

Financial Ratios

Calculated using terms items from Balance Sheet/ Income Statement

Used to evaluate performance / compare valuations

Example Profit Margin = Net Income / Revenue

	Net Income	Revenue	Profit Margin
Company 1	200	4000	5%
Company 2	400	16000	2.5%

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Financial Ratios Application

Insights into a company's financial flexibility

Management's ability to manage efficiently

Changes in Company / Industry over time

Comparability with peers or industry

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Financial Ratios

Activity Ratios

Liquidity Ratios

Solvency Ratios

Profitability Ratios

Valuation Ratios

Activity Ratio measures how effectively the company performs day-to-day tasks like:

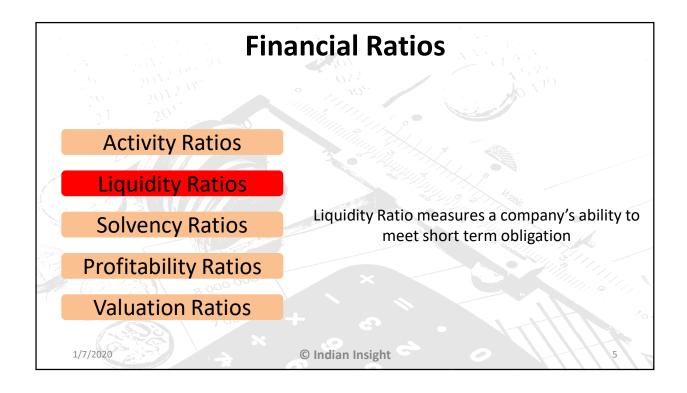
-> Collection of Receivables

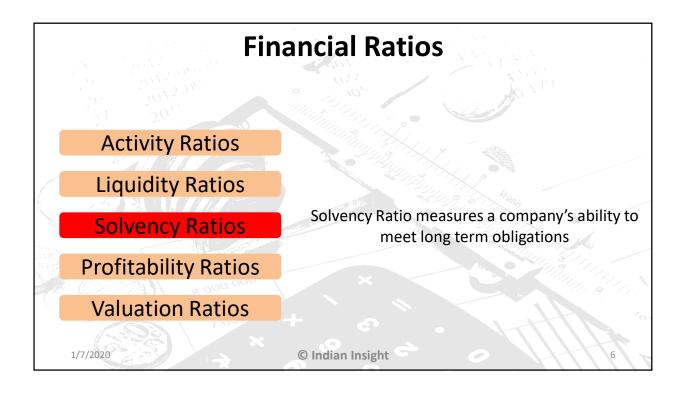
-> Inventory Management

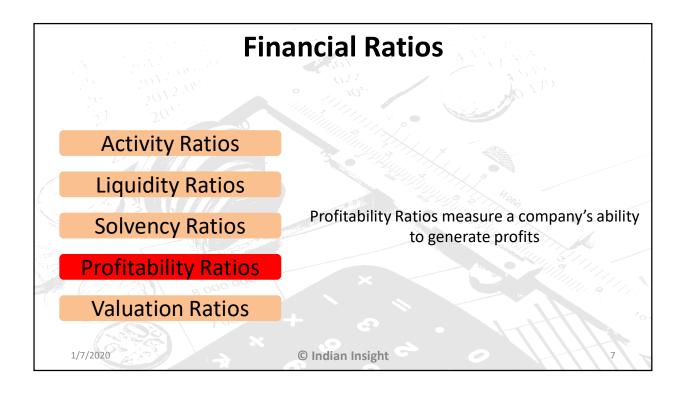
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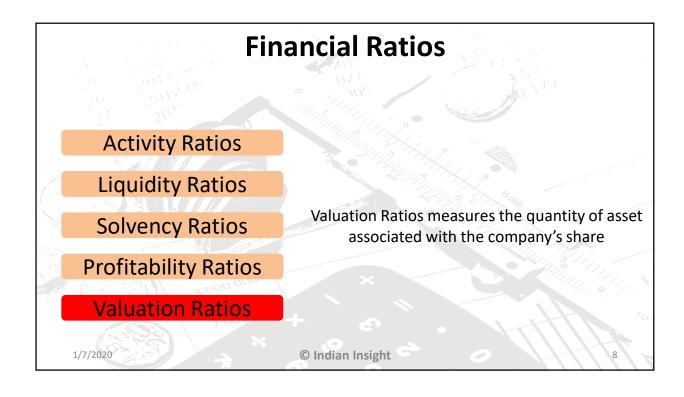
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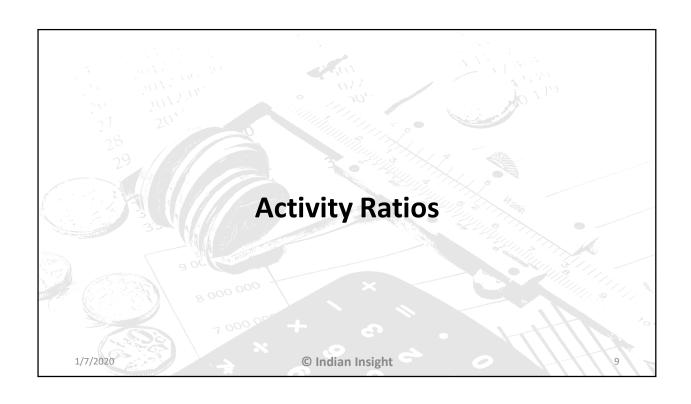
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Activity Ratios

Asset Utilization Ratio / Operating Efficiency Ratio How efficiently assets are managed

Activity Ratios	Numerator	Denominator
Inventory Turnover	Cost of Sales or Cost of Goods Sold	Average Inventory
Days of Inventory on Hand (DOH)	Number of days in period	Inventory Turnover
Receivables Turnover	Revenue	Average Receivables
Days of Sales Outstanding (DSO)	Number of days in period	Receivables Turnover
Payables Turnover	Purchases	Average Trade Payables
Number of Days of Payables	Number of days in period	Payables Turnover
Working Capital Turnover	Revenue	Average Working Capital
Fixed Asset Turnover	Revenue	Average Net Fixed Assets
Total Asset Turnover	Revenue	Average Total Assets

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Activity Ratios

Use Averages by taking average of Beginning of the period value & End of the period value

Activity Ratios	Numerator	Denominator
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Working Capital Turnover	Revenue	Average Working Capital
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Total Asset Turnover	Revenue	Average Total Assets

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Activity Ratios – Using Averages

Inventory Turnover = Cost of Goods Sold / Average Inventory

(Inventory @ Beginning of the Period + Inventory @ End of the Period)/ 2

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Example

Cost of Goods Sold = 240000 Average Inventory = 10000

Inventory Turnover = 240000/ 10000 or 24

Company is clearing inventory once every 15 days

Days of Inventory on Hand (DoH) = 365/24 or 15.20 Days

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Inventory Turnover & DoH

Cost of Goods Sold = 240000 Average Inventory = 10000

Inventory Turnover = 240000/ 10000 or 24

Company is clearing inventory once every 15 days

Days of Inventory on Hand (DoH) = 365/24 or 15.20 Days

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Inventory Turnover & DoH

Inventory Turnover = Cost of Goods Sold / Average Inventory

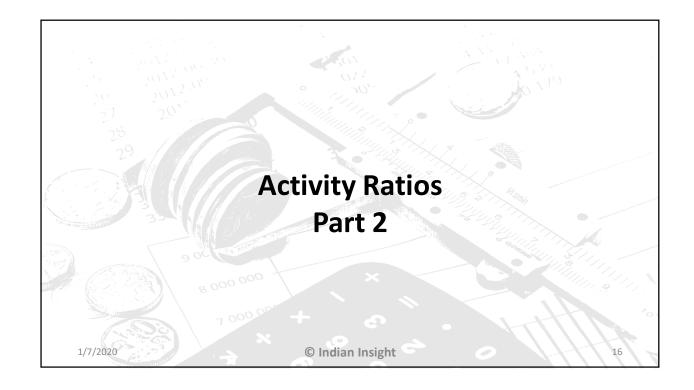
High inventory turnover relative to industry may indicate:

- Highly effective inventory management OR
- Company not carrying adequate inventory

Slow revenue growth & High Turnover=> Inadequate Inventory!

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Receivables Turnover

Receivables Turnover=
Revenue / Average Receivables

Days of Sales Outstanding= 365/ Receivables Turnover

High Turnover may indicate:
Highly efficient credit and collection OR
Credit & Collection policies are too stringent

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Payables Turnover & # of Days Payable

Payables Turnover=
Purchases / Average Payables

Number of Days Payables= 365/ Payables Turnover

Alternate Formula for Purchases:
Cost of Goods Sold + Ending Inventory – Beginning Inventory

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Payables Turnover & # of Days Payable

Payables Turnover=
Purchases / Average Payables

High Turnover may indicate:

Company not making full use of available credit facilities OR
 It may be getting a discount on early payment

Low Turnover may indicate:

- Trouble making payments on time OR
- Exploitation of lenient supplier terms

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Activity Ratios Part 3: Asset Turnover © Indian Insight

Working Capital Turnover

Working Capital = Current Assets – Current Liabilities

Working Capital Turnover = Revenue / Average Working Capital

Example: Working Capital Turnover of 5=> \$5 Revenue requires \$1 Working Capital

Higher Working Capital Turnover => Higher Efficiency

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Fixed Asset Turnover

Fixed Asset Turnover = Revenue / Average Fixed Assets

High Turnover indicates efficient use of fixed assets

Low Turnover Ratio indicates inefficiency or capital intensive business

Ratio lower for newer companies than matured ones

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Total Asset Turnover

Total Asset Turnover = Revenue / Average Total Assets

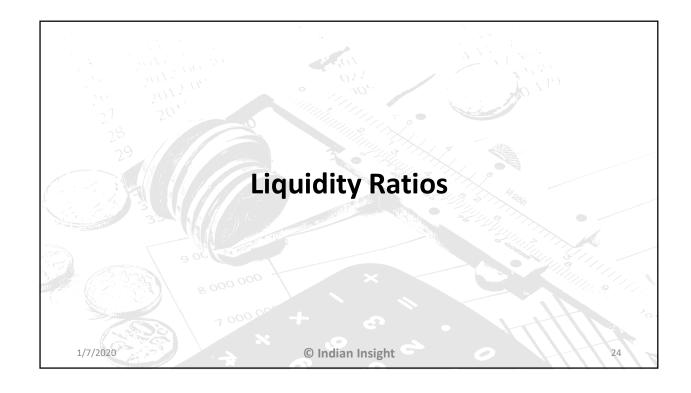
Total Assets = Fixed Assets + Current Assets

Example: Total Asset Turnover = 1.3
Company generates \$1.3 revenue for \$1 of average assets

Low Asset Turnover indicates inefficiency or capital intensive business

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Liquidity Ratios

Measures how quickly assets are converted to cash

Ability to pay off short term obligations

Liquidity Management achieved through efficient use of assets Or

By managing structure of liabilities

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Liquidity Ratios

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Liquidity Ratios	Numerator	Denominator
Current Ratio	Current Assets	Current Liabilities
Quick Ratio	Cash + Short Term Securities + Receivables	Current Liabilities
Cash Ratio	Cash + Short Term Securities	Current Liabilities
Defensive Interval Ratio	Cash + Short Term Securities + Receivables	Daily Cash Expenditure
Additional Liquidity Measure		
Cash Conversion Cycle	DOH + DSO -Number of days of payables	
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Current Ratio

Current Ratio = Current Assets/ Current Liablities

Current Ratio of 1 => BV of Current Assets = BV of Current Liabilities

Higher Current Ratio => Greater Liquidity

Lower Current Ratio => Lower Liquidity

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Quick Ratio

Quick Ratio = (Cash + Short Term Securities + Receivables)/ Current Liablities

Higher Quick Ratio => Greater Liquidity

Lower Quick Ratio => Lower Liquidity

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Cash Ratio

Cash Ratio = (Cash + Short Term Securities)/ Current Liablities

Measure of Entity's Liquidity in Crisis

Lower Cash Ratio => Lower Liquidity

Higher Cash Ratio => Higher Liquidity

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Defensive Interval Ratio

Defensive Interval Ratio=
(Cash + Short Term Securities + Receivables)/ Daily Cash Expenditure

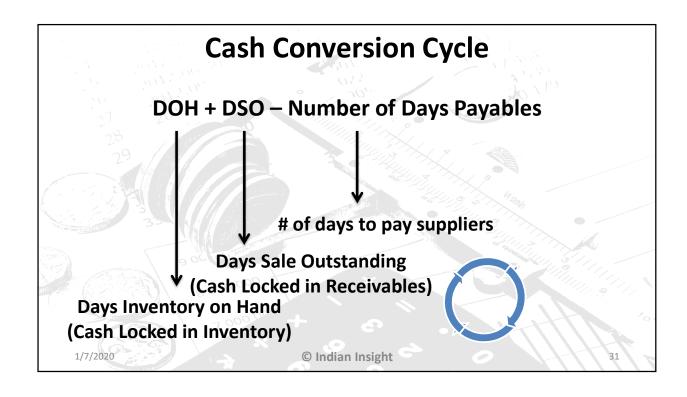
How long company can pay from expenses from liquid assets

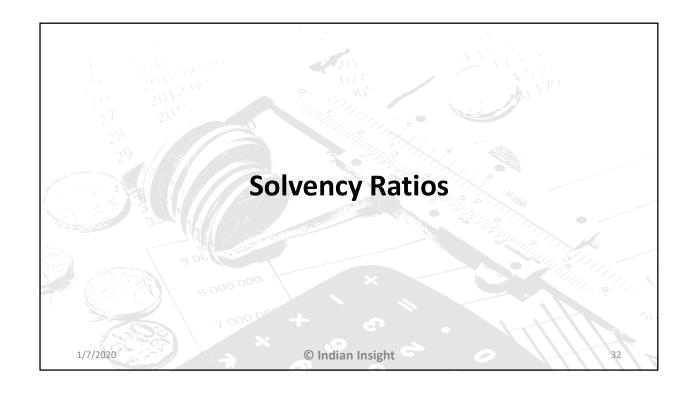
Example : Defensive Interval Ratio of 100Company can pay operating expenses for 100 days

Higher the number => Higher Liquidity

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Solvency Ratios

	Solvency Ratios	Numerator	Denominator		
	Debt Ratios				
	Debt to Assets Ratio	Total Debt	Total Assets		
-	Debt to Capital Ratio	Total Debt	Total Debt + Total Equity		
	Debt to Equity Ratio	Total Debt	Total Equity		
-	Financial Leverage Ratio	Average Total Assets	Average Total Equity		
	Coverage Ratios				
	Interest Coverage	EBIT	Interest Payments		
	Fixed Charge Coverage	EBIT + Lease Payments	Interest Payments + Lease Payments		

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Solvency Ratio

Company's ability to fulfill long term obligations

Ability to make interest and principal payments

Measure adequacy of earnings & cash flow to cover interest expense & lease or rental payments

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Solvency Ratio Types

Debt Ratios - Focus on Balance Sheet & measures debt vs equity

Coverage Ratios - Focus on Income statement & ability to cover interest payments

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Debt to Assets Ratio

Debt to Asset = Total Debt/ Total Assets

Measures % total asset financed by debt

Debt to Asset = 0.5 => 50% assets financed by Debt

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Debt to Capital Ratio

Debt to Capital = Total Debt/ Total Capital

Total Capital = Total Debt + Total Equity

Higher Debt to Capital Ratio => Higher Risk & Weaker Solvency

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Debt to Equity Ratio

Debt to Equity = Total Debt/ Total Equity Capital

Higher Debt to Equity Ratio => Higher Risk & Weaker Solvency

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Financial Leverage Ratio

Financial Leverage = Average Total Assets/ Average Total Equity

Amount of assets supported by \$1 of equity

Financial Leverage of 2 => \$2 of Assets supported by \$1 of equity

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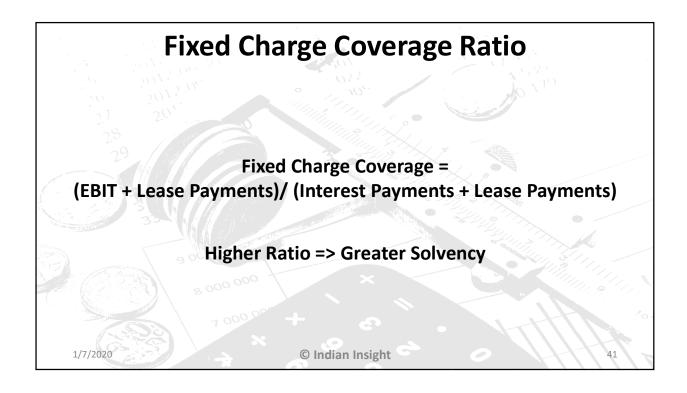
Interest Coverage Ratio

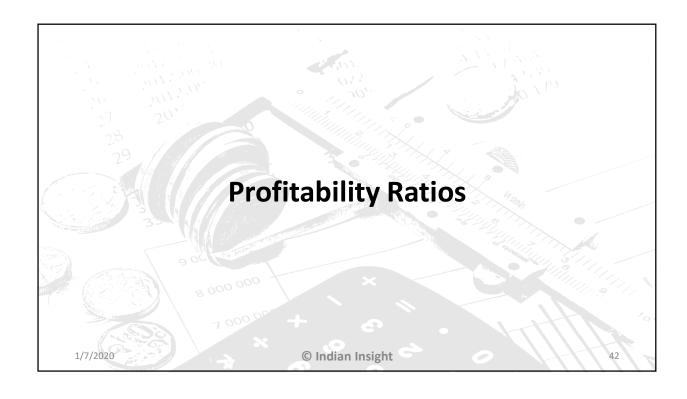
Interest Coverage = EBIT/ Interest Payments

Higher Ratio => Greater Solvency

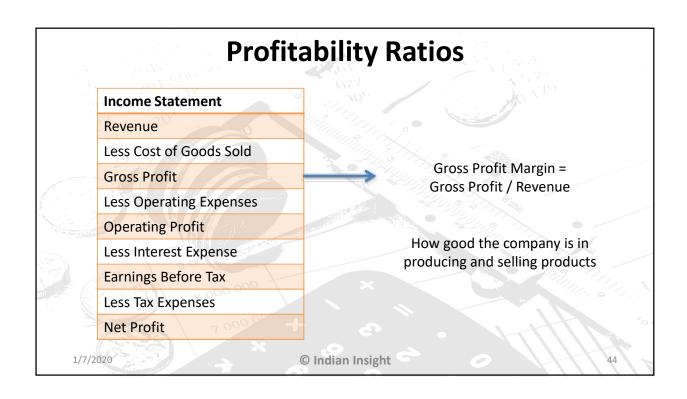
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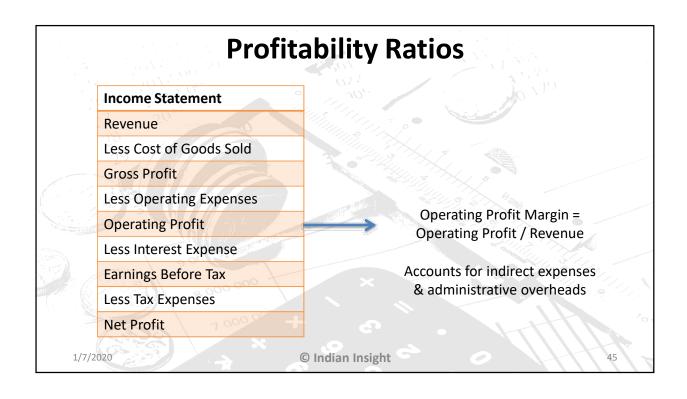
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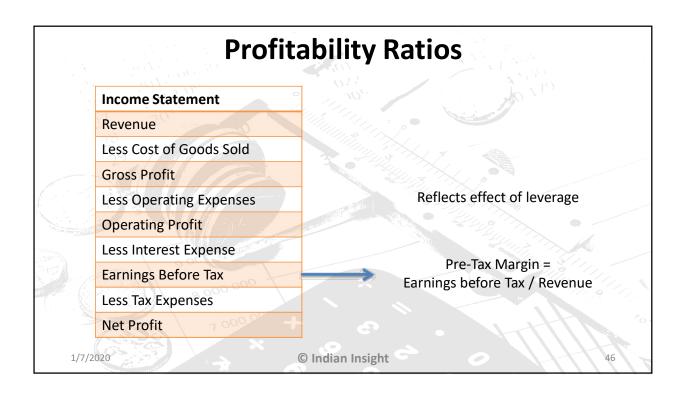


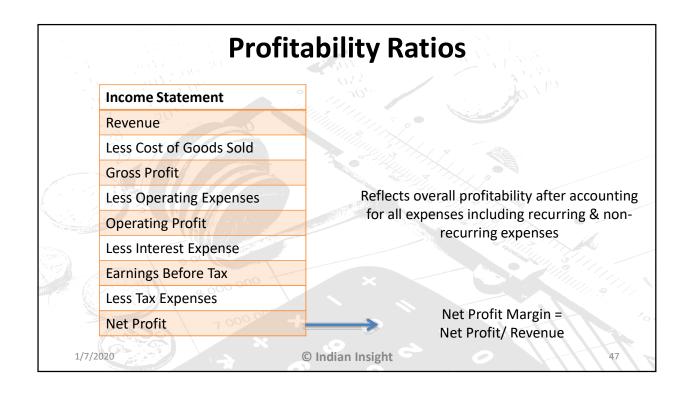


P	rofitability R	atios
Profitability Ratios	Numerator	Denominator
	Profitability Ratios	S
Gross Profit Margin	Gross Profit	Revenue
Operating Profit Margin	Operating Income	Revenue
Pre Tax Margin	EBT	Revenue
Net Profit Margin	Net Income	Revenue
	Return on Investme	nt
Operating ROA	Operating Income	Average Total Assets
ROA	Net Income	Average Total Assets
Return on Total Capital	EBIT	Short & Long Term Debt & Equity
ROE	Net Income	Average Total Equity
Return on Common Equity	Net Income – Preferred Dividends	Average Common Equity
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Return on Investment Ratios

Return on Investment			
Operating ROA	Operating Income	Average Total Assets	
ROA	Net Income	Average Total Assets	
Return on Total Capital	EBIT	Short & Long Term Debt & Equity	
Return on Common Equity	Net Income – Preferred Dividends	Average Common Equity	

RoA measures the return earned by a company on its assets

Higher the ratio more the income is generated by a given level of assets

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Return on Investment Ratios

Return on Investment			
Operating ROA	Operating Income	Average Total Assets	
ROA	Net Income	Average Total Assets	
Return on Total Capital	EBIT	Short & Long Term Debt & Equity	
Return on Common Equity	Net Income – Preferred Dividends	Average Common Equity	

Return on Total Capital measures the profits a company earns on all of the capital

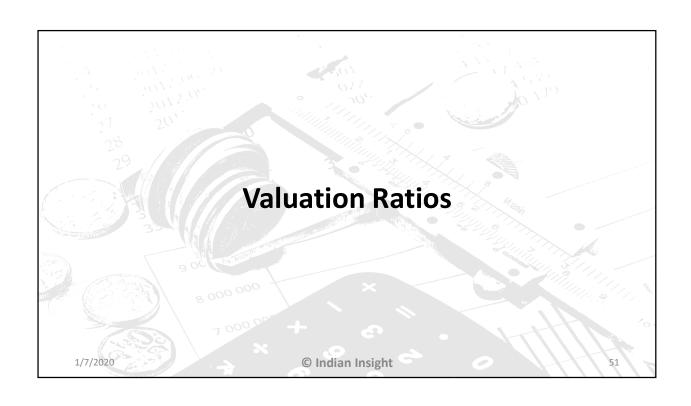
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Return on Investment Ratios

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Return on Investment			
Operating ROA	Operating Income	Average Total Assets	
ROA	Net Income	Average Total Assets	
Return on Total Capital	EBIT	Short & Long Term Debt & Equity	
Return on Common Equity	Net Income – Preferred Dividends	Average Common Equity	

Return on Common Equity measures returns earned by a company on its equity capital

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Valuation Ratios

Valuation Ratios	Numerator	Denominator
P/E	Price Per Share	Earnings Per Share
P/CF	Price Per Share	Cash Flow Per Share
P/S	Price Per Share	Sales Per Share
P/BV	Price Per Share	Book Value Per Share

Price to Earnings – How much you pay per \$ of earnings

Sensitive to non-recurring items that may affect earnings

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P/E	Price Per Share	Earnings Per Share
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Price to Cash Flow used when you are not sure of quality of earnings

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Valuation Ratios

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P/E	Price Per Share	Earnings Per Share
P/CF	Price Per Share	Cash Flow Per Share
P/S	Price Per Share	Sales Per Share
P/BV	Price Per Share	Book Value Per Share

Price to Sales useful if the company doesn't have positive net income (e.g. new business)

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Valuation Ratios

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P/E	Price Per Share	Earnings Per Share
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P/BV	Price Per Share	Book Value Per Share

Price to Book Value compares stock's price to it's book value

Higher P/BV => Market willing to pay premium => Higher likelihood of disappointment

1< P/BV <2 may not necessarily indicate overvalued company

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Valuation Ratios

Valuation Ratios	Numerator	Denominator
P/E	Price Per Share	Earnings Per Share
P/CF	Price Per Share	Cash Flow Per Share
P/S	Price Per Share	Sales Per Share
P/BV	Price Per Share	Book Value Per Share

P/BV = 1 => Market paying \$1 for \$1 of company's assets P/BV < 1 => Market paying < \$1 for \$1 of company's assets

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