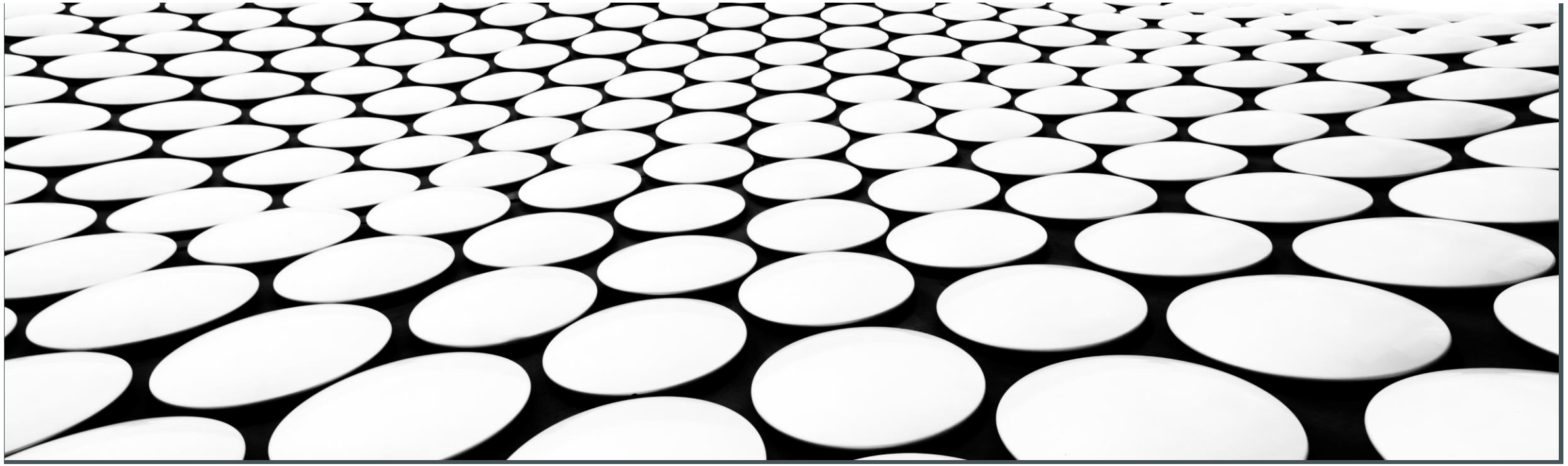
MODULE IV – FINANCIAL STATEMENT ANALYSIS

BY B D CHATTERJEE *FCA, ACMA, ACS, DIP (IFR) ACCA – UNITED KINGDOM*



FINANCIAL STATEMENT ANALYSIS

FINANCIAL STATEMENT ANALYSIS

- Financial Analysis is professed to provide the users of financial statements the following:
  a) understanding of the strengths and weaknesses of the business
  b) highlight the possible pitfalls and business risks that may hit the business in the foreseeable future
  c) come up with clear action plan how to redress the financial weaknesses and avoid the pitfalls and business risks

FINANCIAL STATEMENT ANALYSIS

- Covers the following areas:
  - Comparative financial statements
  - Common size statements
  - Trend ratios
  - Forecasting techniques

COMPARATIVE FINANCIAL STATEMENTS

- When the financial statements of current year and previous year are recast for comparison of all the elements of financial statements and the comparison is in absolute numbers as well as in percentages, it is called comparative financial statement. This is considered as the first step related to Financial Due Diligence.

- The statement is constructed by
  a) using absolute numbers represented by monetary values in the years/periods under consideration and
  b) calculating the increase or decrease in monetary values in absolute numbers
  c) calculating percentage increase of the monetary values by using the following formula:

$$\frac{\text{(Current period figures – Previous period figures)}}{\text{Previous period figures}} \times 100$$

COMMON SIZE STATEMENTS

Common size financial statements are restated financial statement showing percentage of total items with common base for comparison.

The steps followed are as under:

Assets	a) Assets side is classified in fixed assets, investments, current assets (CA), fictitious assets showing individually and its total. b) Then total assets are taken as common base of 100 and the calculation is made as shown below: - Tangible assets/Total assets x 100 - Investments/Total assets X 100 - Fictitious assets/Total assets x 100 etc
Liabilities	c) Similarly, liabilities side of the Balance Sheet is classified into owners' equity, long term borrowings, current liabilities showing individually and its total. d) The total liabilities are taken as common base of 100 and the calculation is made as shown below: - Owners' equity/Total Liabilities x 100 - Long term borrowings/Total liabilities x 100
Income statement	e) Income statement is classified in sales, cost of goods sold, operating expenses, net profit, interest, tax, earnings after tax etc. Percentage of each element to sales is calculated.

TREND RATIOS

- **Another financial modelling tool used in Financial Due Diligence is called Trend Ratios.**
- **Trend ratios are calculated in the form of index no. of each financial item in the financial statement of different periods.**
- **The method presupposes percentage relation of items with the similar item in the base year. The formula is as under:**

$$\text{Trend ratio} = \frac{\text{Value of each item in financial statement of any period}}{\text{Value of same item in financial statement of base period}} \times 100$$

TREND RATIOS

To ensure that trend ratios are meaningful following care needs to be taken:

a) There must be uniform accounting policies followed year on year to make this analysis meaningful

b) Consistency convention is a pre-requisite for this type of analysis

c) Trend percentages need to be calculated only for items having logical relationship with one another

d) Care should be taken to select the base year. This must be a normal year and be adequately representative of the performance trend

e) Trend percentages should be studied after considering the absolute numbers on which they are based, otherwise they may give misleading and skewed results.

f) The figures of the current year should be adjusted in the light of price level changes as compared to the base year before calculating the trend analysis, otherwise comparison may not be meaningful.

FORECASTING TECHNIQUES

- Forecasting is a prediction about a condition or situation at some future time. Business decisions and especially financially related business decisions depend heavily on forecasts of future events.
- Decisions related to future investments, borrowing and lending funds depend heavily on forecasts of future business events.
- Even valuation of enterprise or business verticals or projects also heavily depends on future forecast.

FORECASTING TECHNIQUES

Types of Forecasts

- ***Judgement forecast*** – where forecasts are made based on experience and information available instead of any mathematical and statistical models
- ***Time series forecast*** – where pattern of a time series based on past experience is used to create a model that will predict future movement
- ***Casual forecast*** – based on casual relationship which is expected to be stable over time and casual variables are relatively easy to predict.

FORECASTING TECHNIQUES

Three critical questions to answer

- Estimate the future forecast with accuracy as much as possible
- Carry out a cost benefit trade-off and what efforts need to be put in to generate reasonably accurate forecast
- Meet the criteria for timeliness. Annual forecast must be before the commencement of the financial year. Monthly or quarterly forecasts must be before the commencement of the respective periods.

FORECASTING TECHNIQUES

Essential attributes of an effective forecast

- Strong and robust assumptions of the internal factors driving the business and external macro-economic factors- like CPI and WPI for forecasting inflation, market size of the product/services
- Identification of variables which can swing results of forecasts e.g. prediction of sales prices, raw material costs, exchange rates for imports etc.
- Sensitivity analysis, where results of assumptions are adjusted linking possible changes in key variables driving the business

FORECASTING TECHNIQUES

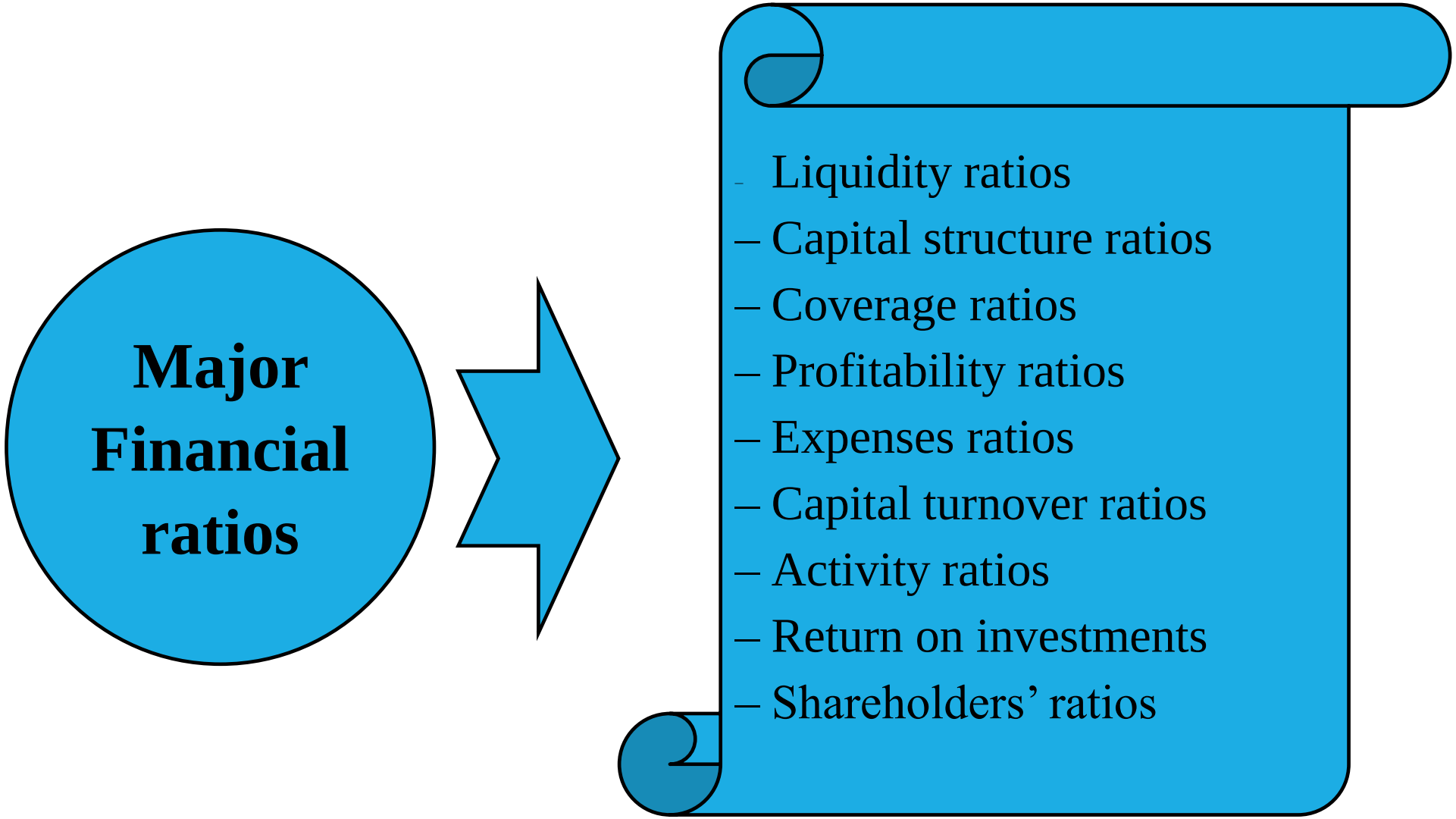
Specimen Format

Cash flow statement

Item	October	November	December	January	February	March	YTD	Remarks
Inflows								
Receipt from customers								
Commission								
Trading								
Project								
Loan received								
Total	0	0	0	0	0	0	0	
Outflows								
Vendor payment								
Salaries & wages								
Staff welfare expenses								
Utilities expense								
Rent, rates and taxes								
Repairs & maintenance								
Tours & travels								
Loan repayment								
Interest pay-out								
Other charges								
Total	0	0	0	0	0	0	0	
Net cash flows								
Add: Opening balance								
Closing balance								

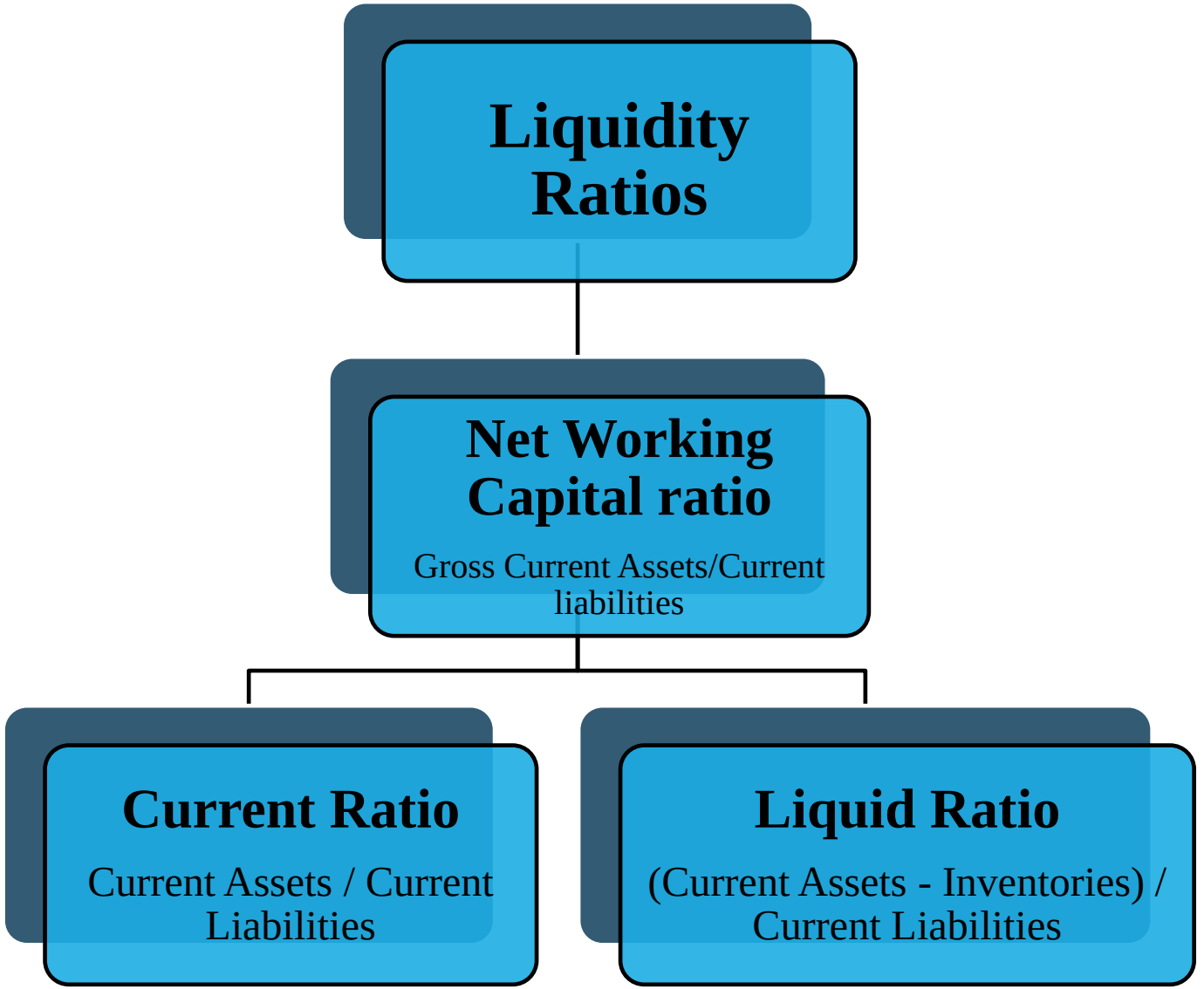
RATIO ANALYSIS

FINANCIAL RATIOS



LIQUIDITY ANALYSIS

LIQUIDITY RATIOS



LIQUIDITY RATIOS

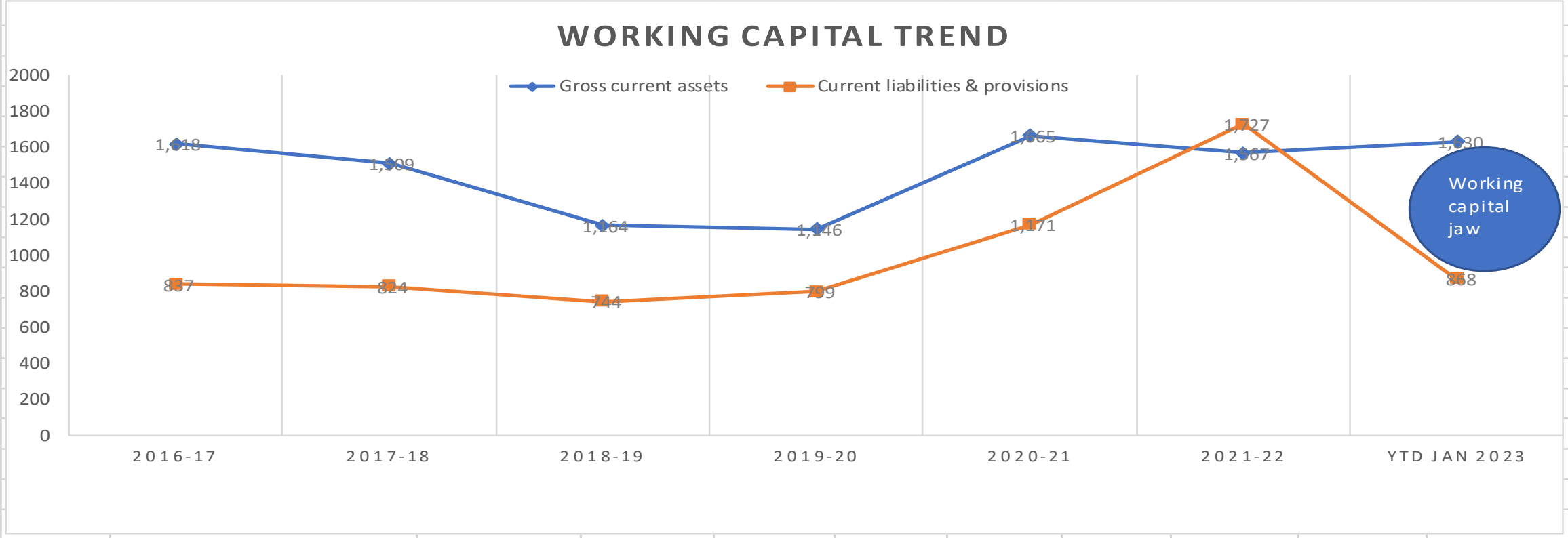
Ratio	Rationale
$\textbf{Net working capital} = \frac{\textbf{Gross Current assets}}{\textbf{Current liabilities}}$	It measures the liquidity of an enterprise
$\textbf{Current ratio} = \frac{\textbf{Current assets}}{\textbf{Current liabilities}}$	It reflects the short-term liquidity position of the enterprise. In general ratio of 2:1 is considered adequate. If it is lower, then it depicts tightness in liquidity. If it is higher, then there is adequate liquidity, but it may also be possible that funds are tied up in obsolete/slow moving inventories and overdue debts
$\textbf{Liquid ratio/Acid test ratio} = \frac{\text{Quick assets}}{\text{Current liabilities}}$	Quick assets are current assets less inventories, and this ratio is a measure of the liquidity position of the enterprise. In general, a ratio of 1: 1 would be considered adequate, as it would signify that the enterprise has enough cash to pay off all its current liabilities

NET CURRENT ASSET TREND

Working capital trend

Rs Lakhs

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD Jan 2023
Gross current assets	1,618	1,509	1,164	1,146	1,665	1,567	1,630
Current liabilities & provisions	837	824	744	799	1,171	1,727	868
Working capital	**781**	**685**	**421**	**347**	**493**	**(160)**	**762**

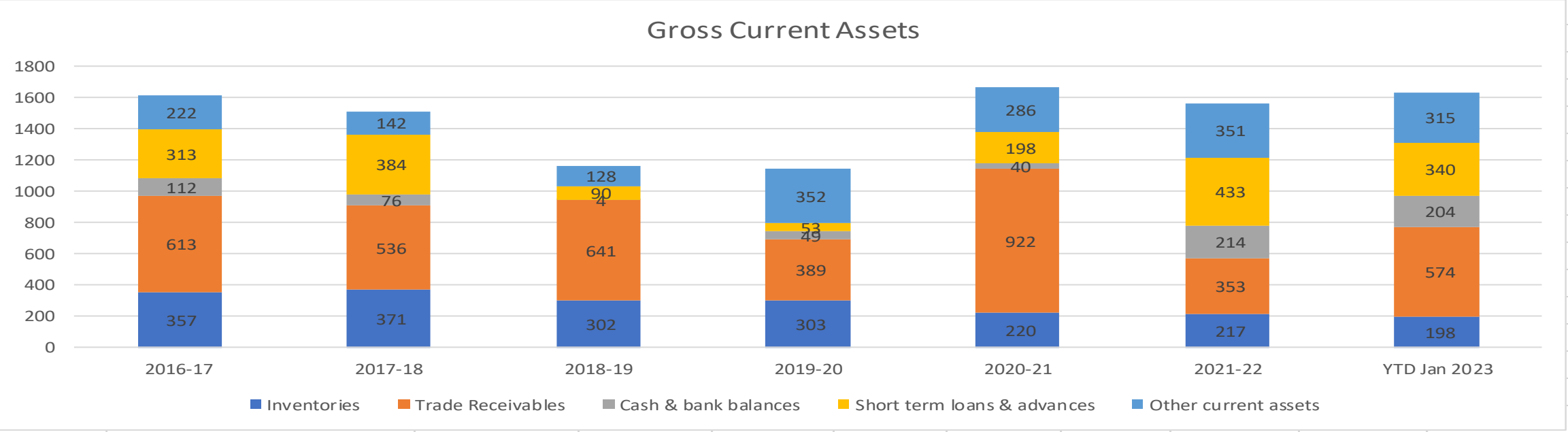


GROSS CURRENT ASSET TREND

Gross current assets

Rs Lakhs

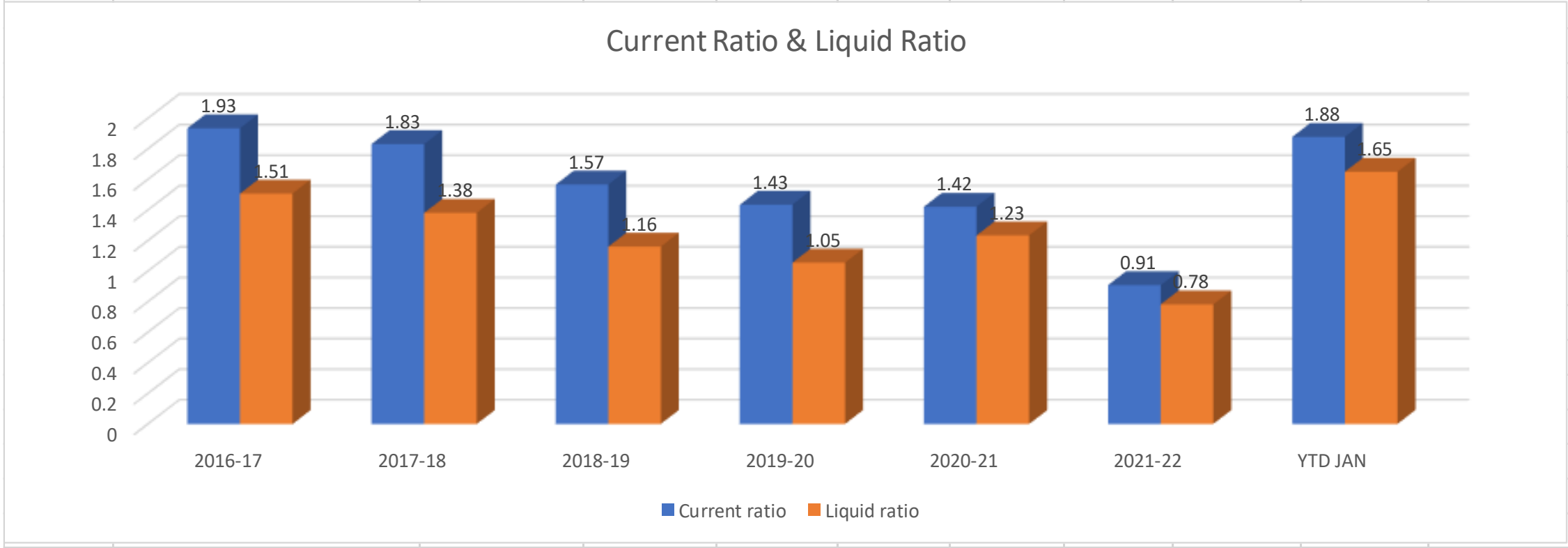
Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD Jan 2023
Inventories	357	371	302	303	220	217	198
Trade Receivables	613	536	641	389	922	353	574
Cash & bank balances	112	76	4	49	40	214	204
Short term loans & advances	313	384	90	53	198	433	340
Other current assets	222	142	128	352	286	351	315
Gross current assets	**1,618**	**1,509**	**1,164**	**1,146**	**1,665**	**1,567**	**1,630**



CURRENT RATIO AND LIQUID RATIO

Current Ratio & Liquid Ratio

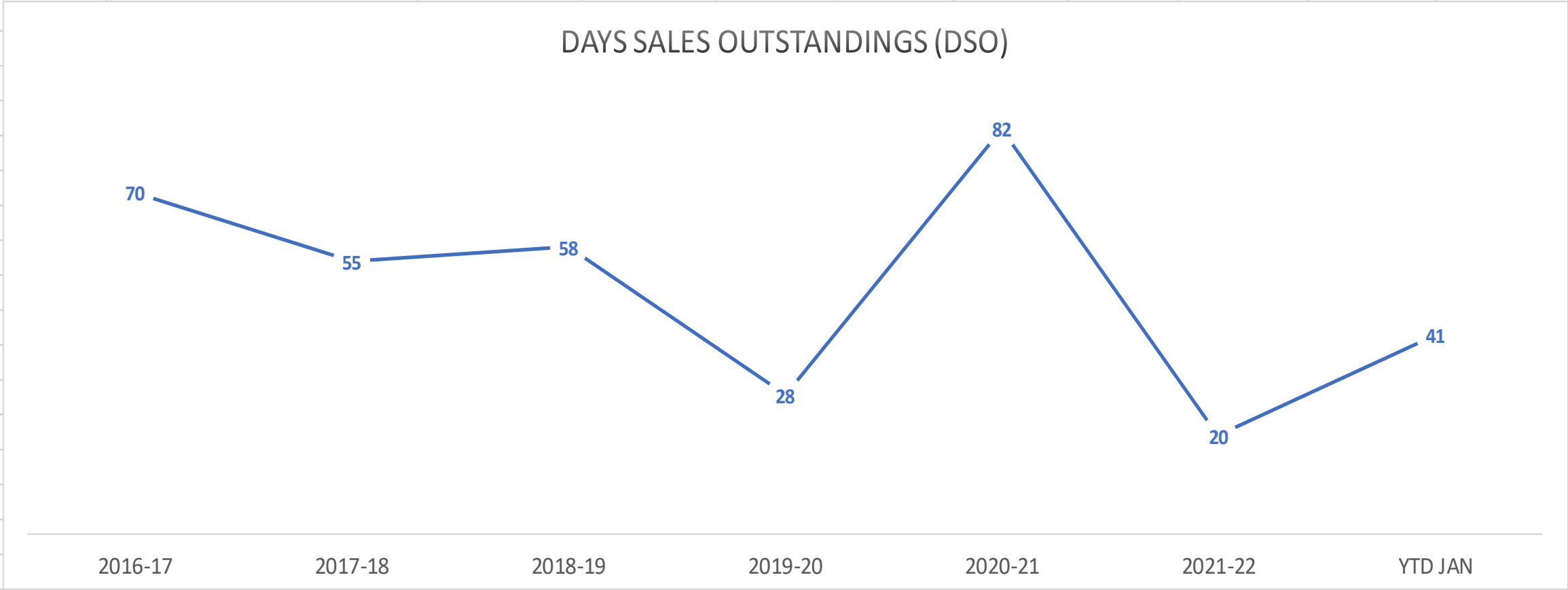
Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD JAN
Current ratio	1.93	1.83	1.57	1.43	1.42	0.91	1.88
Liquid ratio	1.51	1.38	1.16	1.05	1.23	0.78	1.65



DAYS SALES OUTSTANDING

Days sales Outstandings

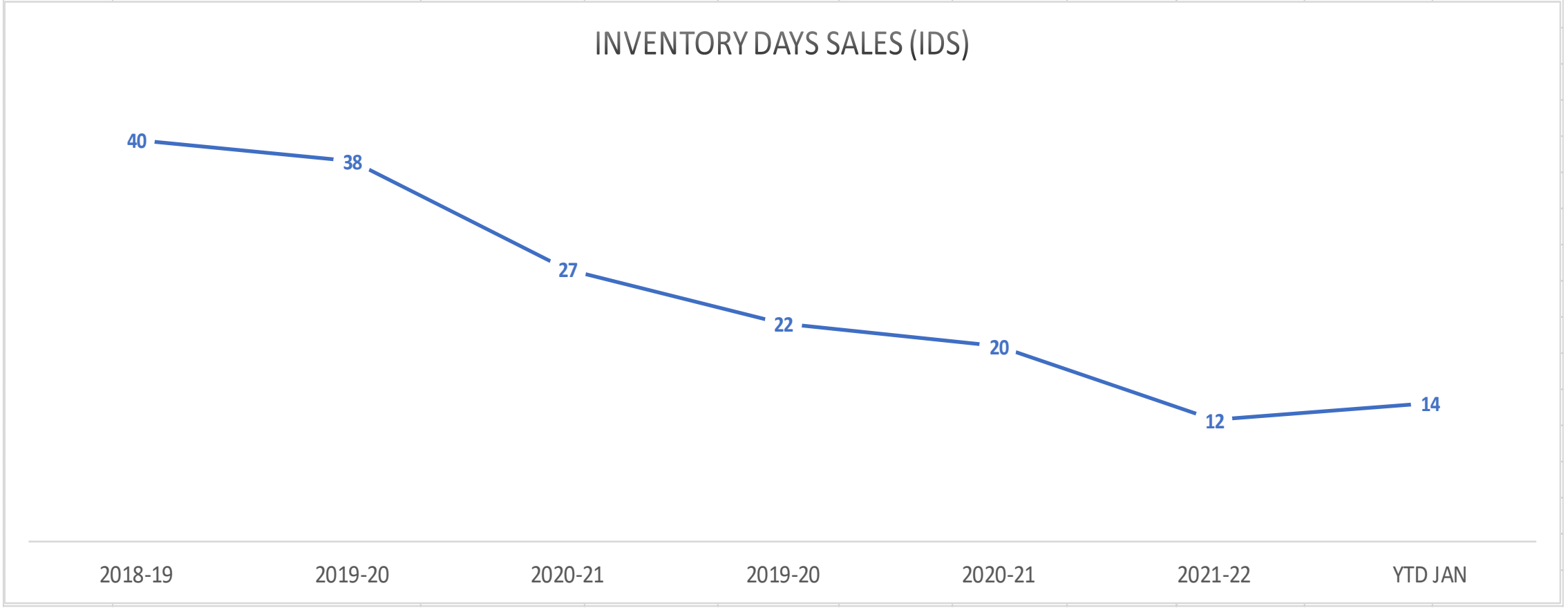
Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD JAN
Days sales Outstandings (DSO)	70	55	58	28	82	20	41



INVENTORIES DAYS SALES

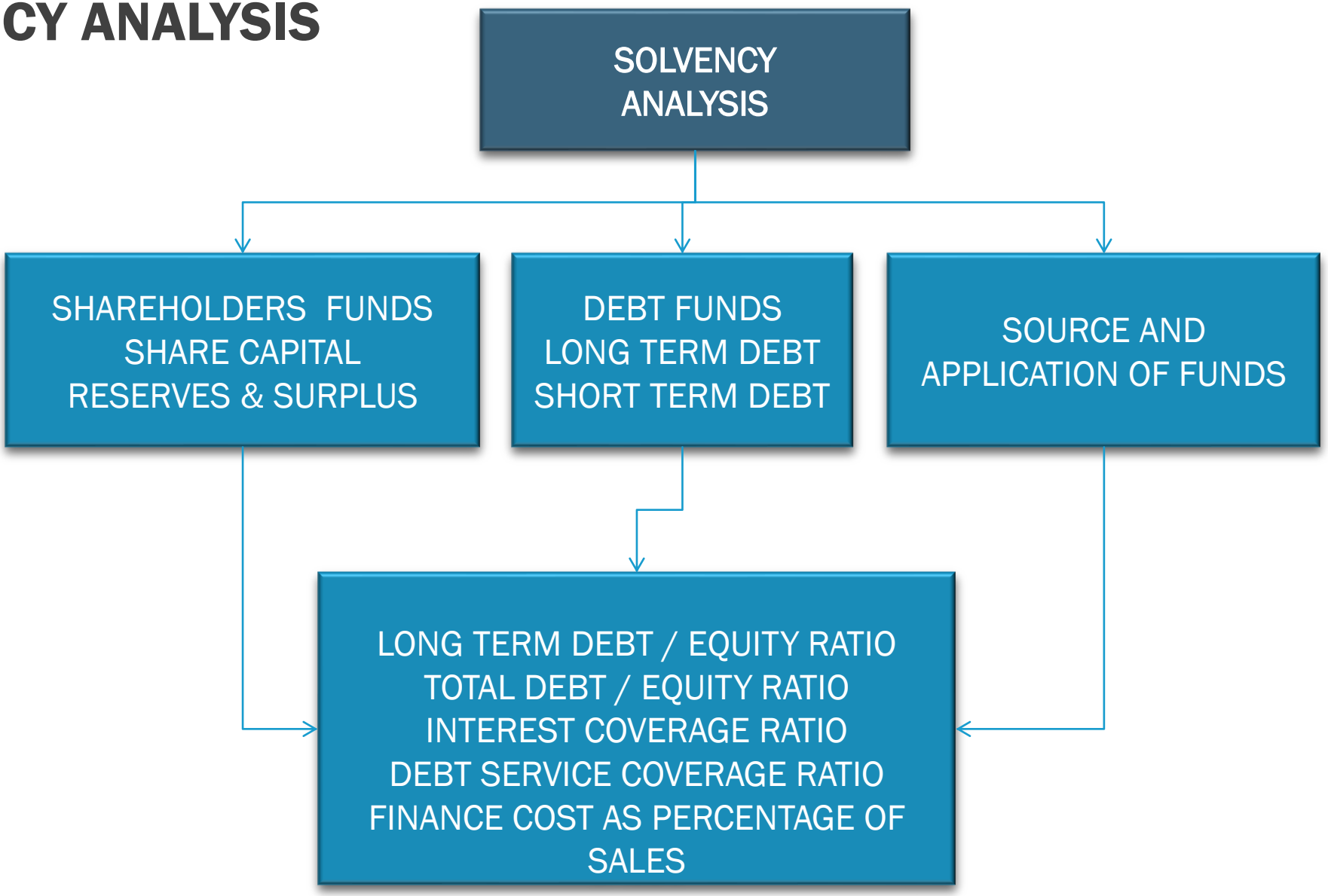
Inventory Days Sales

Year	2018-19	2019-20	2020-21	2019-20	2020-21	2021-22	YTD JAN
Inventory Days Sales (IDS)	40	38	27	22	20	12	14

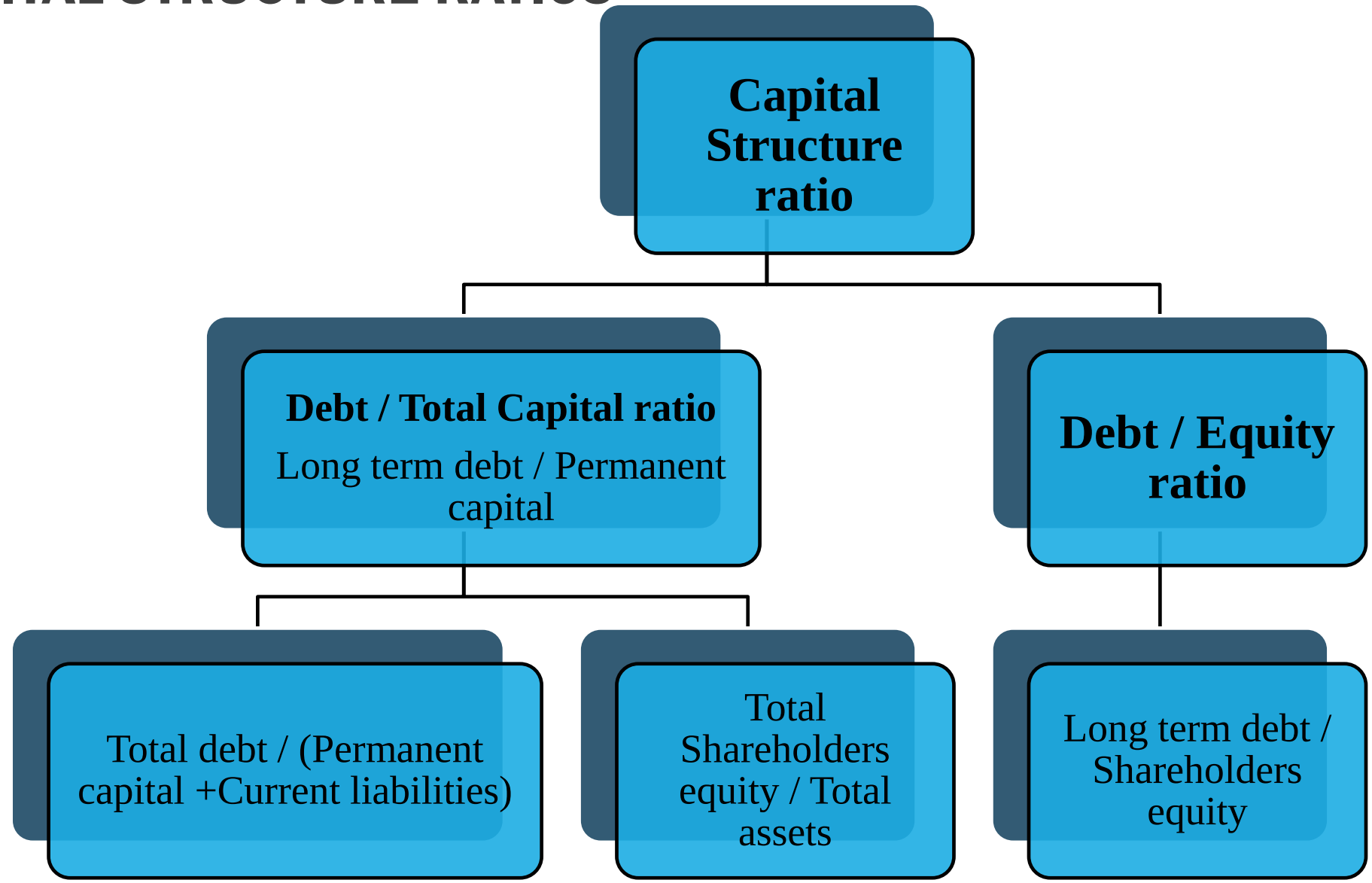



SOLVENCY ANALYSIS

SOLVENCY ANALYSIS



CAPITAL STRUCTURE RATIOS



CAPITAL STRUCTURE RATIOS

Ratio	Rationale
$$\text{Debt equity ratio} = \frac{\text{Long term debt}}{\text{Shareholders' equity}}$$	This is a very important ratio which depicts the relative proportion of debt and equity in financing the assets of an enterprise. A ratio of 1:1 is considered adequate. If the debt content is higher the enterprise is considered highly geared and if the equity content is higher, then the enterprise is considered low geared. This ratio is also a determinant based on which weighted average cost of capital is calculated. (WACC)
$$\text{Debt to total capital ratio} = \frac{\text{Long term debt}}{\text{Permanent capital}}$$ Or $$= \frac{\text{Total debt}}{\text{Permanent capital} + \text{Current liabilities}}$$ Or $$= \frac{\text{Total Shareholders' equity}}{\text{Total assets}}$$	This ratio indicates what proportion of the permanent capital of the enterprise is funded out of long-term debt. A ratio of 1:2 is considered adequate. It measures the proportion of total assets financed by outside funds. A low ratio is low risk specially for outsiders like creditors It depicts the proportion of total assets funded by owners' equity.

CAPITAL EMPLOYED

Capital employed source

Rs Lakhs

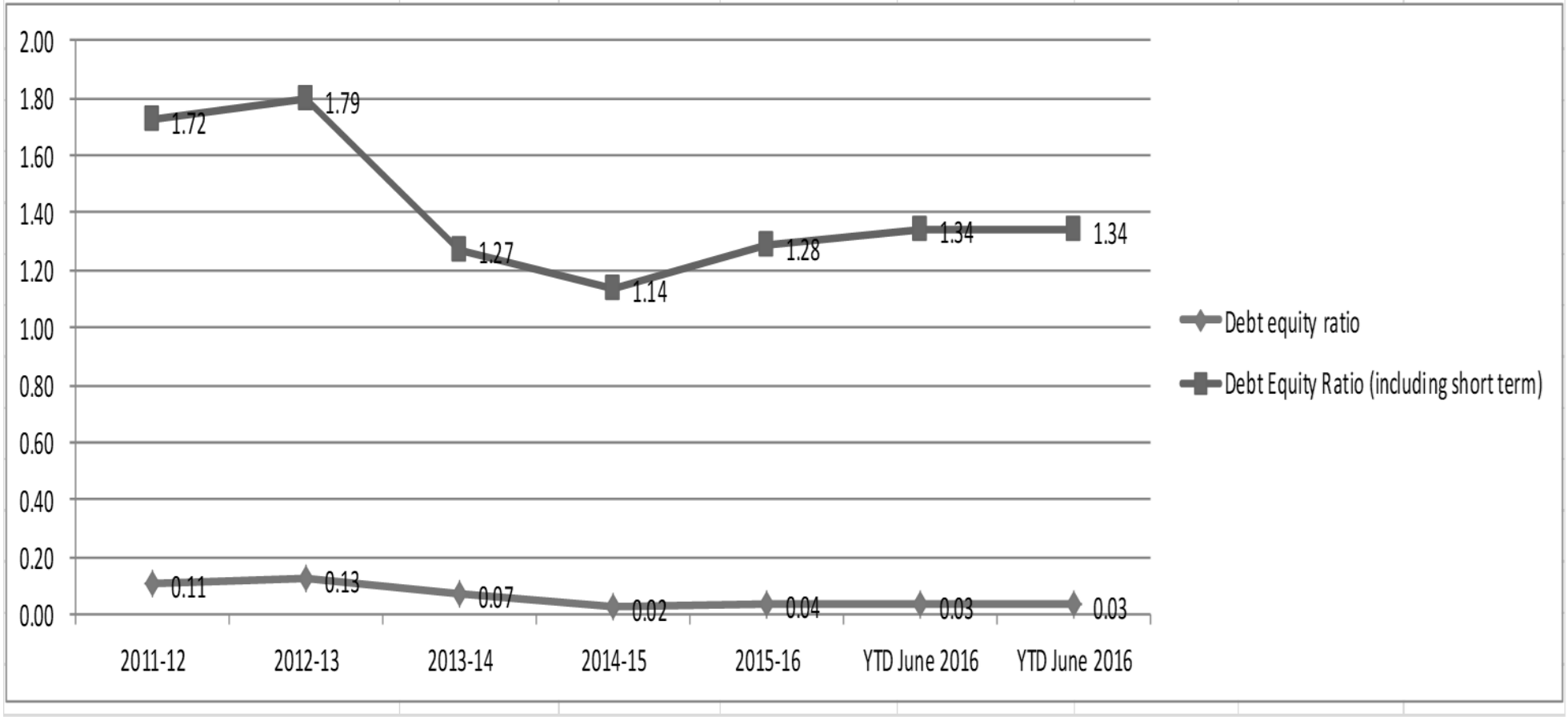
Year	2016-17	2017-18	2017-18	2019-20	2020-21	2021-22	YTD Jan 2023
Share capital	340	340	340	340	340	340	340
Profit & Loss account	(70)	(244)	(313)	395	435	781	882
Share premium	744	744	744	744	744	744	744
Reserve & surplus	674	500	431	1,139	1,179	1,525	1,626
Net Worth	1,015	841	771	1,479	1,520	1,866	1,967
Secured borrowings	3,192	3,121	2,924	963	929	1,611	1,661
Unsecured borrowings	8	9	40	1,223	1,377	-	680
Total borrowings	3,200	3,130	2,964	2,186	2,306	1,611	2,341
Capital Employed	**4,215**	**3,971**	**3,736**	**3,665**	**3,825**	**3,476**	**4,308**

Capital Employed Application

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD jan 2023
Net block (Including capital WIP)	2,902	2,754	2,780	2,783	2,809	3,142	3,080
Non-current investment	-	-	-	-	-	-	-
Deffered tax assets	380	380	380	385	373	351	322
Long term loans & advances	151	152	155	150	150	143	144
Net current assets	781	685	421	347	493	(160)	762
Capital Employed	**4,215**	**3,971**	**3,736**	**3,665**	**3,825**	**3,476**	**4,308**

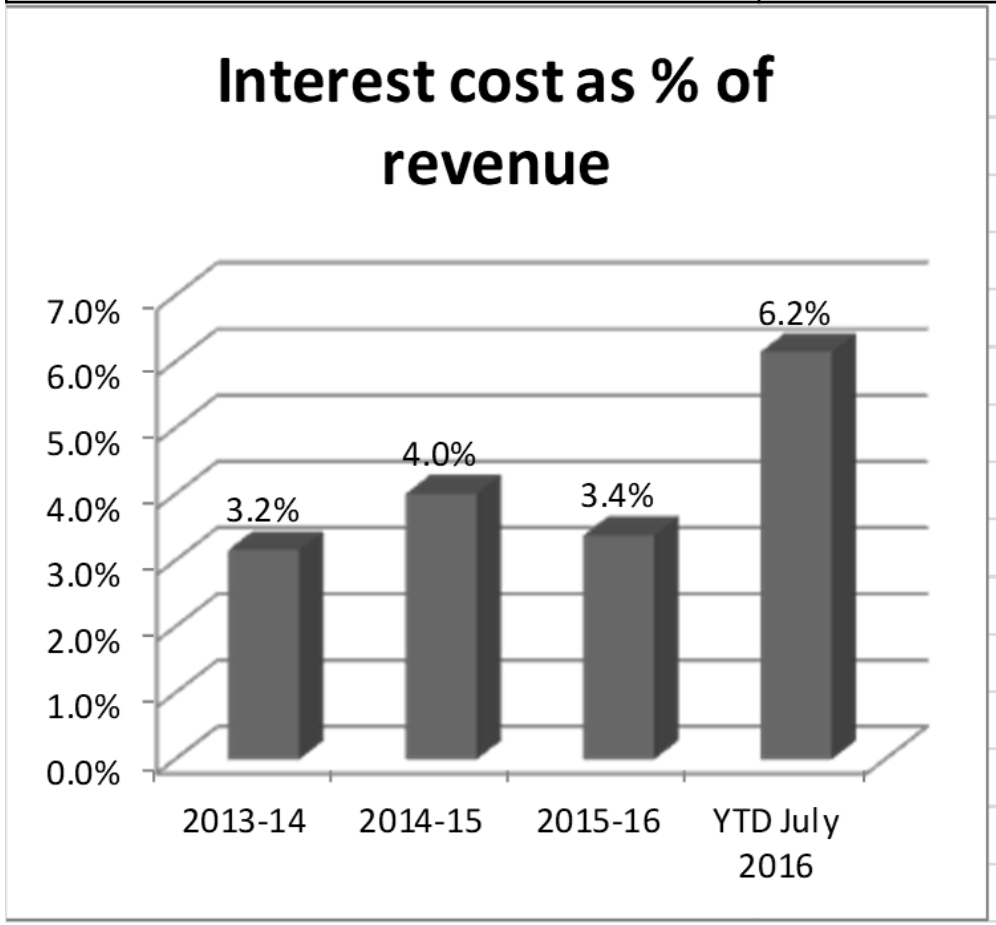
DEBT EQUITY RATIO

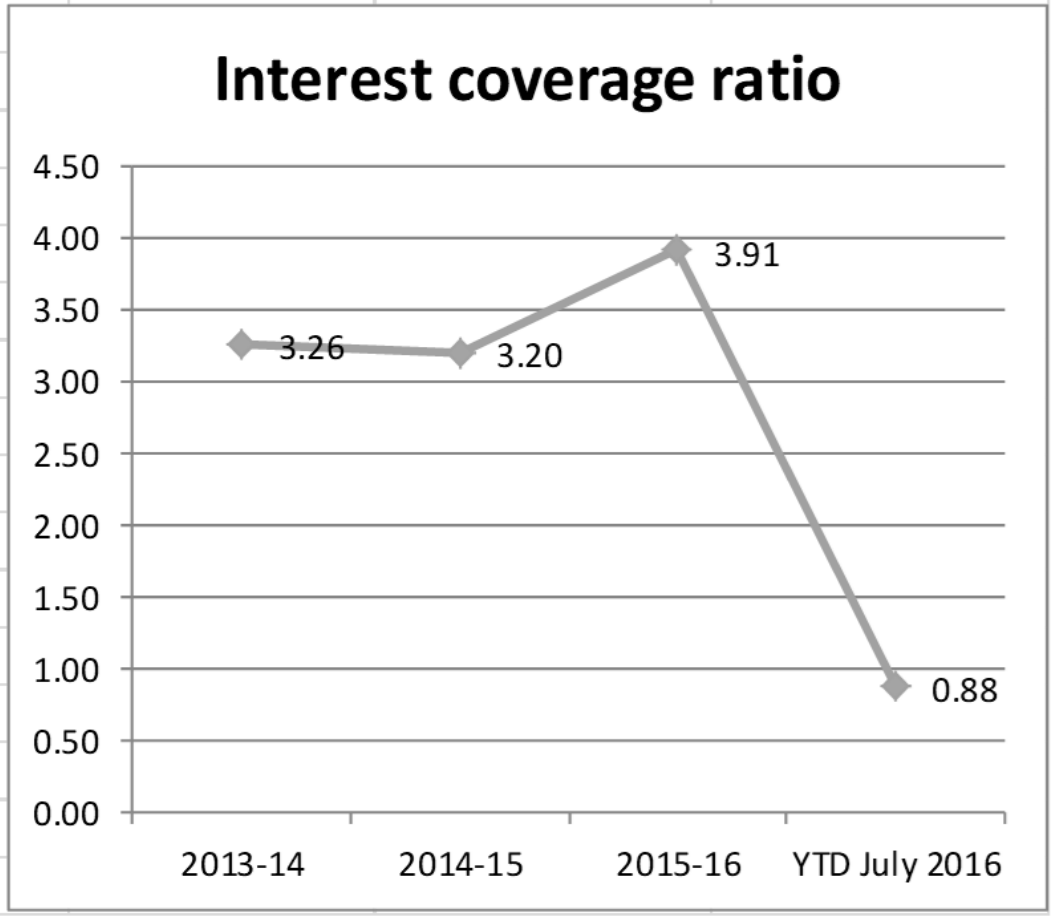
Year	2011-12	2012-13	2013-14	2014-15	2015-16	YTD June 2016	YTD June 2016
Debt equity ratio	0.11	0.13	0.07	0.02	0.04	0.03	0.03
Debt Equity Ratio (including short term)	1.72	1.79	1.27	1.14	1.28	1.34	1.34



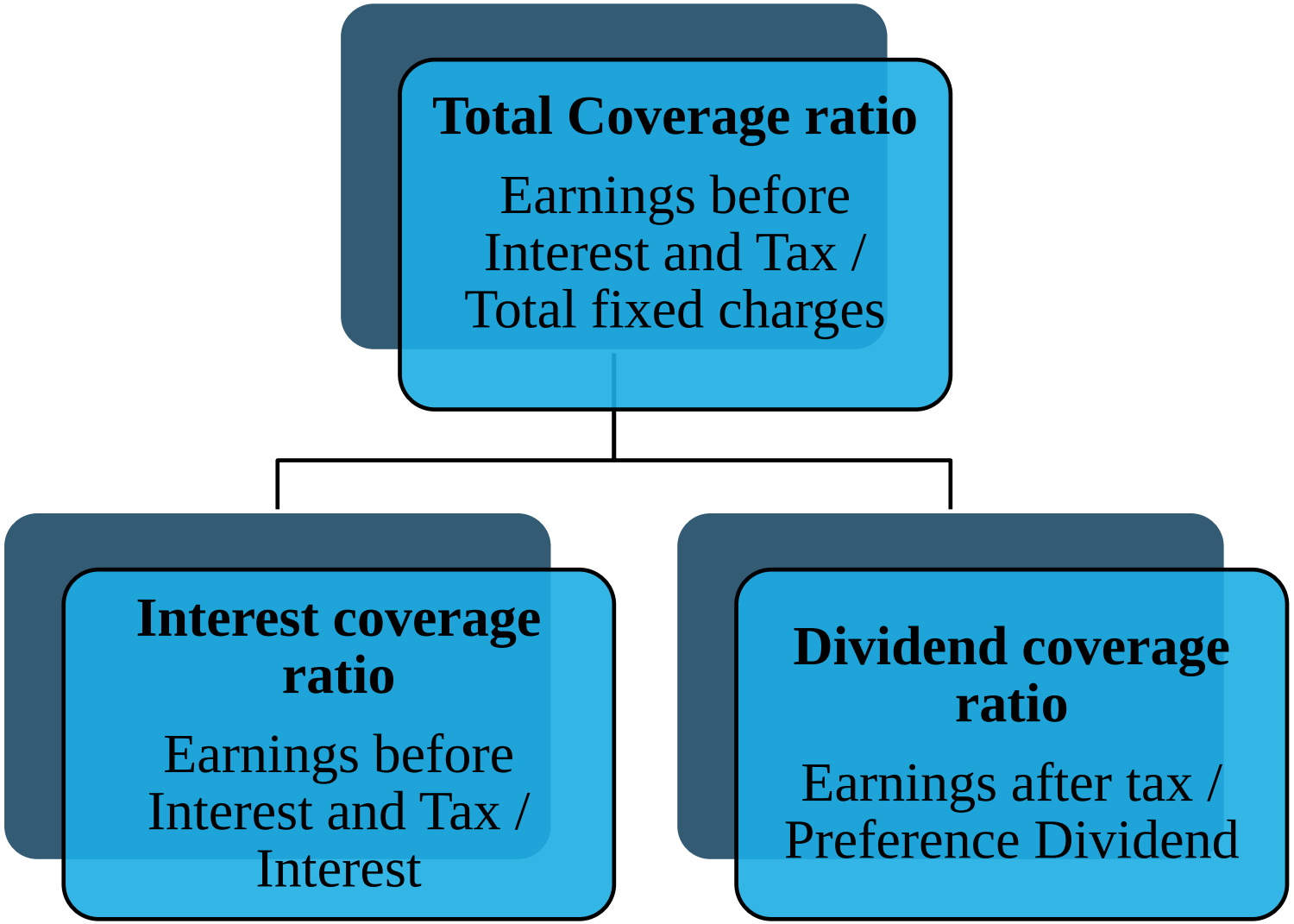
INTEREST COVERAGE RATIO

Year	2013-14	2014-15	2015-16	YTD July 2016
Interest cost	384	551	518	221
Interest cost as % of revenue	3.2%	4.0%	3.4%	6.2%
Interest coverage ratio	3.26	3.20	3.91	0.88





COVERAGE RATIOS

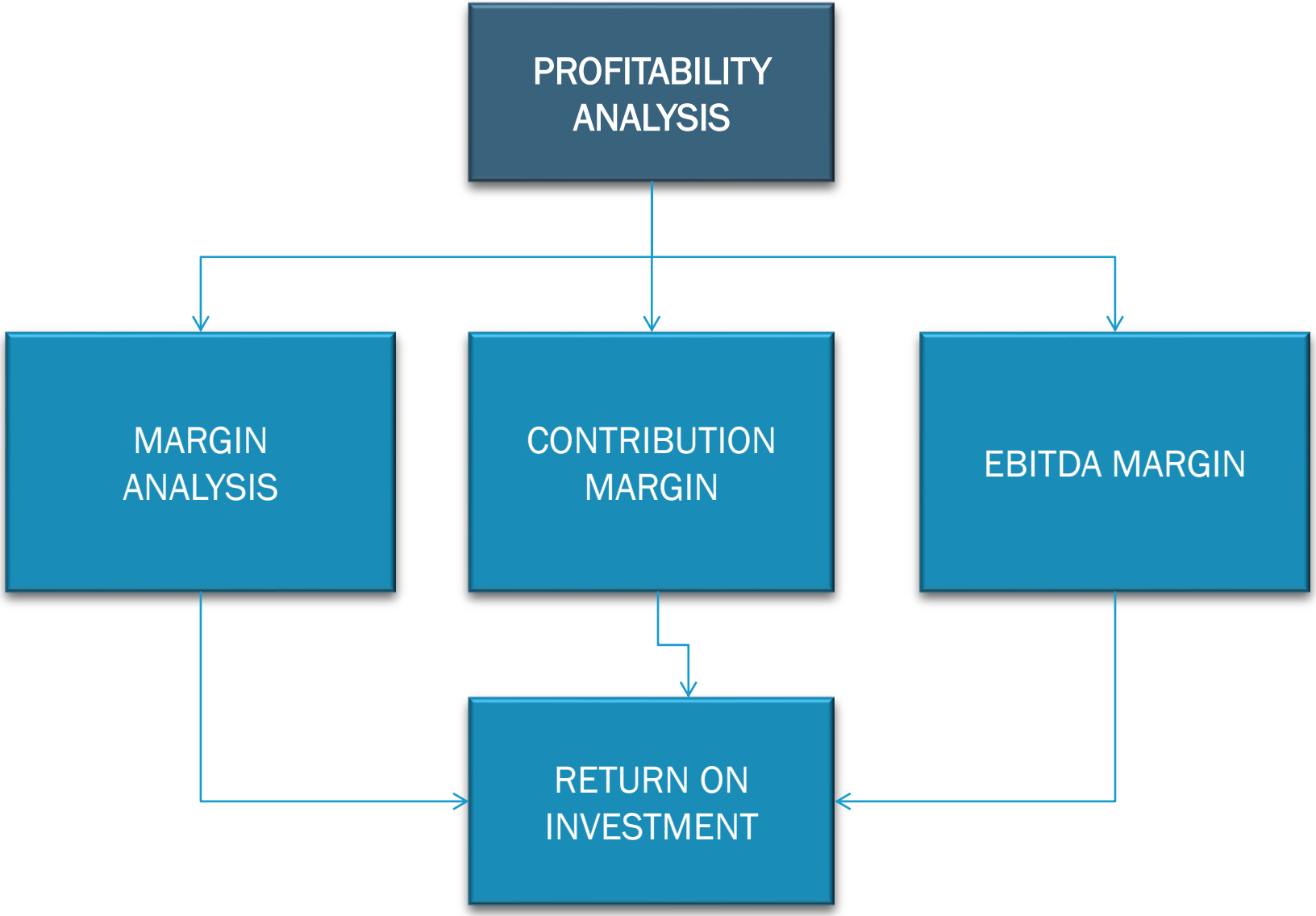


COVERAGE RATIOS

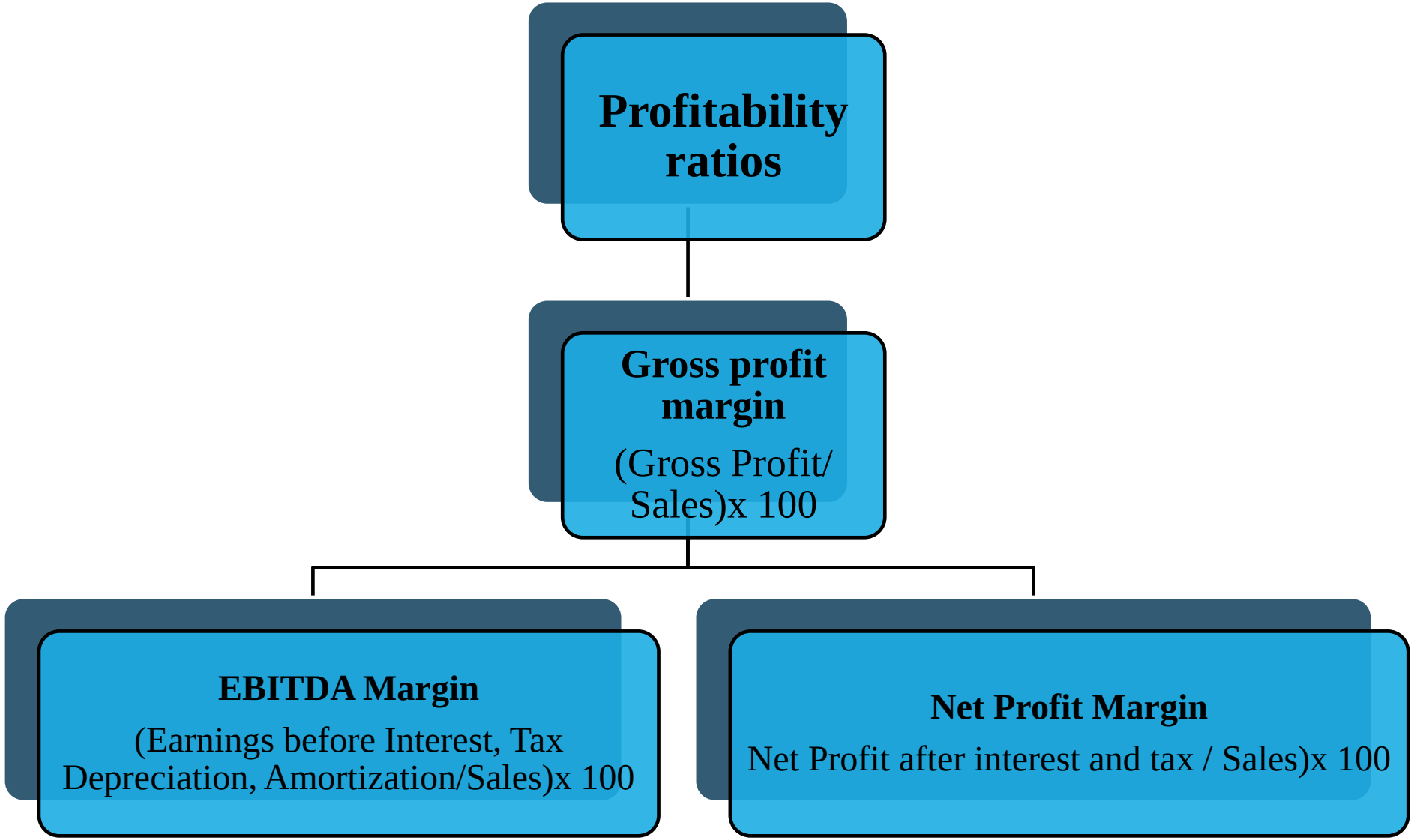
Ratio	Rationale
$\textbf{Interest coverage} = \frac{\text{Earnings before interest and tax}}{\text{Interest}}$	This is a ratio used to ascertain how easily an enterprise can pay its outstanding dues. A ratio of 1:5 is considered satisfactory.
$\textbf{Dividend coverage} = \frac{\textbf{Earnings after tax}}{\textbf{Preference dividend}}$	This ratio measures the ability of the enterprise to pay dividend on preference shares. A high ratio indicates better ability.
$\textbf{Total coverage} = \frac{\textbf{Earnings before interest and tax}}{\textbf{Total fixed charges}}$	It shows the overall ability of the enterprise to fulfil the liabilities. A high ratio is better for creditors.

PROFITABILITY ANALYSIS

DRILL DOWN OF PROFITABILITY ANALYSIS



PROFITABILITY RATIOS



PROFITABILITY RATIOS

Ratio	Rationale
$\text{Gross profit margin} = \frac{\text{Gross Profit} \times 100}{\text{Sales}}$	This ratio measures the profit in relation to sales. This ratio is measured with the benchmark ratio prevalent in the industry for inter-firm comparison purposes.
$\text{EBITDA margin} = \frac{\text{Earnings before Interest depreciation, amortisation and tax} \times 100}{\text{Sales}}$	This is a very critical ratio which is looked at by the outside world including bankers to measure the profitability of the enterprise in the short term and also used as a benchmark for valuation for the medium to long term.
$\text{Net Profit margin} = \frac{\text{Net Profit after interest and tax} \times 100}{\text{Sales}}$	This ratio measures the net profit of the enterprise with respect to sale.
Or,	
$= \frac{\textit{Net Profit after tax before interest} \times 100}{\textit{Sales}}$	This ratio measures the net profit of the enterprise with respect to sale.
	Both these ratios are used to compare with benchmark industry average to evaluate the profitability of the enterprise.

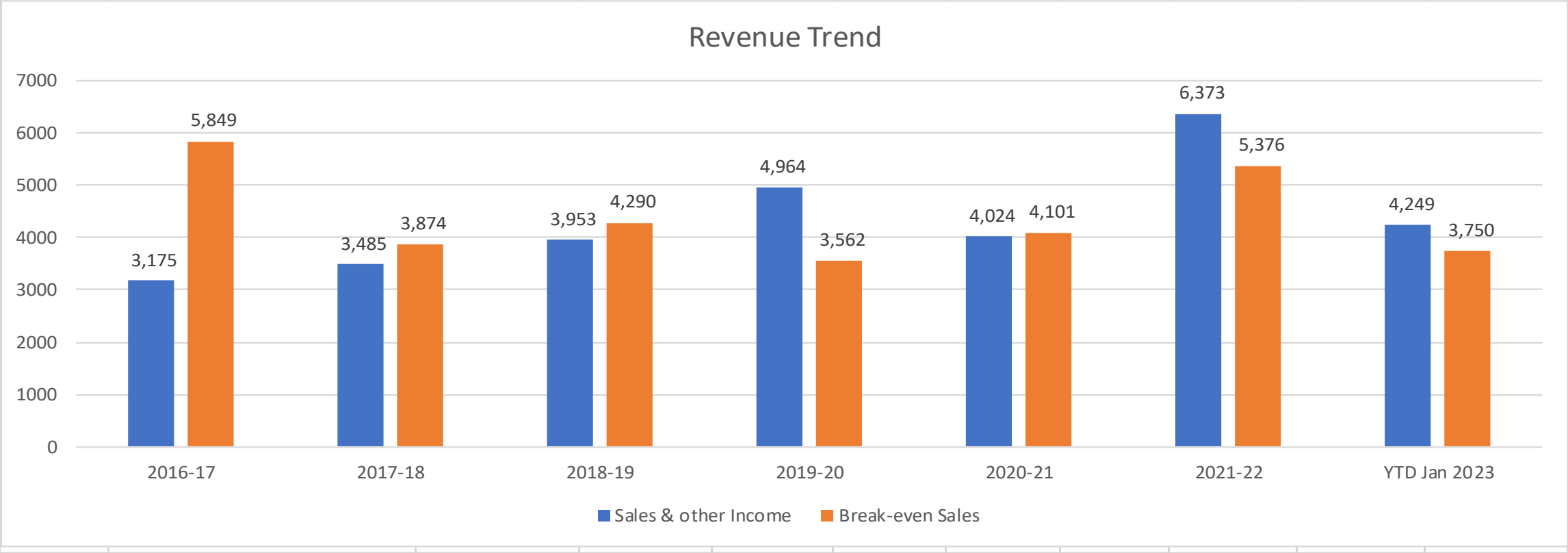
PROFITABILITY ANALYSIS

Year	2014-15	%	2015-16	%	YTD July 2016	%
Sales	13,637.2		15,264.0		3,576.7	
Other income	96.3		65.8		18.6	
Sales and other income	13,733.5		15329.83		3595.34	
Raw material consumed / Traded goods	3,980.7	29.0%	4,590.4	29.9%	1,172.6	32.6%
Purchase of carpets	2,226.6	16.2%	1,800.2	11.7%	354.0	9.8%
Materials purchased for resale	159.1	1.2%	34.6	0.2%	11.9	0.3%
Changes in inventories	(648.3)	-4.7%	(536.7)	-3.5%	(381.3)	-10.6%
Manufacturing and other direct expenses	4,078.3	29.7%	4,870.5	31.8%	1,341.9	37.3%
Contribution	3937.1	28.7%	4570.9	29.8%	1096.2	30.5%
Employee benefit expenses	582.6	4.2%	723.1	4.7%	321.8	9.0%
Other Expenses (Admin and selling)	1,409.7	10.3%	1,581.1	10.3%	494.7	13.8%
CSR Expenses	11.5	0.1%	16.5	0.1%	5.5	0.2%
Other Expenses	2003.9	14.6%	2320.7	15.1%	822.0	22.9%
Operating Profit (EBIDTA)	1933.2	14.1%	2250.2	14.7%	274.3	7.6%
EBITDA / Sales %	14.1%		14.7%		7.6%	
Depreciation	171.1	1.2%	226.4	1.5%	80.0	2.2%
EBIT	1762.2	12.8%	2023.82	13.2%	194.25	5.4%
EBIT / Sales %	12.8%		13.2%		5.4%	
Finance cost	550.7	4.0%	518.1	3.4%	221.1	6.2%
Prior period charges	-		-		-	
PBT	1211.4	8.8%	1505.8	9.8%	-26.9	-0.7%
Tax	326.7	2.4%	435.1	2.8%	-	0.0%
Net Profit (PAT)	884.8	6.4%	1070.7	7.0%	-26.9	-0.7%
Net Profit /Sales %	6.4%		7.0%		-0.7%	
Cash Accrual (NP+ DEP)	1055.8		1297.1		53.1	

REVENUE TREND

Revenue Trend — Rs Lakhs

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD Jan 2023
Sales & other Income	3,175	3,485	3,953	4,964	4,024	6,373	4,249
Break-even Sales	5,849	3,874	4,290	3,562	4,101	5,376	3,750

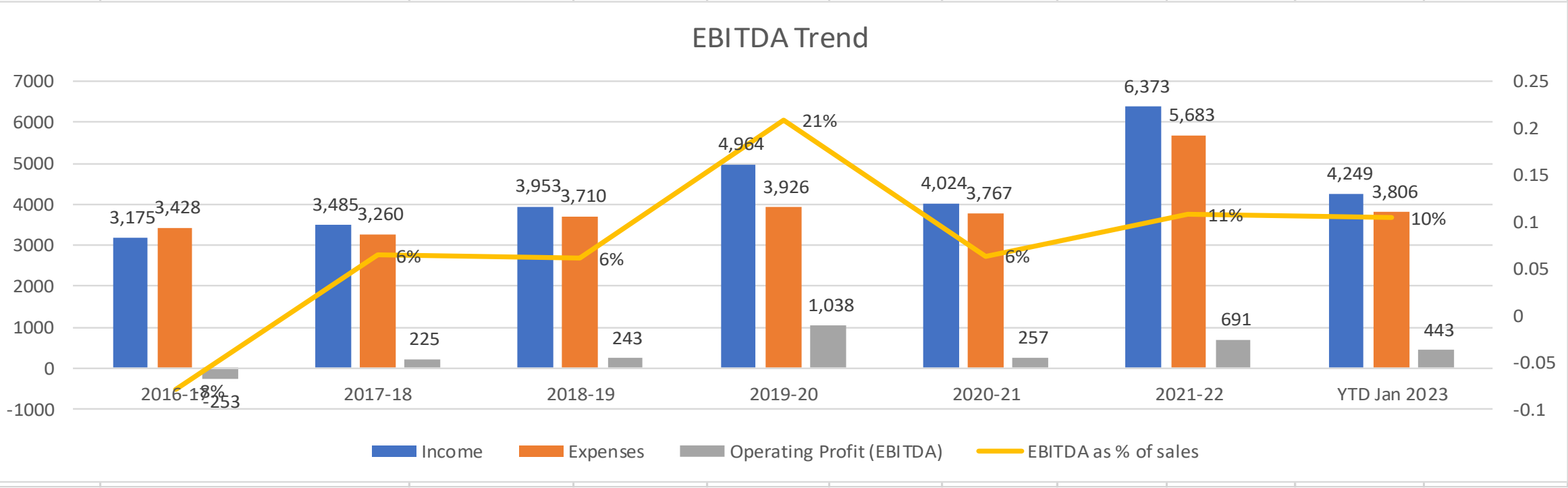


EBITDA MARGIN BASED ON TREND

EBITDA Trend

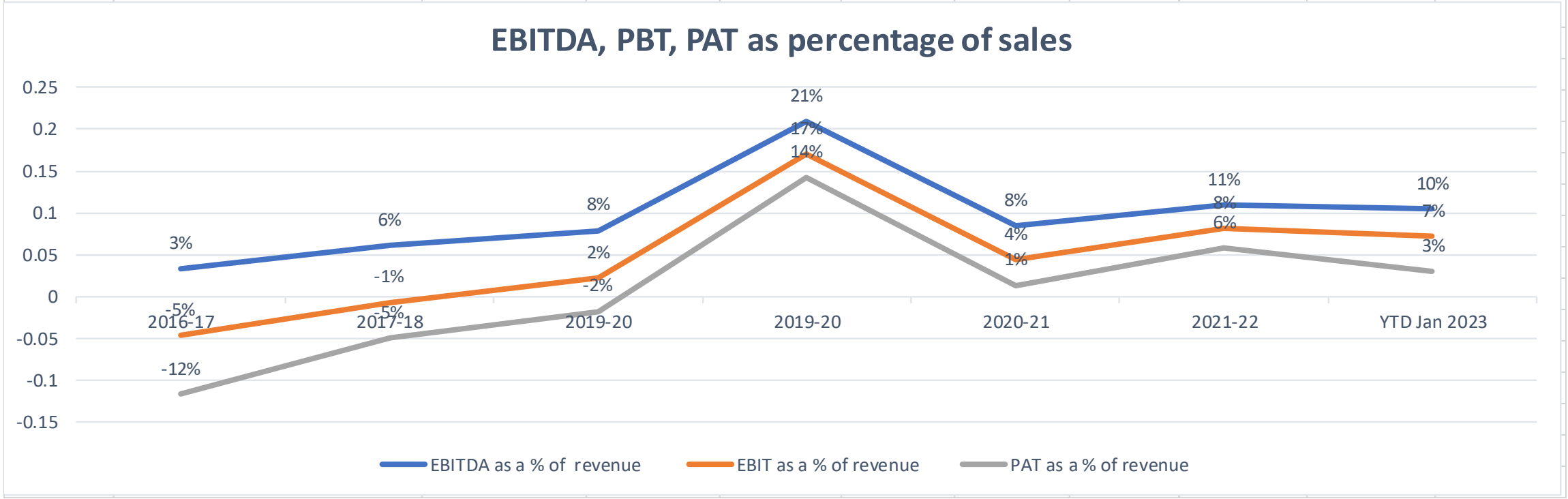
Rs Lakhs

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD Jan 2023
Income	3,175	3,485	3,953	4,964	4,024	6,373	4,249
Expenses	3,428	3,260	3,710	3,926	3,767	5,683	3,806
Operating Profit (EBITDA)	-253	225	243	1,038	257	691	443
EBITDA as % of sales	-8%	6%	6%	21%	6%	11%	10%

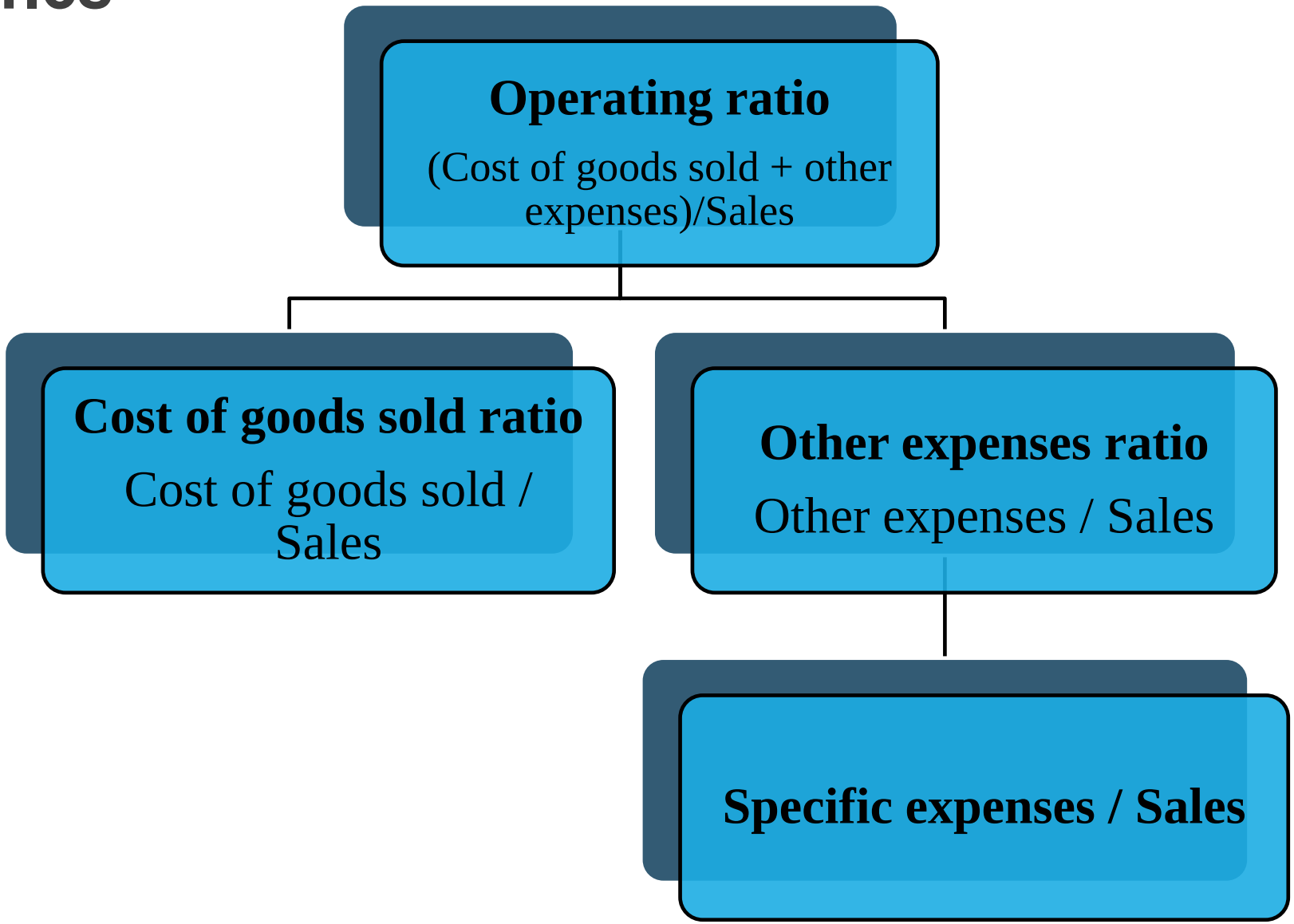


EBITDA, PBT AND PAT ANALYSIS

Year	2016-17	2017-18	2019-20	2019-20	2020-21	2021-22	YTD Jan 2023
EBITDA as a % of revenue	3%	6%	8%	21%	8%	11%	10%
EBIT as a % of revenue	-5%	-1%	2%	17%	4%	8%	7%
PAT as a % of revenue	-12%	-5%	-2%	14%	1%	6%	3%



EXPENSES RATIOS



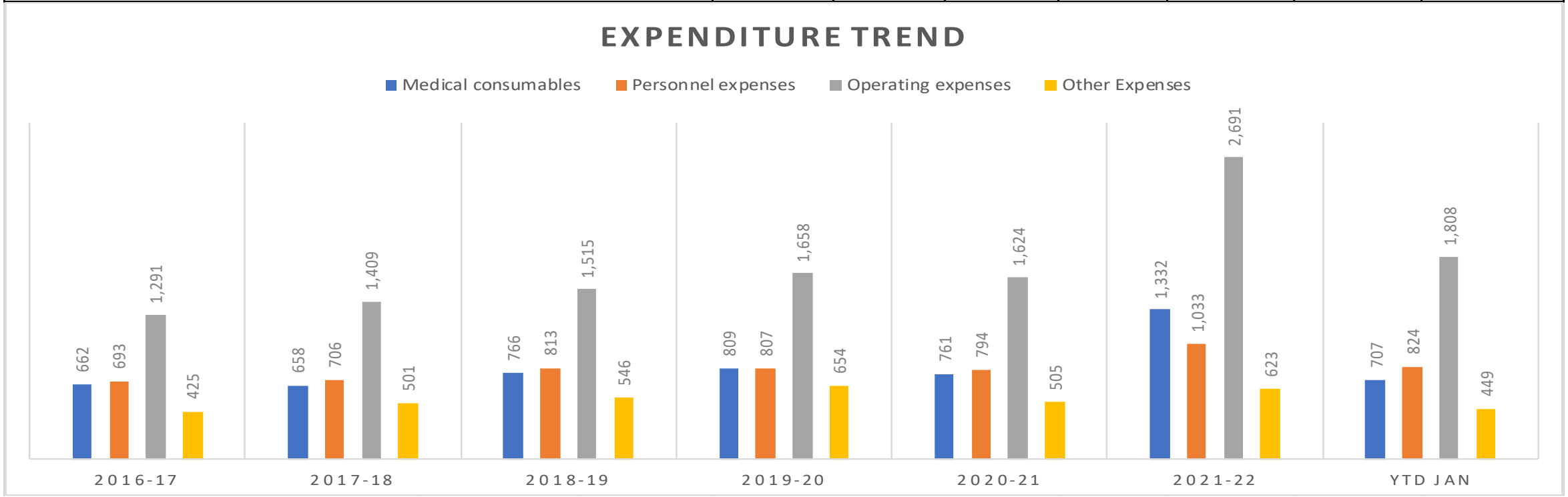
EXPENSE RATIOS

Ratio	Rationale
$\textbf{Operating ratio} = \frac{\textbf{Cost of goods sold} + \textbf{other expenses}}{\textbf{Sales}}$	This ratio is an effective measure to depict the operational efficiency of the business.
$\textbf{Cost of goods sold ratio} = \frac{\textbf{Cost of goods sold}}{\textbf{Sales}}$	Lower operating ratio would depict higher profitability and higher operating ratio would signify lower profitability. It measures the cost of goods sold per sale.
$\textbf{Specific expenses ratio} = \frac{\textbf{Specific expenses}}{\textbf{Sales}}$	It measures specific expenses per sale.

EXPENDITURE TREND

Expenditure Trend — Rs Lakhs

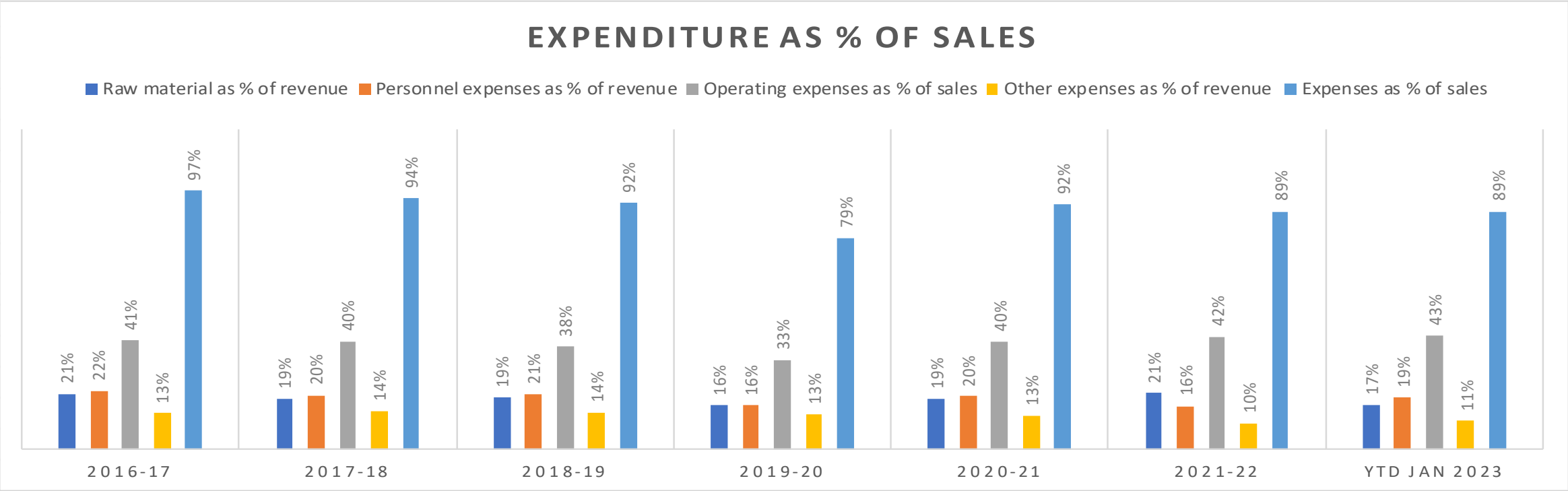
Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD JAN
Medical consumables	662	658	766	809	761	1,332	707
Personnel expenses	693	706	813	807	794	1,033	824
Operating expenses	1,291	1,409	1,515	1,658	1,624	2,691	1,808
Other Expenses	425	501	546	654	505	623	449
Total	**3,071**	**3,274**	**3,641**	**3,927**	**3,683**	**5,680**	**3,787**



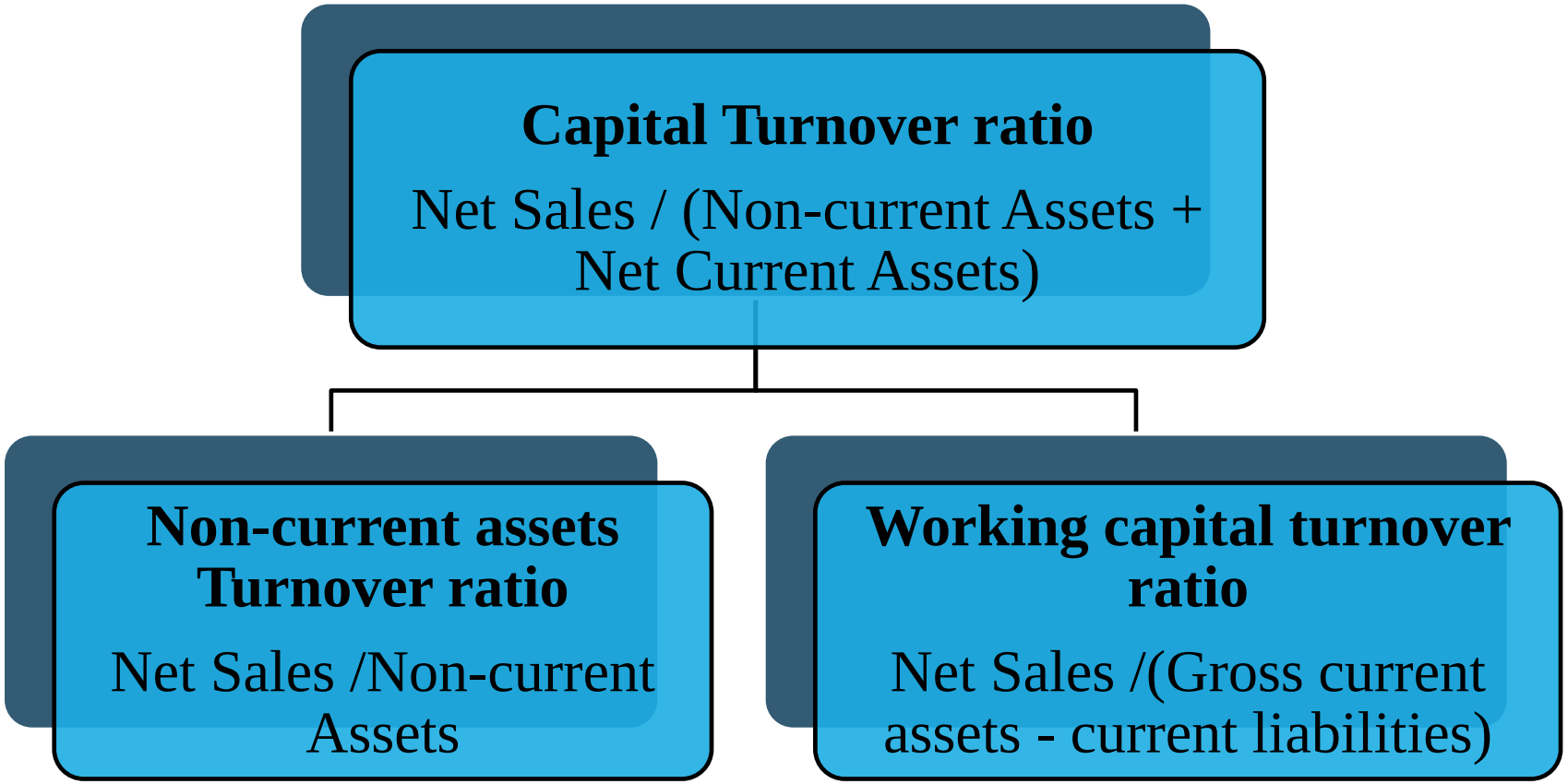
EXPENDITURE AS A PERCENTAGE OF SALES

Expenditure as % of sales

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD Jan 2023
Raw material as % of revenue	21%	19%	19%	16%	19%	21%	17%
Personnel expenses as % of revenue	22%	20%	21%	16%	20%	16%	19%
Operating expenses as % of sales	41%	40%	38%	33%	40%	42%	43%
Other expenses as % of revenue	13%	14%	14%	13%	13%	10%	11%
Expenses as % of sales	97%	94%	92%	79%	92%	89%	89%



CAPITAL TURNOVER RATIOS

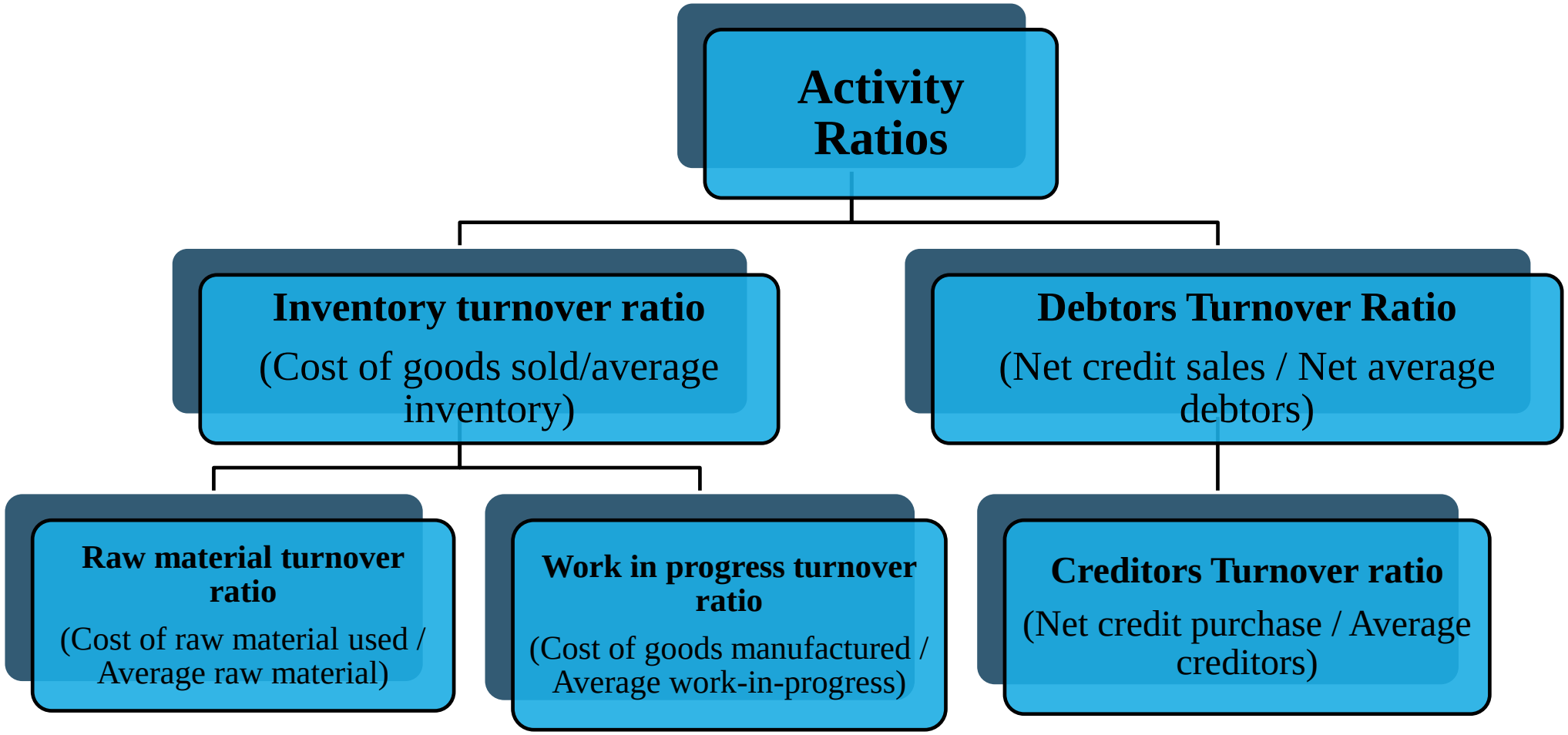


CAPITAL TURNOVER RATIOS

Ratio	Rationale
$$\text{Total Assets turnover ratio} = \frac{\text{Net Sales}}{\text{Total assets}}$$	It measures the degree of efficiency of an enterprise in utilising its assets during the operations of the enterprise. The higher the ratio, better is the efficiency and effectiveness of the enterprise in managing its assets. This turnover ratio is cascaded down to Non-current assets, Current assets and working capital turnover ratios.
$$\text{Capital turnover ratio} = \frac{\text{Net Sales}}{\text{Capital employed}}$$	
$$\text{Non} - \text{current Assets turnover ratio} = \frac{\text{Net Sales}}{\text{Non} - \text{current assets}}$$	
$$\text{Current Assets turnover ratio} = \frac{\text{Net Sales}}{\text{Current assets}}$$	
$$\text{Working capital turnover ratio} = \frac{\text{Net Sales}}{\text{Net current assets}}$$	


ACTIVITY ANALYSIS

ACTIVITY RATIOS

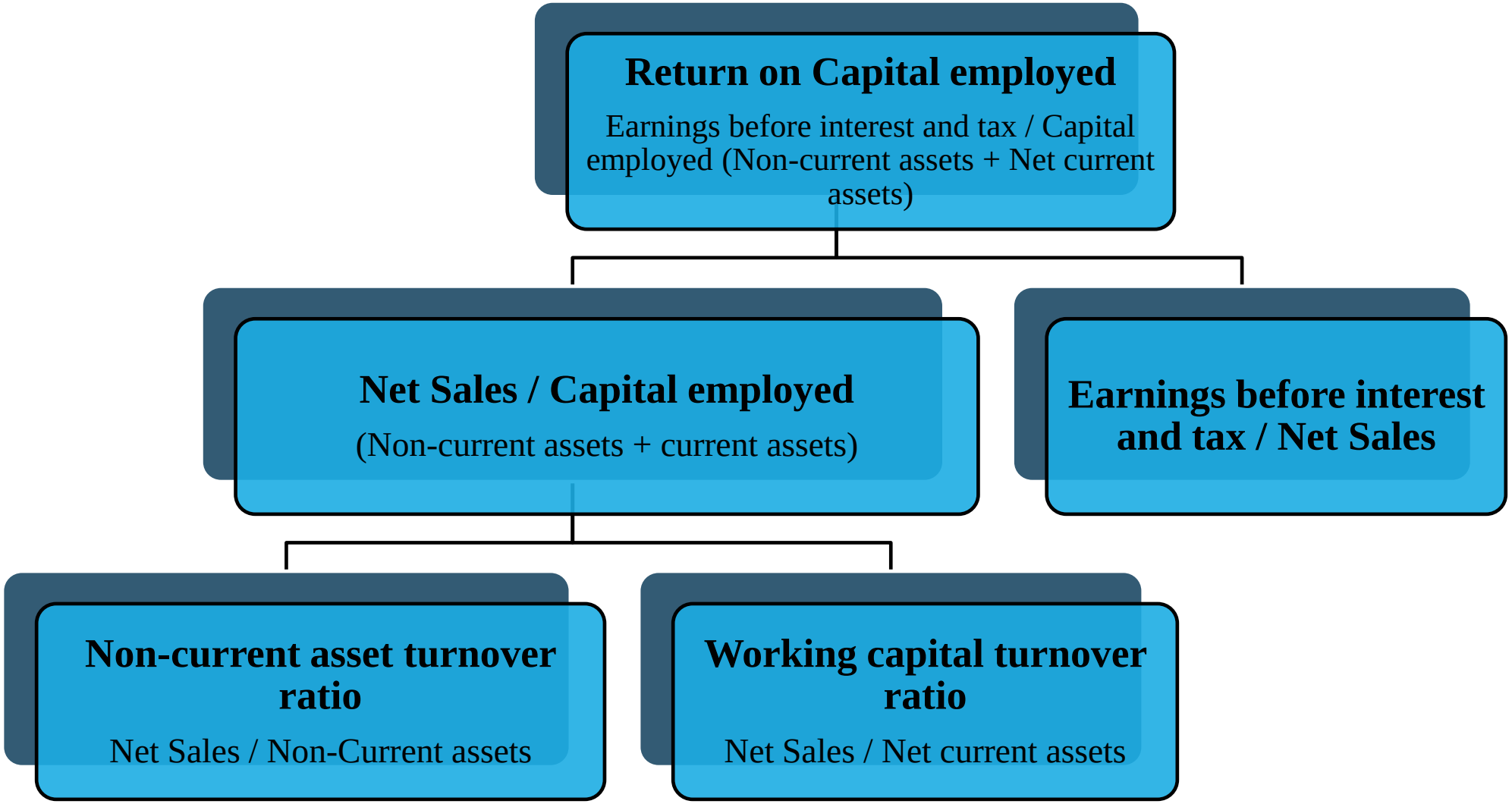


ACTIVITY RATIOS

Ratio	Rationale
$\textbf{Debtors turnover ratio} = \frac{\textbf{Net credit Sales}}{\textbf{Average net debtors}}$	This reflects how quickly receivables are converted into cash.
$\textbf{Inventory turnover ratio} = \frac{\boldsymbol{Cost\ of\ goods\ sold}}{\boldsymbol{Average\ inventories}}$	This reflects how quickly inventories are sold a converted into cash. This would depend on the nature of industry and can be benchmarked accordingly.
$\textbf{Raw material turnover ratio} = \frac{\text{Cost of raw material used}}{\text{Average raw material inventory}}$	This reflects how quickly raw material inventories are converted into finished goods. If the ratio is high, it would be mean that the enterprise is converting raw material into finished goods very efficiently. If it is other way round, it would mean there are inefficiencies in the production process which needs to be weeded out. The yard stick is the benchmark ratio of the industry in which the enterprise belongs.
$\textbf{Work in progress turnover ratio} = \frac{\text{Cost of goods manufactured}}{\text{Average work in progress inventory}}$	Same as above
$\textbf{Creditors turnover ratio} = \frac{\text{Net credit purchase}}{\text{Average creditors}}$	This reflects how quickly the enterprise settles its trade payables. Higher the ratio, it would be indication that the enterprise has enough liquidity to pay off its trade payables.


RETURN ON INVESTMENT

RETURN ON INVESTMENT



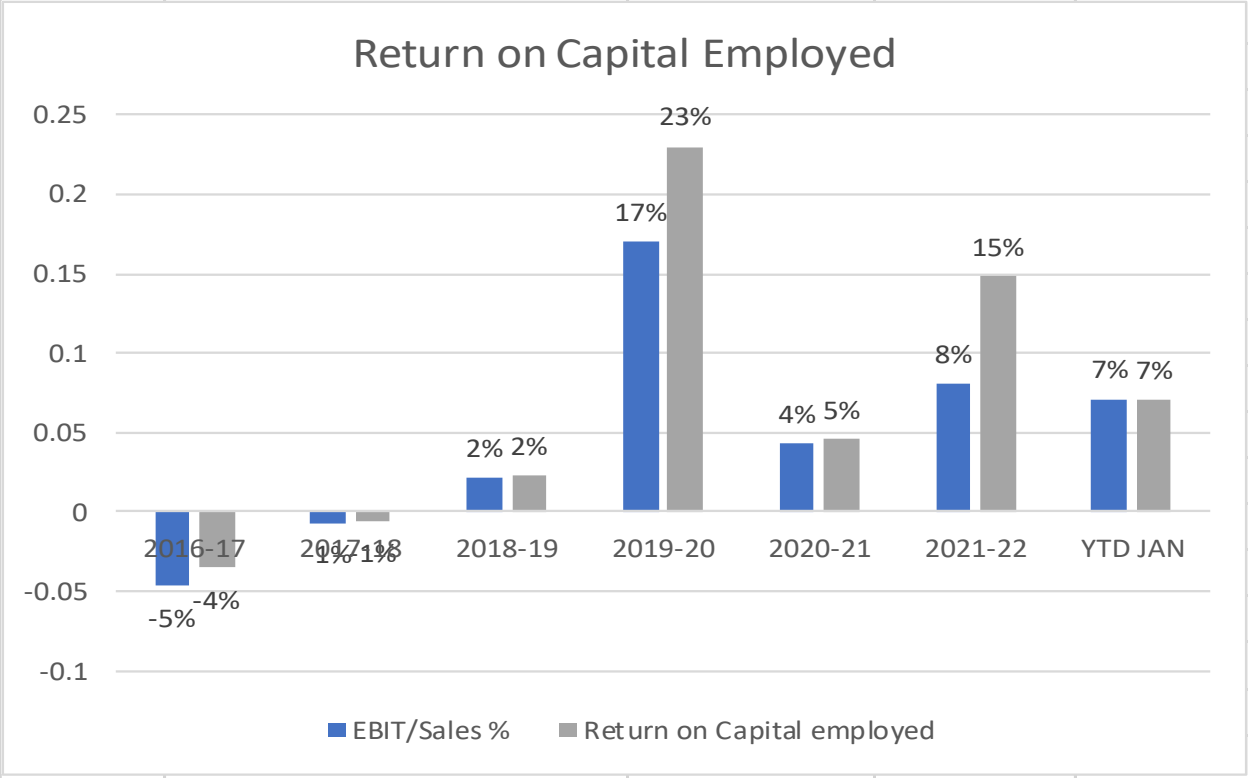
RETURN ON INVESTMENT

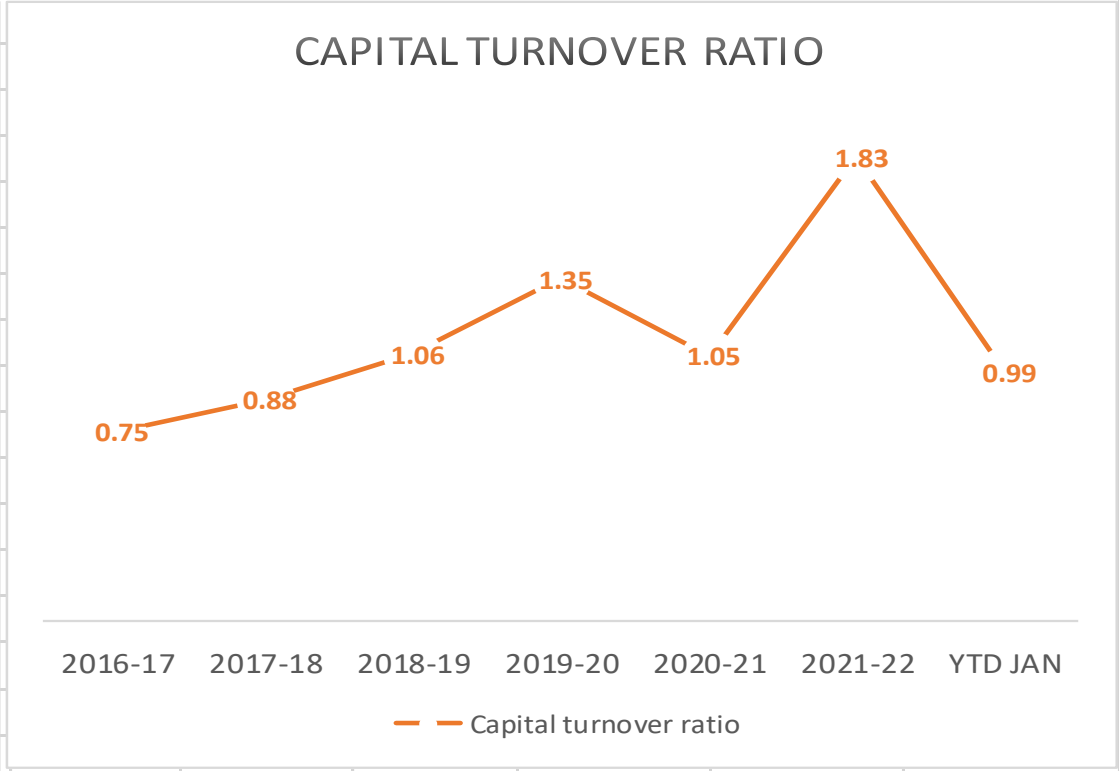
Ratio	Rationale
Return on Assets (ROA) $= \frac{(\text{Net Profit after tax}) \times 100}{\text{Total assets}}$ **Or,** $= \frac{(\text{Net Profit after tax} + \text{Interest}) \times 100}{\text{Tangible assets}}$ $= \frac{(\text{Net Profit after tax} + \text{Interest}) \times 100}{\text{Tangible assets}}$ **Or,** $= \frac{(\text{Net Profit after tax} + \text{Interest}) \times 100}{\text{Fixed assets}}$	This ratio is a measure of return on the funds invested in the total assets of the enterprise. The higher the ratio, it signifies more efficient use of the total assets.
Return on capital employed (ROCE) $= \frac{(\text{Net Profit after tax}) \times 100}{\text{Total capital employed}}$ **Or,** $= \frac{(\text{Net Profit after tax} + \text{Interest}) \times 100}{\text{Total capital employed}}$ **Or,** $= \frac{(\text{Net Profit after tax} + \text{Interest}) \times 100}{\text{Total capital employed} - \text{Intangible assets}}$	This ratio is a measure of return on the funds invested in the capital employed of the enterprise. The higher the ratio, it signifies more efficient use of the total capital employed.

RETURN ON INVESTMENT

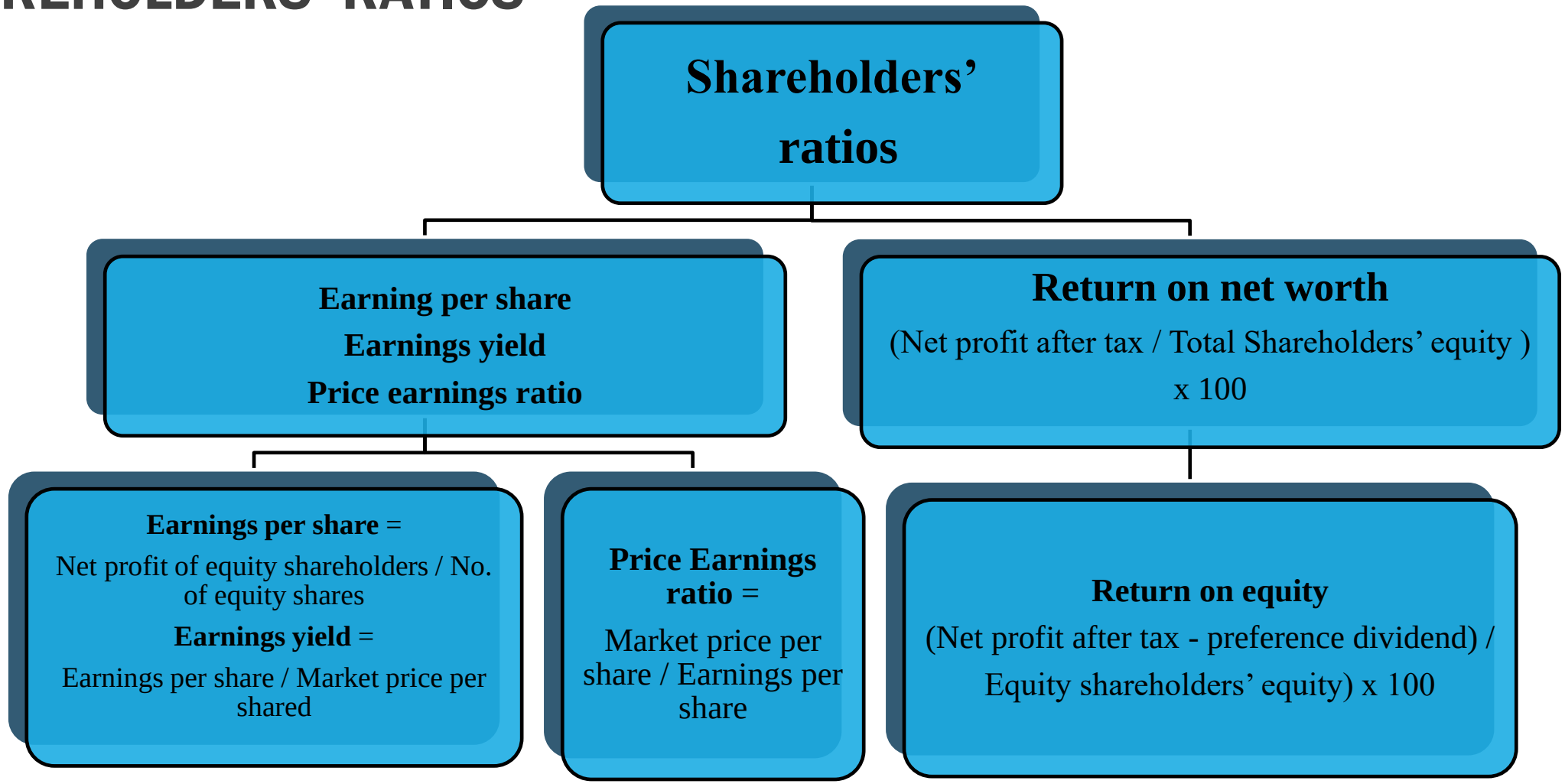
Return on Capital employed

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	YTD JAN
EBIT/Sales %	-5%	-1%	2%	17%	4%	8%	7%
Capital turnover ratio	0.75	0.88	1.06	1.35	1.05	1.83	0.99
Return on Capital employed	-4%	-1%	2%	23%	5%	15%	7%





SHAREHOLDERS' RATIOS



SHAREHOLDERS' RATIOS

Ratio	Rationale
$\textbf{Return on total shareholders' Equity} = \frac{(\text{Net Profit after tax}) \times 100}{\text{Total shareholders' equity}}$	This ratio depicts the return on total shareholders' fund deployed in the enterprise. Higher the return, it would signify better return on total shareholders' fund.
$\textbf{Return on total ordinary shareholders' Equity} = \frac{(\text{Net Profit after tax}) \times 100}{\text{Total shareholders' equity}}$ $= \frac{(\text{Net Profit after tax and preference dividend}) \times 100}{\text{Ordinary shareholders' equity}}$	This ratio depicts the return on ordinary shareholders' fund deployed in the enterprise. Higher the return, it would signify better return on equity from ordinary shareholders.
$\textbf{Earnings per share (EPS)} = \frac{\text{Net Profit of equity holders}}{\text{Number of Ordinary shares}}$	The ratio measures the profit available to the equity holders on a per share basis.
$\textbf{Dividend per share (DPS)} = \frac{\text{Net Profit after interest and preference dividend paid to ordinary shareholders}}{\text{Number of Ordinary Share outstanding}}$	The ratio measures the profit distributed as dividend to the equity holders on a per share basis.

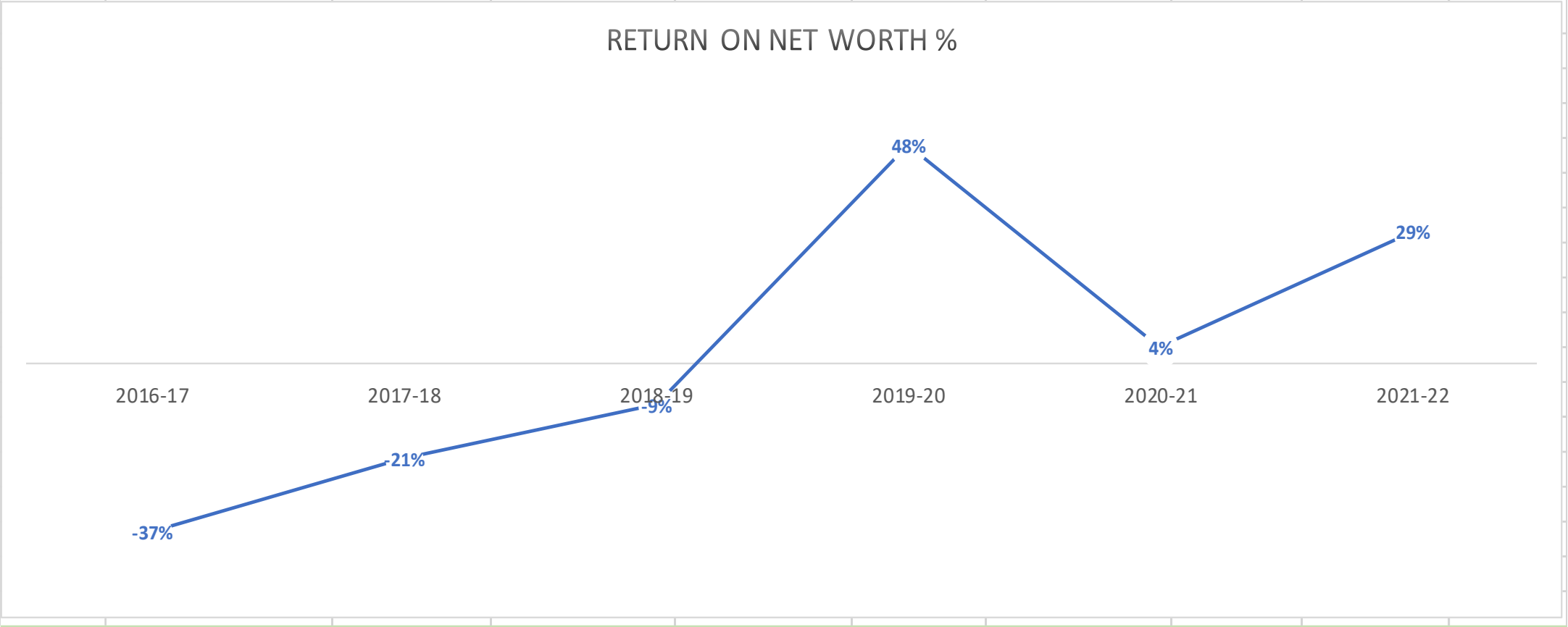
SHAREHOLDERS' RATIOS

Ratio	Rationale
$\textbf{Dividend pay} - \textbf{out ratio } (\mathbf{D/P}) = \frac{\text{Total dividend to equity holders}}{\text{Total net profit of equity Holders}}$ Or, $= \frac{\text{Dividend per ordinary share}}{\text{Earnings per share}}$	This ratio is a measure of percentage share of net profit paid out as dividend to equity shareholders. The higher the D/P ratio, more attractive it is for the investor.
$\textbf{Earnings yield} = \frac{\text{Earnings per share}}{\text{Market value per share}}$	This ratio is a measure of percentage of each rupee invested in the stock that has been earned by the enterprise
$\textbf{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market value per share}}$	This ratio is a measure of percentage dividend paid out by the enterprise each year in relation to its share price
$\textbf{Price earnings ratio } (\mathbf{P/E}) = \frac{\text{Market value per share}}{\text{Earnings per share}}$	This ratio is a measure which signifies the price currently paid by the investor for each rupee of EPS. Higher the ratio more expensive is the stock price and more market capitalization for the owners.
$\textbf{Earning power} = \frac{\text{Net profit after tax}}{\text{Total assets}}$	The ratio is a measure of the earning power of the enterprise as it depicts overall profitability and operational efficiency of an enterprise.

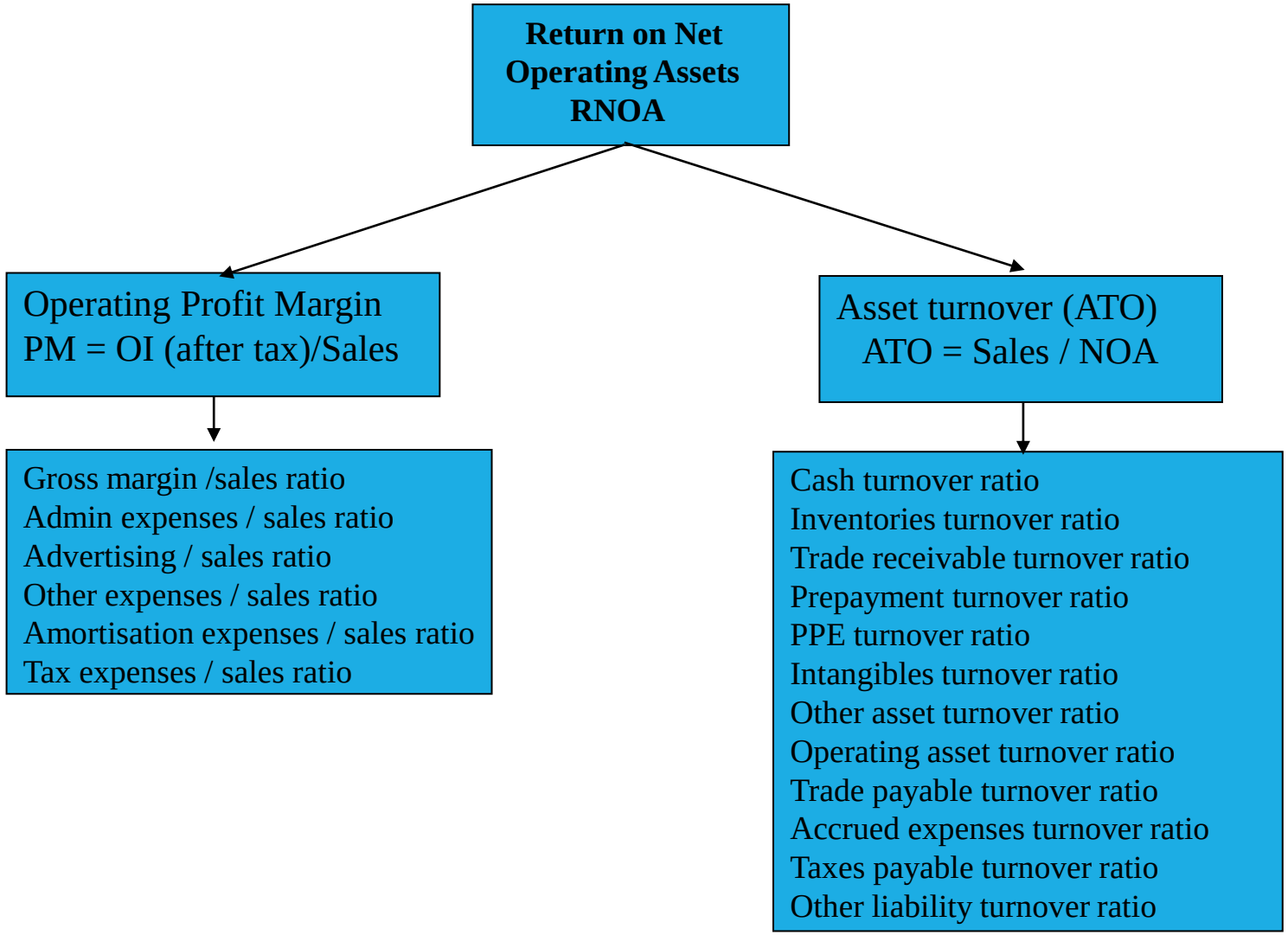
RETURN ON NET WORTH

Shareholder Returns

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Return on Net worth %	-37%	-21%	-9%	48%	4%	29%



Drivers of Return on Equity



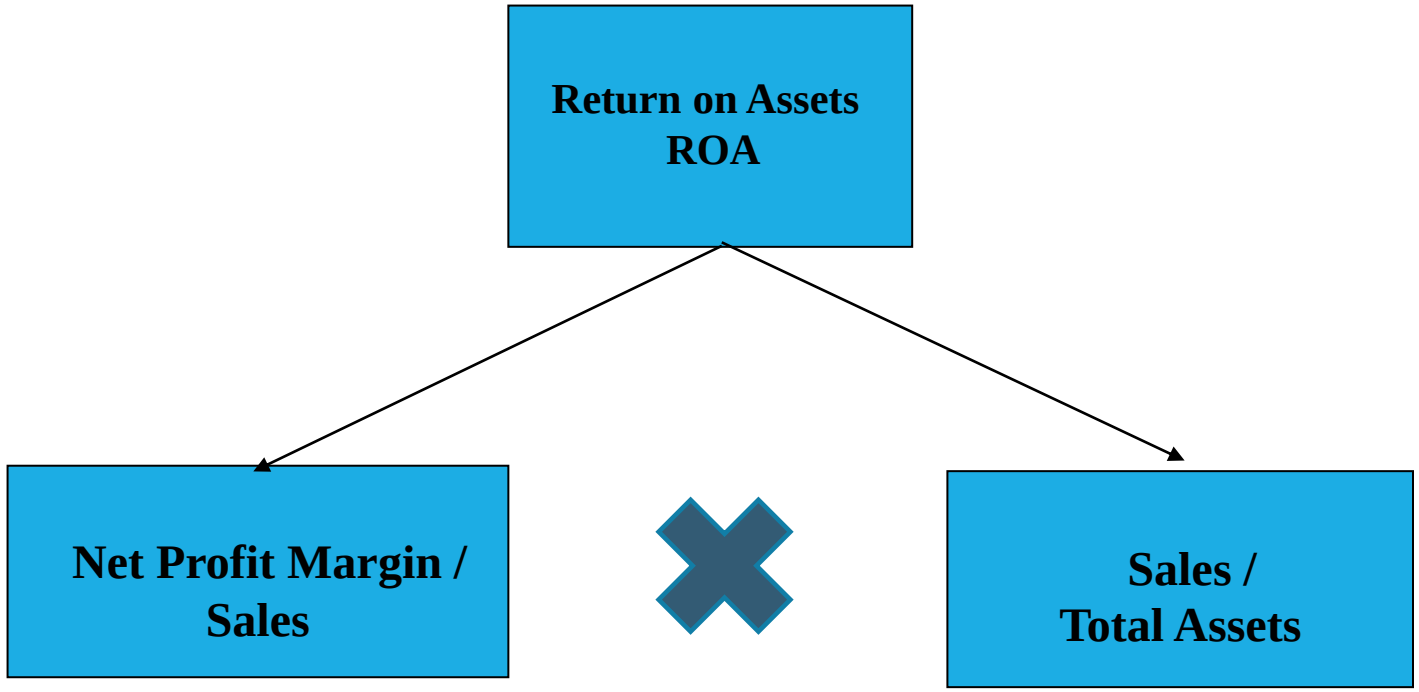
Drivers of Operating margin

Items	Ratios
Gross margin/sales ratio	$= \frac{\text{Gross margin}}{\text{Sales}}$
Admin expenses/sales ratio	$= \frac{\text{Administration expenses}}{\text{Sales}}$
Advertising/sales ratio	$= \frac{\text{Advertising expenses}}{\text{Sales}}$
Other expenses/sales ratio	$= \frac{\text{Other expenses}}{\text{Sales}}$
Amortisation expenses/sales ratio	$= \frac{\text{Amortisation expenses}}{\text{Sales}}$
Tax expenses/sales ratio	$= \frac{\text{Tax expenses}}{\text{Sales}}$
Net margin/sales ratio (resultant of all of above)	$= \frac{\text{Net margin}}{\text{Sales}}$

Drivers of Turnover Ratios

Items	Ratios
Cash turnover ratio	$= \frac{\text{Sales}}{\text{Cash}}$
Inventories turnover ratio Inventories days sales (IDS)	$= \frac{\text{Cost of goods sold}}{\text{Inventory}} = \frac{365}{\text{Inventory turnover}}$
Trade receivable turnover ratio Days sales Outstanding (DSO)	$= \frac{\text{Sales}}{\text{Trade Receivable}} = \frac{365}{\text{Trade receivable turnover}}$
Trade payable turnover ratio	$= \frac{\text{Purchases}}{\text{Trade Payable}} = \frac{365}{\text{Trade payable turnover}}$
PPE turnover ratio	$= \frac{\text{Sales}}{\text{Property, Plant \& Equipment}}$
Intangibles turnover ratio	$= \frac{\text{Sales}}{\text{Intangible properties}}$
Prepayment turnover ratio	$= \frac{\text{Sales}}{\text{Prepayments}}$
Accrued expenses turnover ratio	$= \frac{\text{Cost of goods sold}}{\text{Accrued expenses}}$
Other liabilities turnover ratio	$= \frac{\text{Cost of goods sold}}{\text{Other liabilities}}$
Tax payable turnover ratio	$= \frac{\text{Sales}}{\text{Tax payable}}$

DuPont Analysis – Return on Assets



TOOLS USED BY FINANCE FOR EVALUATION OF PROJECTS

Net Present Value

- According to Investopedia, Net Present Value (NPV) is the difference between the ***present value*** of cash inflows and the ***present value*** of cash outflows over a period of time.
- NPV is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project.

Hence the simple of equation is:

NPV=TVECF−TVIC

where:

TVECF=Today's value of the expected cash flows

TVIC=Today's value of invested cash

Internal Rate of Return

- The internal rate of return (IRR) is a metric used in capital budgeting to estimate the profitability of potential investments.
- The internal rate of return is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero.
- This signifies that, the rate of return on the proposed investment to a project is equal to the cost of capital, sometimes called the hurdle rate. If the rate of return exceeds the hurdle rate it means that the project is viable as it generates a positive net present value.
- However, on the other hand, if the rate of return is less than the hurdle rate (cost of capital) then the net present value is negative and hence, is not considered viable.
- IRR calculations rely on the same formula as NPV does.

Payback Period

- The payback period refers to the amount of time it takes to recover the cost of an investment.
- Simply put, the payback period is the length of time when the undiscounted value of cumulative cash inflows equates with original cash outflows and the resultant reaches to zero.
- Beyond this point the incremental cash inflows would generate positive inflows over outflows in future period of time.
- This is a very simple and thumb rule metric which helps the investor understand by when his investment will be recovered fully from the projected cash inflows generated from the project.

THANK YOU!