

FINANCIAL STATEMENT ANALYSIS



AGENDA FOR THE SESSION

- Understand Balance Sheet/ Income Statement, ratios and what information can be inferred from it for the users of Financial Statements.

Analyzing Balance Sheet of a company to infer the following:

- How a company is financing its various assets?
- Structure of Balance Sheet
- How is the financial position of a company?
- How to infer about the soundness of a company?

-
- Some basics for understanding ... Balance Sheet

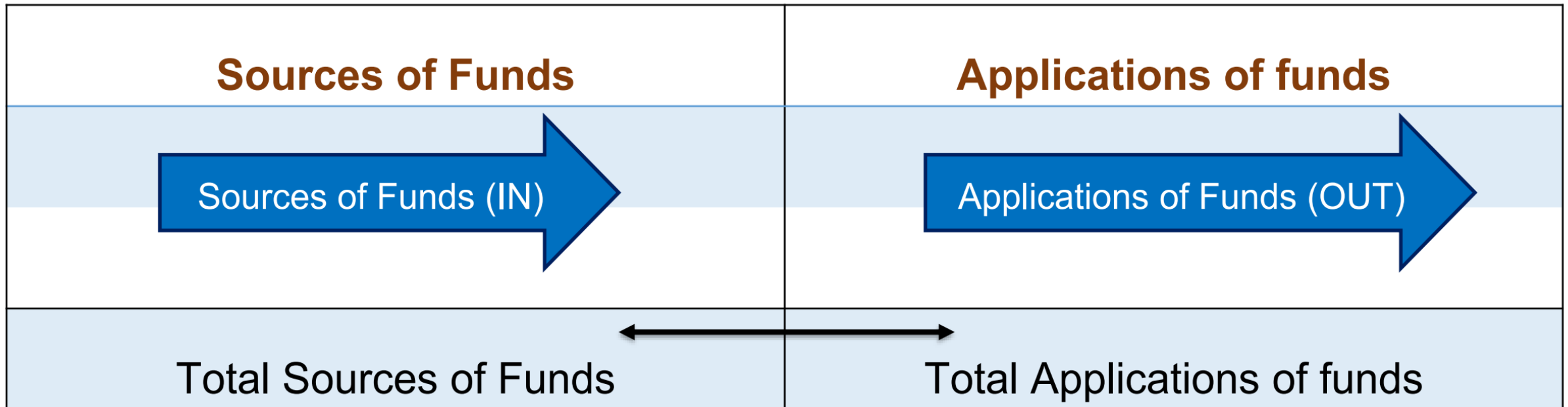
BALANCE SHEET

- A statement that shows balances of assets and liabilities of a firm at a point of time.
- A Statement of Financial Position as it shows what a firm owes and what a firm owns.
- A statement of balances whose total of assets will always equal to the total of Owners' Equity + Outsiders' Liabilities.
- A statement that shows balances to be carried to the next accounting year.

Another way of understanding Balance Sheet

Balance Sheet is statement that shows –

- o From where a firm gets funds – **SOURCES OF FUNDS**
- o Where a firm use funds – **APPLICATIONS OF FUNDS**



Contents of a Balance Sheet

Assets:

- Non-Current Assets
- Current Assets

Outsider's Liabilities:

- Non-Current Liabilities
- Current Liabilities

Owners' Equity/Shareholders' Fund

OBJECTIVES OF BALANCE SHEET ANALYSIS

- We do the analysis of Balance Sheet because of the following reasons:
- Understanding from where a company is raising funds to meet its fund requirement.
- Understanding where a company is investing its funds.
- Understanding the structure of a company's Balance Sheet.
- Understanding the changing pattern of the structure of Balance Sheet.
- Understanding financial position of a company.
- Understanding whether a company is a leveraged company.
- Understanding whether a company is capable of meeting its short-term as well as long-term obligations.

-
- Understanding Structure of Balance Sheet
 - From where one rupee is raised?
 - Where one rupee is used?

-
- Analyzing Balance Sheet of Asian Paints Limited

COMMON-SIZE ANALYSIS OF BALANCE SHEET – LIABILITIES SIDE

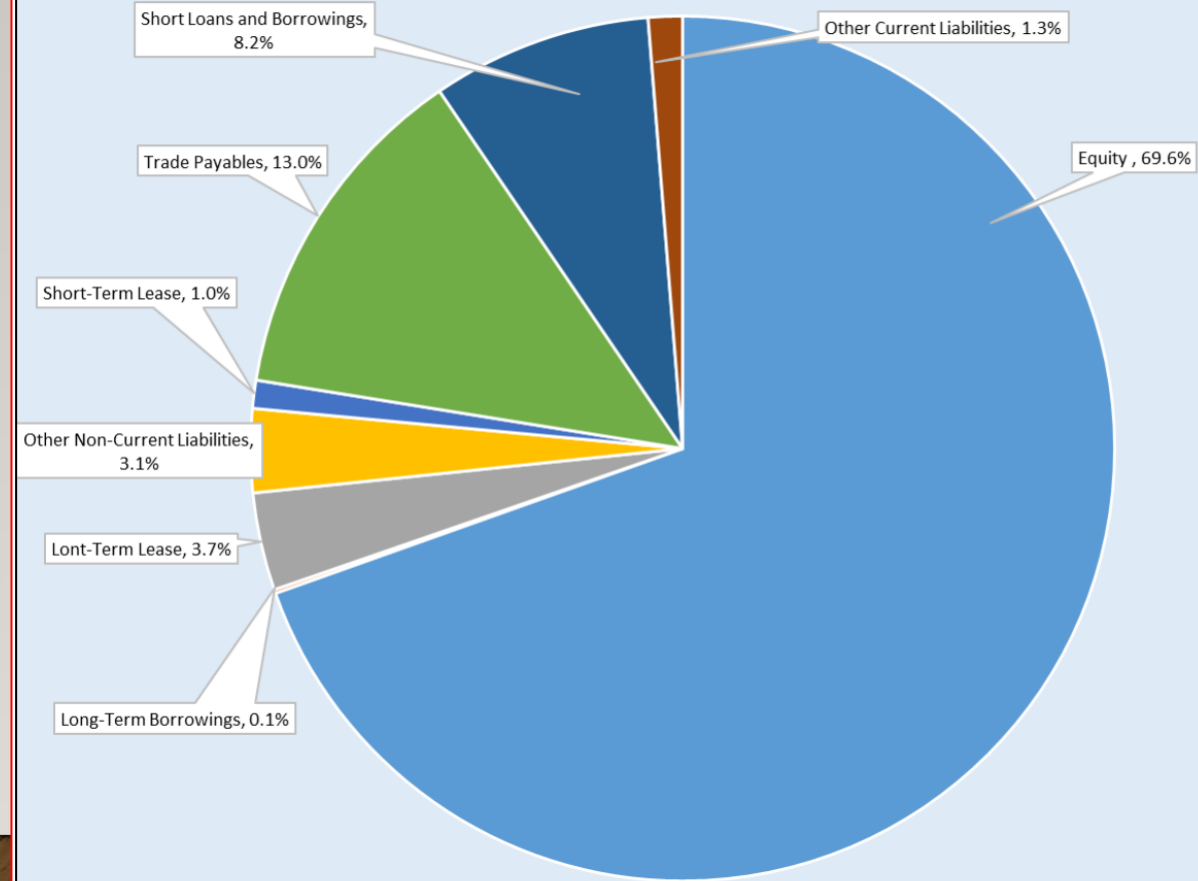
Asian Paints Limited			
COMMON-SIZE ANALYSIS			
EQUITY AND LIABILITIES	31.03.2018	31.03.2019	31.03.2020
Equity			
Equity Share Capital	0.80%	0.70%	0.71%
Other Equity	63.76%	63.93%	68.87%
TOTAL EQUITY	64.56%	64.63%	69.57%
Financial Liabilities			
Borrowings	0.08%	0.08%	0.14%
Lease Liabilities	2.84%	3.46%	3.65%
Other Financial Liabilities	0.01%	0.01%	0.00%
Provisions	0.89%	0.87%	1.01%
Deferred Tax Liabilities (Net)	2.07%	2.87%	2.08%
Other Non-Current Liabilities	0.02%	0.01%	0.03%
TOTAL NON-CURRENT LIABILITIES	5.91%	7.30%	6.91%
Borrowings		0.03%	
Lease Liabilities	1.24%	0.92%	1.05%
Trade Payables	15.41%	15.07%	12.95%
Other Financial Liabilities	10.06%	10.45%	8.23%
Other Current liabilities	2.04%	0.87%	0.60%
Provisions	0.36%	0.38%	0.32%
Current Tax Liabilities (Net)	0.42%	0.36%	0.36%
TOTAL CURRENT LIABILITIES	29.53%	28.07%	23.51%
TOTAL EQUITY AND LIABILITIES	100.00%	100.00%	100.00%

COMMON-SIZE ANALYSIS OF BALANCE SHEET – ASSETS SIDE

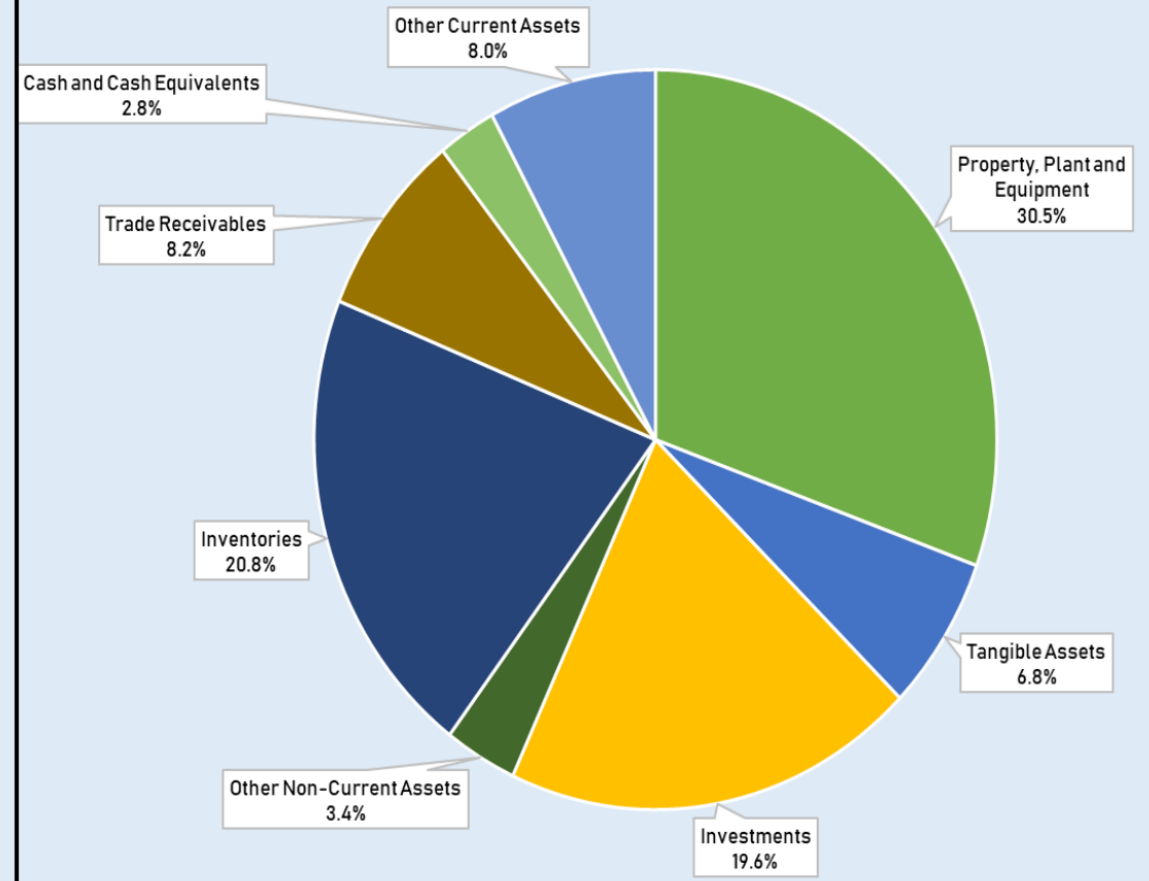
Asian Paints Limited			
COMMON-SIZE ANALYSIS			
ASSETS	31.03.2018	31.03.2019	31.03.2020
Property, Plant and Equipment	19.43%	32.38%	30.53%
Right of Use Asset	4.79%	5.12%	5.35%
Capital Work-in-Progress	11.59%	1.31%	0.80%
Goodwill	0.29%	0.26%	0.26%
Other Intangible Assets	0.46%	0.40%	0.37%
Investments in Subsidiaries and Associate	6.91%	6.07%	8.66%
Investments	5.97%	7.21%	7.72%
Loans	0.66%	0.56%	0.47%
Other Financial Assets	1.20%	1.61%	1.71%
Current Tax Assets (Net)	0.41%	0.60%	1.02%
Other Non-Current Assets	2.50%	0.24%	0.24%
TOTAL NON-CURRENT ASSETS	54.21%	55.76%	57.12%
Inventories	18.13%	18.89%	20.81%
Investments	8.57%	8.38%	3.18%
Trade Receivables	9.47%	9.10%	8.16%
Cash and Cash Equivalent	0.89%	0.72%	2.48%
Other Balances with Banks	0.12%	0.51%	0.29%
Loans	0.10%	0.10%	0.16%
Other Financial Assets	5.22%	4.15%	6.23%
Assets classified as Held for Sale	0.01%	0.00%	0.00%
Other Current Assets	3.27%	2.39%	1.56%
TOTAL CURRENT ASSETS	45.79%	44.24%	42.88%
TOTAL ASSETS	100.00%	100.00%	100.00%

FROM WHERE ONE RUPEE IS RAISED AND WHERE IT IS INVESTED?

FROM WHERE ONE RUPEE IS RAISED AS ON 31.03.2020

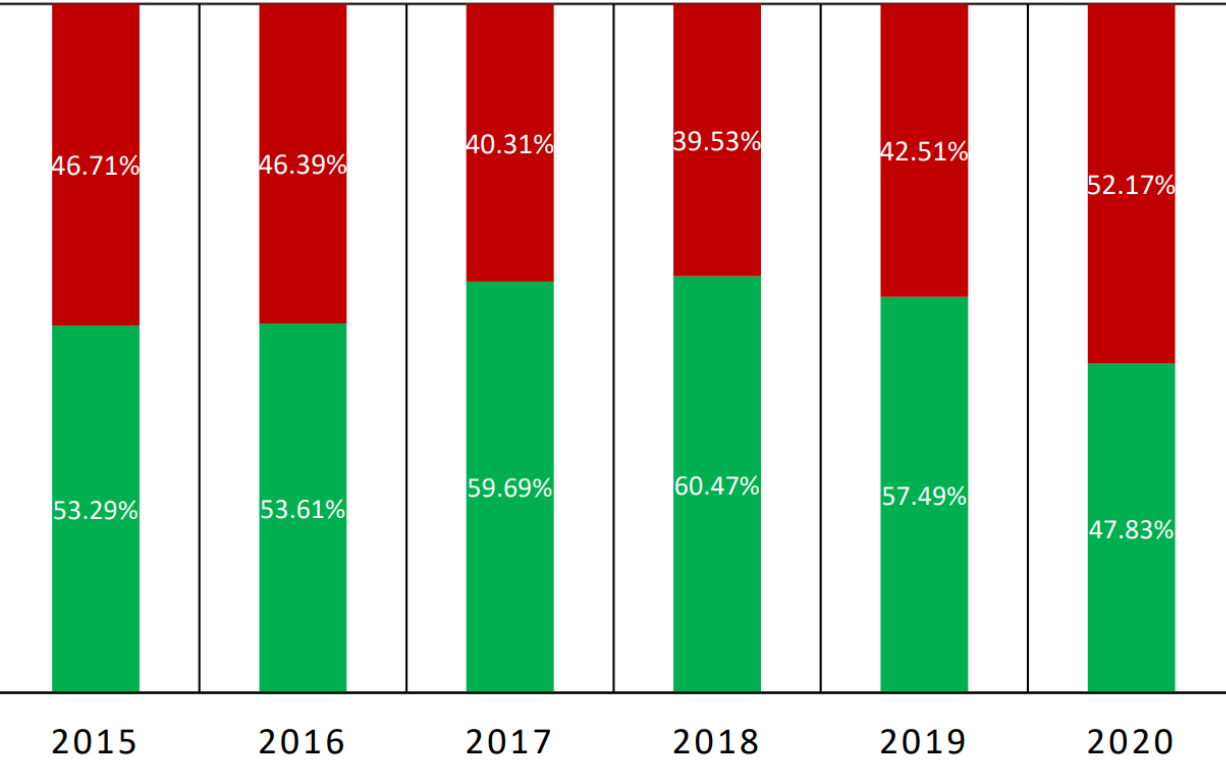


WHERE ONE RUPEE IS INVESTED AS ON 31.03.2020?



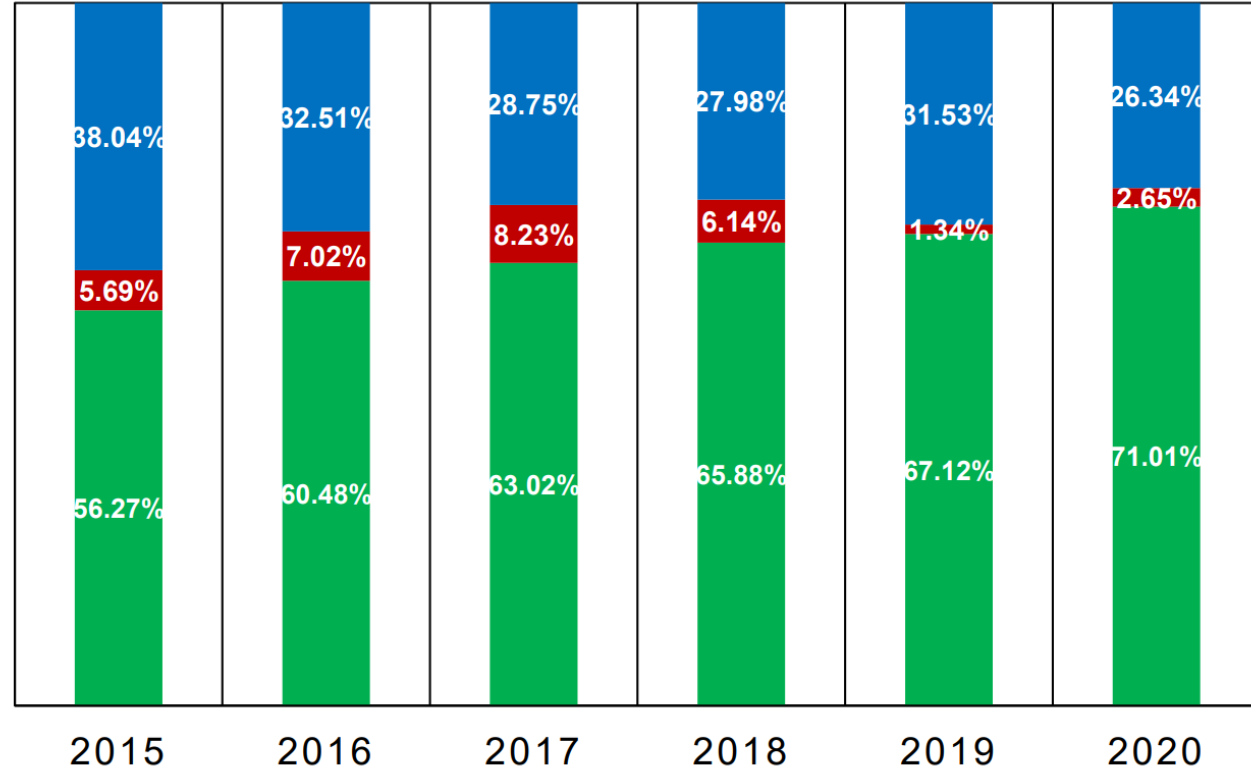
BALANCE SHEET ANALYSIS - DABUR INDIA LIMITED

■ Total Non-Current Assets
 ■ Total Current Assets

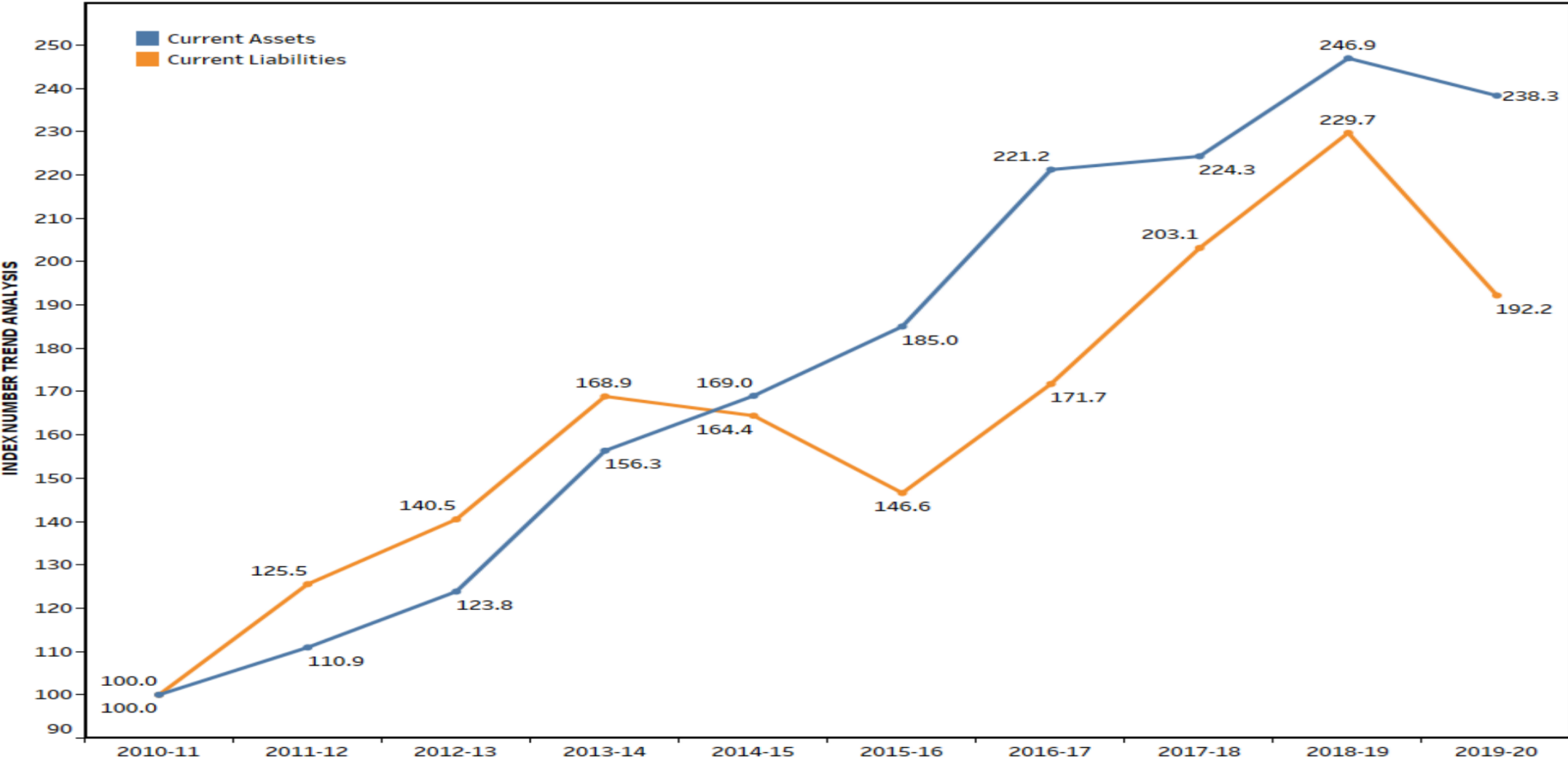


BALANCE SHEET ANALYSIS - DABUR INDIA LIMITED

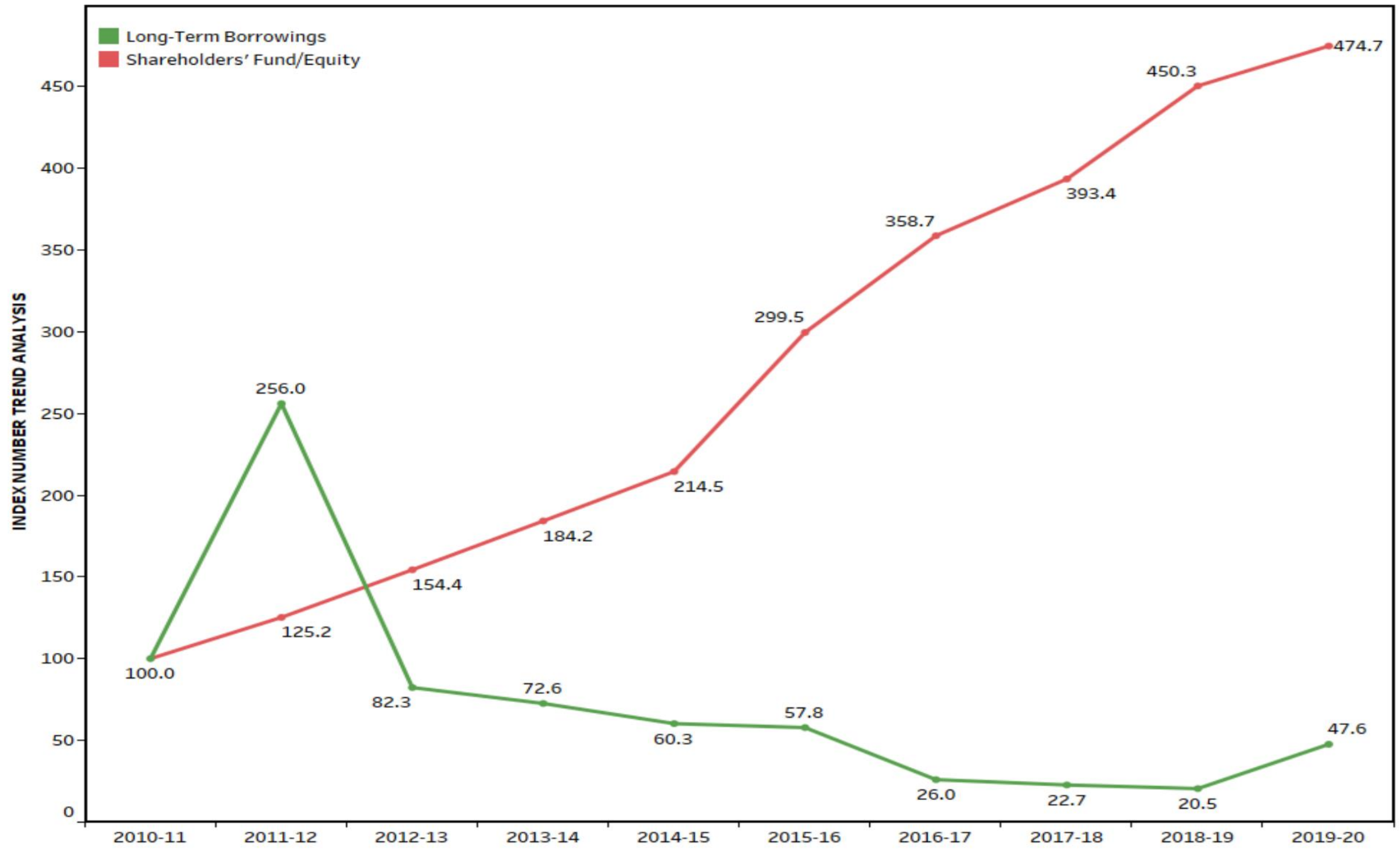
■ Total Equity
 ■ Total Non Current Liabilities
 ■ Total Current Liabilities



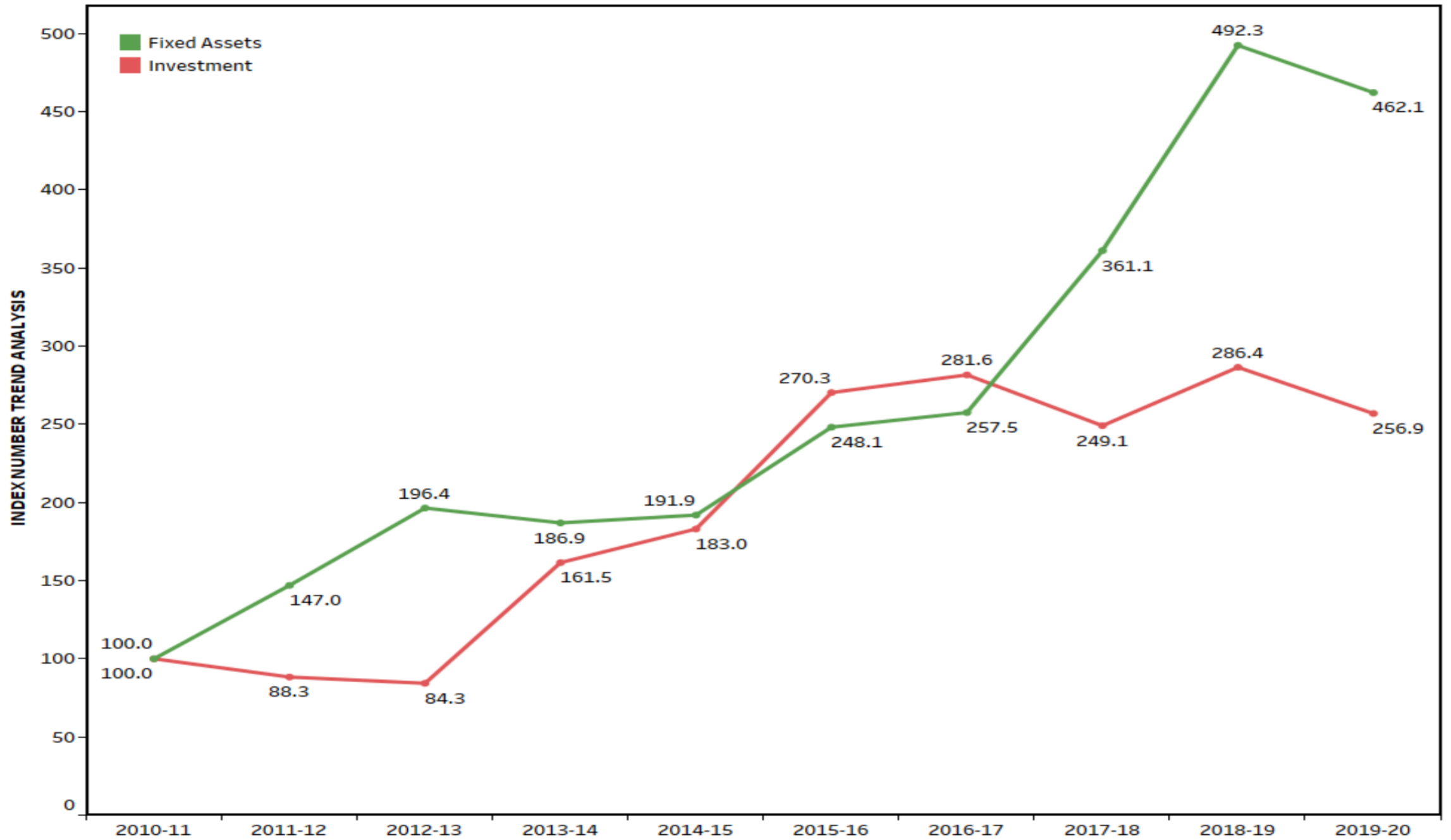
TREND ANALYSIS OF BALANCE SHEET OF ASIAN PAINTS LIMITED



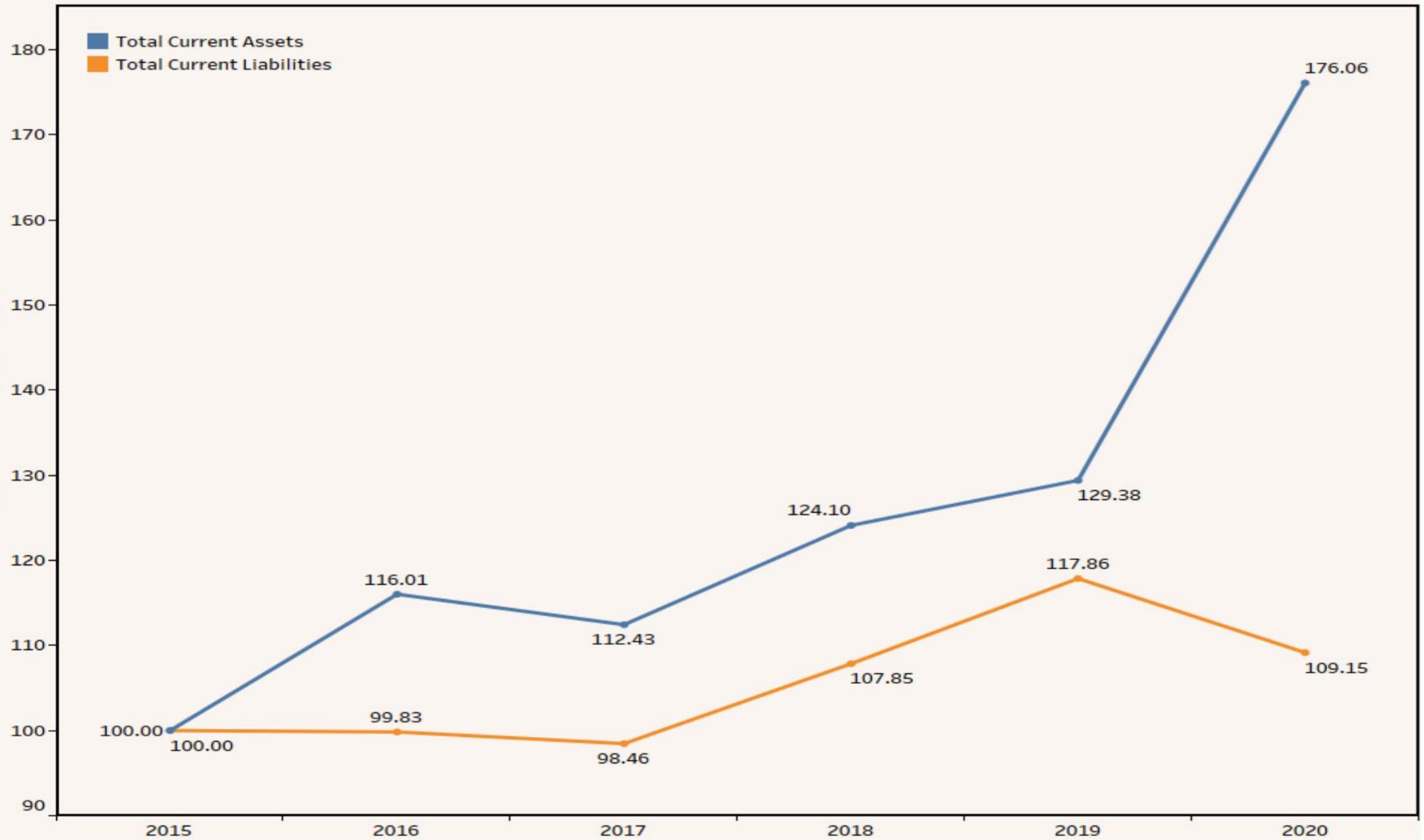
INDEX NUMBER TREND ANALYSIS - ASIAN PAINTS LTD



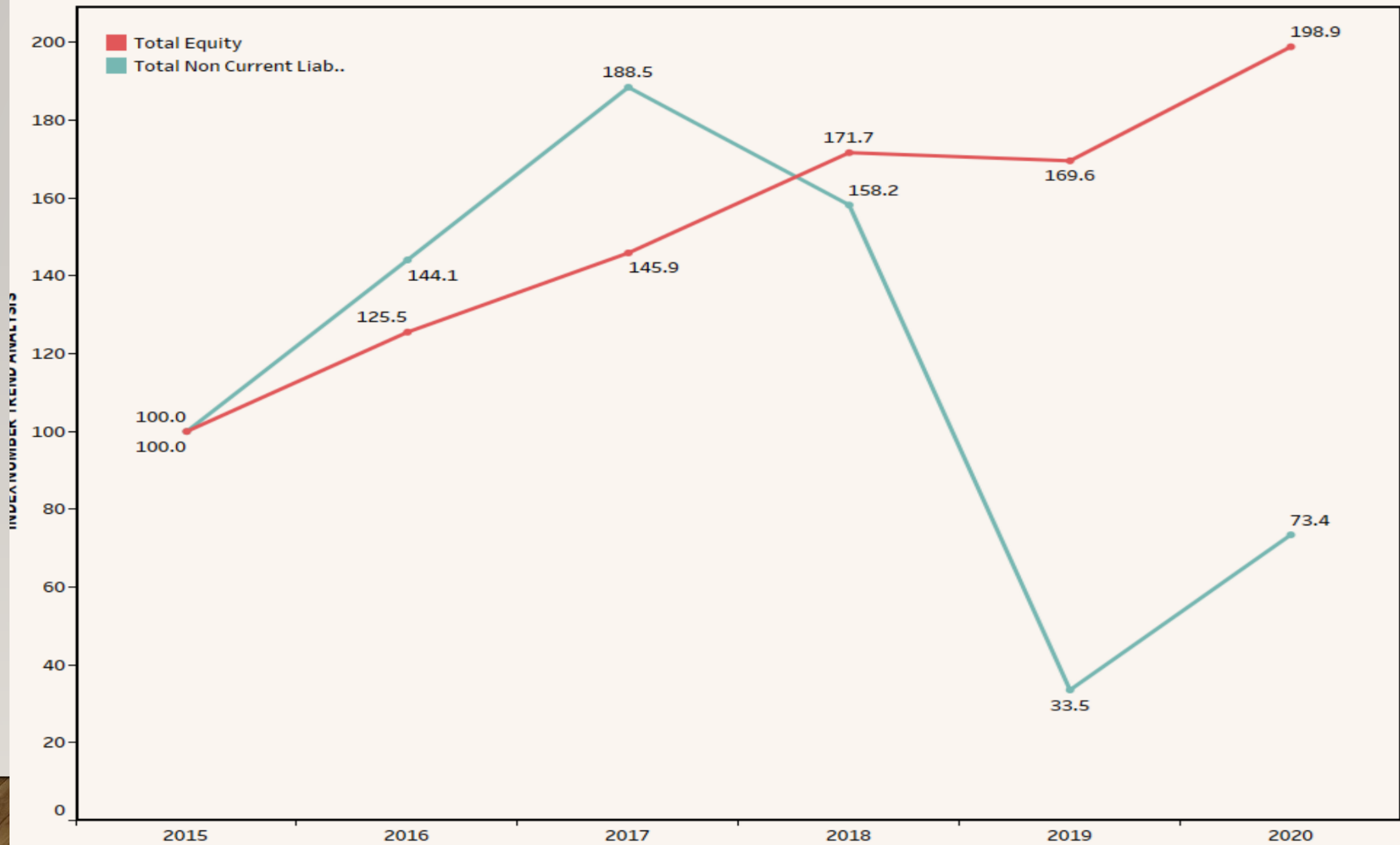
INDEX NUMBER TREND ANALYSIS - ASIAN PAINTS LTD



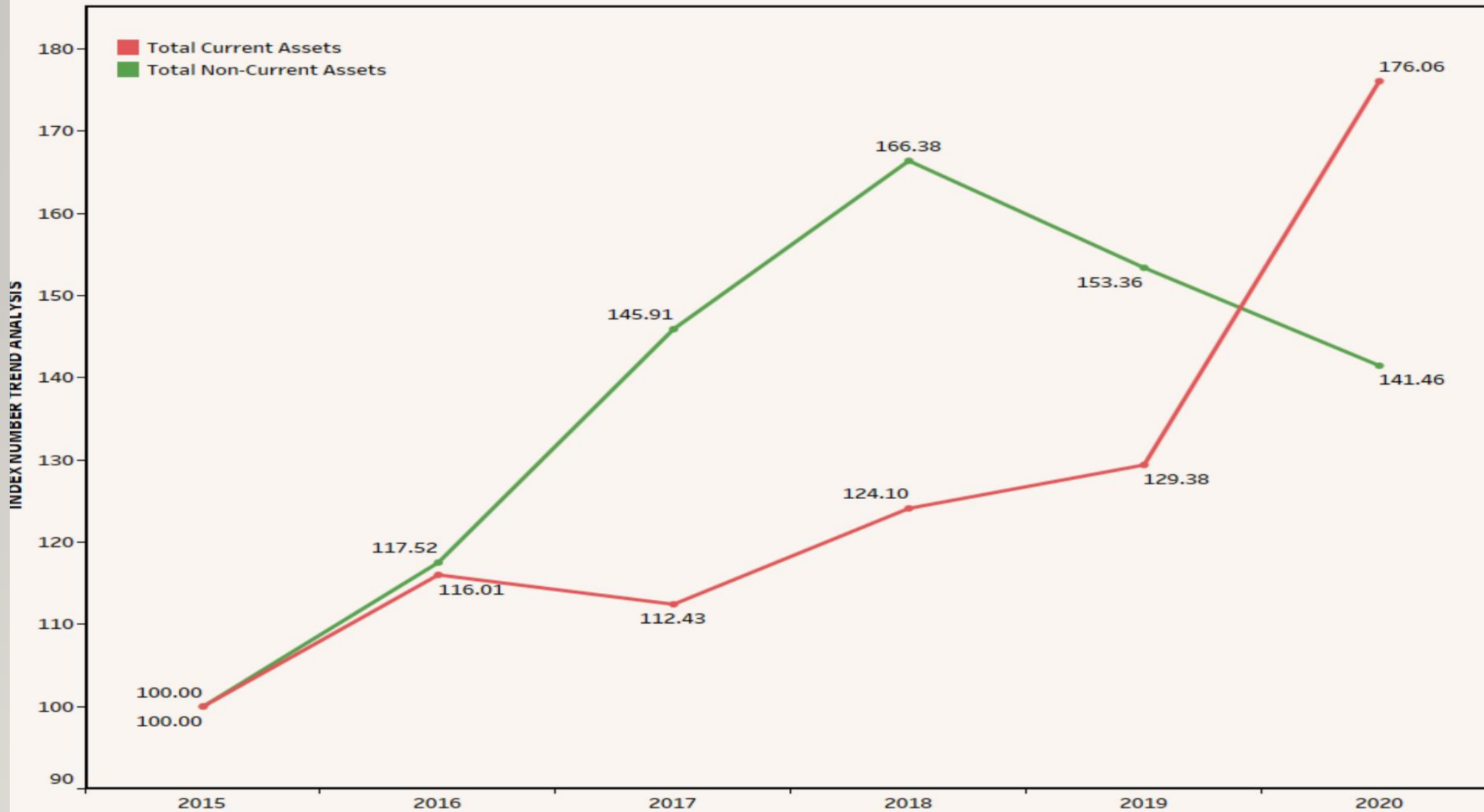
INDEX NUMBER TREND ANALYSIS - DABUR INDIA LTD



INDEX NUMBER TREND ANALYSIS - DABUR INDIA LTD



INDEX NUMBER TREND ANALYSIS - DABUR INDIA LTD



Particulars	2016	2017	2018	2019	2020
Dividend Pay-out	Rs.423.25	Rs.477.03	Rs.477.03	Rs.1,597.01	Rs.617.78

Balance Sheet Ratios

Ratio	How to Calculate	What it Means In Dollars and Cents
Current	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Measures solvency: The number of dollars in Current Assets for every \$1 in Current Liabilities. For example: a Current Ratio of 1.76 means that for every \$1 of Current Liabilities, the company has \$1.76 in Current Assets with which to pay them.
Quick	$\frac{\text{Cash} + \text{Accounts Receivable}}{\text{Current Liabilities}}$	Measures liquidity: The number of dollars in Cash and Accounts Receivable for each \$1 in Current Liabilities. For example: a Quick Ratio of 1.14 means that for every \$1 of Current Liabilities, the company has \$1.14 in Cash and Accounts Receivable with which to pay them.
Debt-to-Worth	$\frac{\text{Total Liabilities}}{\text{Net Worth}}$	Measures financial risk: The number of dollars of Debt owed for every \$1 in Net Worth. For example: a Debt-to-Worth ratio of 1.05 means that for every \$1 of Net Worth that the owners have invested, the company owes \$1.05 of Debt to its creditors.

Income Statement Ratios

Gross Margin	$\frac{\text{Gross Profit}}{\text{Sales}}$	Measures profitability at the Gross Profit level: The number of dollars of Gross Margin produced for every \$1 of Sales. For example: a Gross Margin Ratio of 34.4% means that for every \$1 of Sales, the company produces 34.4 cents of Gross Profit.
Net Margin	$\frac{\text{Net Profit Before Tax}}{\text{Sales}}$	Measures profitability at the Net Profit level: The number of dollars of Net Profit produced for every \$1 of Sales. For example: a Net Margin Ratio of 2.9% means that for every \$1 of Sales, the company produces 2.9 cents of Net Profit.

Overall Efficiency Ratios

Sales-To-Assets	$\frac{\text{Sales}}{\text{Total Assets}}$	Measures the efficiency of Total Assets in generating sales: The number of dollars in Sales produced for every \$1 invested in Total Assets. For example: a Sales-To-Asset Ratio of 2.35 means that for every \$1 invested in Total Assets, the company generates \$2.35 in Sales.
Return On Assets	$\frac{\text{Net Profit Before Tax}}{\text{Total Assets}}$	Measures the efficiency of Total Assets in generating Net Profit: The number of dollars in Net Profit produced for every \$1 invested in Total Assets. For example: a Return on Assets Ratio of 7.1% means that for every \$1 invested in Assets, the company is generating 7.1 cents in Net Profit Before Tax.

Return On Investment

$$\frac{\text{Net Profit Before Tax}}{\text{Net Worth}}$$

Measures the efficiency of Net Worth in generating Net Profit: The number of dollars in Net Profit produced for every \$1 invested in Net Worth.

For example: a Return on Investment Ratio of 16.1% means that for every \$1 invested in Net Worth, the company is generating 16.1 cents in Net Profit Before Tax.

Specific Efficiency Ratios

Inventory Turnover

$$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$$

Measures the rate at which Inventory is being used on an annual basis.

For example: an Inventory Turnover Ratio of 9.81 means that the average dollar volume of Inventory is used up almost ten times during the fiscal year.

Inventory Turn-Days

$$\frac{360}{\text{Inventory Turnover}}$$

Converts the Inventory Turnover ratio into an average "days inventory on hand" figure.

For example: a Inventory Turn-Days Ratio of 37 means that the company keeps an average of thirty-seven days of Inventory on hand throughout the year.

Accounts Receivable Turnover

$$\frac{\text{Sales}}{\text{Accounts Receivable}}$$

Measures the rate at which Accounts Receivable are being collected on an annual basis.

For example: an Accounts Receivable Turnover Ratio of 8.00 means that the average dollar volume of Accounts Receivable are collected eight times during the year.

Average Collection Period

$$\frac{360}{\text{A/R Turnover}}$$

Converts the Accounts Receivable Turnover ratio into the average number of days the company must wait for its Accounts Receivable to be paid.

For example: an Accounts Receivable Turnover ratio of 45 means that it takes the company 45 days on average to collect its receivables.

Accounts Payable Turnover

$$\frac{\text{Cost of Goods Sold}}{\text{Accounts Payable}}$$

Measures the rate at which Accounts Payable are being paid on an annual basis.

For example: an Accounts Payable Turnover ratio of 12.04 means that the average dollar volume of Accounts Payable are paid about twelve times during the year.

Average Payment Period

$$\frac{360}{\text{Accounts Payable Turnover}}$$

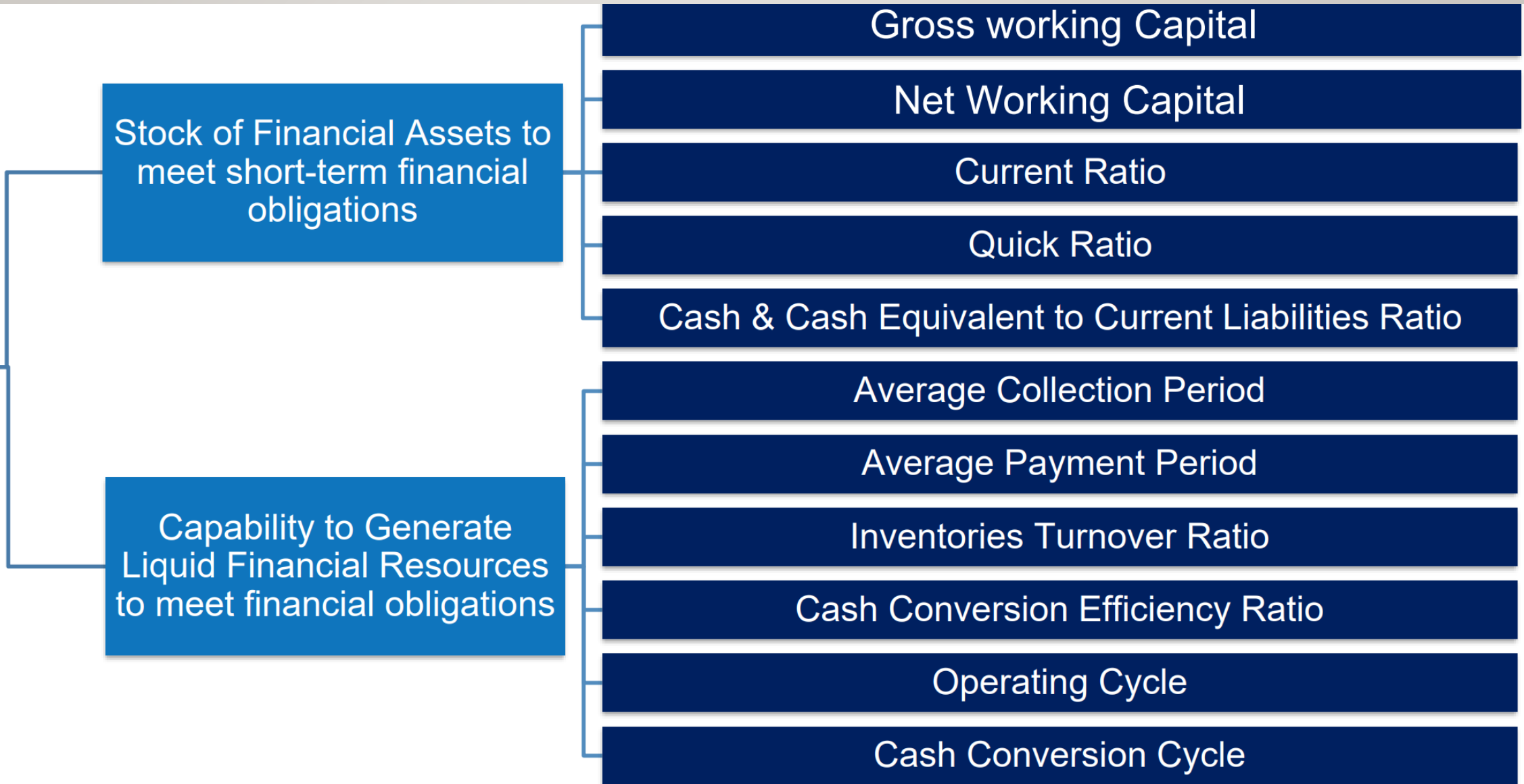
Converts the Accounts Payable Turnover ratio into the average number of days that a company takes to pay its Accounts Payable.

For example: an Accounts Payable Turnover ratio of 30 means that it takes the company 30 days on average to pay its bills.

LIQUIDITY

- Liquidity means having enough financial resources to cover financial obligations in a timely manner with minimal costs.
- Ingredients of Liquidity.
- Time of conversion- how quickly an asset can be converted into money or can be used to make payments.
- Amount – Certainty about realization of the amount from the asset.
- Cost – Cost of converting an asset into ‘money’ or ‘cost of using an asset’ for making payments

Liquidity Ratios



Stock of Financial Assets to meet short-term financial obligations

Capability to Generate Liquid Financial Resources to meet financial obligations

Gross working Capital

Net Working Capital

Current Ratio

Quick Ratio

Cash & Cash Equivalent to Current Liabilities Ratio

Average Collection Period

Average Payment Period

Inventories Turnover Ratio

Cash Conversion Efficiency Ratio

Operating Cycle

Cash Conversion Cycle

Liquidity Ratios – Balance Sheet Perspective

Stock of Financial Assets to meet short-term financial obligations

Gross Working capital = Current Assets

Net Working Capital = Current Assets – Current Liabilities

Current Ratio = Current Assets/Current Liabilities

Quick Ratio = (Current Assets – Inventories)/Current Liabilities

Cash & Cash Equivalent to Current Liabilities Ratio

LIQUIDITY RATIOS: BALANCE SHEET PERSPECTIVE

FINANCIAL DATA (Hypothetical)

Current Assets	Rs.8,149.50
Current Liabilities	Rs.1,741.73
Inventories	Rs.2,143.80
Cash and Cash Equivalents	Rs.345.51

LIQUIDITY RATIOS

GROSS WORKING CAPITAL	=Current_Asset	Rs.8,149.50
NET WORKING CAPITAL	=Current_Asset- Current_Liabilities	Rs.6,407.77
CURRENT RATIO	=Current_Asset/Current_Liabilities	4.68
QUICK RATIO	=(Current_Asset- Inventories)/Current_Liabilities	3.45
CASH AND CASH EQUIVALENT TO CURRENT LIABILITIES	=Cash_and_Cash_Equivalent s/Current_Liabilities	19.84%

Liquidity Ratios – Flow Perspective

Liquidity Ratios – Flow Perspective

Capability to Generate Liquid Financial Resources to meet financial obligations

$$\text{Average Collection Period} = \frac{\text{Trade Receivables}}{\text{Sales}} \times 360$$

$$\text{Average Payment Period} = \frac{\text{Trade Payables}}{\text{Cost of Material Consumed}} \times 360$$

$$\text{Inventories Conversion Period} = \frac{\text{Inventories}}{\text{Cost of Goods Sold}} \times 360$$

$$\text{Cash Conversion Efficiency Ratio} = \frac{\text{Cash From Operating Activities}}{\text{Sales}}$$

$$\text{Operating Cycle} = \text{Inventories Conversion Period} + \text{Average Collection Period}$$

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Average Payment Period}$$

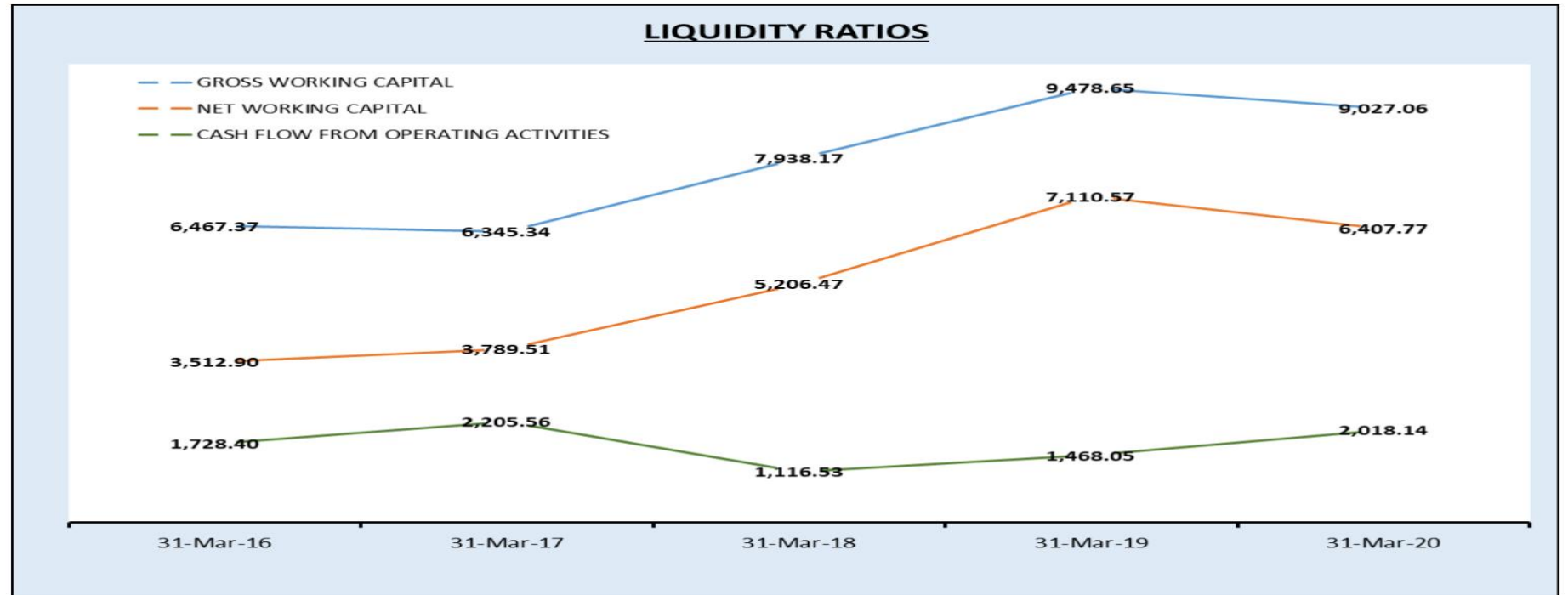
CIPLA LIMITED – LIQUIDITY RATIOS

ANALYSIS OF LIQUIDITY RATIOS OF CIPLA LIMITED					
LIQUIDITY RATIOS	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20
GROSS WORKING CAPITAL	6,467.37	6,345.34	7,938.17	9,478.65	9,027.06
NET WORKING CAPITAL	3,512.90	3,789.51	5,206.47	7,110.57	6,407.77
CASH FLOW FROM OPERATING ACTIVITIES	1,728.40	2,205.56	1,116.53	1,468.05	2,018.14
CURRENT RATIO	2.19	2.48	2.91	4.00	3.45
QUICK RATIO	1.20	1.44	1.79	2.79	2.29
CASH AND CASH EQUIVALENT TO CURRENT LIABILITIES	1,728.40	2,205.56	1,116.53	1,468.05	2,018.14
CASH CONVERSION EFFICIENCY RATIO	14.61%	20.73%	10.15%	12.27%	16.51%
AVERAGE COLLECTION PERIOD (DAYS)	57.72	65.62	76.43	95.31	104.88
AVERAGE PAYMENT PERIOD (DAYS)	98.17	158.10	172.19	171.35	193.51
INVENTORIES CONVERSION PERIOD (DAYS)	214.45	230.67	263.19	229.06	251.83
OPERATING CYCLE	272.17	296.28	339.62	324.37	356.71
CASH CONVERSION CYCLE	173.99	138.18	167.42	153.02	163.20

CIPLA LIMITED – LIQUIDITY RATIOS

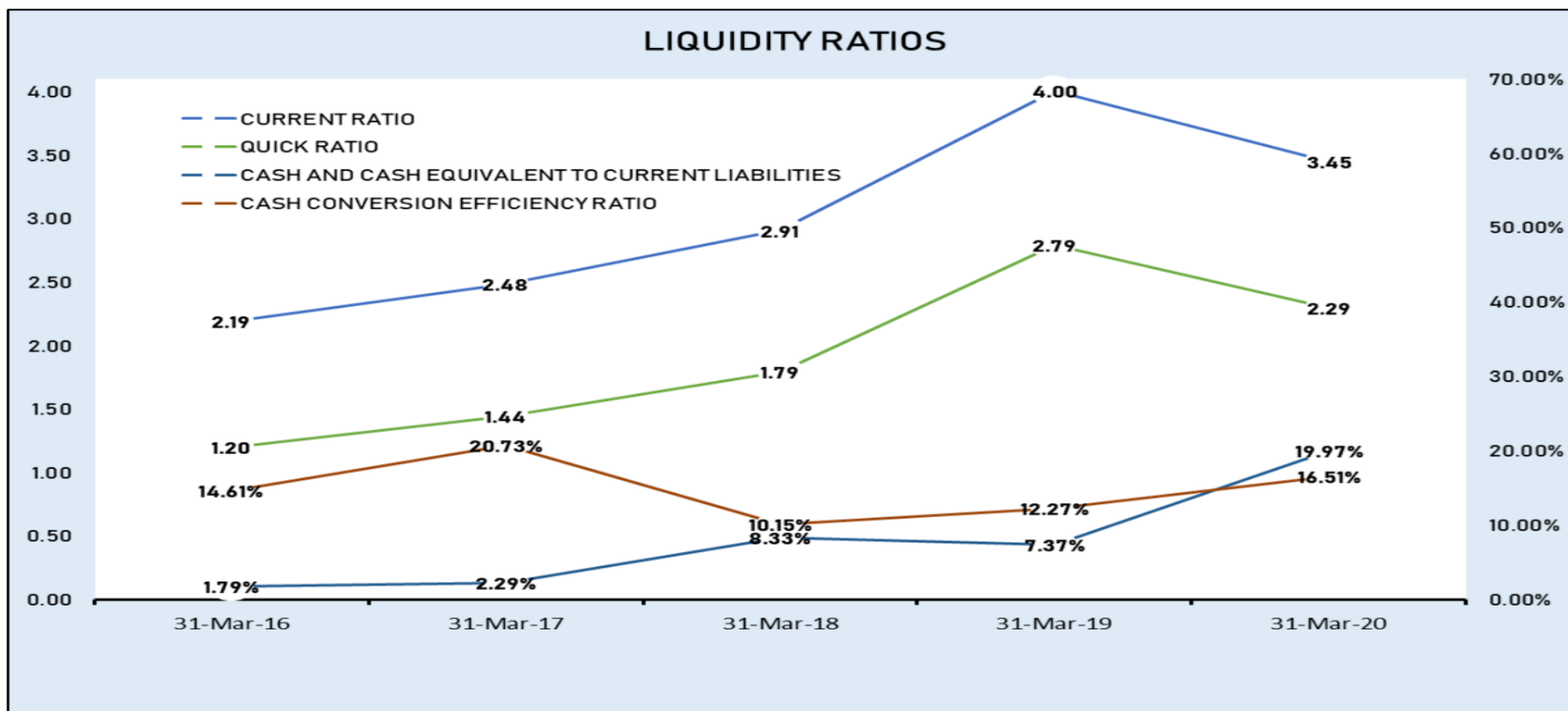
ANALYSIS OF LIQUIDITY RATIOS OF CIPLA LIMITED

LIQUIDITY RATIOS	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20
GROSS WORKING CAPITAL	6,467.37	6,345.34	7,938.17	9,478.65	9,027.06
NET WORKING CAPITAL	3,512.90	3,789.51	5,206.47	7,110.57	6,407.77
CASH FLOW FROM OPERATING ACTIVITIES	1,728.40	2,205.56	1,116.53	1,468.05	2,018.14



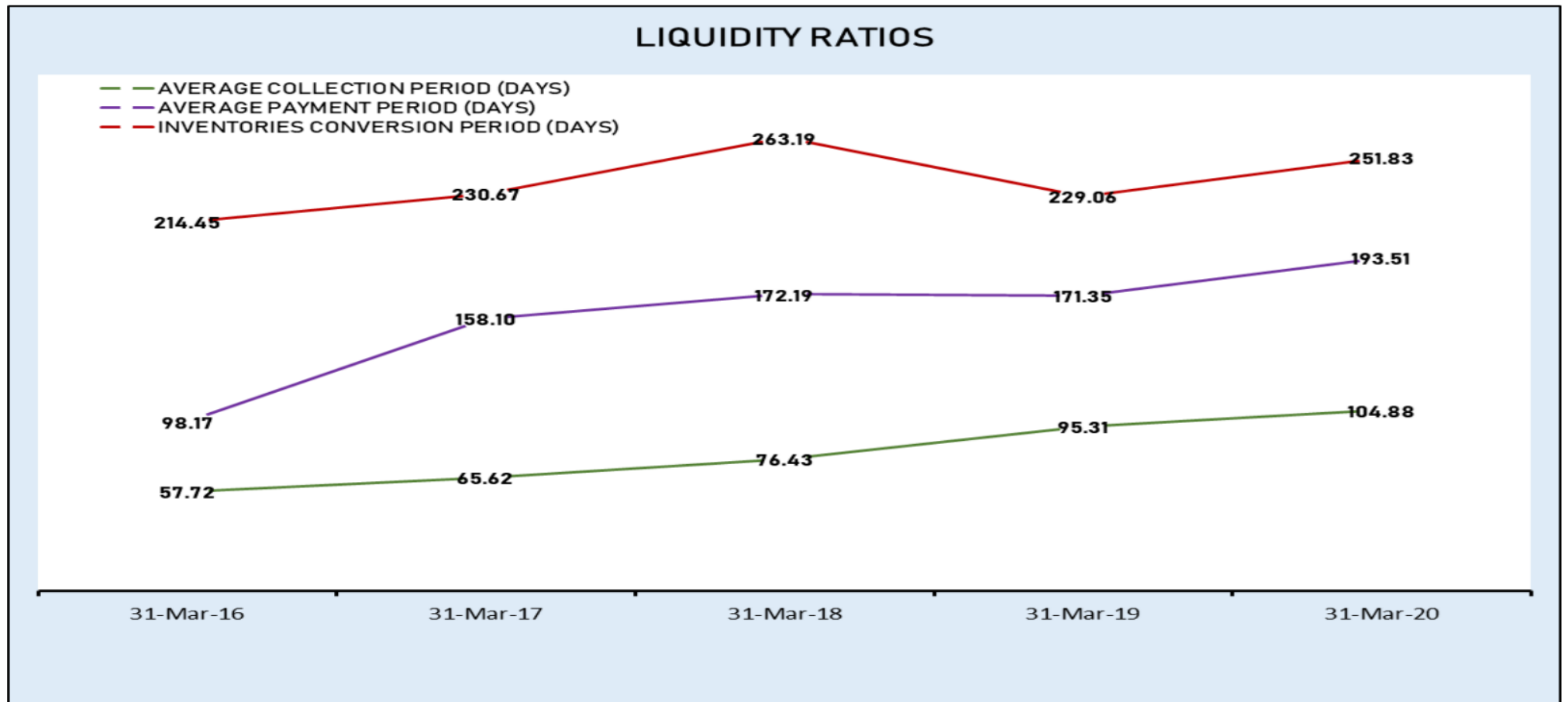
ANALYSIS OF LIQUIDITY RATIOS OF CIPLA LIMITED

LIQUIDITY RATIOS	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20
CURRENT RATIO	2.19	2.48	2.91	4.00	3.45
QUICK RATIO	1.20	1.44	1.79	2.79	2.29
CASH AND CASH EQUIVALENT TO CURRENT LIABILITIES	1.79%	2.29%	8.33%	7.37%	19.97%
CASH CONVERSION EFFICIENCY RATIO	14.61%	20.73%	10.15%	12.27%	16.51%



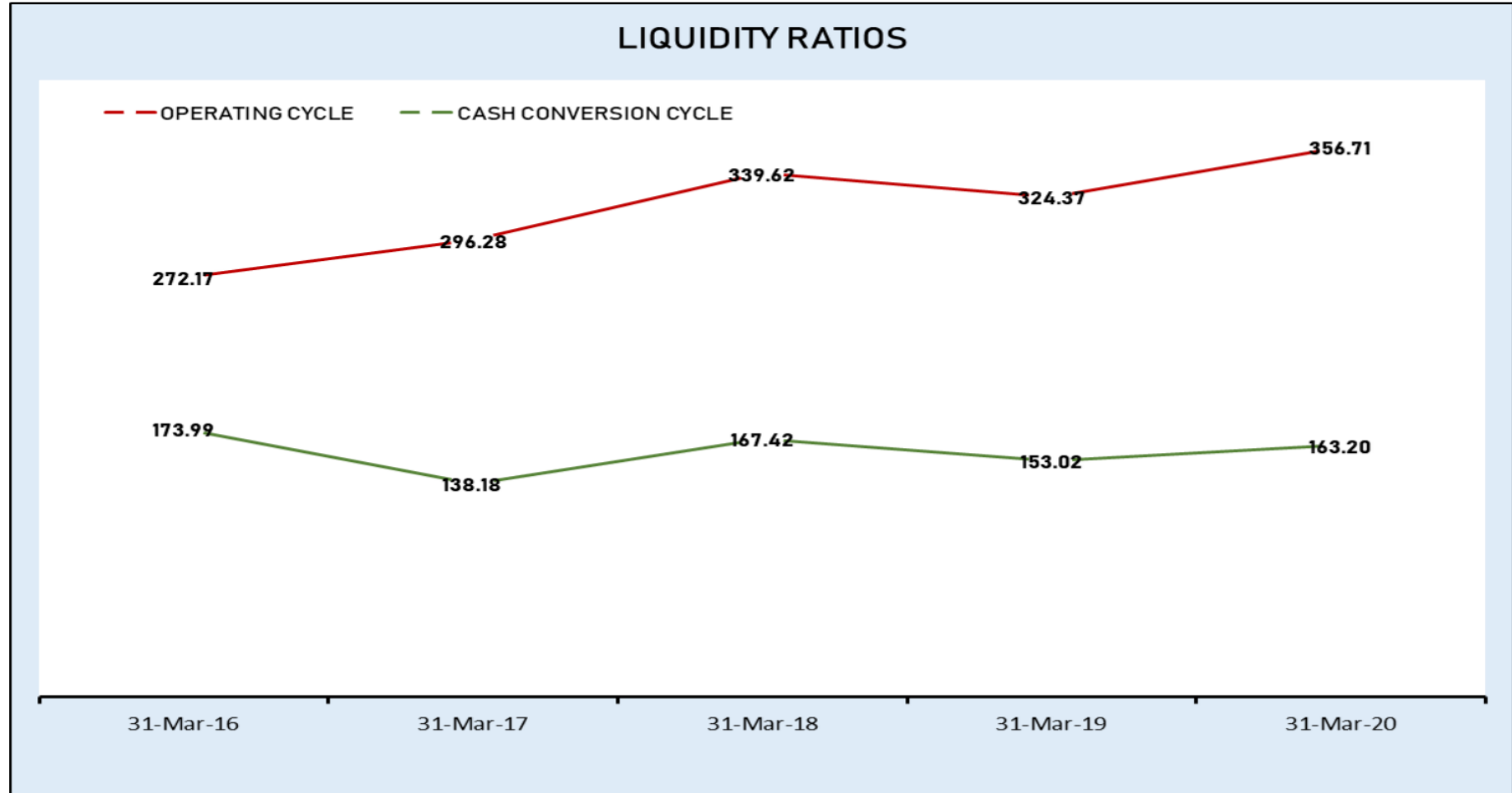
ANALYSIS OF LIQUIDITY RATIOS OF CIPLA LIMITED

LIQUIDITY RATIOS	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20
AVERAGE COLLECTION PERIOD (DAYS)	57.72	65.62	76.43	95.31	104.88
AVERAGE PAYMENT PERIOD (DAYS)	98.17	158.10	172.19	171.35	193.51
INVENTORIES CONVERSION PERIOD (DAYS)	214.45	230.67	263.19	229.06	251.83



ANALYSIS OF LIQUIDITY RATIOS OF CIPLA LIMITED

LIQUIDITY RATIOS	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20
OPERATING CYCLE	272.17	296.28	339.62	324.37	356.71
CASH CONVERSION CYCLE	173.99	138.18	167.42	153.02	163.20



ANALYZING INCOME STATEMENT OF CIPLA LIMITED

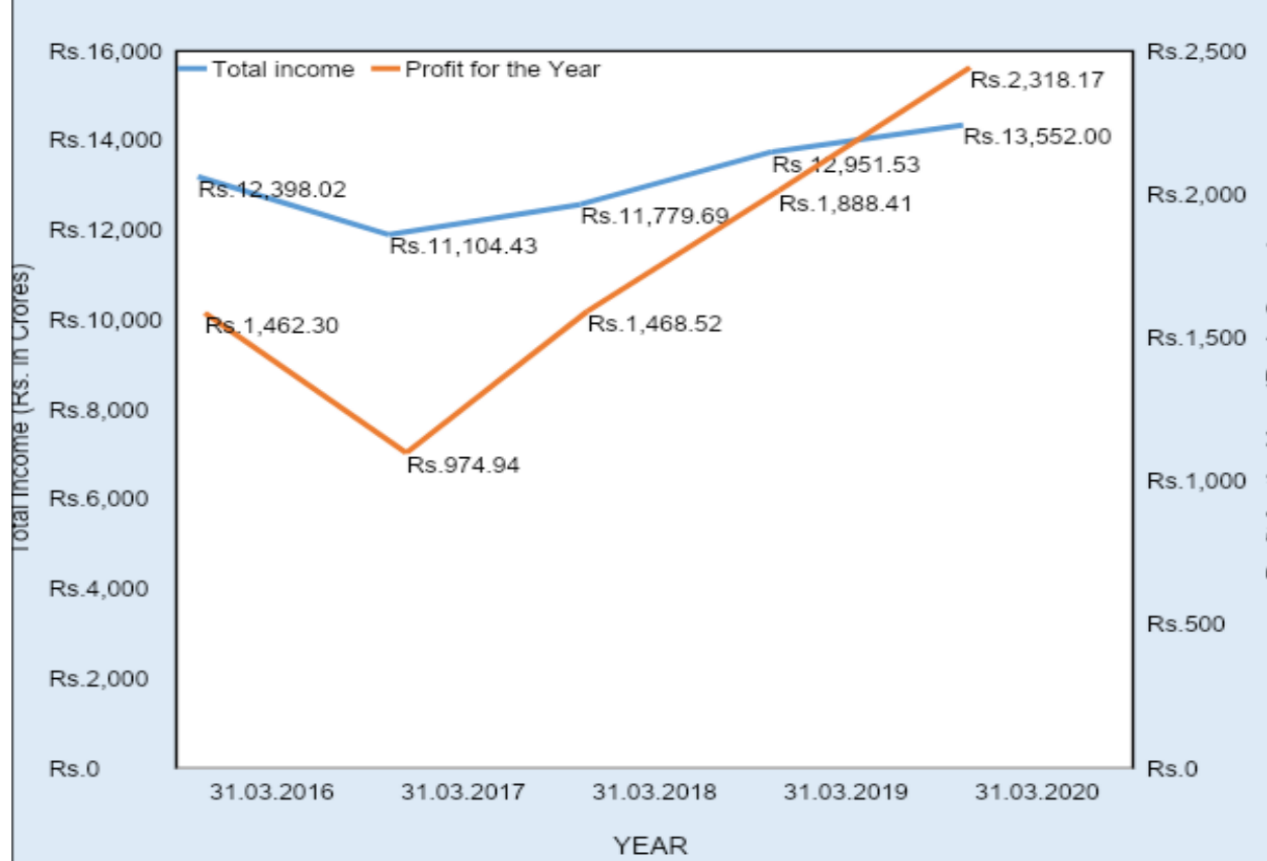
Top-Line

Bottom-Line

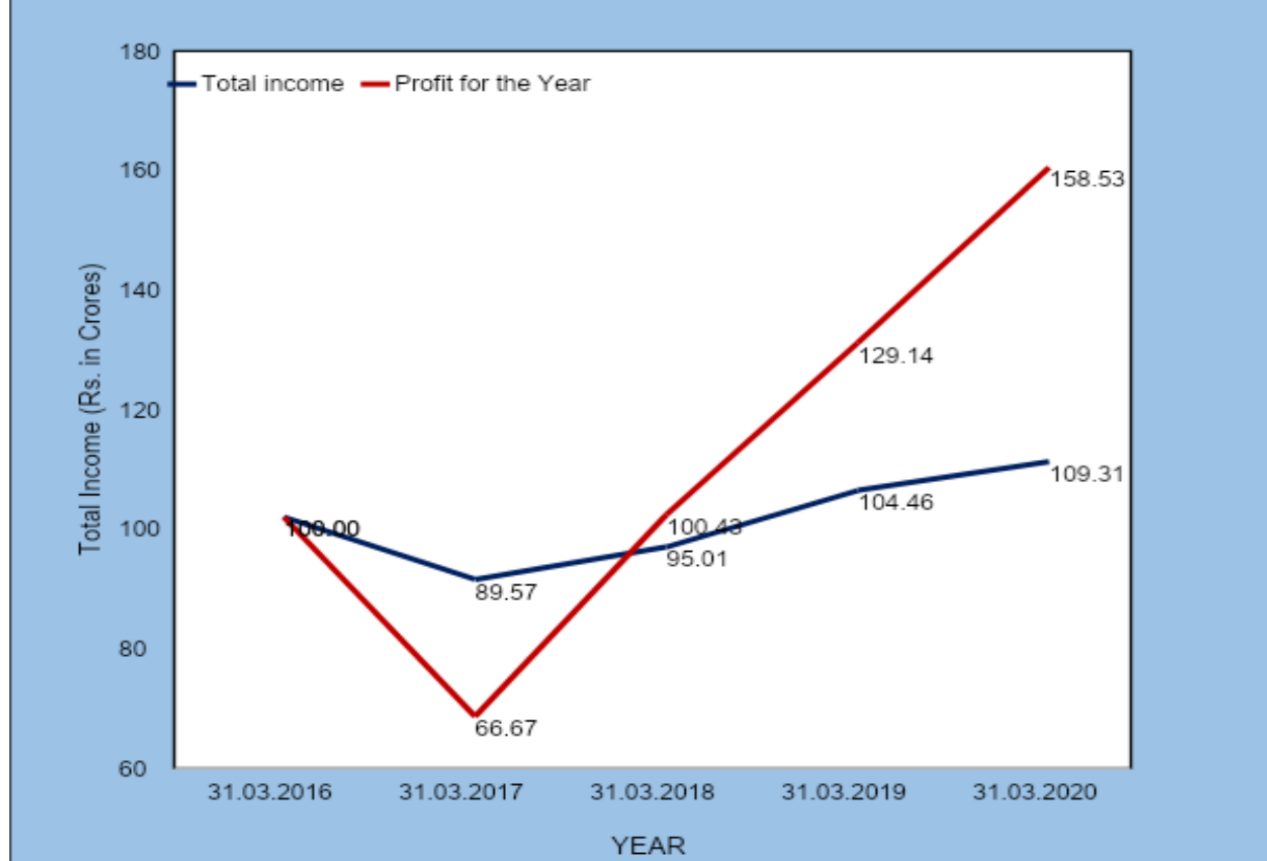
Cipla Limited					
Statement of Profit and Loss					
(Rs. in Crores)					
	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020
Revenue from operations					
Revenue from sale of products	11,828.74	10,637.08	11,004.44	11,968.44	12,220.22
Other operating revenue	288.98	337.5	440.37	405.57	438.93
	12,117.72	10,974.58	11,444.81	12,374.01	12,659.15
Other income	280.3	129.85	334.88	577.52	892.85
Total income	12,398.02	11,104.43	11,779.69	12,951.53	13,552.00
Expenditure					
Cost of materials consumed	3,633.34	2,956.04	3,303.31	3,112.25	2,999.17
Purchases of stock-in-trade	1,037.56	1,128.99	1,064.23	1,259.21	1,363.12
Changes in inventories of finished goods, work-in-progress and stock	228.35	56.27	-212.05	136.7	-43.08
Employee benefits expense	1,778.56	1,728.97	1,785.94	1,839.84	1,911.08
Finance costs	147.07	39.2	11.9	16.97	36.05
Depreciation, impairment and amortisation expense	442.69	499.97	529.61	569.72	599.78
Impairment of Investment		251.41			
Other expenses	3,386.48	3,256.64	3,307.83	3,524.01	3,721.57
Total expenditure	10,654.05	9,917.49	9,790.77	10,458.70	10,587.69
Profit before exceptional items and tax	1,743.97	1,186.94	1,988.92	2,492.83	2,964.31
Exceptional item			77.52		
Profit before tax	1,743.97	1,186.94	1,911.40	2,492.83	2,964.31
Tax expense (net)					
Current tax	356.64	311.06	431.33	576.43	545.96
Deferred tax	-74.97	-99.06	11.55	27.99	100.18
Profit for the year	1,462.30	974.94	1,468.52	1,888.41	2,318.17

PATTERN IN TOP-LINE AND BOTTOM LINE - CIPLA

Top-Line and Bottom-Line - Cipla Ltd



Top-Line and Bottom-Line - Cipla Ltd



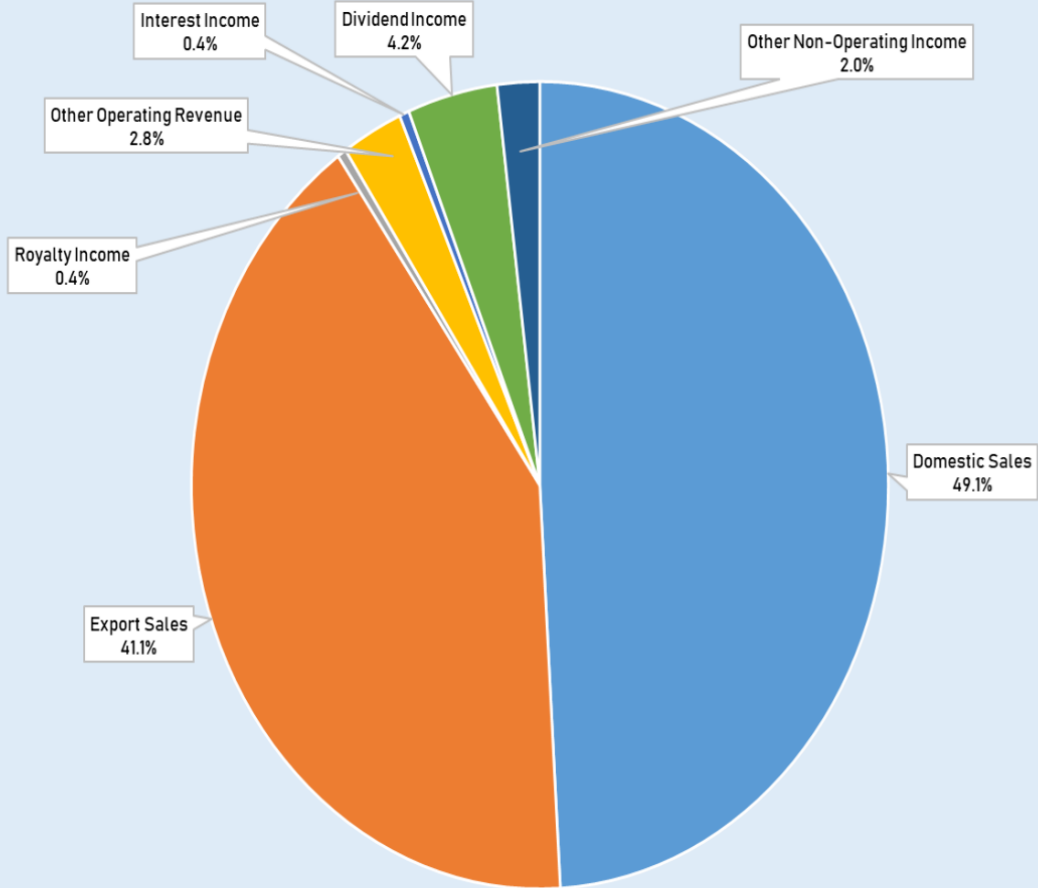
COMMON-SIZE ANALYSIS OF INCOME STATEMENT – CIPLA LIMITED

Cipla Limited

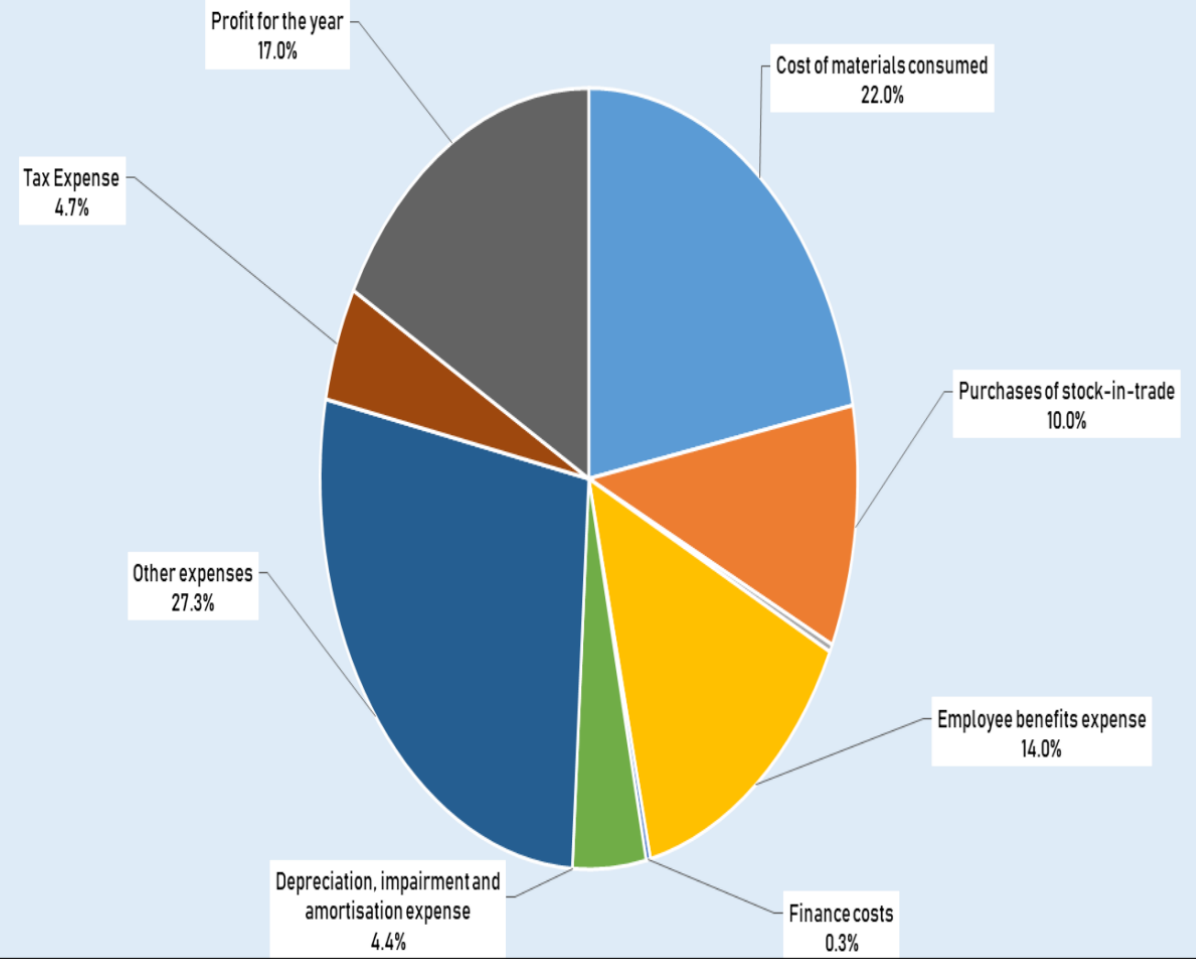
Common-Size Analysis of Statement of Profit and Loss of Cipla Limited

	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020
Revenue from operations					
Revenue from sale of products	97.74	98.83	97.16	95.54	93.41
Other income	2.26	1.17	2.84	4.46	6.59
Total income	100.00	100.00	100.00	100.00	100.00
Expenditure					
Cost of materials consumed	29.31	26.62	28.04	24.03	22.13
Purchases of stock-in-trade	8.37	10.17	9.03	9.72	10.06
Changes in inventories of finished goods, work-in-progress and stock-in-trade	1.84	0.51	-1.80	1.06	-0.32
Employee benefits expense	14.35	15.57	15.16	14.21	14.10
Finance costs	1.19	0.35	0.10	0.13	0.27
Depreciation, impairment and amortisation expense	3.57	4.50	4.50	4.40	4.43
Other expenses	27.31	31.59	28.74	27.21	27.46
Tax Expense	2.27	1.91	3.76	4.67	4.77
Profit for the year	11.79	8.78	12.47	14.58	17.11
Total income	100.00	100.00	100.00	100.00	100.00

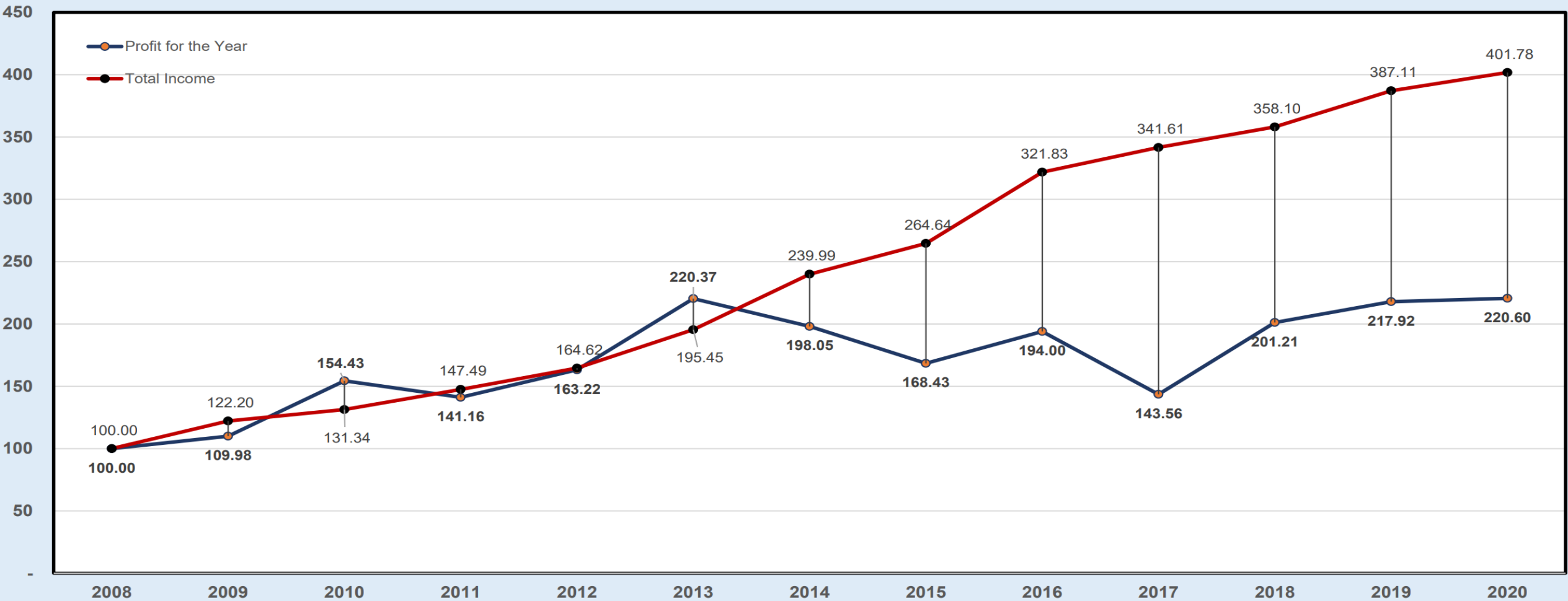
How one rupee is earned by Cipla Limited during FY 2019-20?



How one rupee is spent during the year ending on March 31, 2020?



TREND ANALYSIS – INCOME STATEMENT OF CIPLA LIMITED



ANALYZING INCOME STATEMENT OF ITC LIMITED

Income Statement of ITC Limited (Rs. in Crores)

Top-Line

Bottom-Line

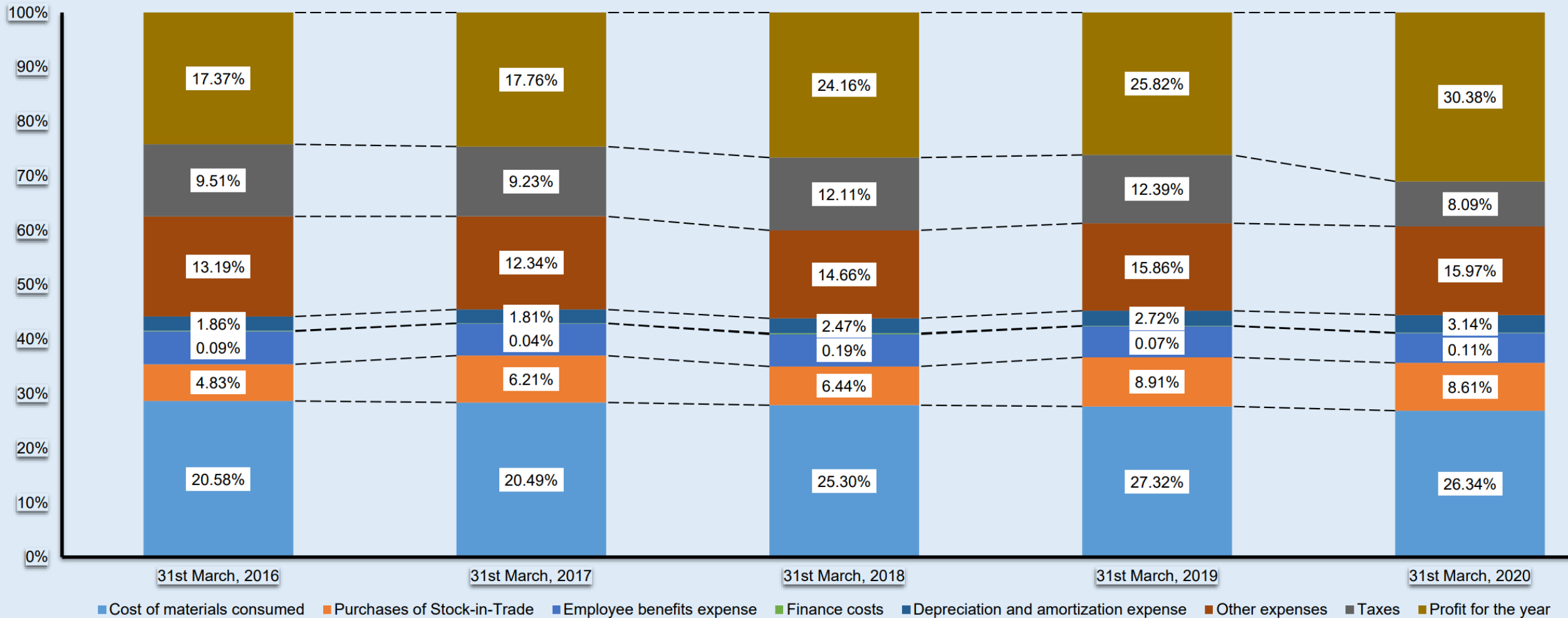
	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
I Revenue From Operations	Rs.51,944.57	Rs.55,448.46	Rs.44,329.77	Rs.45,784.39	Rs.46,807.34
II Other Income	Rs.1,769.26	Rs.1,985.91	Rs.2,129.84	Rs.2,484.54	Rs.3,013.66
III Total Income (I+II)	Rs.53,713.83	Rs.57,434.37	Rs.46,459.61	Rs.48,268.93	Rs.49,821.00
IV EXPENSES					
Cost of materials consumed	Rs.11,054.75	Rs.11,765.56	Rs.11,756.21	Rs.13,184.97	Rs.13,121.76
Purchases of Stock-in-Trade	Rs.2,591.80	Rs.3,566.57	Rs.2,991.98	Rs.4,300.32	Rs.4,289.71
Changes in inventories of finished goods, Stock-in-Trade, work-in-progress and intermediates	(Rs.196.55)	Rs.644.17	Rs.1,041.85	(Rs.180.14)	(Rs.176.34)
Excise duty	Rs.15,361.90	Rs.15,359.78	Rs.3,702.23	Rs.788.74	Rs.1,187.64
Employee benefits expense	Rs.2,331.59	Rs.2,444.31	Rs.2,487.46	Rs.2,728.44	Rs.2,658.21
Finance costs	Rs.49.13	Rs.22.95	Rs.86.65	Rs.34.19	Rs.55.72
Depreciation and amortization expense	Rs.1,000.68	Rs.1,038.04	Rs.1,145.37	Rs.1,311.70	Rs.1,563.27
Other expenses	Rs.7,086.46	Rs.7,090.03	Rs.6,809.06	Rs.7,656.55	Rs.7,822.11
Total expenses (IV)	Rs.39,279.76	Rs.41,931.41	Rs.30,020.81	Rs.29,824.77	Rs.30,522.08
V Profit before exceptional items and tax (III-IV)	Rs.14,434.07	Rs.15,502.96	Rs.16,438.80	Rs.18,444.16	Rs.19,298.92
VI Exceptional Items	Rs.0.00	Rs.0.00	Rs.412.90	Rs.0.00	(Rs.132.11)
VII Profit before tax (V+VI)	Rs.14,434.07	Rs.15,502.96	Rs.16,851.70	Rs.18,444.16	Rs.19,166.81
VIII Tax expense:					
Current Tax	Rs.4,896.06	Rs.5,285.65	Rs.5,599.83	Rs.5,849.24	Rs.4,441.97
Deferred Tax	Rs.209.64	Rs.16.41	Rs.28.62	Rs.130.60	(Rs.411.21)
IX Profit for the year (VII-VIII)	Rs.9,328.37	Rs.10,200.90	Rs.11,223.25	Rs.12,464.32	Rs.15,136.05

Common-Size Income Statement of ITC Limited

	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Revenue From Operations	96.71%	96.54%	95.42%	94.85%	93.95%
Other Income	3.29%	3.46%	4.58%	5.15%	6.05%
Total Revenue	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of materials consumed	20.58%	20.49%	25.30%	27.32%	26.34%
Purchases of Stock-in-Trade	4.83%	6.21%	6.44%	8.91%	8.61%
Changes in inventories of finished goods, Stock-in-Trade, work-in-progress and intermediates	-0.37%	1.12%	2.24%	-0.37%	-0.35%
Excise duty	28.60%	26.74%	7.97%	1.63%	2.38%
Employee benefits expense	4.34%	4.26%	5.35%	5.65%	5.34%
Finance costs	0.09%	0.04%	0.19%	0.07%	0.11%
Depreciation and amortization expense	1.86%	1.81%	2.47%	2.72%	3.14%
Other expenses	13.19%	12.34%	14.66%	15.86%	15.97%
Taxes	9.51%	9.23%	12.11%	12.39%	8.09%
Profit for the year	17.37%	17.76%	24.16%	25.82%	30.38%
Total Revenue	100.00%	100.00%	100.89%	100.00%	100.00%

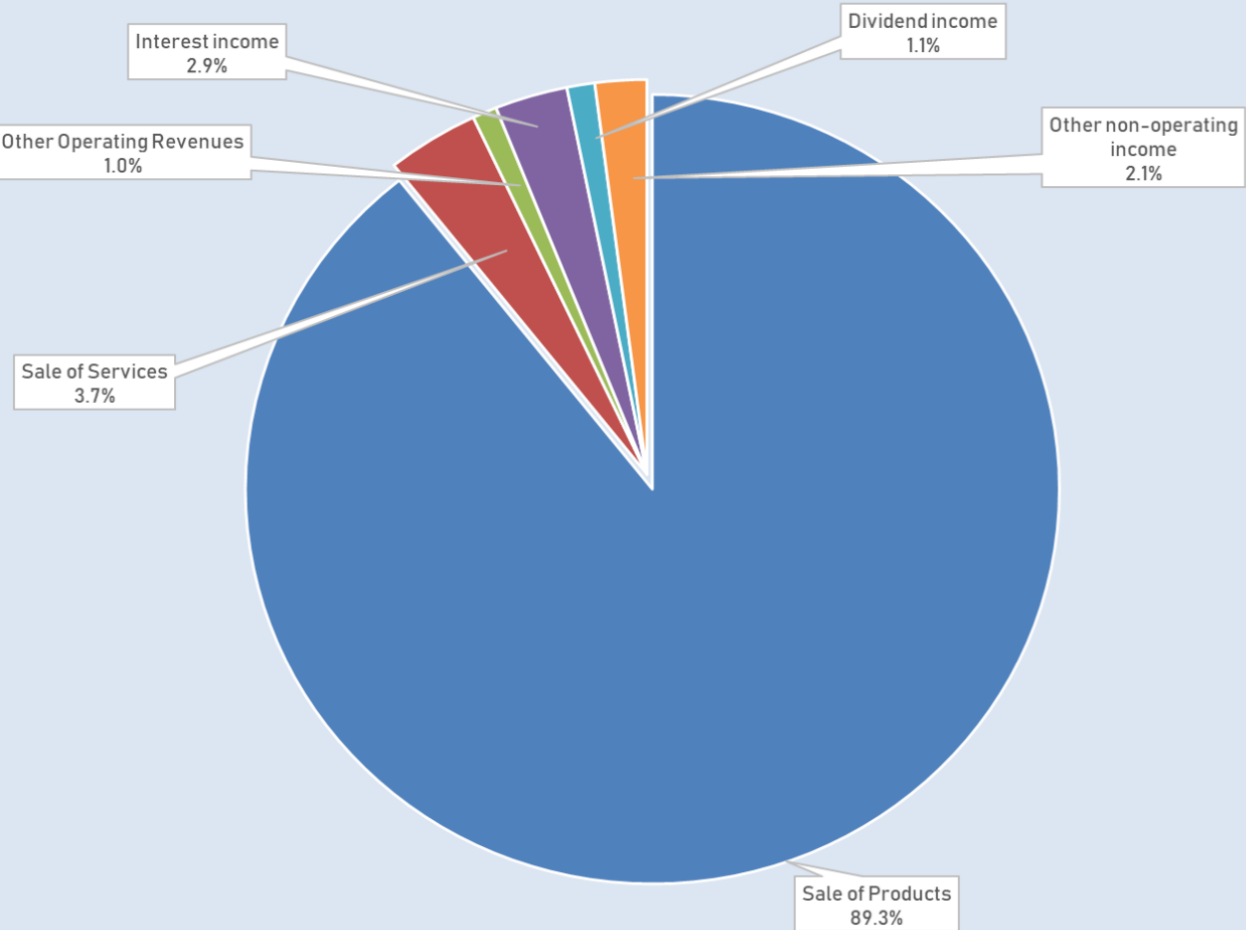
CHANGING STRUCTURE OF EXPENSES AND PROFIT - ITC LIMITED

Changing Pattern of Expenses and Profit

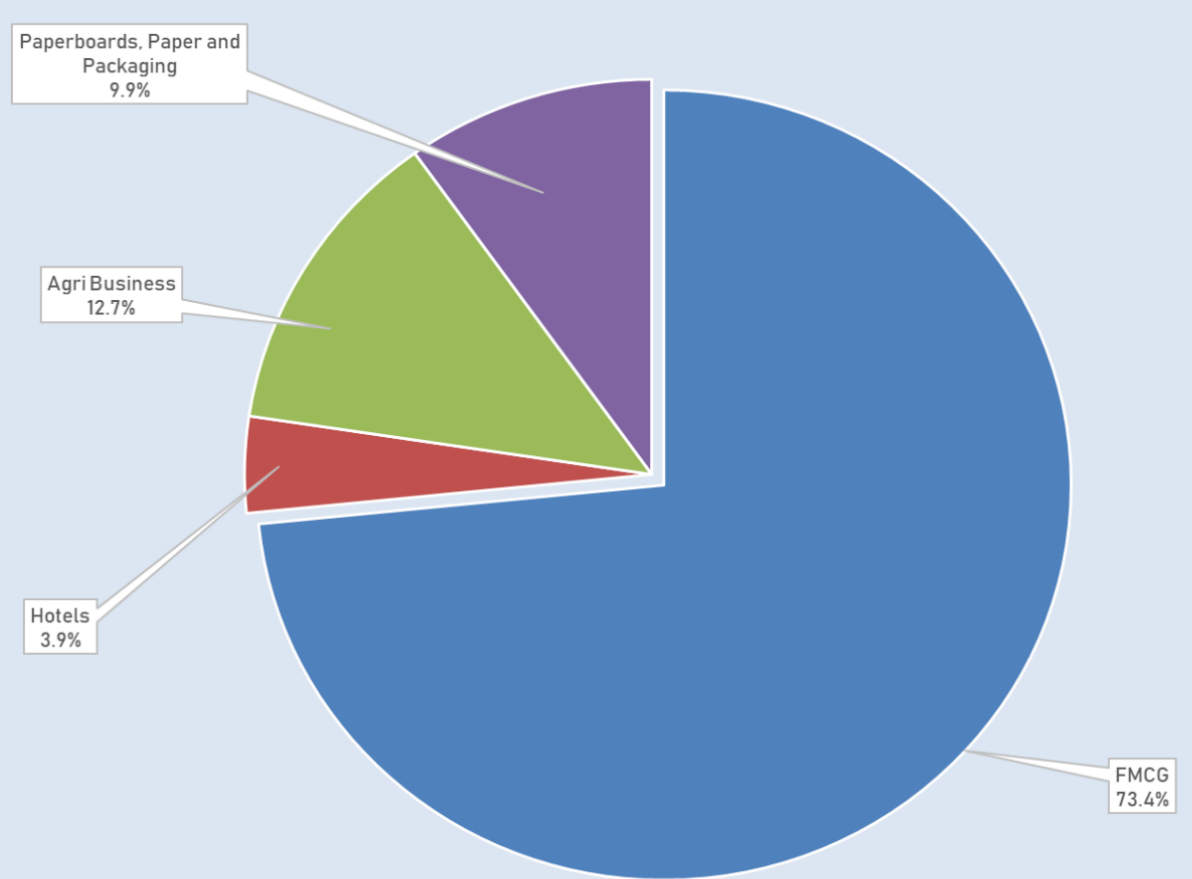


HOW ONE RUPEE IS EARNED BY ITC LIMITED?

How one Rupee is earned for the year ending on 31st March, 2020?

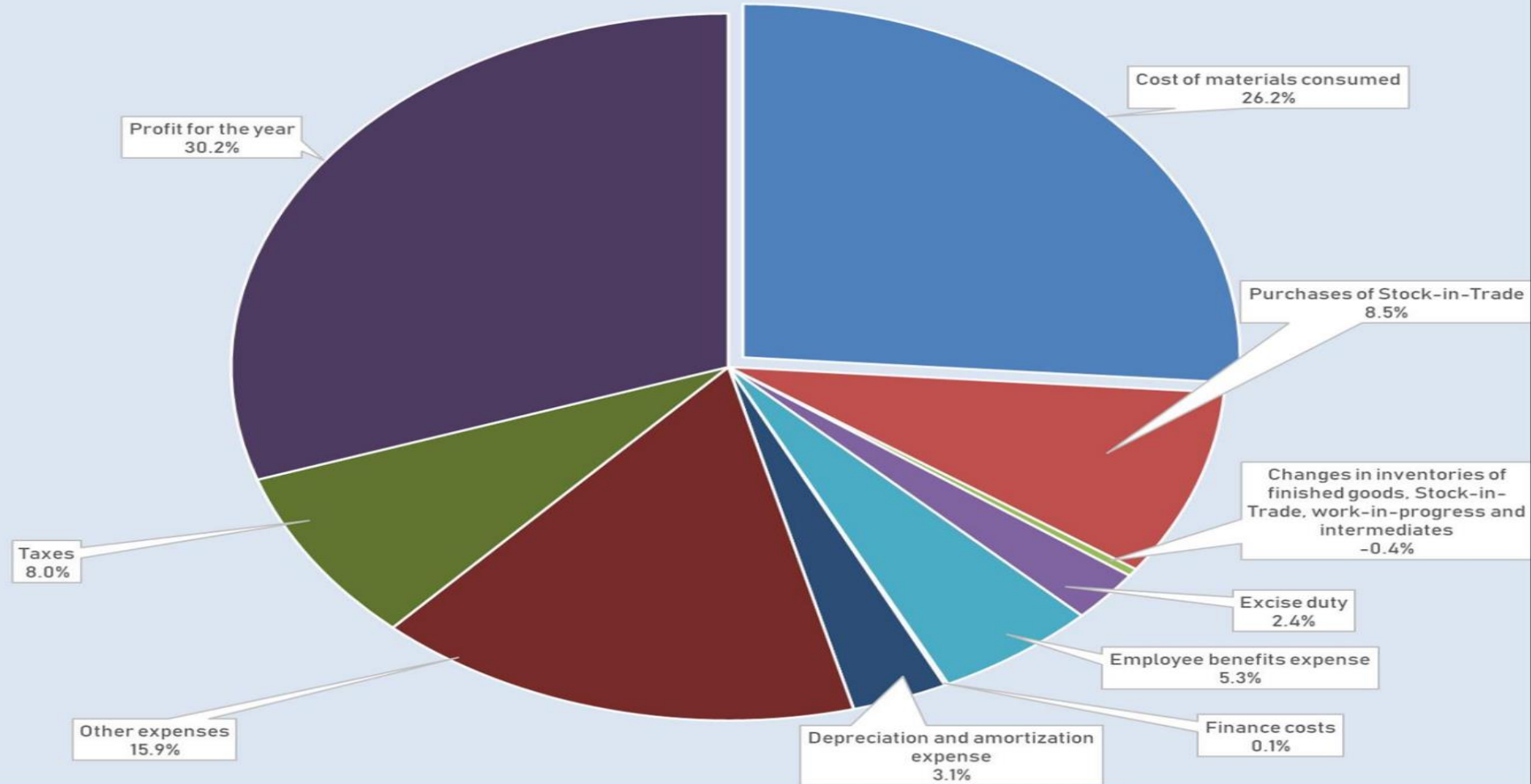


How one Rupee is earned from different segments the year ending on 31st March, 2020?



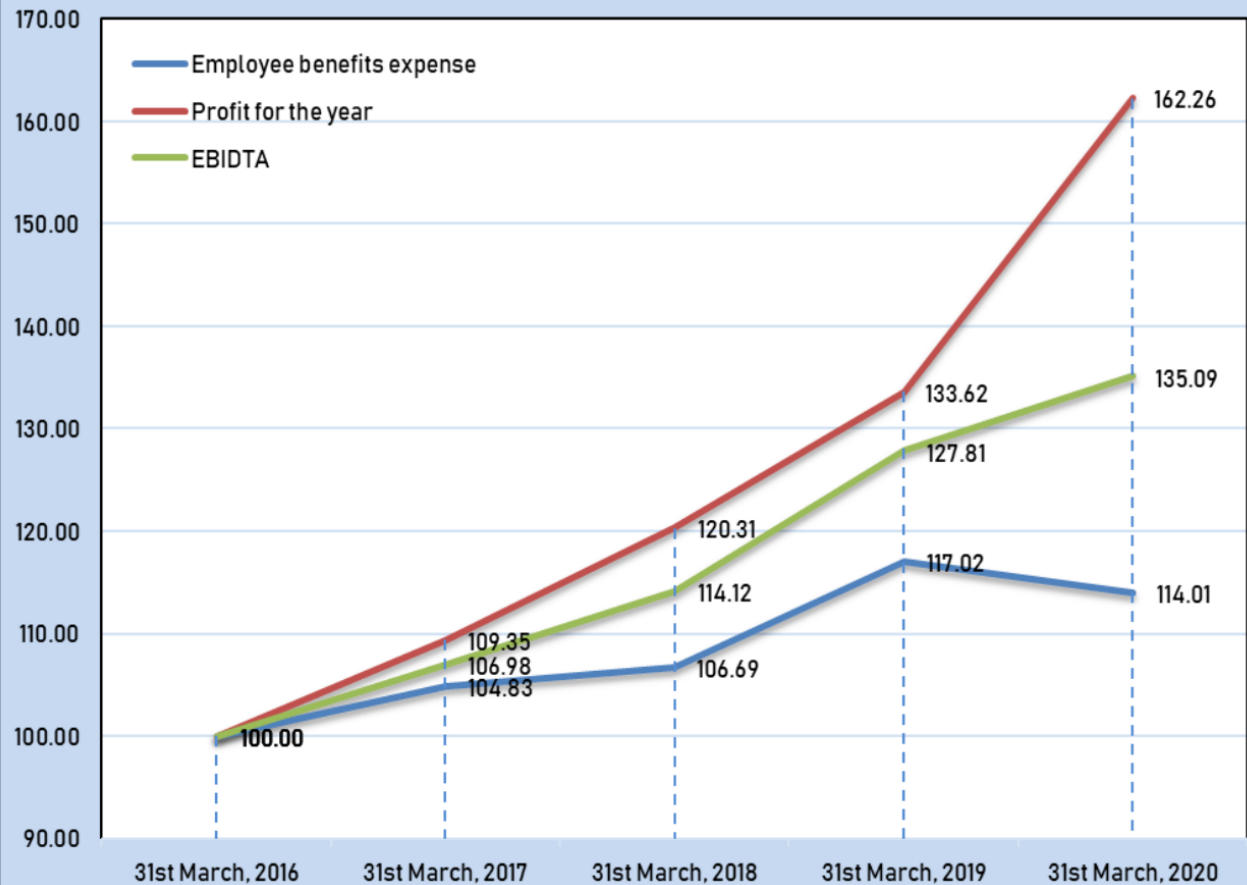
HOW ONE RUPEE IS SPENT BY ITC LIMITED?

How one Rupee is spent during the year ending on 31st March, 2020?

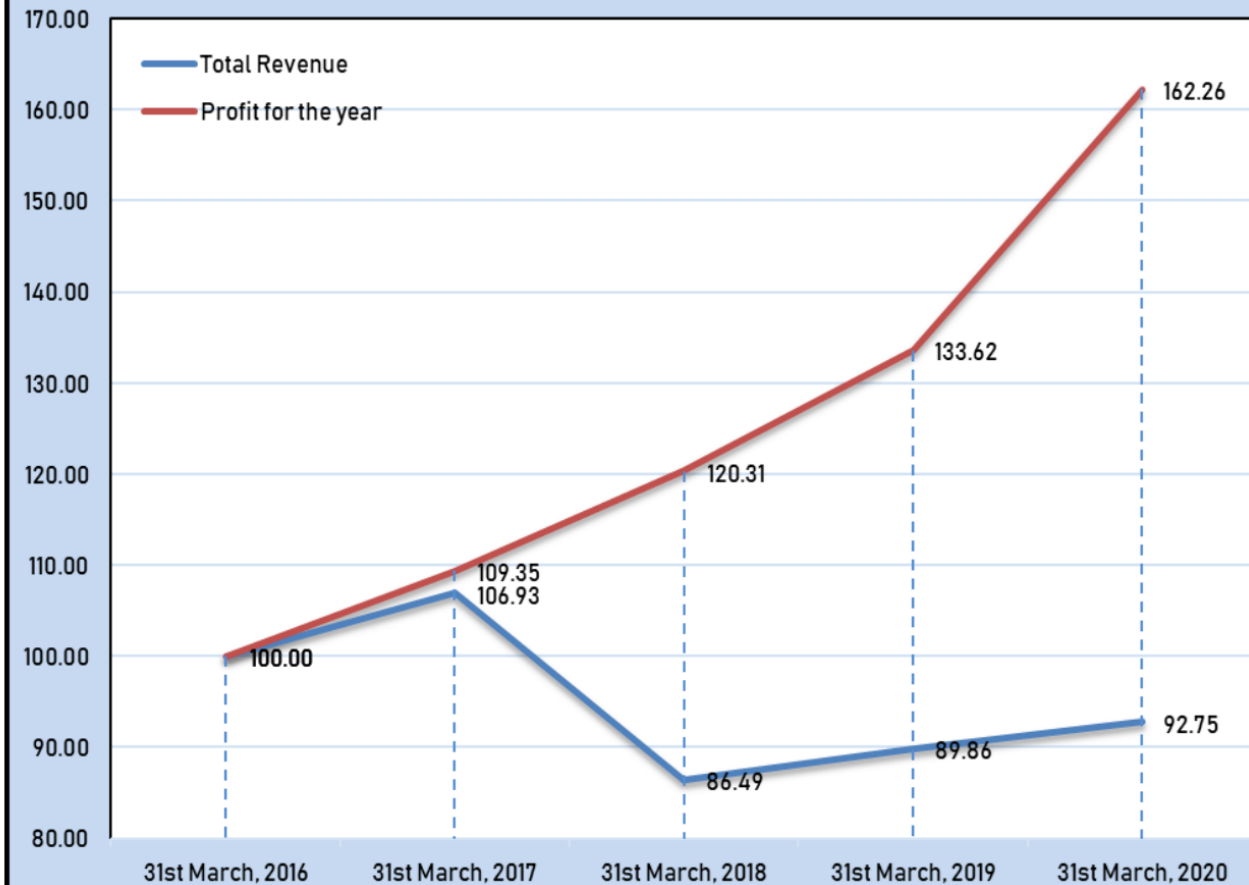


TREND ANALYSIS – INCOME STATEMENT OF ITC LIMITED

INDEX NUMBER TREND ANALYSIS - ITC LTD



INDEX NUMBER TREND ANALYSIS - ITC LTD



TYPES OR CLASSIFICATION OF RATIOS

Liquidity Ratios

- Used to assess a company's ability to meet its short-term obligations

Activity Ratios

- Used to assess how efficiently a company is managing its operations

Solvency Ratios

- Used to assess a company's ability to meet its long-term obligations

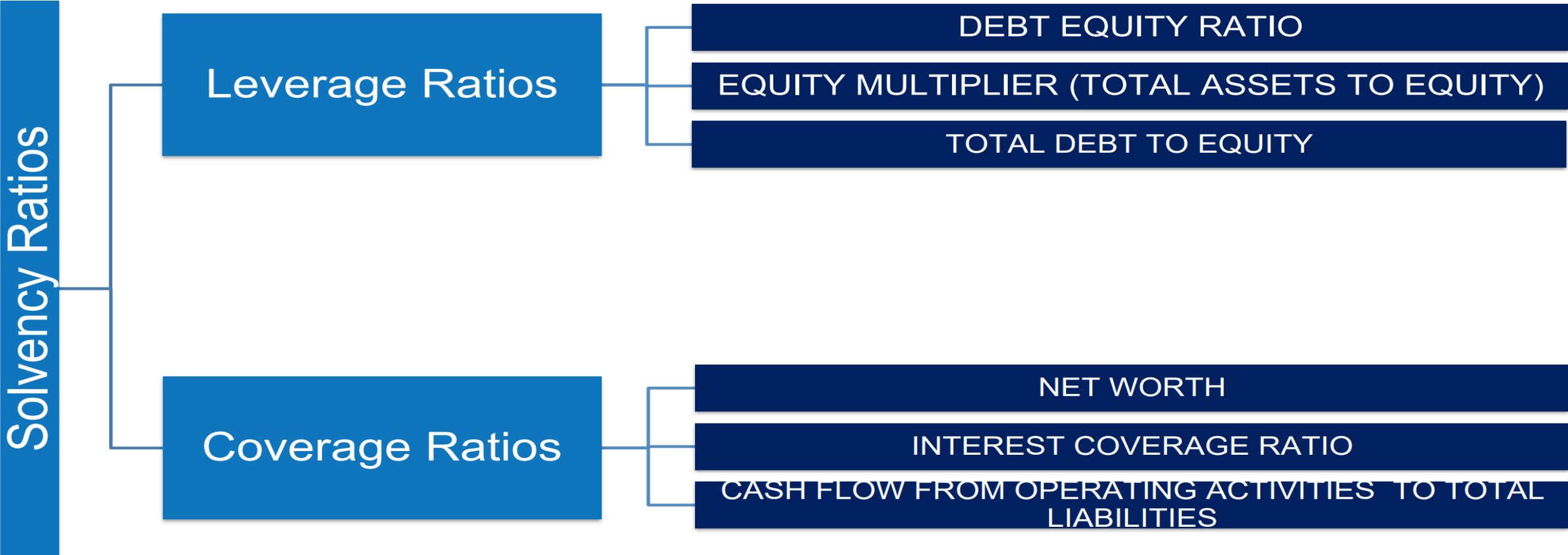
Profitability Ratios

- Used to assess a company's ability to generate profits

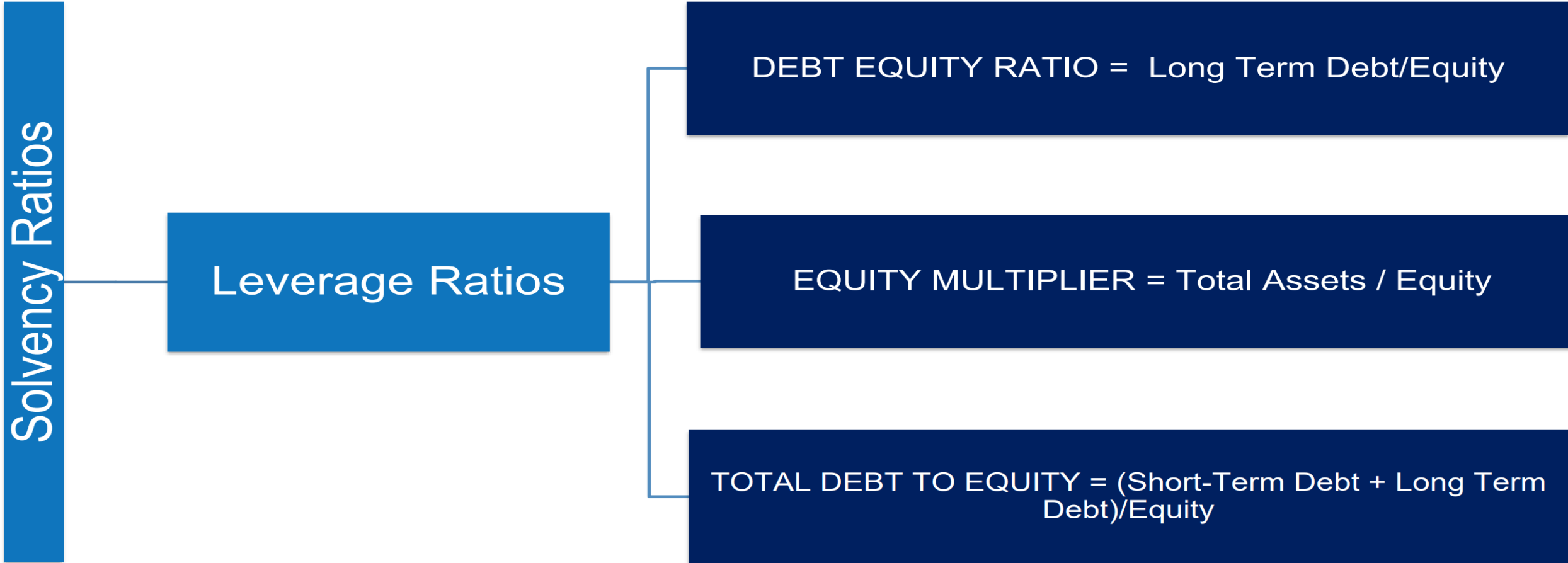
Valuation Ratios

- Used to know the performance of a company's shares in the market and a firm's value

SOLVENCY RATIOS



SOLVENCY RATIOS



SOLVENCY RATIOS: LEVERAGE

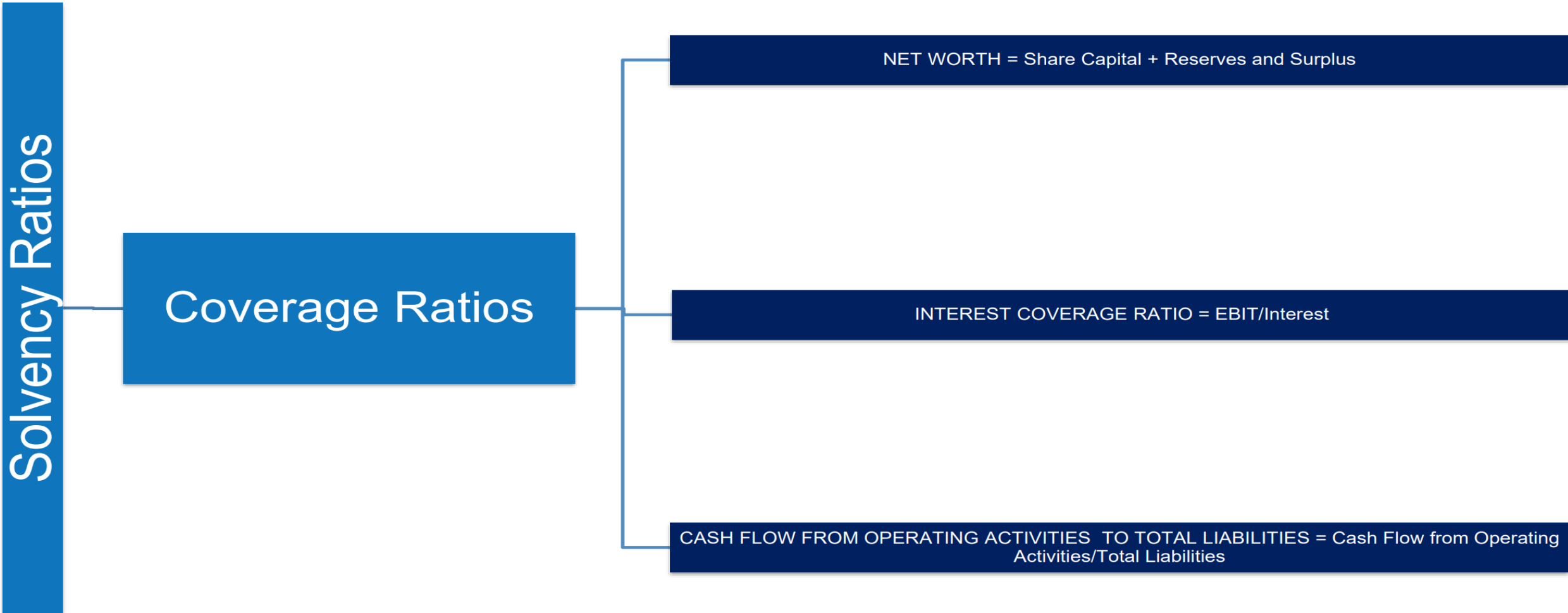
Hypothetical Financial Data - Solvency Analysis

Particulars	31st March, 2020
SHARE CAPITAL	Rs.200.00
RETAINED EARNINGS	Rs.800.00
NET WORTH	Rs.1,000.00
SHORT-TERM DEBT	Rs.250.00
LONG-TERM DEBT	Rs.400.00
TOTAL ASSETS	Rs.2,000.00

Hypothetical Data - Solvency Ratios

Particulars	31st March, 2020
DEBT EQUITY RATIO (400/1,000)	40.00%
EQUITY MULTIPLIER (2000/1000)	2.00
TOTAL DEBT TO EQUITY	65.00%

SOLVENCY RATIOS



SOLVENCY RATIOS: COVERAGE

Hypothetical Financial Data - Solvency Analysis

Particulars	31st March, 2020
SHARE CAPITAL	Rs.200.00
RETAINED EARNINGS	Rs.800.00
NET WORTH	Rs.1,000.00
SHORT-TERM DEBT	Rs.250.00
LONG-TERM DEBT	Rs.400.00
CASH FLOWS FROM OPERATING ACTIVITIES	Rs.150.00
EBIT	Rs.200.00
INTEREST PAID	Rs.40.00

Hypothetical Data - Solvency Ratios

Particulars	31st March, 2020
NET WORTH (200+800)	Rs.1,000.00
INTEREST COVERAGE RATIO	5.00
CASH FLOW FROM OPERATING ACTIVITIES TO TOTAL LIABILITIES	23.08%

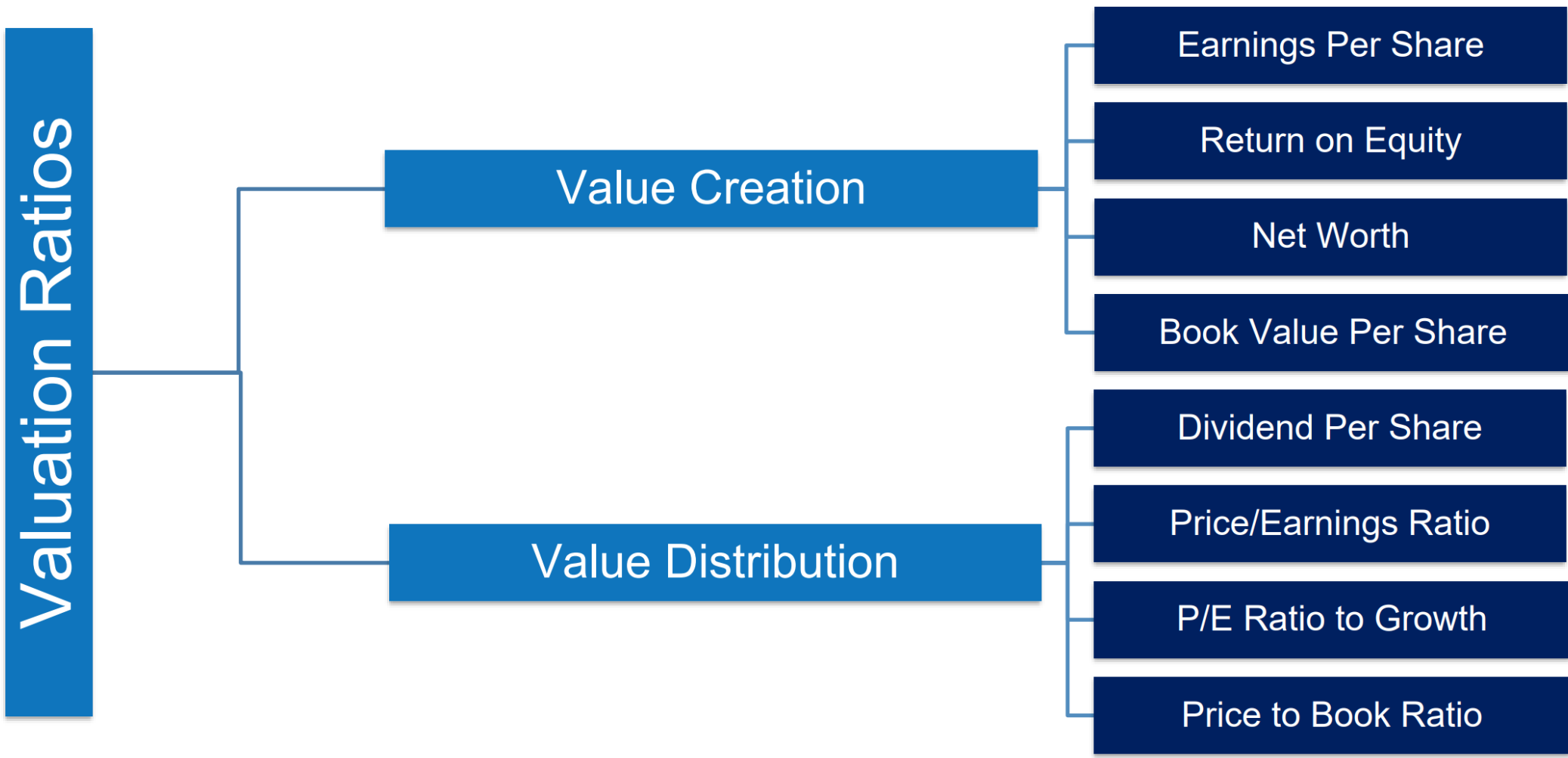
Dr. Reddy's Laboratories Limited - Solvency Ratio Analysis - Leverage

Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
DEBT EQUITY RATIO	9.06%	4.54%	4.40%	2.95%	0.32%
EQUITY MULTIPLIER	1.51	1.42	1.45	1.28	1.28
TOTAL DEBT TO EQUITY	32.07%	32.73%	33.92%	17.64%	19.44%

Dr. Reddy's Laboratories Limited - Solvency Ratio Analysis - Coverage

Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
NET WORTH	Rs.11,605.40	Rs.11,600.60	Rs.11,807.80	Rs.12,684.10	Rs.15,191.90
INTEREST COVERAGE RATIO	27.16	28.00	12.10	30.94	59.07
CASH FLOW FROM OPERATING ACTIVITIES TO TOTAL LIABILITIES	46.15%	20.96%	29.07%	77.51%	42.93%

VALUATION RATIOS



Valuation Ratios #1

Financial Information (Hypothetical)	
Total Revenue	1,000
Less: Cost of Goods Sold(COGS)	(500)
Gross Profit	500
Less: Operating Expenses	(300)
Operating Profit (EBIT)	200
Less: Interest	(50)
Profit before Tax (PBT)	150
Less: Tax@30%	(45)
Net Profit (PAT)	105
Share Capital (Rs. 10 face Value)	1,000
Reserves and Surpluses	750

$$\text{Earnings Per Share (Rs.)} = \frac{\text{Net Profit}}{\text{No. of Shares}} = \frac{105}{100} = \text{Rs. 1.05}$$

$$\text{Net Worth} = \text{Share Capital} + \text{Reserves and Surplus} = 1,000 + 750 = 1,750$$

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Net Worth}} = \frac{105}{1,750} = 6\%$$

$$\text{Book Value Per Share} = \frac{\text{Net Worth}}{\text{No. of Shares issued}} = \frac{1,750}{100} = \text{Rs. 17.50}$$

Valuation Ratios #2

Financial Information (Hypothetical)	
Total Revenue	Rs.1,000.00
Less: Cost of Goods Sold(COGS)	(Rs.500.00)
Gross Profit	Rs.500.00
Less: Operating Expenses	(Rs.300.00)
Operating Profit (EBIT)	Rs.200.00
Less: Interest	(Rs.50.00)
Profit before Tax (PBT)	Rs.150.00
Less: Tax@30%	(Rs.45.00)
Net Profit (PAT)	Rs.105.00
Share Capital (Rs. 10 face Value)	Rs.1,000.00
Reserves and Surpluses	Rs.750.00
EPS	Rs.1.05
Total Dividend paid	Rs.90.00
Growth in the EPS	10%
Share Price	Rs.20.00

$$\text{Dividend Per Share (Rs.)} = \frac{\text{Total Dividend Paid}}{\text{No. of Shares}} = \frac{90}{100} = \text{Rs. 0.90}$$

$$\text{Price/Earnings Ratio} = \frac{\text{Share Price}}{\text{EPS}} = \frac{20}{1.05} = 19.05$$

$$\text{Price Earning Ratio to Growth} = \frac{\text{Price Earning Ratio}}{\text{Growth Rate in Earning}} = \frac{19.05}{10} = 1.905$$

$$\text{Price to Book Value Ratio} = \frac{\text{Share Price}}{\text{Book Value Per Share}} = \frac{20}{17.50} = 1.14$$

OTHER DIFFERENT TERMS FOR PROFIT

- Gross Profit: Total Revenue – Cost of Good Sold
 - EBIT/PBIT or Operating Profit: Earnings Before Interest Taxes and it presents profits from the operations of the business.
 - PBT: Profit Before Tax; it is calculated by considering all expenses related to operations except taxes.
 - PAT: Profit After Tax; it is profit left after considering all expenses and taxes. This is the profit available for distribution among the shareholders.

Source: THE COCA-COLA COMPANY AND SUBSIDIARIES, Annual Report 2019

Income Statement (Profit and Loss Account)

Revenue

(-) Cost of Sales

= GROSS PROFIT

(-) Administrative Expenses

(-) General Expenses

(-) Selling and Distribution Exposure

(-) Research and Develop Expenses

= EBIDTA

(-) Depreciation and Amortization

= EBIT

(-) Interest

= PBT

(-) Taxes

PAT or Profit for the Year

THE COCA-COLA COMPANY AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF INCOME

(In millions except per share data)

Year Ended December 31,	2019	2018	2017
Net Operating Revenues	\$ 37,266	\$ 34,300	\$ 36,212
Cost of goods sold	14,619	13,067	13,721
<u>Gross Profit</u>	22,647	21,233	22,491
Selling, general and administrative expenses	12,103	11,002	12,834
Other operating charges	458	1,079	1,902
<u>Operating Income</u>	10,086	9,152	7,755
Interest income	563	689	679
Interest expense	946	950	853
Equity income (loss) — net	1,049	1,008	1,072
Other income (loss) — net	34	(1,674)	(1,763)
<u>Income Before Income Taxes</u>	10,786	8,225	6,890
Income taxes	1,801	1,749	5,607
<u>Consolidated Net Income</u>	8,985	6,476	1,283

ITC LIMITED – PROFITABILITY RATIOS – EARNING DESIRED PROFIT ON SALES

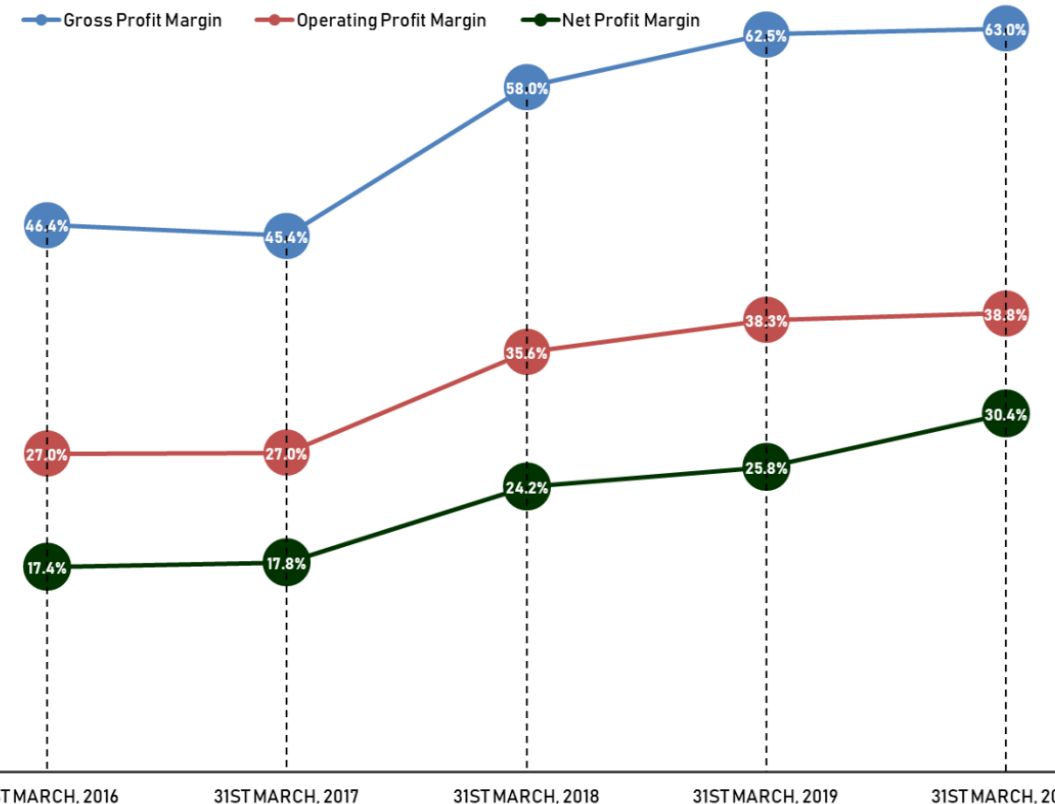
ITC Limited

Profitability Ratios	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Gross Profit Margin	46.36%	45.44%	58.04%	62.51%	63.02%
Operating Profit Margin	26.96%	27.03%	35.57%	38.28%	38.85%
Net Profit Margin	17.37%	17.76%	24.16%	25.82%	30.38%

ITC Limited

Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Total Revenue	Rs.53,713.83	Rs.57,434.37	Rs.46,459.61	Rs.48,268.93	Rs.49,821.00
Cost of Goods Sold	Rs.28,811.90	Rs.31,336.08	Rs.19,492.27	Rs.18,093.89	Rs.18,422.77
Gross Profit	Rs.24,901.93	Rs.26,098.29	Rs.26,967.34	Rs.30,175.04	Rs.31,398.23
EBIT	Rs.14,483.20	Rs.15,525.91	Rs.16,525.45	Rs.18,478.35	Rs.19,354.64
Profit After Tax	Rs.9,328.37	Rs.10,200.90	Rs.11,223.25	Rs.12,464.32	Rs.15,136.05

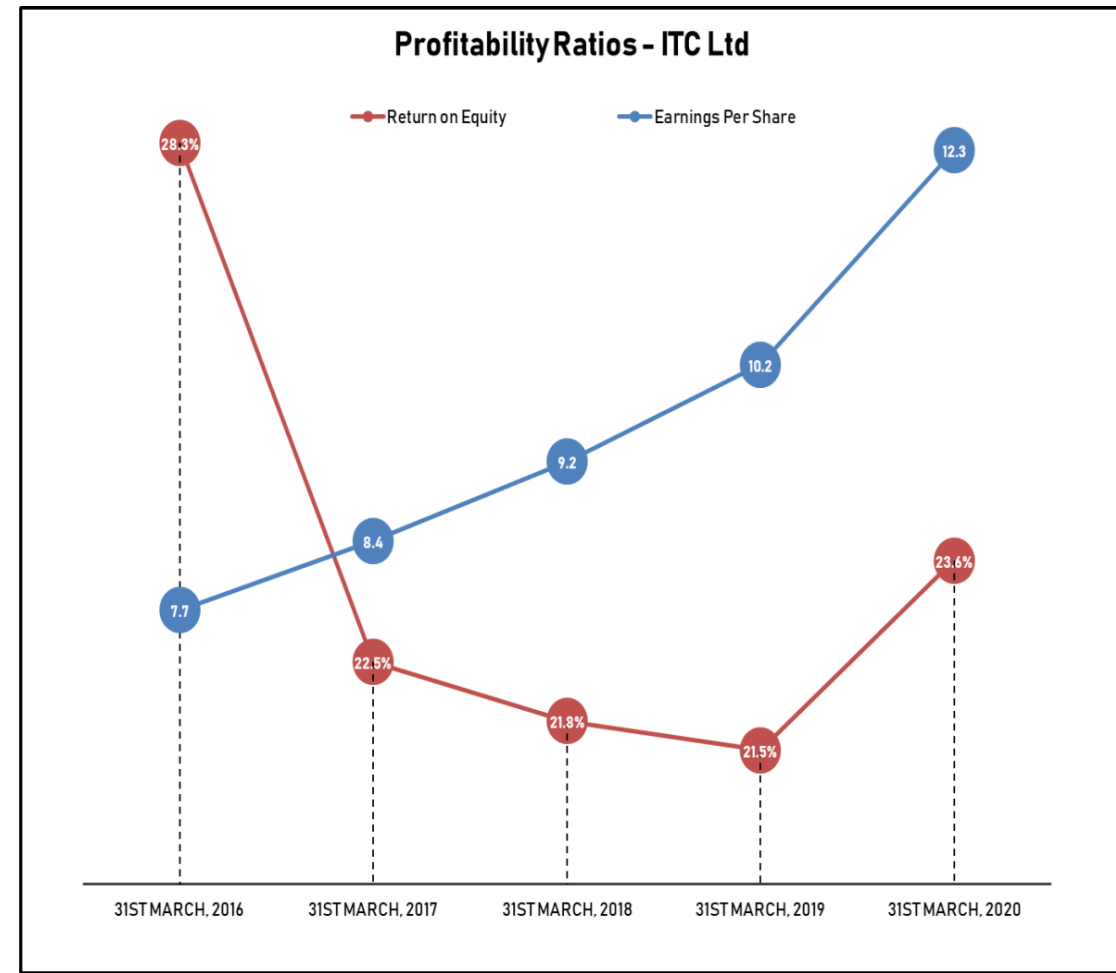
Profitability Ratios - ITC Ltd



ITC LTD – PROFITABILITY RATIOS – EARNING DESIRED PROFIT FOR SHAREHOLDERS

ITC Limited					
Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Earnings Per Share	Rs.7.74	Rs.8.43	Rs.9.22	Rs.10.19	Rs.12.33
Return on Equity	28.33%	22.50%	21.84%	21.51%	23.64%

ITC Limited					
Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Profit After Tax	Rs.9,328.37	Rs.10,200.90	Rs.11,223.25	Rs.12,464.32	Rs.15,136.05
Share Capital	Rs.804.72	Rs.1,214.74	Rs.1,220.43	Rs.1,225.86	Rs.1,229.22
Reserves and Surplus (Other Equity)	Rs.32,124.28	Rs.44,126.22	Rs.50,179.64	Rs.56,723.93	Rs.62,799.94
Net Worth	Rs.32,929.00	Rs.45,340.96	Rs.51,400.07	Rs.57,949.79	Rs.64,029.16
No. of Equity Shares	8047	12147	12204	12259	12292



ITC LIMITED – PROFITABILITY RATIOS – EARNING PROFITS WITH EFFICIENCY

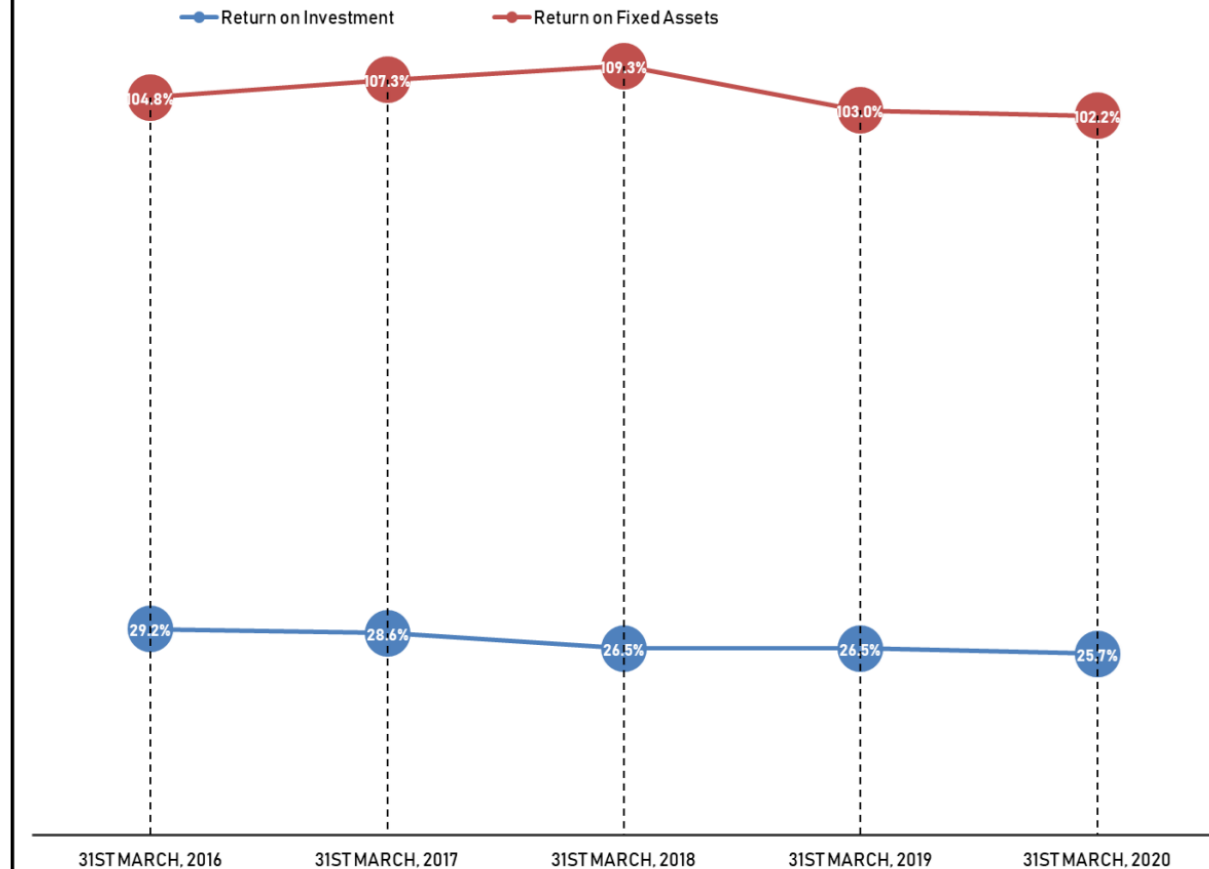
ITC Limited

Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Total Assets	Rs.49,518.43	Rs.54,215.95	Rs.62,381.31	Rs.69,797.92	Rs.75,235.36
EBIT	Rs.14,483.20	Rs.15,525.91	Rs.16,525.45	Rs.18,478.35	Rs.19,354.64
Fixed Assets (Property, Plant and Equipment)	Rs.13,816.77	Rs.14,469.32	Rs.15,120.00	Rs.17,945.65	Rs.18,932.57

ITC Limited

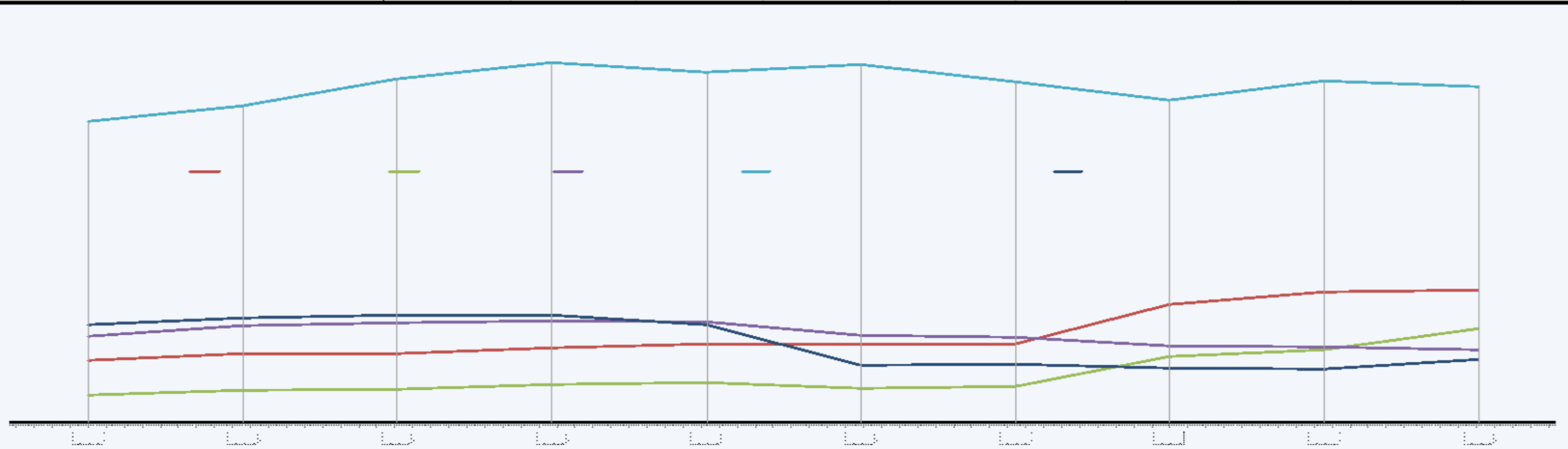
Particulars	31st March, 2016	31st March, 2017	31st March, 2018	31st March, 2019	31st March, 2020
Return on Investment	29.25%	28.64%	26.49%	26.47%	25.73%
Return on Fixed Assets	104.82%	107.30%	109.30%	102.97%	102.23%

Profitability Ratios - ITC Ltd



ITC Limited - Ten Year Summary of Financial Indicators

Particulars	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Operating Profit Margin	23.4%	24.9%	25.0%	26.3%	27.1%	27.0%	27.0%	35.6%	38.3%	38.8%
Net Profit Margin	15.9%	17.1%	17.2%	18.2%	18.5%	17.4%	17.8%	24.2%	25.8%	30.4%
Return on Investment	28.8%	31.0%	31.7%	32.3%	31.8%	28.9%	28.6%	26.5%	26.5%	25.7%
Return on Fixed Assets including Intangibles	75.8%	78.9%	84.8%	88.5%	86.3%	88.1%	84.3%	80.3%	84.4%	83.1%
Earnings Per Share	Rs.6.45	Rs.7.88	Rs.9.39	Rs.11.05	Rs.11.99	Rs.11.59	Rs.8.40	Rs.9.20	Rs.10.17	Rs.12.31
Return on Equity	31.3%	32.8%	33.3%	33.5%	31.3%	22.4%	22.5%	21.8%	21.5%	23.6%



COMMERCIAL BANKS

- Specifically, commercial banks major assets are loans (financial assets) and their major liabilities are deposits.

DIFFERENCES IN BALANCE SHEETS OF COMMERCIAL BANKS AND NONFINANCIAL FIRMS

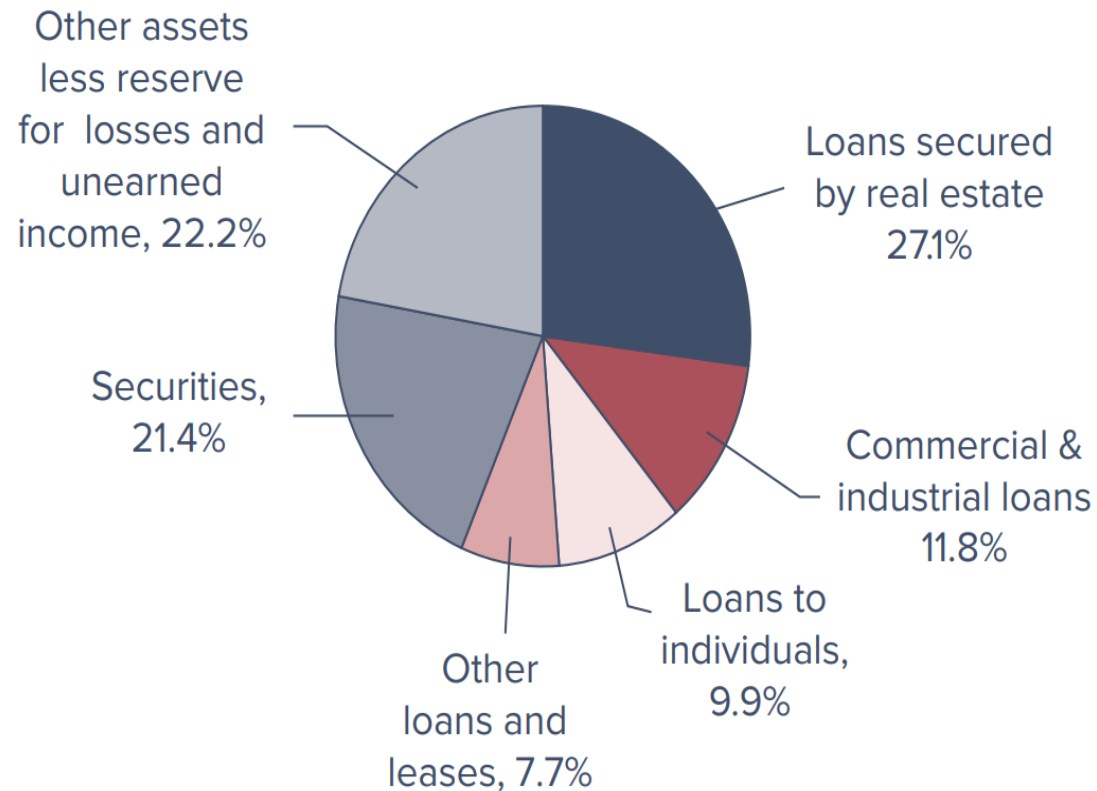
Commercial Banks		Nonfinancial Firms	
Assets	Liabilities and Equity	Assets	Liabilities and Equity
Loans	Deposits	Deposits	Loans
Other financial assets		Other financial assets	
Other nonfinancial assets	Other liabilities and equity	Other nonfinancial assets	Other liabilities and equity

BALANCE SHEET OF INDIA MAJOR BANK

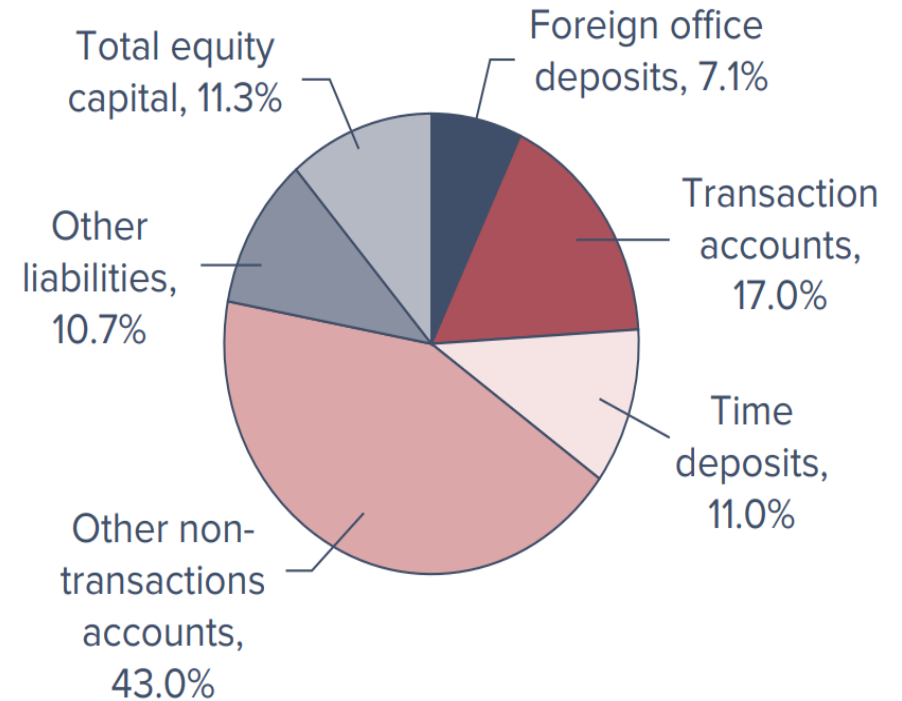
Total Assets	18,645,348
Loans secured by real estate	5,045,856
Commercial and industrial loans	2,205,006
Loans to individuals	1,837,510
Credit cards	941,557
Other loans to individuals	895,953
Other loans and leases	1,432,167
Gross total loans and leases	10,520,539
Less: Unearned income	2,337
Total loans and leases	10,518,202
Less: Reserve for losses	123,889
Net loans and leases	10,394,313
Securities	3,981,634
Bank premises and fixed assets	187,415
Other real estate owned	5,710
Intangible assets	408,786
All other assets	3,667,490
Total Liabilities and Capital	18,645,348
Deposits	14,535,283
Foreign office deposits	1,315,315
Domestic office deposits	13,219,968
Transaction accounts	3,160,949
Nontransaction accounts	10,059,019
Time deposits	2,042,090
Other nontransactions accounts	8,016,929
Subordinated debt	69,952
All other liabilities	1,926,126
Total liabilities	16,531,361
Total equity capital	2,113,987
Total bank equity capital	2,111,105

DISTRIBUTION OF COMMERCIAL BANK ASSETS, LIABILITIES, AND EQUITY

Distribution of Assets



Distribution of Liabilities and Equity



OFF-BALANCE-SHEET ACTIVITIES

- OBS activities include issuing various types of guarantees (such as letters of credit), which often have a strong insurance underwriting element, and making future commitments to lend. Both services generate additional fee income for banks. Off-balance-sheet activities also involve engaging in derivative transactions—futures, forwards, options, and swaps.
- By undertaking off-balance-sheet activities, banks hope to earn additional fee income to complement declining margins or spread.
- At the same time, they can avoid regulatory costs or “taxes” since reserve requirements and deposit insurance premiums are not levied on off-balance-sheet activities

LOAN COMMITMENTS

- These days, most commercial and industrial loans are made by firms that take down (or borrow against) prenegotiated lines of credit or loan commitments rather than borrow cash immediately in the form of spot loans.
- Commercial Letters of Credit and Standby Letters of Credit.
- Loans Sold
- Derivative Contracts
- Other Fee-Generating Activities-The banks manage the pension funds, act as trustees for any bonds held by the pension funds, and act as transfer and disbursement agents for the pension funds.

OVERVIEW OF OFF-BALANCE-SHEET CONTINGENT ASSETS AND LIABILITIES

	1992	2002	2007	2010	2015	2019	Distribution 2019
Total unused commitments	\$1,401.0	\$5,500.2	\$8,052.8	\$5,546.3	\$6,804.7	\$8,215.4	4.6%
Revolving open-end lines secured by 1–4 family residential property	120.3	325.1	637.8	468.7	411.1	430.0	0.2
Credit card lines	572.0	3,357.7	4,500.0	3,010.8	3,236.7	3,975.6	2.2
Construction loan commitments	8.6	40.4	370.0	134.3	352.4	483.6	0.3
Other unused commitments	700.1	1,777.0	2,544.9	1,932.6	2,804.5	3,326.1	1.8
C&I loans				1,048.7	1,848.5	2,127.8	1.2
Loans to financial institutions				198.0	307.8	427.1	0.2
All other				686.0	648.2	771.3	0.4
Letters of credit	190.8	348.3	619.9	589.0	616.7	722.0	0.4
Financial standby letters of credit and foreign office guarantees	110.4	271.7	494.1	472.6	490.8	592.4	0.3
All other letters of credit	80.4	76.5	125.8	116.4	125.9	129.6	0.1
Credit derivatives: protection sold, total notional amount			7,820.3	15,738.0	3,440.8	1,895.2	1.1
Credit default swaps			7,723.0	15,590.0	3,288.9	1,677.6	0.9
Other			97.3	148.0	152.0	217.6	0.1
Credit derivatives: protection bought, total notional amount			8,042.5	15,919.6	3,545.7	2,049.4	1.1
Credit default swaps			7,919.1	15,743.4	3,367.8	1,782.2	1.0
Other			123.5	176.2	177.9	267.3	0.1
Interest rate derivatives, total notional amount	4,872.0	48,485.8	129,477.5	193,391.3	138,361.6	125,078.3	69.3
Swaps	2,127.4	31,195.5	99,376.5	142,383.8	93,730.2	80,916.3	44.8
Forward contracts		4,150.6	5,617.5	19,400.3	13,995.6	11,953.7	6.6
Other	2,744.6	13,139.7	24,483.5	31,607.3	30,635.8	32,185.9	17.8
Other derivatives, total notional amount	3,789.0	7,094.1	20,202.1	23,547.3	35,603.0	42,461.3	23.5
Swaps		1,421.5	3,713.3	6,939.2	13,661.5	15,697.8	8.7
Forward contracts	3,789.0	3,892.4	9,555.3	11,357.8	14,529.7	18,873.3	10.5
Other		1,780.3	6,933.5	5,250.4	7,411.8	7,890.2	4.4
Total off-balance-sheet items	10,252.8	61,428.4	174,215.1	254,731.5	188,372.5	180,421.6	100.0
Total balance sheet assets*	4,593.0	8,372.8	12,930.1	13,254.2	15,915.2	18,584.7	

OTHER FEE-GENERATING ACTIVITIES

- Trust Services
- Correspondent Banking- These services include check clearing and collection, foreign exchange trading, hedging services, and participation in large loan and security issuances.
- Payment for the services is generally in the form of non-interest-bearing deposits held at the bank offering the correspondent services

BANKS BALANCE SHEET

- Assets- A bank's assets are grouped into four major subcategories: (1) cash and due from depository institutions, (2) investment securities, (3) loans and leases, and (4) other assets.
- Investment securities and loans and leases are the bank's earning assets

BANKS BALANCE SHEET

- Cash and Due from Depository Institutions- Vault cash is composed of the currency and coin needed to meet customer withdrawals. Deposits at the Central Bank are used primarily to meet legal reserve requirements to assist in check clearing, wire transfers, and the purchase or sale of Treasury securities.
- Deposits at other financial institutions are primarily used to purchase services from those institutions. These banks generally purchase services such as check collection, check processing, fed funds trading, and investment advice from correspondent banks.

BANKS BALANCE SHEET

- Investment Securities- Investment securities consist of federal funds sold, repurchase agreements (RPs or reposs).

SAMPLE BALANCE SHEET

Assets

1	Vault cash	12.569	12,072
2	Deposits at Federal Reserve	57.502	69,231
3	Deposits at other financial institutions	8.282	70,412
4	Cash items in process of collection	0.013	9,446
5	<i>Cash and due from depository institutions</i>	78.366	161,161
6	Federal funds sold and RPs	0.000	30,331
7	U.S. Government securities	34.284	54,675
8	Securities issued by states and political subdivisions	166.105	13,971
9	Mortgage-backed securities	328.289	335,295
10	Other debt and equity securities	80.625	17,498
11	<i>Securities</i>	609.303	451,770
12	Commercial and industrial loans	330.095	290,042
13	Loans secured by real estate	1,584.161	342,145
14	Consumer loans	17.497	167,059
15	Other loans	137.804	140,915
16	Leases	0.000	24,161
17	Gross loans and leases	2,069.557	964,322
18	Less: Unearned income	0.000	0
19	Reserve for loan and lease losses	21.071	9,518
20	<i>Net loans and leases</i>	2,048.486	954,804
21	Trading account assets	0.000	83,871
22	Premises and fixed assets	52.561	18,397
23	Other real estate owned	9.254	322
24	Intangible assets	34.617	58,730
25	All other assets	25.840	77,268
26	<i>Other assets</i>	122.272	238,588
27	Total assets	<u>2,858.427</u>	<u>1,806,323</u>

Liabilities and Equity Capital

28	Demand deposits	224.688	184,059
29	NOW accounts	165.878	83,505
30	DAs	451.622	561,334
31	Other savings deposits	1,271.731	480,147
32	Deposits in foreign offices	0.000	87,429
33	Retail CDs	<u>226.065</u>	<u>21,248</u>
34	Core deposits	2,339.984	1,417,722
35	Wholesale CDs	<u>112.744</u>	<u>34,297</u>
36	<i>Total deposits</i>	2,452.728	1,452,019
37	Federal funds purchased and repurchase agreements	35.646	25,810
38	Other borrowed funds	0.000	83,458
39	Subordinated debt	0.000	1,732
40	All other liabilities	<u>34.419</u>	<u>28,725</u>
41	<i>Total liabilities</i>	2,522.793	1,591,744
42	Perpetual preferred stock	0.000	0
43	Common stock	5.000	3,042
44	Surplus and paid-in capital	67.500	167,112
45	Retained earnings	<u>263.134</u>	<u>44,425</u>
46	<i>Total equity capital</i>	<u>335.634</u>	<u>214,579</u>
47	Total liabilities and capital	<u><u>2,858.427</u></u>	<u><u>1,806,323</u></u>

INCOME STATEMENT

- Interest income and expenses, net interest income, provision for loan losses, noninterest income and expenses, income before taxes and extraordinary items, and net income for the banks earned from the on- and off-balance-sheet activities.

INTEREST INCOME

- The income statement for a commercial bank first shows the sources of interest income.
- Interest and fee income on loans and leases.

INTEREST EXPENSES

- Interest on deposits
- Retail CD

NET INTEREST INCOME

- Total interest income minus total interest expense.
- Net interest income is an important tool in assessing the bank's ability to generate profits and control interest rate risk.

PROVISION FOR LOAN LOSSES

- The provision for loan losses is a noncash.
- The provision for loan losses is the current period's allocation to the allowance for loan losses listed on the balance sheet.

NONINTEREST INCOME

- It includes all other income received by the bank as a result of its on- and off-balance-sheet activities and is becoming increasingly important as the ability to attract core deposits and high-quality loan applicants.

NONINTEREST INCOME

- Included in this category is income from fiduciary activities (for example, earnings from operating a trust department),
- Service charges on deposit accounts, trading revenues (gains [losses] and fees from trading marketable instruments and OBS derivative instruments),
- Fees from other-than-banking activities such fees from investment banking and security brokerage, fees from insurance,
- Servicing fees from mortgages, credit cards, and other assets, gains and losses from the sale of loans and investment securities, and other noninterest income (fee income from OBS loan commitments and letters of credit, ATM fees, money order, cashier's check, and travelers' check fees, data processing revenue, and revenue from one-time transactions such as sales of real estate owned, loans, premises, and fixed assets

Interest Income

1	Income on C&I loans	\$ 24.404	\$10,140
2	Income on real estate loans	79.512	13,382
3	Income on consumer loans	1.476	13,932
4	Income on other loans	8.654	6,780
5	Income on leases	<u>0.000</u>	<u>882</u>
6	Interest and fees on loans and leases	\$114.046	\$45,116
7	Interest on deposits at other institutions	1.390	1,968
8	Interest on fed funds and RPs	0.000	1,106
9	Interest on U.S. Treasury and agency securities	1.002	1,134
10	Interest on securities issued by states and political subdivisions	4.836	434
11	Interest on mortgage-backed securities	8.808	9,590
12	Interest on debt and equity securities	<u>2.820</u>	<u>1,844</u>
13	Interest income on investment securities	<u>\$ 18.856</u>	<u>\$16,076</u>
14	<i>Total interest income</i>	<u>\$132.902</u>	<u>\$61,192</u>

Interest Expense

15	Interest on NOW accounts	\$ 0.144	\$ 2,876
16	Interest on MMDA accounts and other savings	2.526	3,270
17	Interest on foreign debt	0.000	820
18	Interest on retail CDs	2.358	221
19	Interest on wholesale CDs	<u>1.452</u>	<u>361</u>
20	Interest on deposit accounts	\$ 6.480	\$ 7,548
21	Interest on fed funds and RPs	0.070	604
22	Interest on borrowed funds	0.008	1,410
23	Interest on subordinated notes and debentures	<u>0.000</u>	<u>58</u>
24	<i>Total interest expense</i>	<u>\$ 6.558</u>	<u>\$ 9,620</u>
25	<i>Net interest income</i>	<u>\$126.344</u>	<u>\$51,572</u>
26	<i>Provision for loan losses</i>	\$ 6.000	\$ 3,762

Noninterest Income

27	Income from fiduciary activities	\$ 5.768	\$ 1,946
28	Service charges on deposit accounts	6.628	5,280
29	Trading revenue	0.000	4,206
30	Fees from investment banking and security brokerage	0.766	1,172
31	Fees from insurance	0.674	16
32	Net servicing fees	-0.930	-148
33	Net gain (loss) from sale of loans and investment securities	1.552	350
34	Other noninterest income	<u>9.972</u>	<u>13,052</u>
35	Total noninterest income	<u>\$ 24.430</u>	<u>\$25,874</u>

Noninterest Expense

36	Salaries and employee benefits	\$ 53.942	\$17,346
37	Expenses of premises and fixed assets	8.272	4,780
38	Other noninterest expense	<u>19.712</u>	<u>14,002</u>
39	Total noninterest expense	<u>\$ 81.926</u>	<u>\$36,128</u>
40	Income before taxes and extraordinary items	\$ 62.848	\$37,556
41	Applicable income taxes	1.058	7,894
42	Extraordinary items	<u>0.168</u>	<u>0</u>
43	Net Income	<u><u>\$ 61.958</u></u>	<u><u>\$29,662</u></u>

PROVISION FOR LOAN LOSSES

- The provision for loan losses is the current period's allocation to the allowance for loan losses listed on the balance sheet.

NONINTEREST INCOME

- Includes all other income received by the bank as a result of its on- and off-balance-sheet activities.

DIRECT RELATIONSHIP BETWEEN THE INCOME STATEMENT AND THE BALANCE SHEET

$$NI = \sum_{n=1}^N r_n A_n - \sum_{m=1}^M r_m L_m - P + NII - NIE - T$$

where

NI = Bank's net income

A_n = Dollar value of the bank's n th asset

L_m = Dollar value of the bank's m th liability

r_n = Rate earned on the bank's n th asset

r_m = Rate paid on the bank's m th liability

P = Provision for loan losses

NII = Noninterest income earned by the bank, including income from off-balance-sheet activities

NIE = Noninterest expenses incurred by the bank

T = Bank's taxes and extraordinary items

N = Number of assets the bank holds

M = Number of liabilities the bank holds

DIRECT RELATIONSHIP BETWEEN THE INCOME STATEMENT AND THE BALANCE SHEET

- Finally, changing the mix of assets or liabilities on the balance sheet has a direct effect on net income equal to the size of the rate difference times the dollar value of the asset or liability being changed.

$$NI = 0.046(1m.) + 0.06(3m.) - 0.035(3m.) - 0.0475(1m.) = \$73,500$$

The bank replaces \$500,000 of assets currently yielding 4.60 percent with assets yielding 6 percent. As a result, net income increases by \$7,000 $[(6\% - 4.6\%) \times \$500,000]$, or

$$NI = 0.046(0.5m.) + 0.06(3.5m.) - 0.035(3m.) - 0.0475(1m.) = \$80,500$$

FINANCIAL STATEMENT ANALYSIS

- Return on Equity- -

$$\text{ROE} = \frac{\text{Net income}}{\text{Total equity capital}}$$

	Heartland	Bank of America
ROE	$\frac{61.958}{335.634} = 18.46\%$	$\frac{29,662}{214,579} = 13.82\%$

ROE

$$\text{ROE} = \frac{\text{Net income}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Total equity capital}}$$
$$= \text{ROA} \times \text{EM}$$

	Heartland	Bank of America
ROA	$\frac{61.958}{2,858.427} = 2.17\%$	$\frac{29,662}{1,806,323} = 1.64\%$
EM	$\frac{2,858.427}{335.634} = 8.52 \text{ times}$	$\frac{1,806,323}{214,579} = 8.42 \text{ times}$

$$\text{ROE} = \frac{\text{Net income}}{\text{Total equity capital}} \quad \text{Ratio 1}$$

$$\text{ROA} = \frac{\text{Net income}}{\text{Total assets}} \quad \text{Ratio 2}$$

$$\text{Equity Multiplier} = \frac{\text{Total assets}}{\text{Total equity capital}} \quad \text{Ratio 3}$$

$$\text{Profit Margin} = \frac{\text{Net income}}{\text{Total operating income}} \quad \text{Ratio 4}$$

$$\text{Asset Utilization} = \frac{\text{Total operating income}}{\text{Total assets}} \quad \text{Ratio 5}$$

$$\frac{\text{Interest expense}}{\text{Total operating income}} \quad \text{Ratio 9}$$

(components)
(Ratios 13–20)
(Ratios 24–31)
(Ratios 32–44)
(Ratios 45–53)

$$\frac{\text{Provision for loan losses}}{\text{Total operating income}} \quad \text{Ratio 10}$$

$$\frac{\text{Noninterest expense}}{\text{Total operating income}} \quad \text{Ratio 11}$$

(components)
(Ratios 21–23)
(Ratios 54–56)
(Ratios 57–59)

$$\frac{\text{Income taxes}}{\text{Total operating income}} \quad \text{Ratio 12}$$

$$\frac{\text{Interest income}}{\text{Total assets}} \quad \text{Ratio 60}$$

(components)
(Ratios 62–72)
(Ratios 73–83)
(Ratios 84–97)
(Ratios 98–107)

$$\frac{\text{Noninterest income}}{\text{Total assets}} \quad \text{Ratio 61}$$

(components)
(Ratios 108–113)
(Ratios 114–120)
(Ratios 121–127)

Ratio	Heartland Bank and Trust	Bank of America
1 ROE	18.46	13.82
2 ROA	2.17	1.64
3 Equity multiplier	8.52×	8.42×
4 Profit margin	39.38	34.07
5 Asset utilization	5.50	4.82
6 Net interest margin	4.75	3.67
7 Spread	4.71	3.65
8 Overhead efficiency	29.82	71.62

$$\text{ROA} = \frac{\text{Net income}}{\text{Total operating income}} \times \frac{\text{Total operating income}}{\text{Total assets}}$$

$$= \text{PM} \times \text{AU}$$

	Heartland	Bank of America
PM	$\frac{61,958}{132,902 + 24,430} = 39.38\%$	$\frac{29,662}{61,192 + 25,874} = 34.07\%$
AU	$\frac{132,902 + 24,430}{2,858,427} = 5.51\%$	$\frac{61,192 + 25,874}{1,806,323} = 4.82\%$

$$\text{Interest expense ratio (ratio 9)} = \frac{\text{Interest expense}}{\text{Total operating income}}$$

$$\text{Provision for loan loss ratio (ratio 10)} = \frac{\text{Provision for loan losses}}{\text{Total operating income}}$$

$$\text{Noninterest expense ratio (ratio 11)} = \frac{\text{Noninterest expense}}{\text{Total operating income}}$$

$$\text{Tax ratio (ratio 12)} = \frac{\text{Income taxes}}{\text{Total operating income}}$$

	Heartland	Bank of America
Interest expense ratio	$\frac{6.558}{132.902 + 24.430} = 4.17\%$	$\frac{9,620}{61,192 + 25,874} = 11.05\%$
Provision for loan loss ratio	$\frac{6.000}{132.902 + 24.430} = 3.81\%$	$\frac{3,762}{61,192 + 25,874} = 4.32\%$
Noninterest expense ratio	$\frac{81.926}{132.902 + 24.430} = 52.07\%$	$\frac{36,128}{61,192 + 25,874} = 41.49\%$
Tax ratio	$\frac{1.058}{132.902 + 24.430} = 0.67\%$	$\frac{7,894}{61,192 + 25,874} = 9.07\%$

Ratio	Heartland Bank and Trust	Bank of America
Profit Margin Components		
9 Interest expense ratio	4.17%	11.05%
10 Provision for loan loss ratio	3.81	4.32
11 Noninterest expense ratio	52.07	41.49
12 Tax ratio	0.67	9.07
Interest Expenses as a Percentage of Total Operating Income (TOI)		
13 NOW to TOI	0.09%	3.30%
14 MMDA and other savings to TOI	1.61	3.76
15 Foreign deposits to TOI	0.00	0.94
16 Retail CDs to TOI	1.50	0.25
17 Wholesale CDs to TOI	0.92	0.41
18 Fed funds and RPs to TOI	0.04	0.69
19 Other borrowed funds to TOI	0.01	1.62
20 Subordinated notes and debentures to TOI	0.00	0.07
Noninterest Expense as a Percentage of Total Operating Income (TOI)		
21 Salaries and employee benefits to TOI	34.29%	19.92%
22 Expenses of premises and fixed assets to TOI	5.26	5.49
23 Other noninterest expenses to TOI	12.53	16.08
Liability Yields		
24 NOW accounts yield	0.09	3.44
25 MMDA and other savings yield	0.15	0.31
26 Foreign deposits yield	0.00	0.94
27 Retail CDs yield	1.04	1.04
28 Wholesale CDs yield	1.29	1.05
29 Fed funds and RPs yield	0.20	2.34
30 Other borrowed funds yield	—	1.69
31 Subordinated notes and debentures yield	0.00	3.35
Liability Accounts as a Percentage of Total Assets (TA)		
32 Demand deposits to TA	7.86%	10.19%
33 NOW accounts to TA	5.80	4.62
34 MMDAs to TA	15.80	31.08
35 Other savings to TA	44.49	26.58
36 Foreign deposits to TA	0.00	4.84
37 Retail CDs to TA	7.91	1.18
38 Core deposits to TA	81.86	78.49
39 Wholesale CDs to TA	3.94	1.90
40 Fed funds and RPs to TA	1.25	1.43
41 Other borrowed funds to TA	0.00	4.62
42 Subordinated notes and debentures to TA	0.00	0.10
43 Purchased funds to TA	5.19	8.04
44 Other liabilities to TA	1.20	1.59
Liability Items as a Percentage of Interest-Bearing Liabilities (IBL)		
45 NOW accounts to IBL	6.67%	5.34%
46 MMDAs to IBL	18.15	35.91
47 Other savings to IBL	51.11	30.72
48 Foreign deposits to IBL	0.00	5.59
49 Retail CDs to IBL	9.08	1.36
50 Wholesale CDs to IBL	4.53	2.19
51 Fed funds and RPs to IBL	1.43	1.65
52 Other borrowed funds to IBL	0.00	5.34
53 Subordinated notes and debentures to IBL	0.00	0.11
Noninterest Expense as a Percentage of Noninterest Income (NII)		
54 Salaries and employee benefits to NII	220.80%	67.04%
55 Expenses of premises and equipment to NII	33.86	18.47
56 Other noninterest expense to NII	80.69	54.12
Noninterest Expense as a Percentage of Total Assets		
57 Salaries and employee benefits to TA	1.89	0.96
58 Expenses of premises and equipment to TA	0.29	0.26
59 Other noninterest expense to TA	0.69	0.78

DECOMPOSITION OF ASSET UTILIZATION FOR TWO COMMERCIAL BANKS

Ratio	Heartland Bank and Trust	Bank of America
Asset Utilization Breakdown		
60 Interest income ratio	4.65%	3.39%
61 Noninterest income ratio	0.85	1.43
Interest Income as a Percentage of Total Assets (TA)		
62 C&I loans to TA	0.85%	0.56%
63 Real estate loans to TA	2.78	0.74
64 Consumer loans to TA	0.05	0.77
65 Other loans to TA	0.30	0.38
66 Leases to TA	0.00	0.05
67 Deposits at other institutions to TA	0.05	0.11
68 Fed funds and RPs to TA	0.00	0.06
69 U.S. Treasuries and agency securities to TA	0.04	0.06
70 Securities issued by states and political subdivisions to TA	0.17	0.02
71 Mortgage-backed securities to TA	0.31	0.53
72 Other debt and equity securities to TA	0.10	0.10
Asset Yields		
73 C&I loans yield	7.39%	3.50%
74 Real estate loans yield	5.02	3.91
75 Consumer loans yield	8.44	8.34
76 Other loans yield	6.28	4.81
77 Leases yield	—	3.65
78 Deposits at other institutions yield	16.78	2.79
79 Fed funds and RPs yield	0.00	3.65
80 U.S. Treasury and agencies yield	2.92	2.07
81 Securities issued by states and political subdivisions yield	2.91	3.11
82 Mortgage-backed securities yield	2.68	2.86
83 Other debt and equity securities yield	3.50	10.54
Asset Items as a Percentage of Total Assets (TA)		
84 Cash and balances due from to TA	2.74%	8.92%
85 C&I loans to TA	11.55	16.06

NET INTEREST MARGIN

$$\text{Net interest margin} = \frac{\text{Net interest income}}{\text{Earning assets}} = \frac{\text{Interest income} - \text{Interest expense}}{\text{Investment securities} + \text{Net loans and leases}}$$

THE SPREAD

- The spread measures the difference between the average yield on earning assets and the average cost of interest-bearing liabilities and is thus another measure of return on the bank's assets. The spread is defined as:

$$\text{Spread} = \frac{\text{Interest income}}{\text{Earning assets}} - \frac{\text{Interest expense}}{\text{Interest-bearing liabilities}}$$

OVERHEAD EFFICIENCY

$$\text{Overhead efficiency} = \frac{\text{Noninterest income}}{\text{Noninterest expense}}$$

	Heartland	Bank of America
Net interest margin	$\frac{126.344}{609.303 + 2,048.486} = 4.75\%$	$\frac{51,572}{451,770 + 954,804} = 3.67\%$
Spread	$\frac{132.902}{2,657.798} - \frac{6.558}{2,263.686} = 4.71\%$	$\frac{61,192}{1,406,574} - \frac{9,620}{1,378,960} = 3.65\%$
Overhead efficiency	$\frac{24.430}{81.926} = 29.82\%$	$\frac{25,874}{36,128} = 71.62\%$

REGULATIONS ON COMMERCIAL BANK LIQUIDITY

- Holding relatively small amounts of liquid assets exposes a CB to increased illiquidity and insolvency risk.
- Excessive illiquidity can result in a CB's inability to meet required payments on liability claims (such as deposit withdrawals) and, at the extreme, its insolvency.
- Two options related to the measurement of credit risk- Standardized Approach, Internal Ratings–Based (IRB)

-
- Under Basel III, depository institutions must calculate and monitor four capital ratios: common equity Tier I (CET I) risk-based capital ratio, Tier I risk-based capital ratio, total risk-based capital ratio, and Tier I leverage ratio. A DI's capital adequacy is assessed according to where its capital ratios place in one of five target zone.

Common equity Tier I risk-based capital ratio = Common equity Tier I capital/Risk-weighted assets

Tier I risk-based capital ratio = Tier I capital (Common equity Tier I capital + Additional Tier I capital)/Risk-weighted assets

Total risk-based capital ratio = Total capital (Tier I + Tier II)/Risk-weighted assets

Tier I leverage ratio = Tier I capital/Total exposure

CAPITAL CONSERVATION BUFFER

- Basel III introduced a capital conservation buffer designed to ensure that DIs build up a capital surplus, or buffer, outside periods of financial stress that can be drawn down as losses are incurred during periods of financial stress.
- Under Basel III, a DI would need to hold a capital conservation buffer of greater than 2.5 percent of total risk-weighted assets to avoid being subject to limitations on capital distributions and discretionary bonus payments to executive officers

COUNTERCYCLICAL CAPITAL BUFFER

- Basel III also introduced a countercyclical capital buffer that may be declared by any country experiencing excess aggregate credit growth. The countercyclical capital buffer can vary between 0 percent and 2.5 percent of risk-weighted assets. This buffer must be met with CET1 capital, and DIs are given 12 months to adjust to the buffer level. Like the capital conservation buffer, if a DI's capital levels fall below the set countercyclical capital buffer, restrictions on earnings payouts will be applied.

GLOBAL SYSTEMICALLY IMPORTANT BANKS

- As part of Basel III, the BIS imposed an additional common equity Tier I surcharge (“loss absorbency requirement”) on global systemically important banks (G-SIBs): banking groups whose distress or disorderly failure would cause significant disruption to the wider financial system and economic activity.
- The basic idea is that because G-SIBs are too-big-to-fail banks (that would have to be bailed out by central governments and taxpayers), they need to lower their risk by increasing their tangible capital requirements even more than other banks.
- The surcharge ranges from 1 percent to 3.5 percent to be held over and above the 7 percent minimum CET1 plus conservation buffer requirement. Thus, to have no payment limitations, a G-SIB that is assigned a surcharge of 1.5 percent must have a CET1 ratio of 8.5 percent (= 4.5 percent required to be adequately capitalized + 2.5 percent capital conservation buffer + 1.5 percent surcharge)

SUMMARY OF PROMPT CORRECTIVE ACTION PROVISIONS

Zone	Mandatory Provisions	Discretionary Provisions
1. Well capitalized		
2. Adequately capitalized	1. Prohibit brokered deposits, except with FDIC approval	
3. Undercapitalized	<ol style="list-style-type: none"> 1. Suspend dividends and management fees 2. Require capital restoration plan 3. Restrict asset growth 4. Require approval for acquisitions 5. Prohibit brokered deposits 	<ol style="list-style-type: none"> 1. Order recapitalization 2. Restrict interaffiliate transactions 3. Restrict deposit interest rates 4. Restrict certain other activities 5. Allow any other action that would better carry out prompt corrective action
4. Significantly undercapitalized	<ol style="list-style-type: none"> 1. Same as for Zone 3 2. Order recapitalization* 3. Restrict interaffiliate transactions* 4. Restrict deposit interest rates* 5. Restrict pay of officers 	<ol style="list-style-type: none"> 1. Enforce any Zone 3 discretionary actions 2. Appoint conservatorship or receivership if bank fails to submit or implement plan or recapitalize pursuant to order 3. Enforce any other Zone 5 provision, if such action is necessary to carry out prompt corrective action
5. Critically undercapitalized	<ol style="list-style-type: none"> 1. Same as for Zone 4 2. Appoint receiver/conservator within 90 days* 3. Appoint receiver if still in Zone 5 four quarters after becoming critically undercapitalized 4. Suspend payments on subordinated debt* 5. Restrict certain other activities 	

SPECIFICATIONS OF CAPITAL CATEGORIES FOR PROMPT CORRECTIVE ACTION

Zone	(1) Common Equity Tier I Risk-Based Ratio		(2) Tier I Risk-Based Ratio		(3) Total Risk-Based Ratio		(4) Tier I Leverage Ratio
1. Well capitalized	6.5% or above	and	8% or above	and	10% or above	and	5% or above
2. Adequately capitalized	4.5% or above	and	6% or above	and	8% or above	and	4% or above
3. Undercapitalized	Under 4.5%	or	Under 6%	or	Under 8%	or	Under 4%
4. Significantly undercapitalized	Under 3%	or	Under 4%	or	Under 6%	or	Under 3%
5. Critically undercapitalized	Tangible equity/Total assets $\leq 2\%$						

Common equity Tier I risk-based capital ratio = Common equity Tier I capital/Risk-weighted assets

Tier I risk-based capital ratio = Tier I capital (Common equity Tier I capital + Additional Tier I capital)/Risk-weighted assets

Total risk-based capital ratio = Total capital (Tier I + Tier II)/Risk-weighted assets

Tier I leverage ratio = Tier I capital/Total exposure

