

Corporate Performance Analysis Across Financial, Economic & Social Dimensions: A Study on Pharmaceutical sector in India

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Abstract:

In recent years, the performance of a company is evaluated across either financial or social performance. However, an attempt is made through this research to include economic performance along with financial and social performance and evaluate a company's performance on the basis of their composite score. For the purpose of the study, Indian Pharmaceutical sector, being a significant contributor to the country's GDP and employment generation was selected as the sample sector. The financial performance was measured using Return on Net Worth, economic performance was measured using the Value-Added Income generation ability and Employment generation ability and social performance was measured using CSR expenditure to Net Sales. The study was conducted over a period of seven years from 2015-16 to 2021-22. The statistical tools used for analysis in SPSS included Median and Spearman's Correlation. The methodology used for scoring and ranking companies in a sector is similar to the methodology used for computation of Human Development Index by United Nations Development Programme (UNDP). The study concluded that companies in the pharmaceutical sector which maximizes the wealth of the shareholders does fulfil the economy's priorities in terms of its contribution to the GDP but may not generate employment in the economy. However, high degree of association between the economic performance indicators show that companies which maximize the wealth of the economy also does have high employment generation ability. Further, the study concludes that although the composite performance of the pharmaceutical sector showed an upward trend from 2015-16 to 2018-19, there was a slight deterioration in the average performance score of the sector.

Keywords: Composite Performance, Economic performance, Value Added Income.

1. Introduction

Traditionally, the performance of an enterprise has been evaluated only from the perspective of the shareholders with the objective of shareholders' wealth maximization. However, over time there has been a paradigm shift from entity theory to enterprise theory, from shareholder theory to stakeholder capitalism. It has been realized over the years that it is not only the financial capital which is employed in a business.

A business enterprise employs human capital, social capital and various other types of capital as well in generating wealth. Since it employs various types of capital, it becomes accountable not only to the financial capital providers i.e. shareholders but also other stakeholders who contribute in the process of generating wealth in the economy. This has led to the growing importance of social performance as compared to financial performance of a company. However, a company which makes use of a variety of resources available in an economy, the importance of economic performance of the company cannot be ignored. A company, an economic entity, which intends to maximize shareholders' wealth, is expected to achieve it by considering not only the society's well being but also fulfilling the priorities of the economy in which it operates. Although, the concept of corporate sustainability which rests on three pillars i.e. economic, social and environmental performance has been gaining more and more of importance over time, the term 'economic performance' has not received due consideration in its true sense in the existing literature.

The wealth generated by a country is determined by its Gross Value Added but this concept of gross value addition made by a company is not considered while evaluating the performance of companies which operate within that country. A company which draws its input from the economy is expected to contribute towards the economic development of that country. This brings about the importance of evaluating the economic performance of an entity separate from its financial performance since it is the responsibility of a company not only to generate wealth for its shareholders but also fulfil the priorities of the economy as measured by its economic performance. The value-added income i.e. the wealth generated by a company is a result of the contribution made by shareholders, debt providers, government and employees. In the context of Indian economy, it is a company's contribution to Gross Domestic Product and employment generation that is of utmost importance. Hence, the economic performance of an entity, an economic unit, should be assessed on the basis of its value-added income generation ability (hereafter, VAI-GA) and employment generation ability (hereafter, EGA).

The literature relating to economic performance of a company and the use of value-added income as a measure of economic performance may be reviewed in the following section.

2. Literature Review

A review of the related literature has been made below:

The relationship between corporate social responsiveness and economic performance was examined in a study conducted by **Arlow and Gannon (1982)** and the relationship between the two was found to be inconclusive.

In a study conducted by **Balabanis and et al. (1998)**, it was found that there does exist a relationship between economic performance and CSR performance of British companies, although the relationship was found to be weak and also lacked an overall consistency. The sample was composed of 56 large UK companies. In the study, the term economic performance included both financial and capital market performance. The measures of financial performance included Return on capital employed, return on equity and gross profit to sales ratio were taken as measures of financial performance whereas systematic risk and excess market valuation as capital market performance measures.

From a study conducted by **Burhan and Rahmanti (2012)**, the relationship between each of the elements of sustainability reporting and company performance was examined. Return on assets was taken as a measure of economic performance. The study was conducted on 32 companies listed on Indonesian stock exchange and the period under study was 2006-09. The study concluded that the company performance was influenced by social performance disclosure only.

The research work conducted by **Fernandes and Monte (2012)** on top Portuguese companies revealed that the companies which had better social performance were not the ones which had better economic performance as well. The three accounting based measures to measure economic and financial performance were Return on Equity, Return on assets and Return on Sales.

Blajer-Golebiewska (2014), in his paper titled, 'Corporate Reputation & Economic Performance: The evidence from Poland', found weak correlation between corporate reputation and economic performance. The measures of economic performance included net profit, net profit per share, gross profit, return on assets and return on equity.

From the above literature review, it can be observed that the existing literature fails to make a distinction between economic and financial performance as the measures used to measure these were the same.

A review of the existing literature shows the origin of the concept of value added in macro economics where it was used in the computation of national income. However, this concept was linked with accounting for the first time by **Suojanen (1952)** and was introduced in the area of corporate reporting since the publication of 'The Corporate Report' in UK.

The following literature relates to the use of value added income as a measure of performance.

Value added data was provided by a significant number of companies in Netherlands, France and Germany provided as reflected in a study by **Gray and Maunders (1980)**. It was noted by **Sahoo and Pramanik (2017)** that there were 113 growing instances of VASs published by companies in countries such as Denmark, Switzerland and Italy.

Value added information was used extensively for a long time in public company reporting and professional financial analysis in France.

Mandal and Goswami (2008) recommended the standardization of the way in which value added income is measured in value added statement. Value added statement although was found to be an important part of social accounting and reporting suffered from the problem of comparability due to inconsistency observed in measuring value added income. The authors also established the superiority of value added data over profitability as it reflects the wealth created by a firm and also shows the way in which it is distributed to different stakeholders.

Aruva (2009) examined the significance of value added statement disclosures in the context of social reporting in Nigeria where companies quoted were statutorily publishing value added reports. The study was conducted on a sample of three companies from each of the four industries i.e. beverage industry, banking industry, petroleum industry and building over a period of five years i.e. 2004-2008. It was found that although the stakeholders considered the value added statement to be reliable, complete and objective, it was less used because of its low informational content. The study also revealed using Pearson correlation coefficient that all the value added ratios (Value added per Employee, Employment Cost per Employee,

Value Added per Employment Costs, and Value Added per Investment in fixed assets) were positively correlated to each other but were found to be negatively correlated with the value added per rupee of sales **Lieberman & Kang (2008)** used the concept of value added for measuring the productivity of a company for higher productivity means more of wealth generated. To assess the performance of a firm, profit cannot be the sole measure especially for young and growing companies, its economic contribution should be assessed. High profitability might be achieved even by an inefficient firm if it has access to low-cost labor, capital or materials. Alternatively, if the input costs of a firm greatly exceed those of its competitors, it may suffer financial losses even after having high productivity. This study was conducted on Pohang Iron and Steel corporation (POSCO), Korean Company. The authors made a comparative study of POSCO with Nippon Steel and USX, the largest steel producers in Japan and US respectively.

Mahadevappa and Yogesha (2014) suggested the users of accounting to use value added information for the purpose of decision making. The various ratios were calculated and analyzed for the sample company Indian Oil Corporation Ltd. for the period 2004-05 to 2011-12

Sahoo and Pramanik (2017) recommended for an accounting standard to be in place for the standardized presentation of data in VAS so that it can be used for both inter-firm and intra-firm comparison. It was further suggested for stock exchanges to amend their listing agreements wherein VAS would become mandatory to publish.

The above literature review clearly shows that although the concept of value-added income has been used as a measure of efficiency and productivity of a company worldwide, due to its voluntary disclosure in the form of Value Added Statement in India lacks standardization and usage for evaluation of performance of a corporate entity. However, the concept has been internationally recognized in the Global Reporting Initiative Standard 201 as a measure of economic performance.

This study, thereby, with the following objectives aims to use the concept of value-added income to measure the economic performance of select companies in India separate from financial performance.

3. Objectives

- To evaluate financial and economic performance of select companies in India and make inter-firm comparison.
- To find out the association between financial and economic performance measures.
- To evaluate the performance of select companies across financial, economic and social dimensions and rank the companies on the basis of their performance score.

4. Research Methodology

The research design was quantitative in nature. The type of data used for analysis was secondary in nature and was extracted from the Centre for Monitoring Indian Economy's Prowess IQ Database.

The sample sector selected was pharmaceutical sector, the contribution of which to the country's GDP is around 1.72% (as per IBEF). The sector, being the third largest in the world in terms of volume and fourteenth largest in terms of value is known as 'Pharmacy of the world'. Realizing the importance of the pharmaceutical sector as a significant contributor to the country's GDP and employment generation, the

sector was selected as the sample sector. The sample comprised of companies listed on NIFTY Pharmaceutical Index. The following were the twelve companies listed on the index:

Table 1: Sample Companies

Serial no.	Company Name
1	Alkem Laboratories Ltd.
2	Aurobindo Pharma Ltd.
3	Biocon Ltd.
4	Cipla Ltd.
5	Divi'S Laboratories Ltd.
6	Dr. Reddy'S Laboratories Ltd.
7	Glaxosmithkline Pharmaceuticals Ltd.
8	Lupin Ltd.
9	Sanofi India Ltd.
10	Sun Pharmaceutical Inds. Ltd.
11	Torrent Pharmaceuticals Ltd.
12	Zydus Lifesciences Ltd.

The time period selected was past 7 years i.e. from 2015-16 to 2021-22. To evaluate the financial performance, return on Net Worth (hereafter, RONW) was taken as a measure. The ratio RONW was directly extracted from the database wherein it was calculated as:

Profit after Tax (hereafter, PAT), net of prior period and extra-ordinary transactions/Net worth.

For economic performance measurement, Value Added Income Generation Ability (hereafter, VAI-GA) and Employment Generation ability (EGA) were taken as measures of performance. The VAI-GA of a company was determined as:

Value Added Income/Capital employed thereby indicating the amount of wealth generated for one rupee of capital employed by a company.

Value added income was calculated using the distribution side of it as suggested by the ASSC:

Compensation to employees + Taxes + Interest + PAT

Capital employed is the sum of total shareholders' funds and total borrowings. This is the total funds deployed into the business by owners of equity and preference capital and from lenders. This measure was directly extracted from the database.

The EGA of a company was determined as:

No. of Employees/Capital employed thereby indicating employment generated for one rupee of capital employed by a company.

For all these three indicators, median was taken as a measure of statistical average and then on the basis of this average, companies were ranked. To find out association between the financial and economic performance indicators, Spearman's rank correlation was calculated using Statistical Package for Social

Sciences (SPSS). Spearman's rank correlation coefficient was calculated to measure the strength and direction of association between the two ranked variables.

The methodology used for scoring and ranking companies in a sector is similar to the methodology used for computation of Human Development Index by United Nations Development Programme (UNDP):

Step 1: Normalization of parameters using min-max method

The performance score arrived at for each company is an aggregate of score on the four parameters. Since every parameter has different units, these cannot be aggregated directly. Thus, every parameter is first normalized using min-max method:

$X_i (\text{Normalized}) = [X_i - X(\min)] / [X(\max) - X(\min)] * 100$ where, X_i is the value for a particular parameter $X(\min)$ is the minimum value for a particular parameter across all companies in the sector $X(\max)$ is the maximum value for a particular parameter across all companies in the sector. With the help of normalization, data on each parameter is converted into numbers between 0 and 100, where 100 depicts the best performer and 0 depicts the worst performer.

Step 2: Aggregation using Displaced ideal method thereby calculating score

The normalised values of each parameter as referred to as parameter indices which are free of units and dimensions are then aggregated using Displaced ideal method. The three dimension indices i.e. Financial, economic and social performance may be represented in three dimensional space with 0 as the minimum value and 100 as the maximum value for each of the three dimensions. The performance score is measured as the inverse of the Euclidean distance from the ideal point (100,100, 100). Euclidean Distance Method is used to calculate the distance between any two points in an n-dimensional space.

$$\text{Performance Score} = 100 - \sqrt{[(100 - FPI)^2 + (100 - EPI)^2 + (100 - SPI)^2]} / \sqrt{3}$$

In the above formula, the numerator of the second component is the Euclidean distance of the company 'i' from the ideal point (100, 100, 100). It is normalized to make the value lie between 0 and 100, and the inverse distance is considered so that the higher value corresponds to better corporate performance. All the intuitive properties of an index are satisfied in this aggregation method as opposed to the method of averaging. These properties include Normalisation, Anonymity, Monotony, Proximity, Uniformity, Signalling.

In the method of averaging, good performance in one dimension is compensated with poor performance in another dimension. So, in this method all the three dimensions are considered to be independent of each other as opposed to the assumption of perfect substitutability in averaging method. Thus, for a company to score well, it has to score well in all the three dimensions.

Step 3: Based on the Scores arrived at, the companies were ranked.

To create a performance index that has a scale of 0 to 100 and calculate the performance score of different companies of the nine sectors selected, following three dimensions were taken:

1. Financial performance (indicator/parameter: RONW)
2. Economic performance (indicator: VAI-GA & EGA)

3. Social performance (indicator: CSR Exp./Net Sales)

The following parameters selected were combined into a single metric:

1. Return on Net Worth (RONW)
2. Value Added Income Generation Ability (VAI-GA)
3. Employment Generation Ability (EGA)
4. Corporate Social Responsibility Expenditure to Net Sales

The fourth parameter CSR expenditure to Net Sales was calculated to find out the amount of expenditure made by a company during the year to fulfil its social responsibilities for a rupee of revenue generated by it.

(Net sales was taken in the denominator instead of net profit as mandated by law because there were few companies which spend on CSR even after having losses, so the idea was to capture the social performance whether mandated or not.)

For each of the parameters the ideal state is reflected through a performance score of 100. The performance index is a composite index which measures the performance of a company as an aggregate of three dimensions: financial, economic and social.

5. Data Analysis & Findings

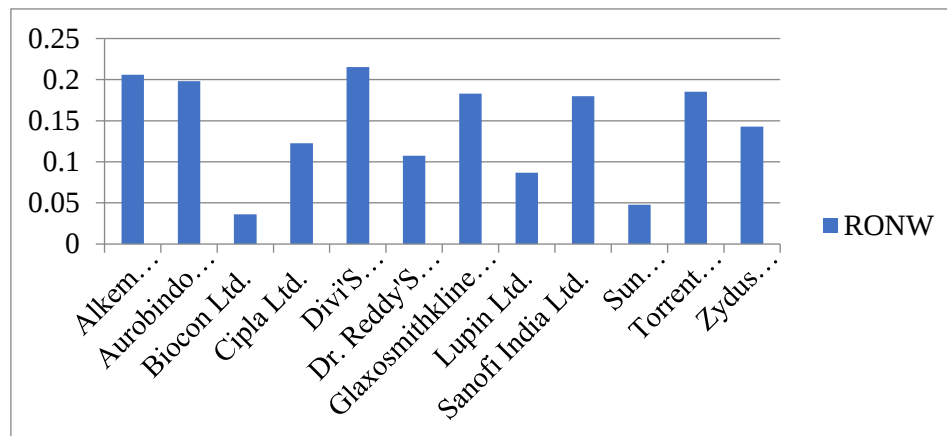
The performance of a corporate entity may be assessed in terms of the accomplishment of financial or economic objectives respectively. The financial objective of a firm focuses on maximization of shareholders wealth whereas economic performance of an entity may be evaluated on the basis of fulfilment of priorities of the economy. In order to fulfil the above stated objectives, analysis of the following data was made as under:

Table 2: RONW averaged for the years 2015-16 to 2021-22

Serial No.	Company Name	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Average
1	Alkem Laboratories Ltd.	0.2059	0.2215	0.1542	0.1549	0.2093	0.2378	0.1863	0.2059
2	Aurobindo Pharma Ltd.	0.2662	0.2227	0.1985	0.1435	0.1545	0.2126	0.0928	0.1985
3	Biocon Ltd.	0.085	0.0829	0.0355	0.0259	0.0376	0.0361	0.0107	0.0361
4	Cipla Ltd.	0.1244	0.1017	0.1127	0.1227	0.1415	0.1085	0.1266	0.1227
5	Divi'S Laboratories Ltd.	0.2801	0.2151	0.1539	0.2057	0.1879	0.2355	0.2815	0.2151
6	Dr. Reddy'S Laboratories Ltd.	0.1217	0.1175	0.0485	0.0982	0.2117	0.1076	0.0929	0.1076

7	Glaxosmithkline Pharmaceuticals Ltd.	0.183 4	0.137 4	0.164 3	0.182 8	0.170 1	0.232 6	0.251 9	0.182 8
8	Lupin Ltd.	0.267 2	0.228 7	0.086 6	0.092 0.092	0.085 4	0.067 4	- 0.010 8	0.086 6
9	Sanofi India Ltd.	0.124 3	0.175 9	0.167 4	0.179 9	0.208 3	0.233 3	0.205 8	0.179 9
10	Sun Pharmaceutical Inds. Ltd.	- 0.045 5	- 0.012 1	0.047 8	0.083 7	0.115 4	0.035 5	0.058 6	0.047 8
11	Torrent Pharmaceuticals Ltd.	0.531 2	0.209 3	0.107	0.155 8	0.185 2	0.204 1	0.160 2	0.185 2
12	Zydus Lifesciences Ltd.	0.378	0.103 1	0.153	0.178 1	0.142 8	0.139 3	0.091	0.142 8

Figure 1: Average RONW of sample companies in Pharmaceutical sector



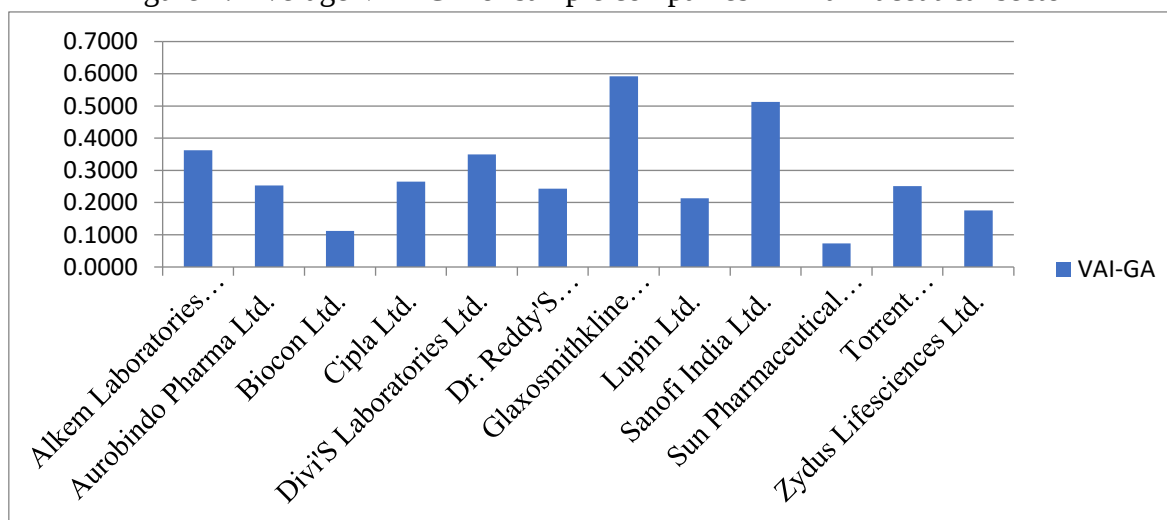
The above table and chart shows that the average RONW for Divi's Laboratories Ltd. is Rs 0.2151 which is found to be the highest amongst other companies in the sector implying that it generates the maximum return for each rupee of capital provided by shareholders, thereby contributing the most in terms of shareholders wealth maximization. However, Biocon Ltd. is found to generate the least return to the shareholders for each rupee contributed by them.

Table 3: VAI-GA averaged for the years 2015-16 to 2021-22

Serial no.	Company Name	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Average
1	Alkem Laboratories Ltd.	0.423 9	0.414 9	0.353 6	0.347 9	0.370 6	0.362 8	0.307 8	0.362 8

2	Aurobindo Pharma Ltd.	0.282 6	0.283 2	0.252 8	0.210 4	0.233 9	0.290 0	0.174 1	0.252 8
3	Biocon Ltd.	0.147 3	0.155 3	0.103 6	0.124 0	0.112 3	0.086 5	0.059 8	0.112 3
4	Cipla Ltd.	0.302 7	0.253 6	0.266 5	0.264 9	0.271 9	0.240 8	0.241 7	0.264 9
5	Divi'S Laboratories Ltd.	0.431 2	0.339 5	0.276 3	0.335 8	0.349 4	0.361 9	0.384 5	0.349 4
6	Dr. Reddy'S Laboratories Ltd.	0.235 6	0.248 2	0.161 8	0.243 0	0.317 0	0.262 4	0.205 2	0.243 0
7	Glaxosmithkline Pharmaceuticals Ltd.	0.576 5	0.595 7	0.580 8	0.581 7	0.592 6	0.766 9	1.016 5	0.592 6
8	Lupin Ltd.	0.437 5	0.382 4	0.213 8	0.236 2	0.170 3	0.167 5	0.087 9	0.213 8
9	Sanofi India Ltd.	0.587 9	0.512 3	0.477 3	0.494 9	0.473 0	0.547 2	0.772 9	0.512 3
10	Sun Pharmaceutical Inds. Ltd.	0.029 5	0.059 1	0.072 9	0.083 5	0.179 0	0.088 8	0.073 5	0.073 5
11	Torrent Pharmaceuticals Ltd.	0.523 4	0.285 6	0.158 3	0.216 3	0.248 4	0.255 4	0.250 9	0.250 9
12	Zydus Lifesciences Ltd.	0.458 5	0.139 6	0.205 0	0.224 2	0.175 3	0.168 7	0.139 5	0.175 3

Figure 2: Average VAI-GA of sample companies in Pharmaceutical sector

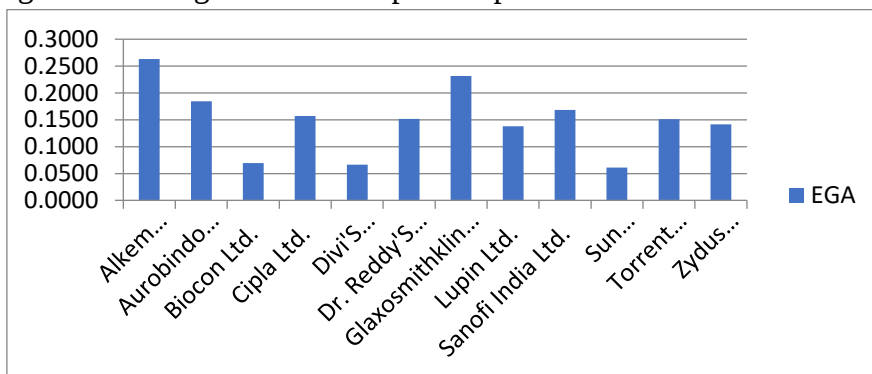


Glaxosmithkline Pharmaceuticals Ltd. was found to contribute the most in terms of addition to economy's wealth followed by Sanofi Ltd. The ability to generate value added income was found to be the least in case of Sun Pharmaceutical Inds. Ltd.

Table 4: EGA averaged for the years 2015-16 to 2021-22

Serial No.	Company Name	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Average
1	Alkem Laboratories Ltd.	0.2630	0.2974	0.2952	0.2902	0.2307	0.2064	0.1869	0.2630
2	Aurobindo Pharma Ltd.	0.2020	0.1939	0.1851	0.1747	0.1842	0.1539	0.1650	0.1842
3	Biocon Ltd.	0.0691	0.0937	0.0921	0.0983	0.0525	0.0471	0.0392	0.0691
4	Cipla Ltd.	0.1836	0.2467	0.2276	0.1568	0.1374	0.1198	0.0972	0.1568
5	Divi'S Laboratories Ltd.	0.0843	0.0692	0.0663	0.0623	0.0675	0.0631	0.0571	0.0663
6	Dr. Reddy'S Laboratories Ltd.	0.1517	0.1672	0.1697	0.1662	0.1358	0.1369	0.1498	0.1517
7	Glaxosmithkline Pharmaceuticals Ltd.	0.2126	0.2356	0.2220	0.2315	0.2319	0.2796	0.1423	0.2315
8	Lupin Ltd.	0.1673	0.1433	0.1427	0.1368	0.1379	0.1223	0.1355	0.1379
9	Sanofi India Ltd.	0.2252	0.2004	0.1685	0.1610	0.1697	0.1536	0.1155	0.1685
10	Sun Pharmaceutical Inds. Ltd.	0.0532	0.0647	0.0609	0.0598	0.0577	0.0817	0.0762	0.0609
11	Torrent Pharmaceuticals Ltd.	0.1953	0.1985	0.1581	0.1445	0.1424	0.1368	0.1512	0.1512
12	Zydus Lifesciences Ltd.	0.2406	0.2147	0.1414	0.1280	0.1093	0.1985	0.0764	0.1414

Figure 3: Average EGA of sample companies in Pharmaceutical sector



The employment generation ability is found to be the highest in case of Alkem Laboratories Ltd. whereas Sun Pharmaceutical Inds. Ltd. ranks the last in terms of generation of employment in the country.

Table 6: Ranking of companies in terms of Financial and Economic Performance Indicators

Serial No.	Company Name	RONW	Rank	VAI-GA	Rank	EGA	Rank
1	Alkem Laboratories Ltd.	0.2059	2	0.3628	3	0.2630	1
2	Aurobindo Pharma Ltd.	0.1980	3	0.2528	6	0.1842	3
3	Biocon Ltd.	0.0361	12	0.1123	11	0.0691	10
4	Cipla Ltd.	0.1227	8	0.2649	5	0.1568	5
5	Divi'S Laboratories Ltd.	0.2151	1	0.3494	4	0.0663	11
6	Dr. Reddy'S Laboratories Ltd.	0.1076	9	0.2430	8	0.1517	6
7	Glaxosmithkline Pharmaceuticals Ltd.	0.1828	5	0.5926	1	0.2315	2
8	Lupin Ltd.	0.0866	10	0.2138	9	0.1379	9
9	Sanofi India Ltd.	0.1799	6	0.5123	2	0.1685	4
10	Sun Pharmaceutical Inds. Ltd.	0.0478	11	0.0735	12	0.0609	12
11	Torrent Pharmaceuticals Ltd.	0.1852	4	0.2509	7	0.1512	7
12	Zydus Lifesciences Ltd.	0.1428	7	0.1753	10	0.1414	8

In the pharmaceutical sector, it can be seen that Divi's Laboratoroes Ltd. although generates maximum wealth for its shareholders, ranks 11th in terms of employment generation ability. In terms of both financial

and economic performance, Alkem Laboratories Ltd. ranks amongst the top three most efficient companies in the sample whereas Biocon Ltd. and Sun Pharmaceutical Inds. Ltd. are found to be amongst the least efficient companies.

The following correlation table reveals the association between financial and economic performance measures.

Table 7: Correlation between Financial & Economic Performance Indicators

			RONW	VAIGA	EGA
Spearman's rho	RONW	Correlation Coefficient	1.000	.713**	.483
		Sig. (2-tailed)		.009	.112
		N	12	12	12
	VAIGA	Correlation Coefficient	.713**	1.000	.734**
		Sig. (2-tailed)	.009		.007
		N	12	12	12
	EGA	Correlation Coefficient	.483	.734**	1.000
		Sig. (2-tailed)	.112	.007	
		N	12	12	12

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation table shows that there is high degree of significant correlation between RONW and VAI-GA implying that a company that adds wealth to the shareholders wealth also does add to the wealth of the economy. Moreover, high degree of correlation between both the economic performance measures was also found to be statistically significant. This implies that a company which has high VAI-GA and generates wealth for the economy also does contribute in generating employment in the country.

The following table shows the composite scores of the sample companies on the basis of which ranking was made:

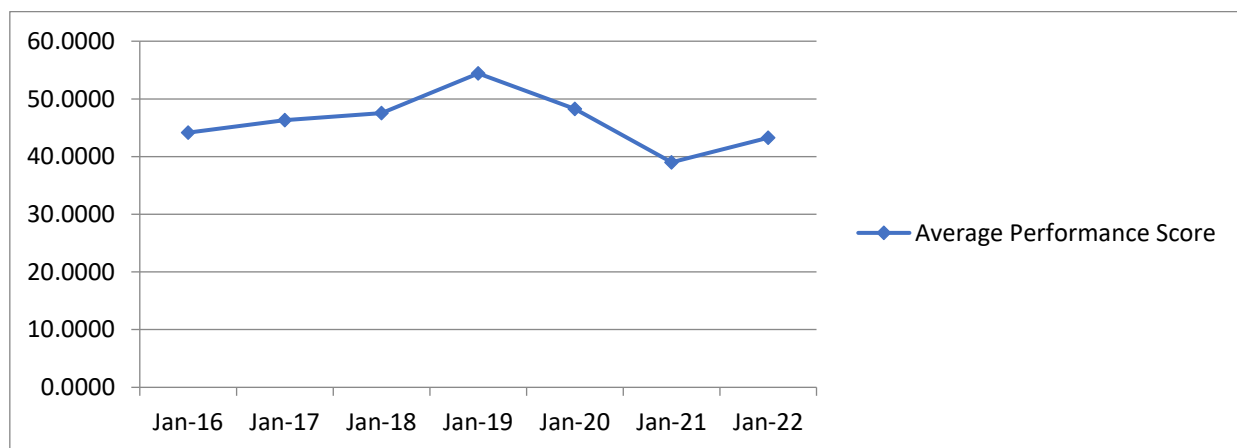
Table 8: Ranking of companies on the basis of Composite Performance Score

Company Name	Mar-16		Mar-17		Mar-18		Mar-19		Mar-20		Mar-21		Mar-22		Average Score	Average Rank
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank		

Alkem Laboratories Ltd.	33.1734	10	48.2150	5	53.5580	3	53.5953	7	51.5081	6	36.5844	7	35.6239	8	44.6083	8
Aurobindo Pharma Ltd.	44.6776	5	44.8274	8	46.7165	8	53.0860	8	52.8802	5	45.4175	5	43.1186	7	47.2463	6
Biocon Ltd.	29.2396	11	29.4927	11	17.7919	11	22.1651	11	11.2520	12	7.5782	11	20.5667	11	19.7266	11
Cipla Ltd.	33.2809	9	42.1679	9	47.2622	7	55.9583	4	57.5273	4	31.0561	8	47.9652	4	45.0311	7
Divi'S Laboratories Ltd.	41.8171	8	46.2909	7	48.1671	5	57.1567	3	58.1814	3	45.4752	4	55.5607	3	50.3784	4
Dr. Reddy'S Laboratories Ltd.	44.1152	7	46.3740	6	28.2684	10	38.8161	10	44.6184	8	28.4987	9	45.4468	5	39.4482	9
Glaxosmithkline Pharmaceuticals Ltd.	64.3761	2	60.4997	2	72.0188	1	72.4841	1	60.2760	1	59.7967	1	84.1309	1	67.6546	1
Lupin Ltd.	44.1938	6	41.8359	0	31.0223	9	40.0628	9	35.3640	0	20.6111	0	25.8188	0	34.1298	10
Sanofi India Ltd.	49.3004	4	55.3771	3	62.0996	2	64.7976	2	58.4044	2	54.5707	3	66.0566	2	58.6580	2
Sun Pharmaceutical Inds. Ltd.	5.1160	12	0.000	12	2.4578	12	9.4387	12	15.4339	11	5.1008	12	15.8012	12	7.6212	12
Torrent Pharmaceuticals Ltd.	68.4946	1	64.6731	1	47.8623	6	55.2374	6	45.0023	7	41.4351	6	43.4449	6	52.3071	3
Zydus Lifesciences Ltd.	59.0597	3	53.9818	4	52.7982	4	55.3361	5	36.6511	9	54.7573	2	28.0098	9	48.6563	5

	44.	46.	47.	54.	48.	39.	43.			
	15	33	56	41	25	00	28			
Average	45	24	23	63	52	97	17			

Figure 4: Average Performance Score of Pharmaceutical Sector



A slight deterioration can be seen in the average performance of the sector over the past seven years. However, the average performance score did show an upward trend from 2015-16 to 2018-19. Glaxosmithkline Pharmaceuticals Ltd., followed by Torrent Pharmaceuticals Ltd. is found to be the most efficient company in terms of financial, economic and social performance whereas Sun Pharmaceutical Inds. Ltd. is found to be the worst performer.

6. Conclusion

From the research work conducted, it can be concluded that Divi's Laboratories Ltd. although was found to generate the highest return to the shareholders ranked fourth in terms of adding wealth in the economy and eleventh in terms of having employment generation ability. Alkem Laboratories Ltd. ranks amongst the top three most efficient companies in the sample whereas Biocon Ltd. and Sun Pharmaceutical Inds. Ltd. are found to be amongst the least efficient companies. It was also concluded that companies in the pharmaceutical sector which maximizes the wealth of the shareholders does fulfil the economy's priorities in terms of its contribution to the GDP but may not generate employment in the economy. However, high degree of association between the economic performance indicators show that companies which maximizes the wealth of the economy also does have high employment generation ability. Further, the study concludes that although the composite performance of the pharmaceutical sector showed an upward trend from 2015-16 to 2018-19, there was a slight deterioration in the average performance score of the sector.

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