Return on Fund Invested

Investment/Capital employed

Equity

Assets

Earning per Share

Capital Structure

RETURN ON CAPITAL EMPLOYED/INVESTMENT

Company's ability to utilize its capital employed (Debt & Equity) in the business. In other words, the ratio can help to understand how well a company is generating profits from its capital.

ROCE Ratio = EBIT/Capital employed

(Total Assets – Current Liabilities)

ROCE = Higher the Better

ROCE can be especially useful when comparing the performance of companies in capital-intensive sectors, such as telecoms. This is because unlike other fundamentals such as return on equity (ROE), which only analyzes profitability related to a company's shareholders' equity, ROCE considers debt and equity. This can help neutralize financial performance analysis for companies with significant debt.

RETURN ON CAPITAL EMPLOYED- EXAMPLE # 1

In US $	Company A	Company B
Revenue	500,000	400,000
COGS	420,000	330,000
Operating Expenses	10,000	8,000
Total Assets	300,000	400,000
Current Liabilities	15,000	20,000
ROCE	?	?

RETURN ON CAPITAL EMPLOYED – BEVERAGES – SOFT DRINKS

Below is the list of top companies in Beverages in Soft Drinks Sector along with its Market Capitalization and ROCE

S. No	Name	Market Cap ($ mn)	ROCE
1	Coca-Cola	193,590	14.33%
2	PepsiCo	167,435	18.83%
3	Monster Beverage	29,129	24.54%
4	Dr Pepper Snapple Group	17,143	17.85%
5	National Beverage	4,156	45.17%
6	Embotelladora Andina	3,840	16.38%
7	Cott	1,972	2.48%

RETURN ON CAPITAL EMPLOYED – GLOBAL BANKS

Below is the list of top Global banks with their Market Cap and ROCE

S. No	Name	Market Cap ($ mn)	ROCE
1	JPMorgan Chase	306,181	2.30%
2	Wells Fargo	269,355	2.23%
3	Bank of America	233,173	1.76%
4	Citigroup	175,906	2.02%
5	HSBC Holdings	176,434	0.85%
6	Banco Santander	96,098	2.71%
7	The Toronto-Dominion Bank	90,327	1.56%
8	Mitsubishi UFJ Financial	87,563	0.68%
9	Westpac Banking	77,362	3.41%
10	ING Groep	65,857	4.16%
11	UBS Group	59,426	1.29%
12	Sumitomo Mitsui Financial	53,934	1.19%

ROCE – Energy Sector

Below list contains the Market Cap and ROCE of the top Energy Companies.

S. No	Name	Market Cap ($ mn)	ROCE
1	ConocoPhillips	56,152	-5.01%
2	EOG Resources	50,245	-4.85%
3	CNOOC	48,880	-0.22%
4	Occidental Petroleum	45,416	-1.99%
5	Canadian Natural	33,711	-1.21%
6	Pioneer Natural Resources	26,878	-5.26%
7	Anadarko Petroleum	25,837	-6.97%
8	Apache	18,185	-5.71%
9	Concho Resources	17,303	-18.24%
10	Devon Energy	16,554	-13.17%
11	Hess	13,826	-12.15%
12	Noble Energy	12,822	-6.89%

LIMITATIONS OF RETURN ON CAPITAL EMPLOYED (ROCE)

There are a couple of disadvantages of ROCE.

First, you can't depend on ROCE alone because you need to calculate other profitability ratios to get the whole picture. Moreover, ROCE is calculated on EBIT and not on Net Income which can turn out to be a great disadvantage.

Second, ROCE seems to favor older companies. Because older companies are able to depreciate their assets (return against book value) more than newer companies, and as a result, for older companies, ROCE becomes better.

Return on Equity

Return on equity (ROE) is the amount of net income returned as a percentage of shareholders' equity. Return on equity (also known as "return on net worth" [RONW]) measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Return on Equity = Net Income/Shareholder's fund

= EAT/Equity and Preference Shareholders' fund

Return on Assets

Return on assets (ROA) is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources.

Return on Assets = Net Income/ Average Total Assets

Return on Total Assets of a company is more than 20% for the last 5 years. Do you think it's a good measure to invest into the company for future benefits?

In simple terms, we can say that increase in the Return on Total Assets means better use of assets to generate returns for the firm and decrease in the Return on Total Assets means that the firm has a room for improvement – maybe the firm needs to reduce few expenses or to replace few old assets that are eating out the profits of the company.

ROA

Particulars	Company A (in US $)	Company B (in US $)
Operating Profit – EBIT	10000	8000
Taxes	2000	1500
Assets at the beginning of the year	13000	14000
Assets at the end of the year	15000	16000

For industries which are asset intensive won't generate that much income compared to the industries which are not asset intensive. For example, if we take into account an auto industry, to produce auto and as a result of that, profits; the industry first needs to invest a lot in the assets. Thus, in case of auto industry, the ROA won't be that higher.

However, in case of services companies where investments in Assets is minimal, then the ROA will be pretty high.

Earnings Per Share (EPS)

$$Earnings\ per\ Share = \frac{(Net\ Income\ -Preferred\ Dividend)}{Weighted\ Average\ Number\ of\ Shares\ Outstanding}$$

Every investor invests into a company's stock mainly for two reasons –

Firstly, the investors invest in a company's stock because they expect a handsome dividend from the company.

Secondly, the investors may see a great growth potential of the company in near future. If the company grows, the share price will also rise and that will only help investors in ensuring a great return on their investments.

Hit Technology Inc. has the following information –

The net income for the year end 2017 – $450,000

The preferred dividends paid in 2017 – $30,000

At the beginning of the year 2017, the common shares outstanding were 50,000 shares. In the middle of the year, Hit Technology Inc. issued another 40,000 common shares.

Turnover/Activity Ratio

Inventory Turnover Ratio

Accounts Receivables/ Debtors Turnover Ratio

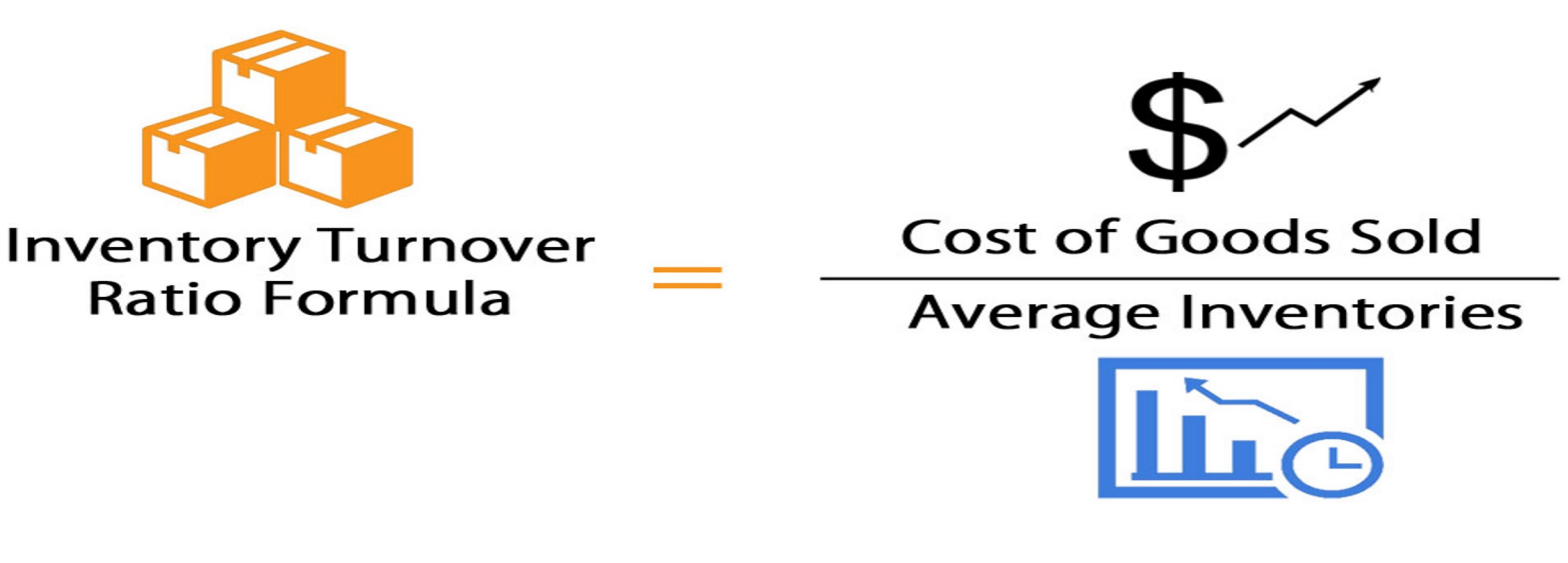
Average collection turnover ratio

Accounts Payables/Creditors Turnover Ratio

Average Payment turnover ratio

Activity/Turnover Ratios

1. **Inventory Turnover Ratio (ITR):** It dictates how fast a company replaces a current batch of inventories and transforms the inventories into sales.

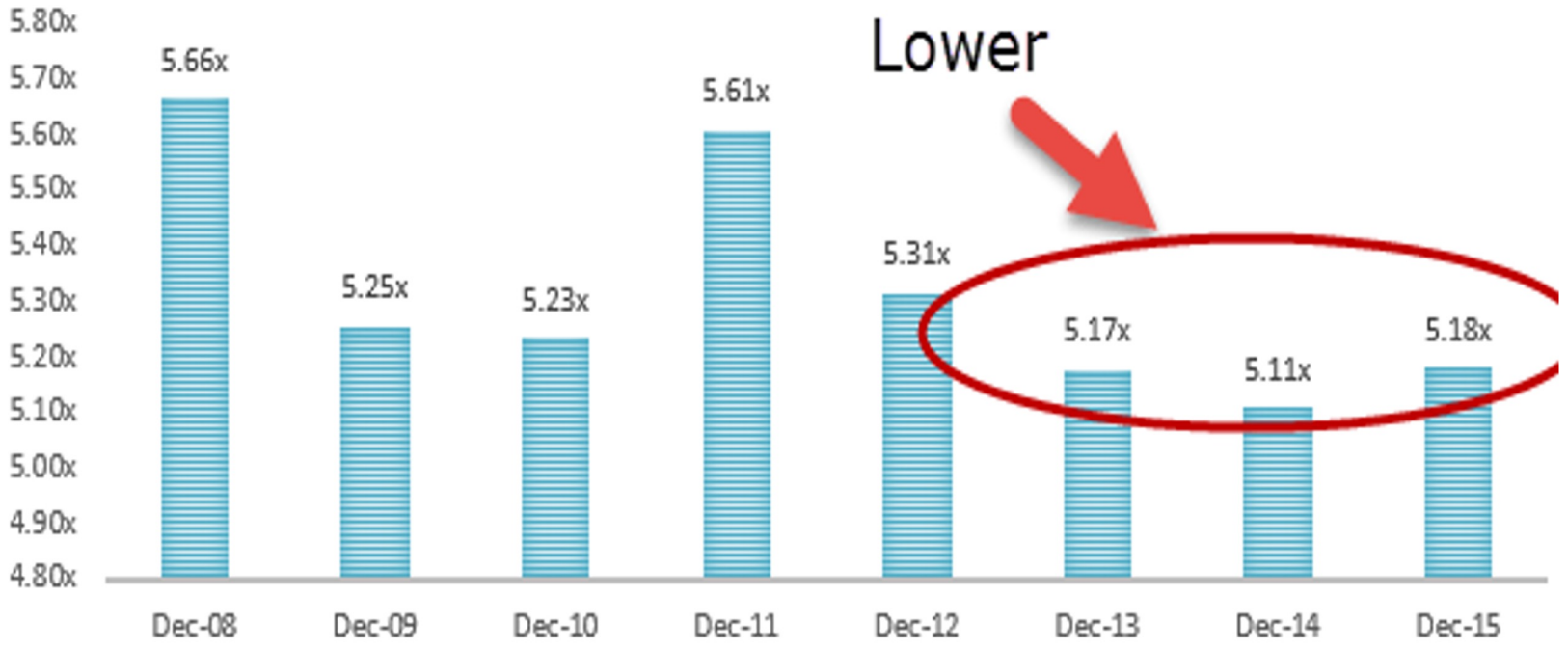


Colgate's Inventory Turnover

	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12	Dec-13	Dec-14	Dec-15
Assets									
Current Assets									
Cash and cash equivalents	429	555	600	490	878	884	962	1,089	970
Receivables	1,681	1,592	1,626	1,610	1,675	1,668	1,636	1,552	1,427
Inventories	1,171	1,197	1,209	1,222	1,327	1,365	[illegible]	1,382	1,180
Other current assets	338	366	375	408	522	639	[illegible]99	840	807
Total current assets	3,619	3,710	3,810	3,730	4,402	4,5[illegible]	4,822	4,863	4,384
Solvency Ratios									
Current ratio	1.14x	1.26x	1.06x	1.00x	1.18x	1.22x	[illegible]8x	1.23x	1.24x
Quick ratio	.67x	.73x	.62x	.56x	.69x	.68x	.5[illegible]	.67x	.68x
Cash ratio	.14x	.19x	.17x	.13x	.24x	.24x	.22x	[illegible]8x	.27x
Sales	13790	15330	15327	15564	16734	17085	17420	17277	16034
COGS	6043	6704	6319	6360	7144	7153	7219	7168	6635
Purchases		6,730	6,331	6,373	7,249	7,191	7,279	7,125	6,433
Turnover Ratios									
Receivables turnover		9.37x	9.53x	9.62x	10.19x	10.22x	10.54x	10.84x	10.76x
Inventory Turnover		5.66x	5.25x	5.23x	5.61x	5.31x	5.17x	5.11x	K10)

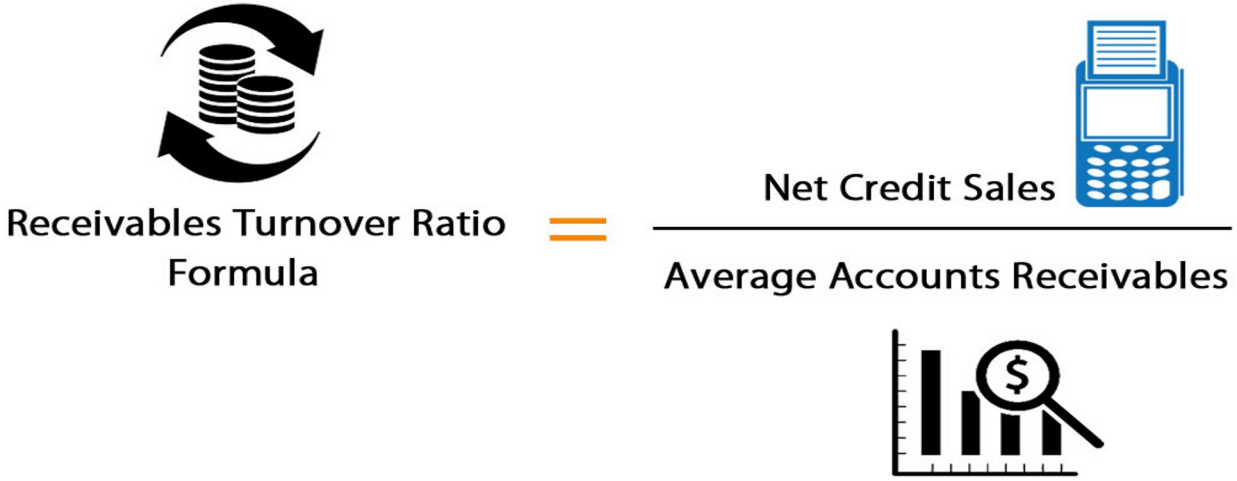
Inventory Turnover = (COGS / Average Inventory)

INVENTORY TURNOVER



Accounts Receivables Turnover Ratio

This ratio is a measure that computes that how easily a company can convert its receivables into cash



- A higher Accounts receivables turnover is healthy for a company. It denotes that the time interval between the credit sales and the receipt of money is lower. And that means the firm is quite efficient in collecting the accounts receivables.

- On the other hand, a lower Accounts receivables turnover is not good enough for a company. It indicates that the time interval between the credit sales and the receipt of money is higher. And as a result, there's always a risk of not receiving the due amount.

- When an investor looks at the Accounts receivables turnover, he/she needs to know how efficient the firm is in collecting the due amount. If there's any risk in delaying or not receiving the payment, it may directly affect the cash flow of the company.

AVERAGE COLLECTION PERIOD

The collection period is the time between the credit sales are made and the cash is received.

Average collection Period Formula

$$= \frac{365 \text{ Days}}{\text{Accounts Receivable Turnover Ratio}}$$

BIG Company decides to increase its credit term. The top management of the company requests the accountant to find out the collection period of the company in current scenario.

Here is the information available to the accountant –

Net Credit Sales for the year – $150,000

Accounts Receivables at the beginning of the year – $20,000

Accounts Receivables at the end of the year – $30,000

As an accountant, find out the collection period of BIG Company.

For example, if a company has a collection period of 40 days, it should provide the term as 30-35 days.

Knowing the collection period is very useful for any company.

There are two reasons for this –

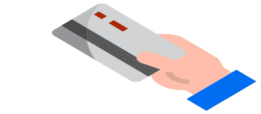
- First, a huge percentage of company's cash flow depends on the collection period.

- Second, knowing the collection period beforehand helps a company decide means to collect the money that is due on the market.

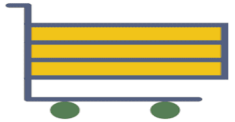
Accounts Payable Turnover Ratio

The **accounts payable turnover ratio** is a short-term liquidity measure used to quantify the rate at which a company pays off its suppliers.

Accounts payable turnover shows how many times a company pays off its **accounts payable** during a period.



$$\text{Payable Turnover Ratio} = \frac{\text{Credit Purchases}}{\text{Average Accounts Payables}}$$



Average Payment period

The payment period is the time between the credit purchases are made and the cash is paid.

$$\text{Average Payment Period} = \frac{365}{\text{Accounts Payable turnover ratio}}$$

Solvency Ratios

Solvency ratios are calculated to determine the ability of the business to service its debt in the long run.

Long term investors are interested in safety of their principal amount and interest.

1. Debt-Equity ratio
2. Interest Coverage ratio

Debt-Equity Ratio

Measures the relationship between long-term debt and equity.

From security point of view, capital structure with less debt and more equity is considered favourable as it reduces the chances of bankruptcy.

Debt-Equity Ratio = Long – term Debts/Shareholders' Funds

Shareholders' Funds (Equity) = Share capital + Reserves and Surplus + Retained Earnings

Interest Coverage ratio

It is a measure of security of interest payable on long-term debts. It expresses the relationship between profits available for payment of interest and the amount of interest payable.

Interest Coverage Ratio = EBIT/ Interest on long-term debts

A higher ratio ensures safety of interest on debts.

Du Pont Analysis

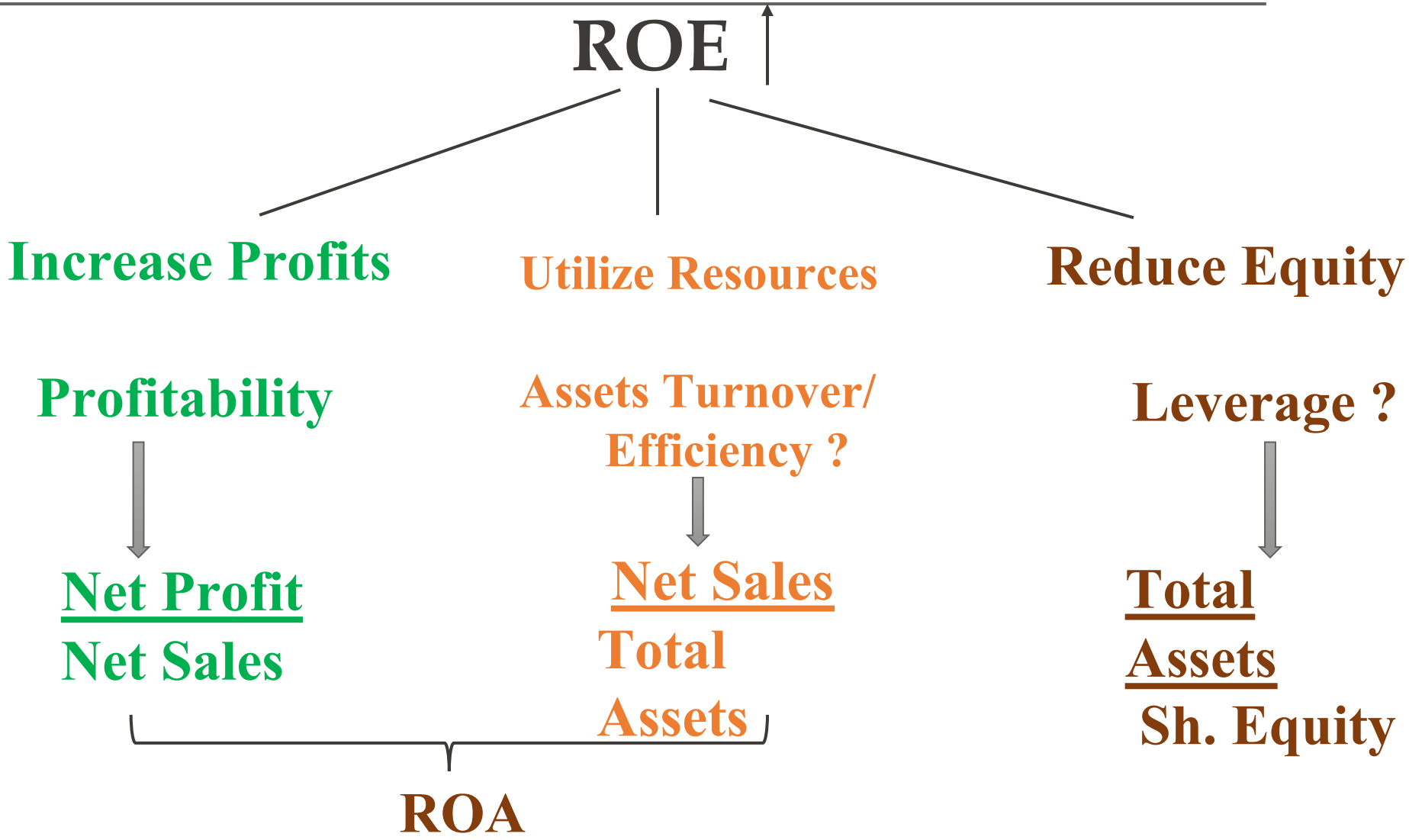
Du Pont Corporation – 1920

ROE (Return on Equity) = Net Profit/Shareholders' Equity

ROE ↑ or ↓

Why ?

Du Pont Analysis



Valuation Ratios

A **valuation ratio** shows the relationship between the market value of a company to the company's earnings and dividends. The point of a **valuation ratio** is to show the price you are paying for some stream of earnings, revenue, or cash flow (or other financial metric).

In other words, valuation ratio helps an investor to determine the cost of an investment with respect to the value or benefits of owning that investment.

1. P/E Ratio
2. P/BV Ratio
3. Dividend Yield Ratio

P/E Ratio

Used to determine how much investors are willing to pay for a stock relative to the company's earnings.

P/E Ratio = Market Value per Share / Earnings per Share

P/E is sometimes referred to as the price multiple because it shows how much investors are willing to pay per dollar of earnings.

Let's say, P/E ratio = 20

An investor is willing to pay $20 for $1 of current earnings.

Particulars	Company A (in US $)	Company B (in US $)
Market value per share	18	18
EPS	2	6
P/E ratio	9	3

Investor can invest in Company B, because he/she is paying less for the same amount of earning.
However, company A also indicates the market confidence or growth potential

P/BV Ratio

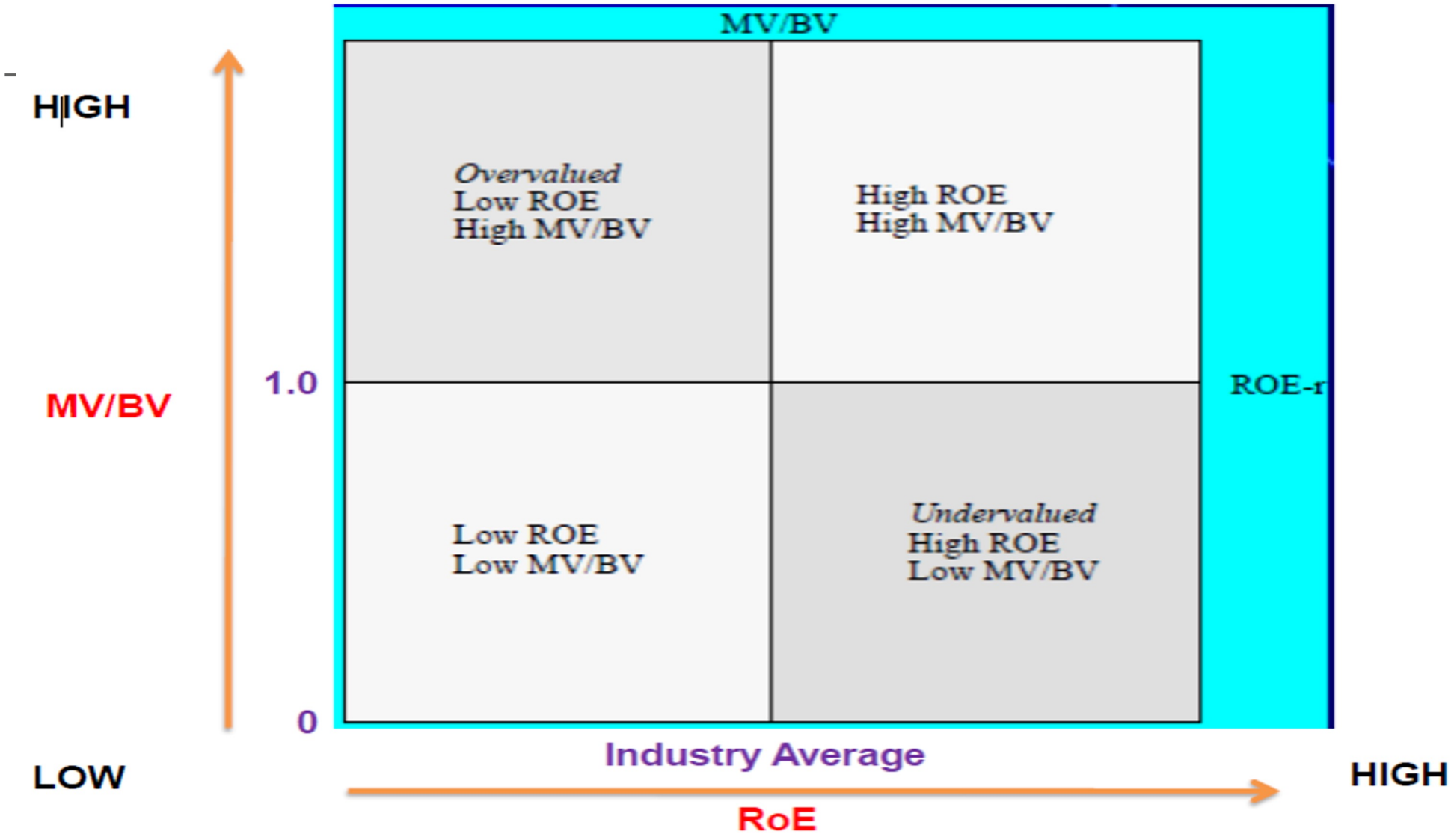
To compare a company’s market value with its book value.

This ratio also indicates whether you're paying too much for what would remain if the company went bankrupt immediately.

P/BV ratio = market price per share / book value per share

A lower P/B ratio could mean the stock is undervalued. However, it could also mean something is fundamentally wrong with the company. As with most ratios, this varies by industry.

MV/BV and ROE


MV/BV
HIGH
MV/BV
1.0
0
LOW
Overvalued
Low ROE
High MV/BV
High ROE
High MV/BV
Low ROE
Low MV/BV
Undervalued
High ROE
Low MV/BV
ROE-r
Industry Average
HIGH
RoE

Dividend Yield Ratio

A financial ratio that indicates how much a company pays out in dividends each year relative to its share price.

For Investors' dividend yield is a way to measure how much cash flows they are getting for each dollar invested in a dividend-paying shares.

Dividend Yield ratio = Annual dividend per share/Market Price per share

Joe’s Bakery is an upscale bakery which sells a variety of cakes and baked products in the United States. Joe’s is listed on a smaller stock exchange and current market price per share is $36. As of the previous year, Joe’s paid $18,000 in dividends with 1,000 shares outstanding. Thus, the yield computed is:

?

Summary

Ratio analysis is to provide a deeper analysis of the profitability, liquidity, solvency and activity levels in the business. It is also to identify the problem areas as well as the strong areas of the business.

Users can not rely on single ratios for decision-making