16

Expanded Analysis

Learning Outcomes

- To know the important financial ratios used in Annual Reports
- To understand the use of graphical financial information
- To analyze the management's use of expanded financial analysis

16.1 Introduction

Financial statement analysis is an exercise in the re-arrangement of complex accounting reports into simplified information. Various tools and techniques are used in analysing financial position of an enterprise, these include: trend analysis, ratio analysis, common size analysis, fund flow analysis etc. This chapter will provide an introduction to various techniques used in annual reports for analysis and interpretation.

16.2 Important Financial Ratios Used in Annual Reports

Annual report is one the most important communications of the management with its stakeholders. Analyzing the financial statements from the annual report is an important step towards making a decision on whether to invest in a company. Although the information used is historical, it provides an insight on the future prospects of the company.

Financial ratios are effective tools in evaluating a company's liquidity, debt position, and profitability. It is important to the management, owners, personnel, customers, suppliers, competitors, regulatory agencies, tax payers and lenders, each having their own requirements of applying financial statement

analysis in their evaluations and making judgments about the financial health of organization. The important financial ratios used for assessing the overall performance of a company are as follows:

1. **Return on Equity (ROE)**

   From the shareholders' point of view, an important measure of the income-producing ability of a company is the relationship of return on average common shareholders' equity.

   It is calculated as follows:

   $$\frac{\text{(Net Income } \textit{less} \text{ preferred dividends)}}{\text{Shareholder's equity}}$$

2. **Earnings per share**

   It is the net earnings of the company earned on one share.

   It is calculated as follows:

   $$\frac{\text{(Earning after tax } \textit{less} \text{ Preference Dividend)}}{\text{Number of Equity shares Outstanding}}$$

3. **The Price Earnings Ratio (P/E Ratio)**

   It shows the relationship between a company's stock price and earnings per share (EPS).

   It is calculated as follows:

   $$\frac{\text{Market price per share}}{\text{Earnings per share}}$$

4. **Net Worth per Share**

   Net Worth per Share is a measurement of the net worth of the company for each share of stock that has been issued.

   It is calculated as follows:

   $$\frac{\text{Net Worth}}{\text{Average Number of Equity Shares}}$$

5. **Return on Average Capital Employed**

   This ratio that reveals the profitability earned against the investments made in the company. The ROACE considers the average of the opening and closing capital for the specific period.

   It is calculated as follows:

   $$\frac{\text{EBIT}}{\text{(Average Total Assets } \textbf{less} \text{ Average Current Liabilities)}}$$

   i.e. Capital Employed = Total Assets – Current Liabilities = Equity + Non-current Liabilities

6. **Dividend Payout Ratio**

   The Dividend Payout Ratio (DPR) measures the amount of dividends paid to shareholders i relation to the total amount of net income generated by the company.

   It is calculated as follows:

   $$\frac{\text{Total Dividends}}{\text{Net Income}} \quad \text{Or} \quad \frac{\text{Annual Dividend paid per share}}{\text{Earning per share}}$$

7. **EBITDA / Turnover**

EBITDA is an abbreviation for "earnings before interest, taxes, depreciation and amortization. The purpose of EBITDA is to report earnings prior to uncontrollable expenses. This ratio is useful for determining the profitability position of the company.

8. **Return on Net Worth**

This ratio indicates the extent to which profit has been generated for every rupee of equity investment. A high return on net worth percentage indicates prudence use of shareholders' money while a low percentage indicates less efficient deployment of equity resources.

It is calculated as follows:

$$\frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

9. **Interest Coverage Ratio**

It measures a company's ability to make interest payments on its outstanding debt in a timely manner. Lenders, creditors, and investors use this ratio to determine the riskiness of lending capital to the company.

It is calculated as follows:

$$\frac{\text{Earning before Interest and Taxes}}{\text{Interest Expense}}$$

10. **Operating Profit Ratio**

This ratio indicates the operational efficiency of the management to run the enterprise.

It is calculated as:

$$\frac{\text{Operating Profit}}{\text{Revenue from Operations}}$$

The above mentioned is not a comprehensive list, more such ratios are calculated and interpreted by the management for decision making.

The following exhibit has been sourced from TATA Steel Annual Report of 2012-13 and HUL Annual Report of 2017-18 depicting the various ratios computed and shown:

S. No	Description	Tata Steel Standalone			Tata Steel Group		
		2012-13	2011-12	2010-11	2012-13	2011-12	2010-11
1	EBITDA / Turnover	30.62%	34.06%	39.55%	9.39%	10.18%	14.41%
2	PBT / Turnover	22.28%	27.54%	31.05%	2.64%	4.26%	7.73%
3	Return on Average Capital Employed	11.94%	13.07%	14.87%	6.56%	8.62%	14.14%
4	Return on Average Net worth	9.04%	13.01%	16.04%	−17.34%	13.14%	29.88%
5	Asset Turnover	77.84%	76.26%	79.88%	93.78%	93.05%	93.04%
6	Inventory Turnover (in days)	45	45	42	67	68	66

S. No	Description	Tata Steel Standalone			Tata Steel Group		
		2012-13	2011-12	2010-11	2012-13	2011-12	2010-11
7	Debtors Turnover (in days)	8	7	5	39	41	40
8	Gross Block to Net Block	1.41	1.44	1.63	2.16	2.15	2.23
9	Net Debt to Equity	0.44	0.41	0.49	1.36	1.16	1.55
10	Current Ratio	0.88	0.97	1.63	1.62	1.69	1.83
11	Interest Cover ratio	6.5	9.8	7.76	2.01	2.69	3.61
12	Net worth per share (₹)	591.88	566.69	533.97	375.49	467.57	409.02
13	Basic Earnings per share (₹)	50.28	67.84	75.63	–74.54	54.27	99.03
14	Dividend Payout	18%	20%	19%	–14%	25%	15%
15	P/E Ratio	6.21	6.93	8.2	–4.19	8.67	6.27

1. **EBITDA / Turnover**
   (EBITDA: PAT after minority and share of associates + Tax +/(–) Exceptional Items + Net Finance Charges + Depreciation and amortisation)
   (Net Finance Charges: Finance costs – Interest income – Dividend income from current investments – Net gain/(loss) on sale of current investments)
   (Turnover: Revenue from Operations less Excise Duty)
2. **PBT / Turnover**
   (PBT: PAT after minority and share of associates + Tax +/(–) Exceptional Items)
3. **Return on Average Capital Employed: EBIT/Average Capital Employed**
   (Capital Employed: Net worth + Minority interest + Long-term Borrowings + Current maturities of long-term borrowings + Short-term Borrowings + Deferred tax liabilities)
   (EBIT: PAT after minority and share of associates + Tax +/(–) Exceptional Items + Net Finance Charges)
4. **Return on Average Net worth:** PAT after minority and share of associates / Average Net worth
   (Net worth: Shareholders' funds + Preference Shares issued by subsidiary companies + Warrants issued by a subsidiary company + Hybrid Perpetual Securities)[1]
5. **Asset Turnover:** Turnover / (Total Assets – Investments – Advance Against Equity)
6. **Inventory Turnover:** Average Inventory / Sale of Products in days
7. **Debtors Turnover:** Average Debtors / Turnover in days
8. **Gross Block to Net Block:** Gross Block / Net Block.
   (Gross Block: Cost of tangible assets + Capital work in progress + Cost of intangible assets + Intangible assets under development)
   (Net Block: Gross Block – Accumulated depreciation and amortisation – Accumulated impairment)

1. Hybrid securities are financial securities that combines two or more different financial instrument. It generally combines both debt and equity characteristics.

9. **Net Debt to Equity:** Net Debt / Average Net Worth.
(Net Debt: Long-term borrowings + Current maturities of long-term borrowings + Short-term borrowings – Current Investments – Non-current balances with banks – Cash and Bank Balances).
10. **Current Ratio:** Current Assets (excluding current investments)/Current Liabilities
(Current liabilities: Trade Payables + Other current liabilities + Short-term provisions – Current maturities of long-term borrowings).
11. **Interest Cover Ratio:** EBIT / Net Finance Charges.
12. **Net Worth per Share:** Net Worth / Average Number of Equity Shares.
13. **Basic Earnings per Share:** Profit attributable to Ordinary Shareholders/Weighted average number of Ordinary Shares.
14. **Dividend Payout:** Dividend / Profit after tax.
15. **P/E Ratio:** Market Price per share/Basic Earnings per share.

16.3 HUL Annual Report 2017-18

Financial Performance

Standalone

(INR Crores)

Statement of Profit and Loss Account	IND AS		
	2015-16	2016-17	2017-18
Sales (including excise duty)	32,929	33,895	34,619
Other Income	1,126	1,118	1,168
Interest	(15)	(22)	(20)
Profit Before Taxation*	5,977	6,155	7,347
Profit After Taxation @	4,116	4,247	5,135
Earnings Per Share of INR 1	19.12	20.75	24.20
Dividend Per Share of INR 1	16.00	17.00	20.00

* Before Exceptional / Extraordinary items

Balance Sheet	IND AS		
	2015-16	2016-17	2017-18
Property, Plant and Equipment and Intangible Assets	3,300	4,227	4,572
Investments	2,780	3,779	3,111
Cash and Other Bank Balances	2,759	1,671	3,373
Net Assets (Current and Non-current)	(2,560)	(3,187)	(3,981)
Total	**6,279**	**6,490**	**7,075**
Share Capital	216	216	216
Other Equity	6,063	6,274	6,859
Total	**6,279**	**6,490**	**7,075**

Key Ratios and EVA	IND AS		
	2015-16	2016-17	2017-18
EBITDA (% of Gross Sales)	17.5	17.8	21.0
Fixed Asset Turnover (No. of Turnover)	10.0	8.0	7.6
PAT* / Gross Sales (%)	12.5	12.5	14.8
Return On Capital Employed (%)	105.8	105.9	118.9
Return On Net Worth (%)	72.8	76.6	84.5
Economic Value Added (EVA)[2] (INR Crores)	3,438	3,498	4,258

* Before Exceptional / Extraordinary items

The above balance sheet has been sourced through HUL website: https://www.hul.co.in/Images/hul-annual-report-2017-18_tcm1255-523195_en.pdf

16.4 Management Use of Financial Analysis

According to John Myer, "Financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by single set of statements and a study of the trend of these factors as shown in a series of statements."

The major objective of financial statement analysis is to provide management the information about a business enterprise for use in decision making. It aids in understanding financial stability and soundness of the business through tools such as comparative statement analysis, common-size statement analysis, trend analysis, ratio analysis, fund flow analysis, cash flow analysis, net working capital analysis through statement of changes in working capital and cost volume profit analysis.

16.5 Graphical Financial Information

Graphs are important tools in a firm's overall disclosure strategy. Graphs enable management to present information in a flexible and 'eye-catching' way. It helps in capturing the attention of the reader, especially when it is colour and/or highlighted format. This also facilitates comparisons and the identification of trends. Companies are increasingly using graphs, text and other visual representation methods to communicate financial information to their stakeholders. In this way the key performance indicators-financial and non-financial information are represented in a readily understandable form, even for the less expert users.

The various advantages of graphical financial information are:

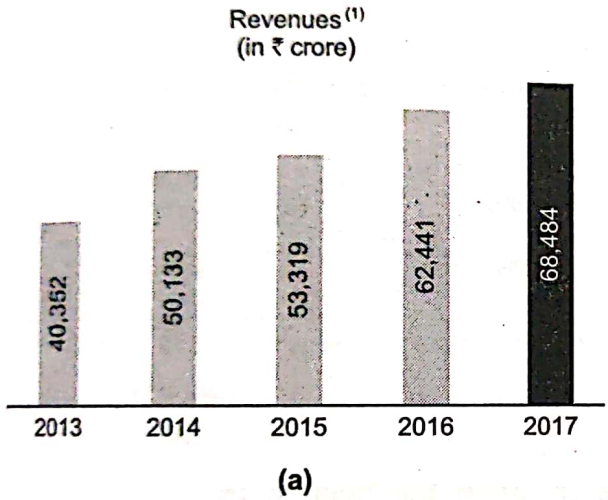
1. **Greater acceptance:** Use of different types of graphs makes the report more meaningful and user friendly.
2. **Attractive:** Sometimes users loose interest in reading long reports. Usage of bar diagram, pie charts, line diagrams etc. make the report more attractive, which helps to hold interest.

2 Economic value Added: It is an internal performance measure that compares net operating profit to total cost of capital. EVA = Net operating profits after tax – (Weighted average cost of capital × Capital invested). Here, capital invested is the sum of equity and long term debt at the beginning of the period. The positive value of this indicator implies that the company has managed to cover the cost of capital and created additional value.

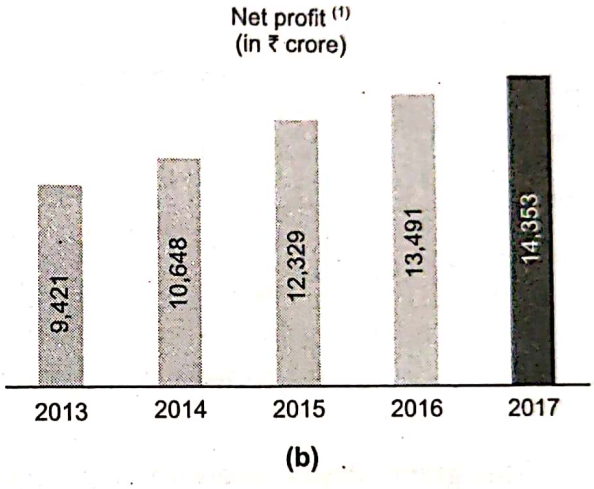
3. **Facilitates comparison and tracking trends:** Graphing the financial information enables the management to draw inter-firm and intra firm comparisons. The trends of past and expected future performance are best shown in visual form to users.
4. **Aids in Decision Making:** Graphs helps in drawing conclusions, which in turn help the management for more meaningful decision making.

However, there are certain disadvantages attached with graphing financial representation in a report. The graphs are sometimes misused by the management. It is easy to represent the information in such a way that can be misleading and create confusion for users. The two main areas where information can be distorted are selectivity of some form and non-compliance with principles of construction of graphs[1]

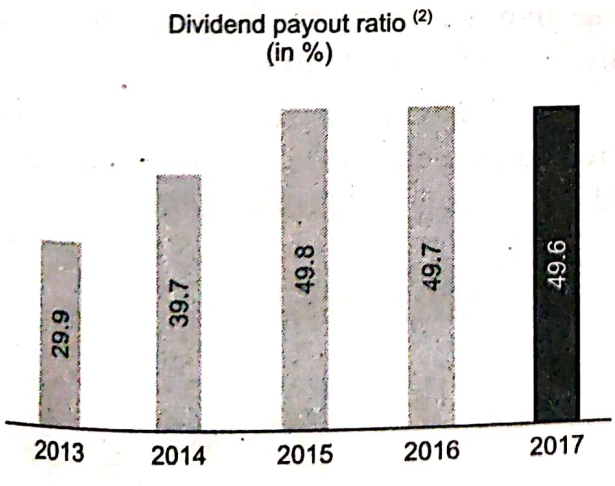
The different types of graphs commonly used in annual reports are: Bar Graphs, Column Graphs, Line Graphs, Pie Graphs, Area Graphs and Combination Graphs. For illustrative purpose few graphs sourced from different annual reports are shown below:



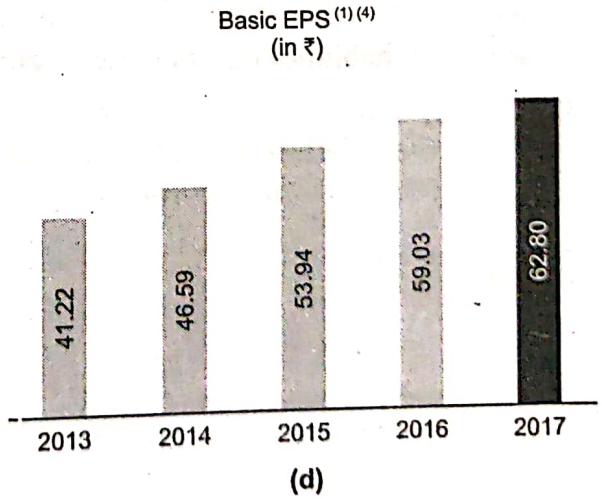
(a)



(b)



(c)



(d)

(a) The Revenues of the company is showing a consistent increasing trend.

(b) Similarly, the Net Profits are also showing a consistent increasing trend.

(1) Based on IFRS consolidated financial statements.
(2) Based on dividend declared, excluding special dividend and including corporate dividend tax.
(3) At the end of the fiscal.
(4) Adjusted for bonus, wherever applicable.

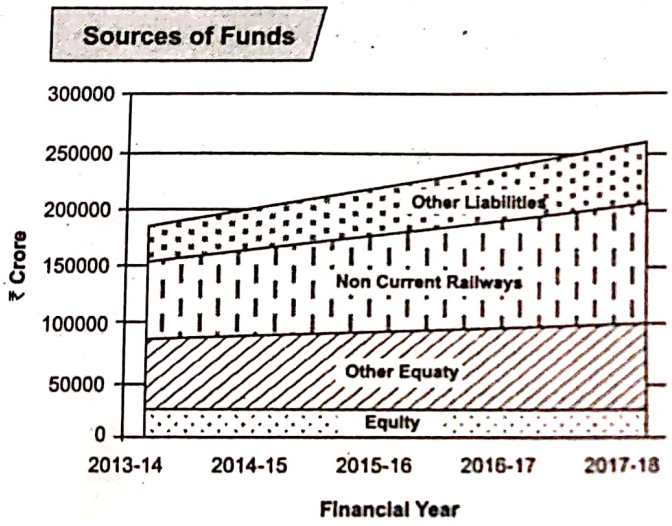
(c) The Dividend Payout Ratio has increased from 30% (in 2013) to 50% (approx.) in 2015. Therefore, the company is retaining the profits to 50% (approx).

(d) EPS is continuously improving.

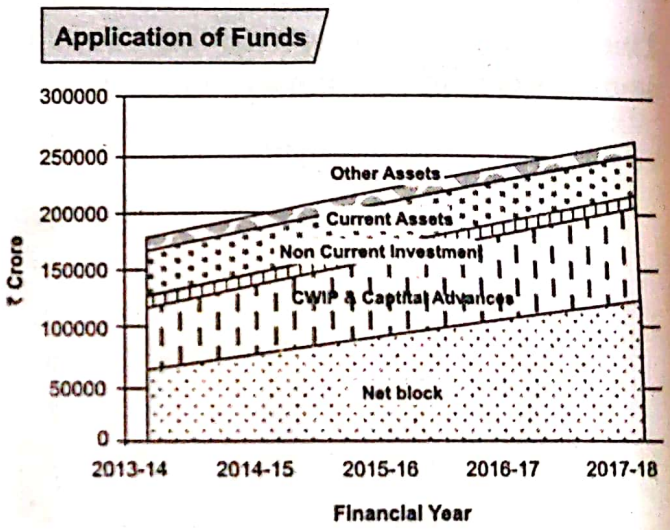
The above column graphs are sourced from Infosys Annual Report 2016-2017.

https://www.infosys.com/investors/reports-filings/annual-report/annual/Documents/AR-2017/financials/pdf/Infosys_AR17_Keytrends.pdf (Column Graphs)

The Combination Graph



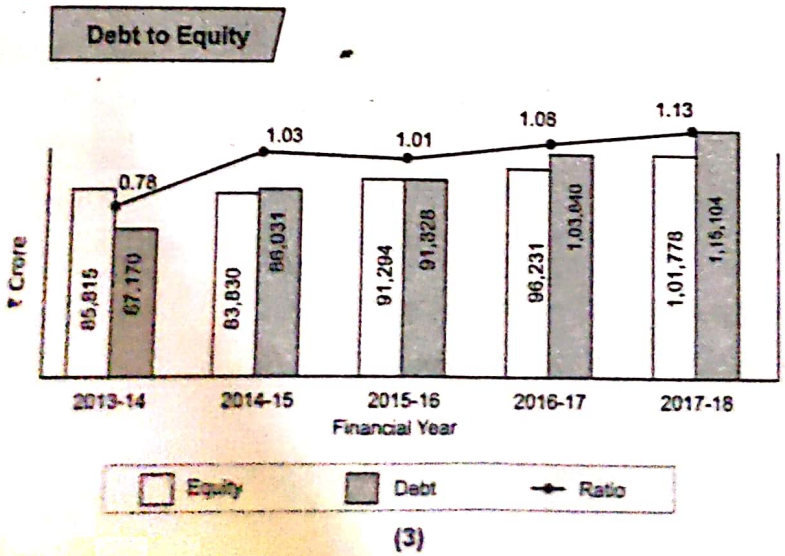
(1)



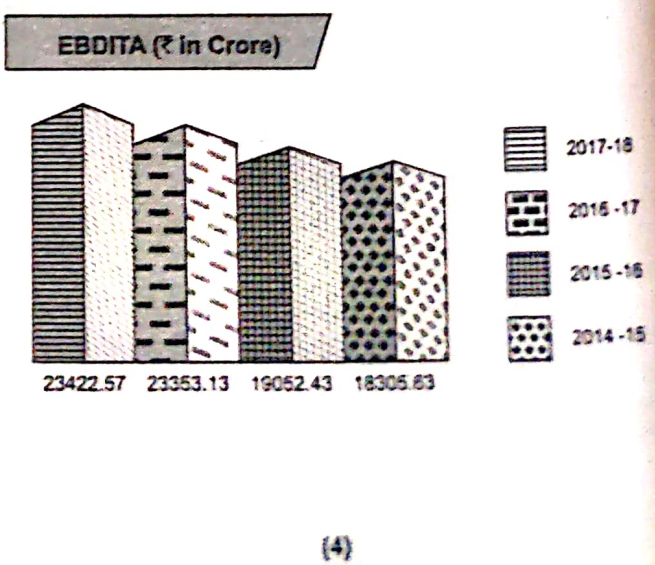
(2)

(1) This graph shows where the funding of the company has been sourced from. While equity remains the same and there is no major change in other equity, the funding from non-current and other liabilities has increased significantly from FY 2013-14 to FY 2017-2018.

(2) The 'Applications of funds' graph shows where the funds of the company have been invested. While the investment in all assets have increased over the years, the percentage increase in CWIP (Capital Work in Progress) and capital Advances is marginally higher.



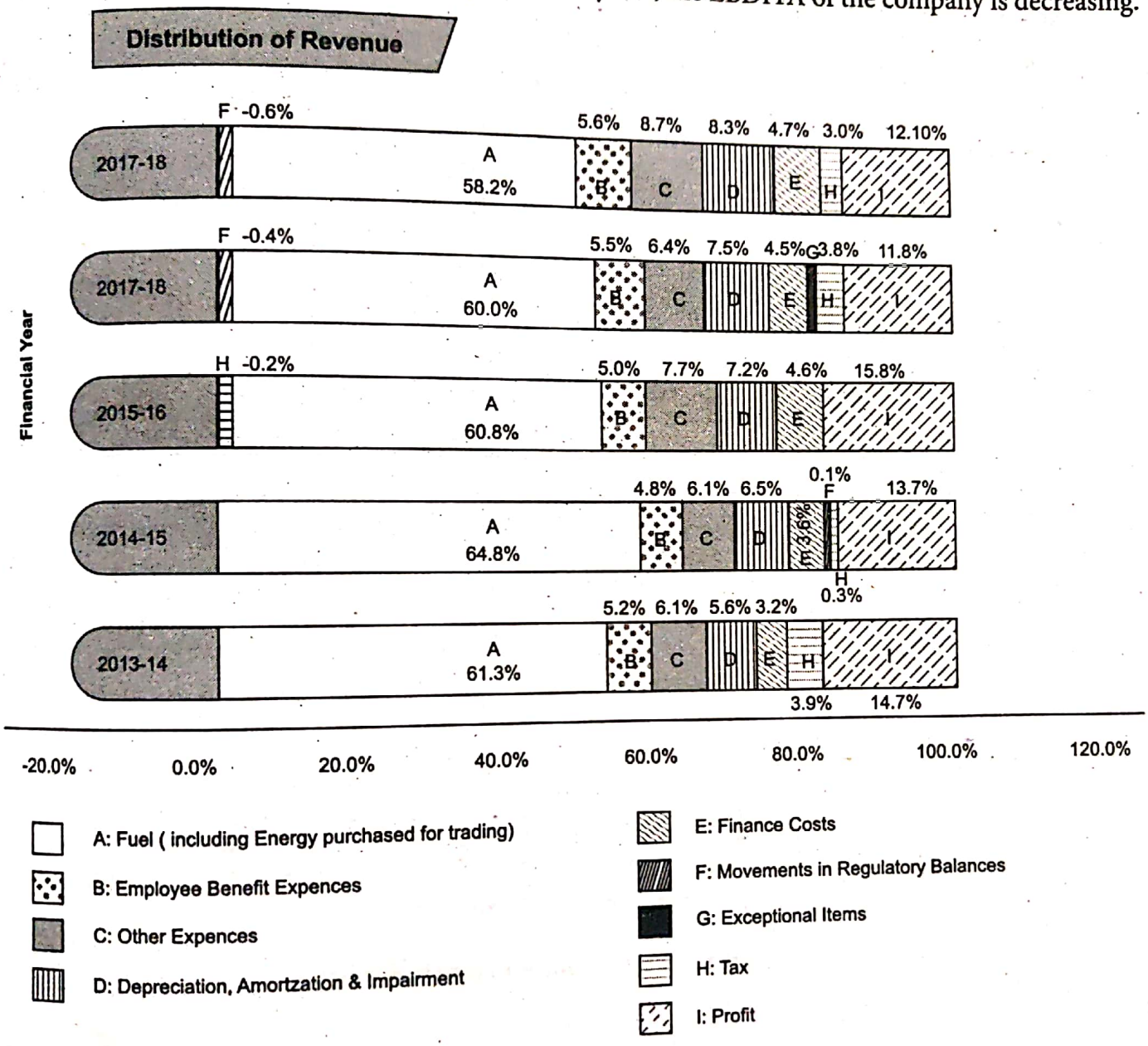
(3)



(4)

(3) Debt to Equity graphs is an example of combination graph over a period of 5 years, the ratio is increasing as debt component is increasing more than the increase in equity.

(4) EBDITA (Earnings Before Interest, Taxes, Depreciation and Amortization) is a representation of stacked column graph, over a period of 4 years, the EBDITA of the company is decreasing.



(5)

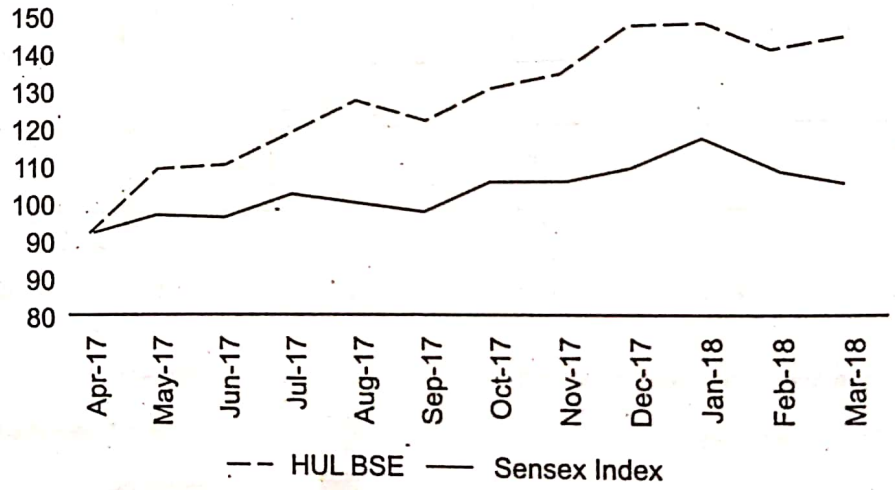
(5) The 'Distribution of Revenue' bar graph shows how the revenue is distributed over 5 years Each rectangular bar represent the particular financial year. The long data lables gives a clear picture for each financial year.

Line Graphs

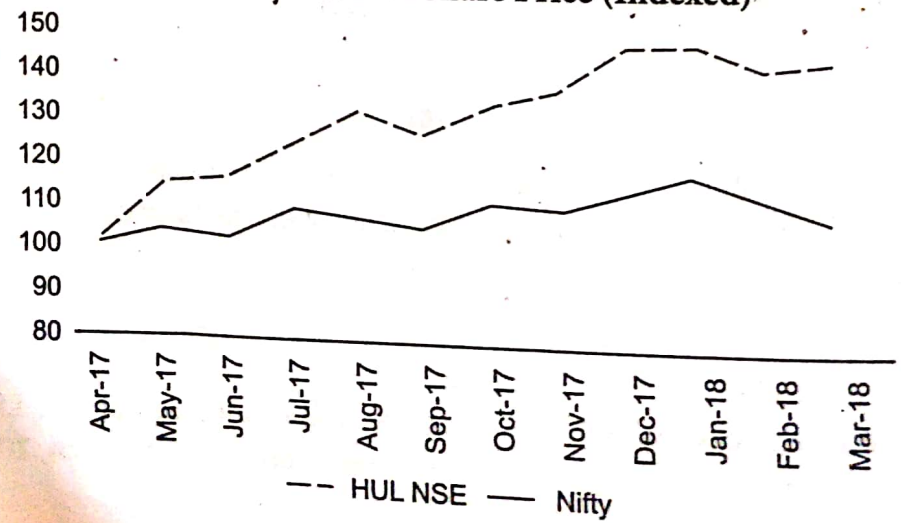
The monthly high and low prices and volumes of shares of the Company at BSE Limited (BSE) and the National Stock Exchange of India Limited (NSE) for the year ended 31st March, 2018 are as under:

Month	BSE			NSE		
	High	Low	Volume	High	Low	Volume
Apr-17	950.00	899.10	13,62,772	951.00	898.55	2,27,09,237
May-17	1,080.00	923.50	40,69,169	1.077.00	922.60	3,54,69,354
Jun-17	1,128.00	1,052.40	35,40,911	1.129.00	1.046.10	2,79,85,760
Jul-17	1,195.10	1,082.00	23,30,354	1.195.05	1,081.10	2,99,20,274
Aug-17	1,221.00	1,144.05	9,40,018	1.222.80	1143.55	1,97,34,055
Sep-17	1,286.00	1,169.00	22,76,969	1.287.60	1,169.00	2,46,54,473
Oct-17	1,288.00	1,173.00	15,42,582	1.288.65	1,171.00	2,25,35,108
Nov-17	1,314.50	1,227.00	16,35,283	1.315.00	1,226.35	2,30,65,722
Dec-17	1,384.10	1,241.30	13,56,665	1.382.80	1,241.20	2,03,57,621
Jan-18	1,410.65	1,331.05	17,84,654	1.410.00	1,328.55	2,54,76,315
Feb-18	1,415.15	1,305.00	22,22,723	1.384.80	1,299.00	2,38,15,135
Mar-18	1,344.05	1,281.60	28,09,940	1.340.00	1,281.10	2,17,94,188

BSE Sensex Vs HUL Share Price (Indexed)



NSE Nifty Vs HUL Share Price (Indexed)



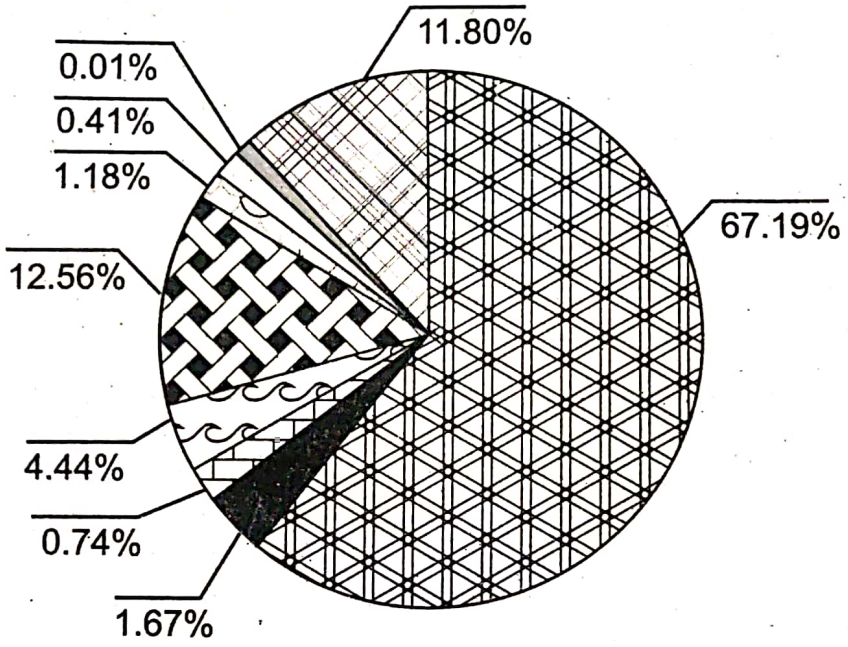
As you can see above line graphs are used for drawing comparisons between the movement of share prices of HUL and BSE Sensex and NSE Nifty. This visual representation of financial data makes it easy for the reader to comprehend.

Pie Charts

The following is the distribution of shareholding as on 31st March, 2018 and categories of shareholders as on 31st March, 2018 of HUL Ltd.

Holding	Shareholders		Shares	
	Number	%	Number	%
1 - 5000	2,98,278	96.20	12,86,55,411	5.94
5001 - 10000	6,662	2.15	4,68,25,709	2.16
10001 - 20000	3,069	0.99	4,25,02,240	1.96
20001 - 30000	754	0.24	1,82,89,669	0.85
30001 - 40000	314	0.10	1,07,88,957	0.50
40001 - 50000	176	0.06	77,93,348	0.36
50001 - 100000	341	0.11	2,40,47,715	1.11
100001 and above	469	0.15	188,56,25,728	87.12
Total	**3,10,063**	**100.00**	**216,45,28,777**	**100.00**

Category	No. of Folios	Shares	%
Unilever PLC and its Affiliates	7	145,44,12,858	67.19
Mutual Funds & Unit Trust of India	256	3,60,72,231	1.67
Financial Institutions/Banks	132	1,60,75,240	0.74
Insurance Companies	18	9,61,00,521	4.44
Foreign Portfolio Investors	918	27,19,61,235	12.56
Bodies Corporate	2,067	2,55,73,530	1.18
NRIs / Foreign Bodies	6.511	89,01,912	0.41
Corporate / Foreign Nationals	8	1,25,178	0.01
Directors and their Relatives	3,00,146	25,53,06,072	11.80
Resident Individuals & Others			
Total	3,10,063	216,45,28,777	100.00



The pie chart is useful for illustrating the percentage breakdown of data. As you can refer above the pattern of shareholding of HUL can be captured at once with the help of pie chart-indicating the percentage held by different groups of shareholders.

The most common, simplest, and classic is the line graph. It is the most effective tool for representing multiple series of closely related series of data. Bars (or columns) graphs are the best suited for representing a single data series. An area chart shows a solid area and is effective when presenting cumulative data series. For example, showing the cumulative sales revenue from different products of a company. This allows the reader to easily visualize the "area" (or weight) of each series relative to each other.

16.6 Management Discussion and Analysis

Management discussion and analysis (MD & A) is a portion of a public company's annual report in which management addresses the company's performance over the previous year with the aid of qualitative and quantitative performance measures. Not only the company's performance analysis is discussed. Management also reviews and explains systems and control, compliance with laws and regulations, future actions. MD & A is an important source of information for analyst and investors. As for the company, it is a route to demonstrate their commitment to vision, mission and strategies.

Federal Accounting Standards Advisory Board (FASB) in United States has issued a recommended accounting standard on MD & A with first draft published in January 1997. In India, there is no standard or guidance note in this behalf. Institute of Company Secretaries of India (ICSI) has however, issued a reference Note on Board's report under companies act 2013 serves as a good base, but it leaves MD & A presentation to interpretation of the industry.

The Canadian Performance Reporting Board also lays down certain principles in which MD & A should be prepared—

- Through the eyes of management.
- Integration with financial statement.
- Completeness and materiality.
- Forward looking orientation.
- Strategic perspective.
- Usefulness.

A snapshot from the MD and A of NTPC report is given below:

Management Discussion and Analysis

Indian economy slowed down slightly during the financial year 2017-18 as its GDP growth rate dropped to 6.7 percent compared to 7.1 percent in the previous year. Despite year-on-year dip in GDP growth rate, reversal was visible in the Q4, during which the GDP grew at 7.7 percent. It is expected that key reforms such as implementation of the transformational Goods and Services Tax, a major recapitalization package to strengthen public sector banks and the effects of earlier policy actions should allow GDP growth to rise to 7-7.5 percent in financial year 2018-19, thereby reinstating India as the world's fastest growing major economy. Reliable supply of electricity will be a key input for sustaining the growth path and for the Indian industries to remain competitive.

Electricity, water supply, gas and other utilities have registered a growth rate of 7.2 percent at constant prices in the financial year 2017-18.

Major power sector reforms during the year focussed on facilitating growth of renewable energy capacity addition and include initiatives such as promoting e-auction for wind projects and formulating/ revising bidding guidelines for competitive RE-based power procurement. Driven by competitive RE based power procurement through reverse bidding, the tariffs for both solar PV and wind have touched historic lows during the year, and for the first time in the country, the renewable energy sector has added more capacity than the conventional power in financial year 2017-18.

To achieve universal household electrification in the country by March 2019, the Government of India launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA). This, supported by visible revival of distribution companies through UDAY, augurs well for the entire Power Sector and would help unleash the huge latent demand for electricity.

The National Electricity Plan by Central Electricity Authority and draft National Energy Policy by Niti Aayog have signalled additional requirement of thermal capacity in coming years. The draft amendments to the tariff policy set the tone for improving health of distribution companies. It also suggests a provision for allowing capacity addition by state or central government owned companies, where the tariff shall be determined based on norm as notified by the appropriate commission.

Some other key focus areas include integration of renewables by further developing ancillary market, allowing flexibility in generation by utilizing renewable capacities to meet existing commitments to supply the power from thermal plants, and promotion of energy efficiency through measures like the updated Energy Conservation Building Code.

Industry Structure and Developments

Power sector is a key enabler for India's economic growth. The sector consists of generation, transmission and distribution utilities and is a crucial component of India's infrastructure. The achievements regarding developments and various issues / challenges faced by the Power Sector are discussed in the ensuing paragraphs.

Snap Shot 2017-18

- Gross annual generation of the country increased by 5.35% from 1,242 BUs in the previous year to 1,308 BUs in financial year 2017-18 (including renewables). Generation from Renewable sources increased by 24% from 82 Bus to 102 BUs, while Generation from conventional sources increased by 4% from 1,160 BUs to 1,206 BUs.
- Generation capacity of 9,505 MW (excluding renewables) was added during financial year 2017-18 compared to 14,209 MW added during the previous year.
- Renewable energy capacity of 11,778 MW added during the year. Renewable energy capacity has almost doubled from 34,988 MW as at 31 March, 2014 to 69,022 MW as at 31 March, 2018.
- 23,119 Ckms of transmission lines added during the year as compared to 26,300 Ckms in the previous year.
- 86,193 MVA of transformation capacity added during the year as against 81,816 MVA in the previous year.
- PLF of coal-based stations increased to 60.72% in financial year 2017-18 from 59.81% in financial year 2016-17.
- During the financial year 2017-18, while the energy deficit remained unchanged at 0.7%, the peak power deficit marginally rose to 2% from the 1.6% recorded in financial year 2016-17.

The above is an extract only. The readers can refer to the complete report on NTPC website.

Review Questions

1. What do you mean by expanded analysis? State its relevance in the financial reporting.
2. Explain the significance of using financial ratios for financial analysis.
3. Write a note of the key financial ratios used in Annual Reports
4. How does graphing financial information aid in tracking trends of an enterprise?