4.827	7.188
Milk Food	43.1834	37.4191	44.50235	50.2178	34.34155	34.92775	31.89905	23.9121	20.9292	26.895	48.865	348.2273	7.12631331	4.8865
Paramount Cosmetics (India )	16.6041	14.71065	12.3317	12.7201	14.6621	17.0896	23.15835	22.9156	20.82795	17.62365	48.55	172.6438	3.556	4.855

Ltd.														
Madhur Industries Ltd.	30.0206	12.5154		13.5788	7.5665	6.0532	20.0819	25.2353	30.7159	33.6607	40.9	179.4283	4.387	4.09
Hipoline Ltd.	16.37513	29.18092	36.13174	39.60715	59.67686	53.35224	44.7733	59.58293	60.24044	56.10752	31.31	455.02823	14.533	3.131
Pee CeeCosmaSope Ltd.	11.88	12.504	13.092	13.092	17.868	12.864	11.868	41.38344	99.17512	44.53812	26.303	278.26468	10.5791993	2.6303
SumWi	500.515	505.502	506.056	395.082	405.691	425.407	444.178	469.586	476.938	481.011	4609.97			
Sum WiRi	4999.349	5253.0532	5659.699	3486.516	4020.621	3571.592	3692.6093	3658.2243	4290.9631	4577.035		43209.6623		
$\bar{R}$	9.98841	10.391755	11.18394	8.824792	9.910551	8.395707	8.3133548	7.790318	8.9968991	9.5154476			9.37309782	
$\bar{W}$	31.28219	31.593875	31.6285	24.69263	25.35569	26.58794	27.761125	29.349125	29.808625	30.063188				

Chart No: 5.2  
The trend curve/line for the Inventory Turnover Ratios for the sector



To test the following H0 related to goodness of fit, the Mann-Kendall test is applied to test the following hypothesis.

**H0:** There is no trend in the series of the Composite Inventory Turnover Ratio of the sector.

**H1:** There is some trend in the series of the Composite Inventory Turnover Ratio of the sector.

Here, from the above chart we can clearly say that there is no trend in Inventory Turnover. We checked significance of Inventory Turnover using Mann-Kendall test and found that Mann Kendall Statistic is -19 with p-value 0.049, which is less than the predefined significant level  $\alpha=0.05$ . So we can say that there is a significant trend in Inventory Turnover. And we can try to fit any model on it. From fitted linear regression line the  $R^2$  value is 0.351, and p-value is 0.071, from which we can say that the model is insignificant. So, we try to fit 2<sup>nd</sup> degree polynomial equation in the series and get  $R^2$  value is 0.463, and p-value is 0.113, from which we conclude that the

2<sup>nd</sup> degree polynomial equation is also insignificant. So we cannot estimate the Inventory Turnover.

**Conclusion:** From the table no. and chart no.5.2, it becomes clear that no trend is found in the Inventory Turnover Ratio of FMCG Sector of India during a study period. The highest Inventory Turnover Ratio (11.18) is found in 2006-07 and lowest (7.79) in 2011-12, which indicates that there is slow moving of stock in year 2011-12. In the beginning of the study period, it was 9.98 and at the end of the decade, it was 9.52. During the decade from 2004-2005 to 2013-2014, Inventory Turnover Ratio of the Sector is 9.37, which reveals that Inventory Turnover ratio is maintained at the desired level.

**5.3 Assets Turnover Ratio:**

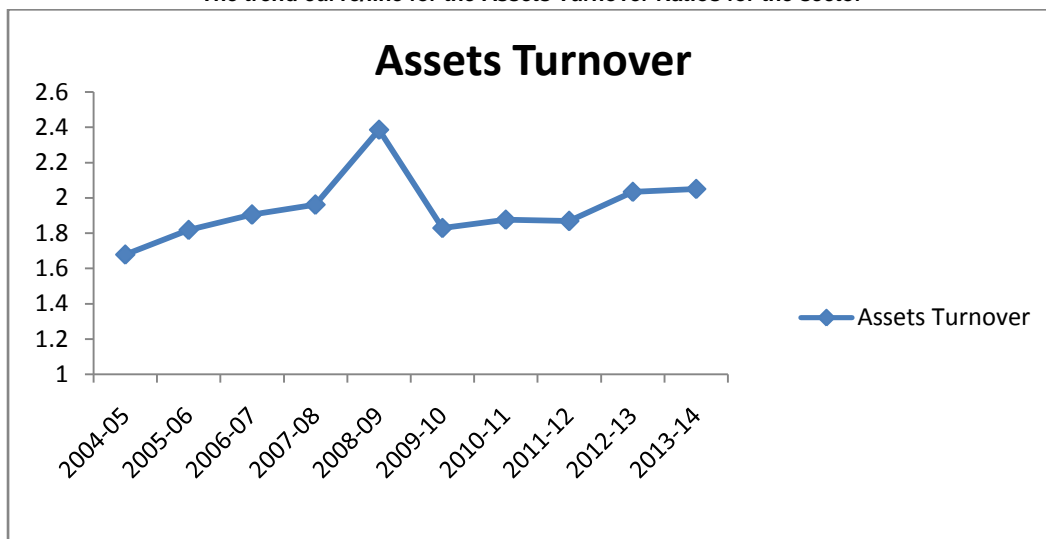
In this section composite Assets Turnover ratios of the sector are obtained for the ten years period under study. These ratios are presented in the following table. These ratios are presented in the following table.

Table No. 5.3  
Composite Assets Turnover Ratio

Composite Assets Turnover Ratio based on weighted Mean where weight (Wi) are paid up capital and Ri are Assets Turnover Ratio														
Name of the Companies	Year										Sum Wi	Sum WiRi	$\bar{R}$	$\bar{W}$
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Hindustan Unilever	330.1	396.2	430.3	474.6	653.9	464.7	468.6	484.1	534.1	529.8	2179	4766.8	2.1871	217

Ltd.	86	232	221	863	7	021	115	76	375	615	.45	7618	9026	.95
<b>Colgate Palmolive (India) Ltd.</b>	265.1 864	280.1 4558	289.6 651	31.27 77	33.45 354	28.01 394	24.34 221	24.47 82	24.75 018	23.52 627	503. 172	1024.8 3906	2.0367 5693	50. 317
<b>Himalya International Ltd.</b>	7.814 02	11.45 664	13.43 952	19.75 104	17.90 064	19.88 518	20.17 28	19.01 948	25.18 796	27.19 6	363. 477	181.82 328	0.5002 3325	36. 348
<b>Godrej Consumer Products Ltd.</b>	69.51 094	68.65 536	51.03 984	40.65 12	40.34 115	38.83 194	46.92 2	35.73 15	31.30 76	29.61 48	281. 368	452.60 633	1.6085 9206	28. 137
<b>Britannia Industries Ltd.</b>	53.27 47	53.75 25	61.39 73	58.29 16	60.44 17	63.06 96	72.62 56	76.20 91	81.29 4	87.32 36	239. 02	667.67 97	2.7934 0515	23. 902
<b>Lotus Chocolate Company Ltd.</b>	38.24 415	41.88 645	45.93 345	47.95 695	51.19 455	48.96 87	39.86 295	49.57 575	46.33 815	54.63 45	202. 35	464.59 56	2.296	20. 235
<b>Modern Dairies Ltd.</b>	19.07 864	13.89 136	12.92 424	40.00 26	56.76 237	59.09 827	63.77 007	68.20 828	72.64 649	71.94 572	184. 075	478.32 804	2.5985 4972	18. 408
<b>MFL India Ltd.</b>	2.550 72	2.763 28	0.797 1	0.637 68	1.913 04	1.381 64	39.96 952	54.04 35	63.41 104	72.41 829	154. 885	239.88 581	1.5487 995	15. 489
<b>Emami Ltd.</b>	7.704 9	9.539 4	17.12 2	18.64 35	13.54 761	15.28 231	16.34 148	17.55 196	20.88 078	32.68 368	144. 769	169.29 762	1.1694 3282	14. 477
<b>Hind Industries Ltd.</b>	8.600 64	6.988 02	7.256 79	7.346 38	7.794 33	8.242 28	8.869 41	8.063 1	8.600 64	8.331 87	89.5 9	80.093 46	0.894	8.9 59
<b>Vadilal Industries</b>	9.560 04	10.35 072	9.560 04	8.481 84	8.050 56	8.338 08	8.266 2	7.403 64	6.900 48	7.331 76	71.8 8	84.243 36	1.172	7.1 88
<b>Milk Food</b>	14.11 765	10.45 39	11.62 63	10.69 815	7.425 2	8.890 7	8.597 6	8.166 3	8.117 4	9.926 7	48.8 65	98.019 9	2.0059 3267	4.8 865
<b>Paramount Cosmetics (India) Ltd.</b>	6.117 3	4.223 85	2.913	3.252 85	3.738 35	4.126 75	4.806 45	4.369 5	4.515 15	4.223 85	48.5 5	42.287 05	0.871	4.8 55
<b>Madhur Industries Ltd.</b>	2.372 2	1.308 8	2.781 2	6.257 7	2.863	1.431 5	2.822 1	3.599 2	4.703 5	5.726	40.9	33.865 2	0.828	4.0 9
<b>Hipoline Ltd.</b>	2.849 21	4.790 43	4.790 43	4.633 88	5.792 35	5.479 25	5.103 53	5.761 04	5.635 8	5.667 11	31.3 1	50.503 03	1.613	3.1 31
<b>Pee CeeCosmaSope Ltd.</b>	3.132	2.592	2.124	2.064	2.988	2.28	2.28	10.95 444	31.41 204	15.70 668	26.3 03	75.533 16	2.8716 557	2.6 303
<b>SumWi</b>	500.5 15	505.5 02	506.0 56	395.0 82	405.6 91	425.4 07	444.1 78	469.5 86	476.9 38	481.0 11	<b>4609</b> <b>.97</b>			
<b>Sum WiRi</b>	840.2 995	919.0 2149	963.6 924	774.6 334	968.1 764	778.0 222	833.3 6342	877.3 1099	969.8 3871	986.1 1833		<b>8910.4</b> <b>7678</b>		
<b>R</b>	1.678 87	1.818 0373	1.904 32	1.960 69	2.386 487	1.828 889	1.876 1925	1.868 2648	2.033 4692	2.050 0952			<b>1.9328</b> <b>7256</b>	
<b>W</b>	31.28 219	31.59 3875	31.62 85	24.69 263	25.35 569	26.58 794	27.76 1125	29.34 9125	29.80 8625	30.06 3188				

Chart No: 5.3  
The trend curve/line for the Assets Turnover Ratios for the sector



To test the following H0 related to goodness of fit, the Mann-Kendall test is applied to test the following hypothesis.

**H0:** There is no trend in the series of the Composite Assets Turnover Ratio of the sector.

**H1:** There is some trend in the series of the Composite Assets Turnover Ratio of the sector.

Here, from the above chart we can clearly say that there is a trend in Assets Turnover. We checked significance of Assets Turnover using Mann-Kendall test and found that Mann

Kendall Statistic is 21 with p-value 0.033, which is less than predefined significant level  $\alpha=0.05$ . So we can say that there is no significance trend in Assets Turnover. And we can try to fit any model on it. From fitted linear regression line the  $R^2$  value is 0.1380, and p-value is 0.290, from which we can say that the model is insignificant. Therefore, we try to fit 2<sup>nd</sup> degree polynomial equation in the series and get  $R^2$  value is 0.237, and p-value is 0.387, from which we conclude that the 2<sup>nd</sup> degree polynomial equation is also insignificant. So here we cannot estimate the Asset Turn over.

**Conclusion:** From table no. and chart no.5.3, we can say that there is rising trend in Assets Turnover ratio. The Assets

Turnover Ratio for the sector for the decade is 1.932. It was 1.68 in the year 2004-2005 and reached to the 2.05 in the 2013-2014. The study also reveal that there is consistent improvement in Total assets Turnover Ratio during the study period, which indicates that there is efficient utilization of assets.

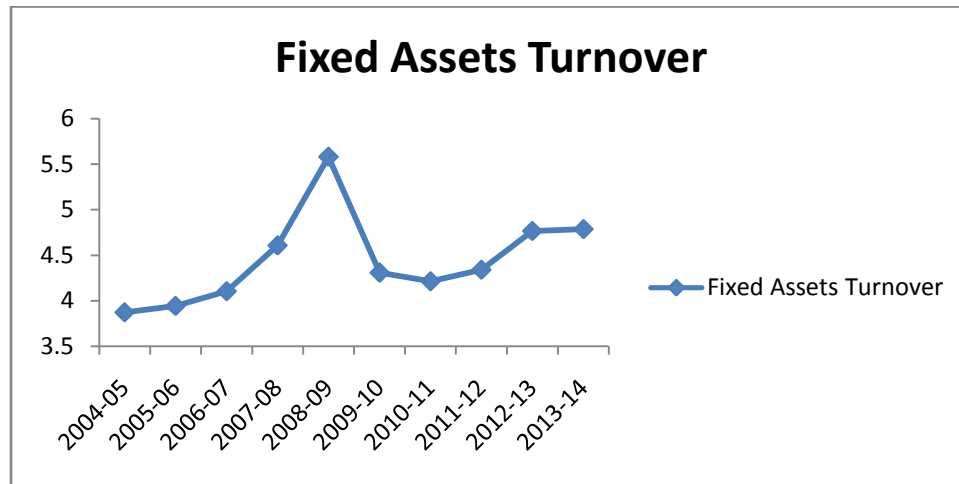
**5.4 Fixed Assets Turnover Ratio**

In this section composite Fixed Assets Turnover ratios of the sector are obtained for the ten years period under study. These ratios are presented in the following table. These ratios are presented in the following table.

**Table No : 5.4  
Composite Fixed Assets Turnover Ratio**

Composite Fixed Assets Turnover Ratio based on weighted Mean where weight (Wi) are paid up capital and Ri are Fixed Assets Turnover Ratio														
Name of the Companies	Year										Sum Wi	Sum WiRi	R̄	W̄
		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Hindustan Unilever Ltd.	1076.406	1124.8336	1189.454	1247.685	1700.322	1230.479	1213.639	1322.838	1485.6375	1490.1003	2179.45	13081.3946	6.00214852	217.95
Colgate Palmolive (India) Ltd.	451.4968	454.21662	462.3762	49.09239	54.66798	57.38778	58.20372	63.9153	70.30683	61.87545	503.172	2004-05	3.54459117	50.317
Himalya International Ltd.	9.68259	14.10048	16.96464	29.35224	27.4284	34.08888	50.432	53.9742	51.91804	48.639	363.477	336.58047	0.92600211	36.348
Godrej Consumer Products Ltd.	78.1149	92.14272	89.43264	81.52824	109.2038	147.623	95.1384	71.8033	85.7556	94.6312	281.368	945.37376	3.35991925	28.137
Britannia Industries Ltd.	147.4013	153.6127	156.4795	147.8791	155.7628	154.5683	178.2194	189.2088	186.498	178.7255	239.02	1648.3554	6.89630742	23.902
Lotus Chocolate Company Ltd.	24.48435	28.7337	32.17365	32.7807	34.8042	37.6371	46.5405	64.3473	51.8016	57.8721	202.35	411.1752	2.032	20.235
Modern Dairies Ltd.	31.38744	30.24448	23.38672	65.2674	82.92445	73.34726	77.78547	82.69086	97.17344	103.94755	184.075	668.15507	3.62979802	18.408
MFL India Ltd.	8.44926	10.46858	4.5169	2.3913	4.88888	3.13526	49.2162	70.97713	86.4696	119.61628	154.885	360.12939	2.32514052	15.489
Emami Ltd.	8.6833	11.7408	32.5318	83.52288	22.62078	20.72947	23.75567	26.17663	28.59759	40.8546	144.769	299.21352	2.0668342	14.477
Hind Industries Ltd.	16.03661	13.70727	14.69276	15.67825	18.72431	18.99308	20.69529	20.78488	22.3975	23.11422	89.59	184.82417	2.063	8.959
Vadilal Industries	14.51976	14.87916	14.376	13.2978	12.14772	14.16036	13.80096	9.63192	8.19432	8.48184	71.88	123.48984	1.718	7.188
Milk Food	21.8848	17.8791	17.2929	14.4596	10.20965	13.0918	12.74985	12.1761	12.3228	14.3766	48.865	146.4432	2.99689348	4.8865
Paramount Cosmetics (India) Ltd.	33.25675	11.60345	5.87455	5.9231	6.6028	8.1564	11.7491	11.79765	12.08895	12.0404	48.55	119.09315	2.453	4.855
Madhur Industries Ltd.	5.8078	2.863	5.4806	16.8508	7.0348	2.045	3.7628	5.1125	6.6258	7.7301	40.9	63.3132	1.548	4.09
Hipoline Ltd.	4.85305	7.63964	7.07606	7.01344	11.5847	13.11889	11.30291	15.43583	18.62945	16.37513	31.31	113.0291	3.61	3.131
Pee CeeCosmaSope Ltd.	5.952	4.668	5.328	7.872	5.064	3.408	4.944	17.35776	48.10586	23.99034	26.303	126.68996	4.81655933	2.6303
SumWi	500.515	505.502	506.056	395.082	405.691	425.407	444.178	469.586	476.938	481.011	4609.97			
Sum WiRi	1938.417	1993.3333	2077.437	1820.594	2263.991	1831.969	1871.9353	2038.2282	2272.5229	2302.3706		20410.7991		
R̄	3.872845	3.9432749	4.105153	4.608142	5.58058	4.306392	4.2143809	4.340479	4.7648182	4.7865238			4.42753787	
W̄	31.28219	31.593875	31.6285	24.69263	25.35569	26.58794	27.761125	29.349125	29.808625	30.063188				

Chart No: 5.4  
The trend curve/line for the Fixed Assets Turnover Ratios for the sector



To test the following H0 related to goodness of fit, the Mann-Kendall test is applied to test the following hypothesis.

**H0:** There is no trend in the series of Composite Fixed Assets Turnover Ratio of the sector.

**H1:** There is some trend in the series of Composite Fixed Assets Turnover Ratio of the sector.

Here, from the above chart we can clearly say that there is a trend in Fixed Assets Turnover. We checked significance of Fixed Assets Turnover using Mann-Kendall test and found that Mann Kendall Statistic is 27 with p-value 0.007, which is less than the predefined significant level  $\alpha=0.05$ . So we can say that there is no significance trend in Fixed Assets Turnover. And we can try to fit any model on it. From fitted linear regression line the  $R^2$  value is 0.211, and p-value is 0.188, from which we can say that the model is insignificant. Therefore, we try to fit 2<sup>nd</sup> degree polynomial equation in the series and get  $R^2$  value is 0.296, and p-value is 0.292, from which we conclude that the 2<sup>nd</sup> degree polynomial equation is also insignificant. So here we cannot estimate the Fixed Asset Turnover.

**Conclusion:** From table no. and chart no.5.4, it becomes clear that there is an upward trend in Fixed Assets Turnover Ratio. The Fixed Assets Turnover ratio for the sector for the decade is 4.43. The Fixed Assets Turnover ratio has remained at the desired level except during the two years of beginning of the study period.. In the beginning of the decade, it was 3.87

and it reached to the 4.78 in the year 2013-2014. It means there is efficient utilization of fixed assets in the business.

## 6. Findings of the study

From the above study, we can find that the highest Debtors Turnover ratio of 69.29 was observed in the year 2006-2007, which means that there was a speedy realization of cash from debtors. However, in the year 2010-2011, it was 25.40, which indicate that cost of collection from debtors increases during this period. It may also be found that the Inventory Turnover ratio is highest (11.18) in 2006-07 and lowest (7.79) in 2011-12. It means there is slow moving of stock in year 2011-12. In the year 2004-05, it was 9.98 and at the end of the study period, it was 9.52. During the study period from 2004-2005 to 2013-2014, Inventory Turnover Ratio of the Sector is 9.37. So we say that Inventory Turnover ratio is maintained at the desired level. The Assets Turnover Ratio for the sector for the decade is 1.932. It was 1.68 in the year 2004-2005 and reached to 2.05 in the 2013-2014. It may be noted that there is consistent improvement in Total assets Turnover Ratio during the study period, which resulted into efficient utilization of assets which ultimately resulted in to increase in sales during the study period. So we can say that there is efficient and profitable utilization of assets in the sector. Fixed Assets Turnover has upward risen trend during the decade of the study period. It means there is efficient utilization of fixed assets in the business which ultimately resulted into increase in sales during the study period.

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#### Abbreviation:

- AC – Age of Creditors
- AD – Age of Debtors
- AI – Age of Inventory
- ANOVA – Analysis of Variance
- CCC – Cash Conversion Cycle
- CV – Coefficient of variation
- DER – Debt Equity Ratio
- FMCG – Fast Moving Consumer Goods
- ICR – Interest Coverage Ratio
- OTC – Over the Counter
- ROA – Return on Assets
- SD – Standard Deviation
- WCM – Working Capital Management