Ratios

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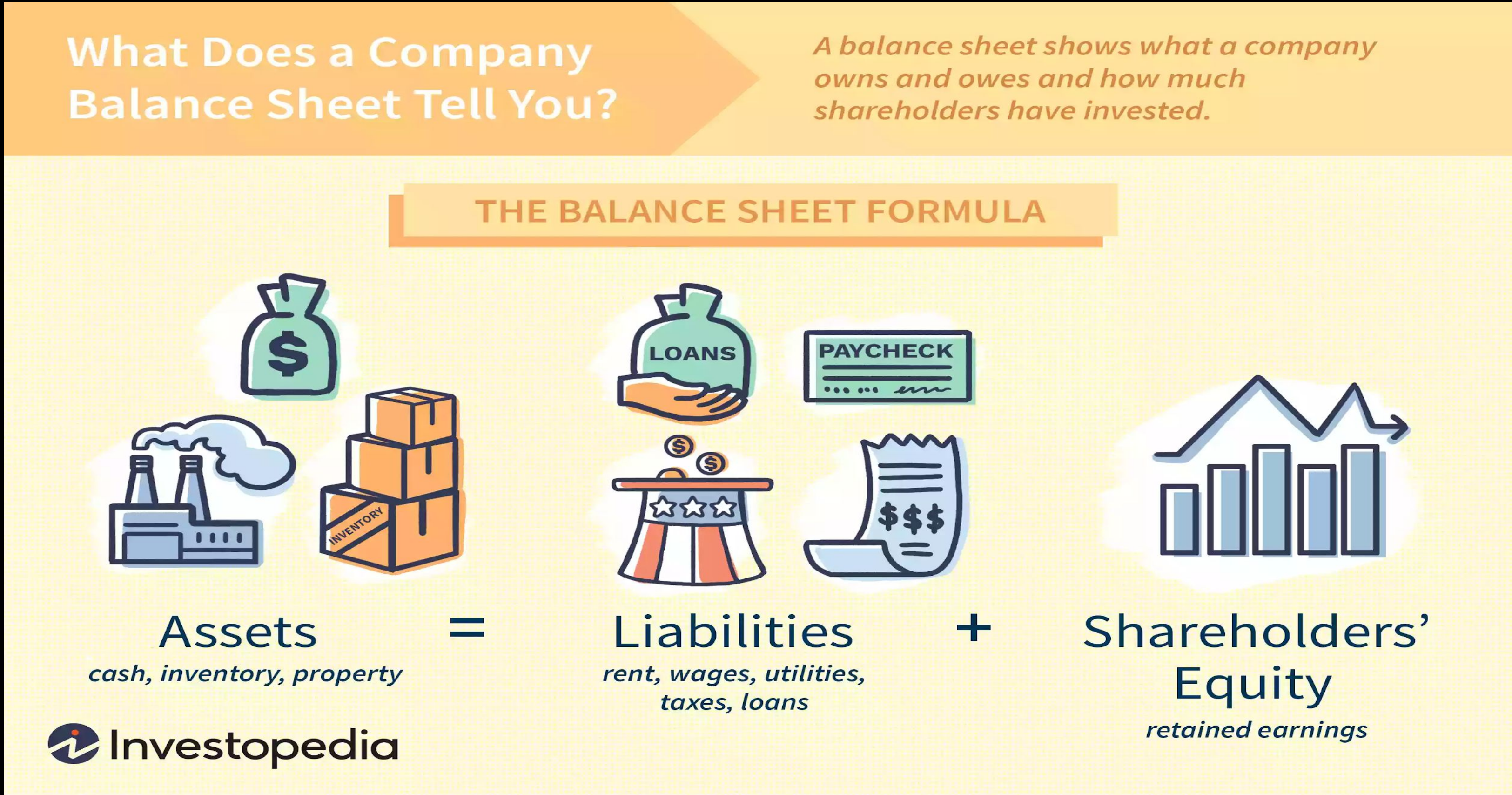
Approach & Take Aways

- Ratios from Balance Sheet
    - Debt-To-Equity Ratio
    - Current Ratio
- Ratios from Profit and Loss statements
    - Margins
- Ratios from Working Capital Cycle
    - Days in Inventory
    - Days Sales Outstanding
- Return on investment
- Ratios from Market
    - Earnings Per Share
    - Price to Earnings

Ratios from Balance Sheet

Balance Sheet



Balance sheet example

TEDDY FAB INC.
BALANCE SHEET
December 31, 2100

ASSETS

Current assets		
Cash and cash equivalents	$	100,000
Accounts receivable		20,000
Inventory		15,000
Prepaid expense		4,000
Investments		10,000
Total current assets		149,000
Property and equipment		
Land		24,300
Buildings and improvements		250,000
Equipment		50,000
Less accumulated depreciation		(5,000)
Other assets		
Intangible assets		4,000
Less accumulated amortization		(200)
Total assets	$	472,100

LIABILITIES AND SHAREHOLDERS' EQUITY

Current liabilities		
Accounts payable	$	30,000
Notes payable		10,000
Accrued expenses		5,000
Deferred revenue		2,000
Total current liabilities		47,000
Long-term debt		200,000
Total liabilities		247,000
Shareholders' Equity		
Common stock		10,000
Additional paid-in capital		20,000
Retained earnings		197,100
Treasury stock		(2,000)
Total liabilities and shareholders' equity	$	472,100

Debt-Equity Ratio

Equity- shareholders’ stake in the company

Debt- Amount of money borrowed by one party from another

Debt-Equity Ratio- Compare a company’s total debt to total equity.

Investors can use this ratio to evaluate how much **leverage** a company is using.

Higher level ratios tend to indicate a company or stock with **higher risk** of leverage to shareholders.

Formula

$$\text{Debt to Equity Ratio} = \frac{\text{Total liabilities}}{\text{Total Shareholders' equity}}$$

CURRENT RATIO

- The current ratio is a liquidity ratio that is measured by dividing company's current assets to its current liabilities.
- The current ratio tells the investors more about a company's ability to cover its short term debt with its current assets.
- That's why this ratio is called working capital ratio.

CURRENT RATIO

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

CURRENT RATIO

S. no.	Company	Current Assets	Current Liabilities	Current Ratio
1.	Apple Inc	$ 128.65 B	$ 100.81 B	1.28
2.	Walt Disney Co	$ 15.89B	$ 19.6 B	0.81
3.	Costco Wholesale	$ 17.32 B	$ 17.5 B	0.98

Uses of Balance Sheet Ratios

- Measure of amount of risk in business

CURRENT RATIOS → ***SHORT TERM FINANCIAL CRISIS***

DEBT -TO-EQUITY RATIO → ***LONG TERM FINANCIAL STABILITY***

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Ratios from Profit and Loss Statements

MARGIN

- A margin refers to the ratio of profit to revenue.
- Margins measure efficiency.

$$\text{Margin} = (\text{Profit} / \text{Revenue}) * 100$$

TYPES OF MARGIN

1. Gross Profit Margin

2. Operating Profit Margin

3. Net Profit Margin

Gross Profit Margin

- Gross profit is the difference between Sales Revenue and Cost of Goods Sold

Sales Revenue	£400,000
Cost of Sales	(£150,000)
GROSS PROFIT	£250,000

Formula

$$\text{Gross Profit Margin \%} = \frac{\text{Gross Profit (£)}}{\text{Sales Revenue (£)}}$$

Operating Profit Margin

- Operating Profit is the difference between Sales Revenue, Cost of Goods Sold and other operating costs.

- It is also known as EBIT (earnings before interest and taxes).

Formula

$$\text{Operating Profit Margin \%} = \frac{\text{Operating Profit (£)}}{\text{Sales Revenue (£)}}$$

Net Profit Margin

- Net profit measures the profitability of a business after accounting for all its costs.

$$\text{Net profit margin} = \frac{R - COGS - E - I - T}{R} * 100$$
$$= \frac{\text{Net income}}{R} * 100$$

where:

$R = \text{Revenue}$

$COGS = \text{The cost of goods sold}$

$E = \text{Operating and other expenses}$

$I = \text{Interest}$

$T = \text{Taxes}$

Income Statement

Revenue (Sales)		₹ 2,00,00,000
COGS	(-)	80,00,000
Gross Profit		1,20,00,000
Mktg.&Sales	(-)	20,00,000
Office & Admin	(-)	10,00,000
EBITDA (video)		90,00,000
Depreciation	(-)	10,00,000
Amortization		0
EBIT (Operating Profit)		80,00,000
Interest	(-)	20,00,000
PBT		60,00,000
Tax @ 30%	(-)	18,00,000
Net Profit		42,00,000

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

$$= \frac{120L}{200L} = 0.6 = 60\%$$

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Net Sales}}$$

$$= \frac{80L}{200L} = 0.4 = 40\%$$

$$\text{Pretax Margin} = \frac{\text{PBT}}{\text{Net Sales}} = \frac{60L}{200L}$$

Shoe Manufacturing

Ratios from Working Capital Cycle

Days in inventory

- It is an efficiency ratio that measures the average number of days the company holds its inventory before selling it.
- The ratio measures the number of days funds are tied up in inventory.
- The formula for DII is :

DII = Average inventory / Days

Days Sales Outstanding(DSO)

What is DSO?

- Days sales outstanding (DSO) is a measure of the average number of days that it takes a company to collect cash after a sale has been made.

- Days sales outstanding is an element of the cash conversion cycle.

- It is referred to as days receivables or average collection period.

Formula

$$DSO = \frac{Accounts\ Receivable}{Total\ Credit\ Sales} \cdot \#\ of\ Days$$

What does it tell you ?

- Company's best interest is to collect receivables as quickly as possible.

- A high DSO number is a red flag.

- Generally, a DSO under 45 days is considered low.

Example

Suppose that during the year of 2018, Company A made a total of $450,000 in credit sales and had $90,000 in accounts receivable.

Calculate DSO of the company A and comment about it.

($90,000 / $450,000) x 365 = 0.2 x 365 = 73 days

That means, Company A takes 73 days to collect money from its debtors on an average. If you could collect 3 days faster you will get $4000 extra cash.

Return on Investment

- Return produced on Investment
- Expressed as a percentage:

ROI = Net Profit / Investment (Cost Involved) *100

Return on Equity

- Return on equity measures how effectively management is using the capital entrusted to it to create profits.

- Return on equity (ROE) deemed good or bad will depend on what’s normal for a stock’s peers.

Return on Equity(ROE)

=

Net Income/Shareholders Equity

Shareholders Equity = Assets - Liabilities

Return on Assets

- An indicator of how well a company utilizes its assets, where ROA lays out how profitable a company is relative to its total assets.
- ROA for public companies can vary substantially and will be highly dependent on the industry

Return on Assets(ROA)

=

Net Income/Total Assets

Total Assets=Shareholder Equity + Liabilities

MAIN DIFFERENCE

- Company’s Debt
- In absence of debt, shareholders’ equity equals to company’s assets

- ROE helps investors gauge how their investments are generating income.

- ROA helps investors measure how management is using its assets/resources to generate more income.

Ratios from Market

Market value **ratios** are used to evaluate the current share price of a publicly-held company's stock.

Earnings Per Share

What is EPS?

- Earnings per share (EPS) is the portion of a company's profit to each share of common stock.

- Earnings per share serve as an indicator of a company's profitability.

Formula

$$EPS = \frac{Total\ earnings}{Outstanding\ shares}$$

What does EPS tell ?

- Important variable in determining a share's price
- It indicates how much money a company makes for each share of its stock.
- A higher EPS indicates more value because investors will pay more for a firm with higher profits.

Price to Earnings Ratio

Introduction

- Shows what the market is willing to pay for a stock based on its earnings.(Stock Valuation)
- It is also called Price Multiple or Earnings Multiple.
- How many times earnings investors are willing to pay

Formula

$$P/E\ Ratio = \frac{Market\ Value\ per\ Share}{Earnings\ per\ Share}$$

Boeing Price Oct 25 '17 258.06
Boeing PE Ratio (TTM) Oct 25 '17 22.64
262.50
237.50
212.50
187.50
162.50
137.50
24.33
23.00
21.67
20.33
19.00
17.67
Amazon.com Price Oct 25 '17 978.36
Amazon.com PE Ratio (TTM) Oct 25 '17 248.31
1075.00
1025.00
925.00
875.00
825.00
775.00
725.00
271.25
253.75
236.25
218.75
201.25
183.75
166.25
148.75
Jan '17
Mar '17
May '17
Jul '17
Sep '17
INVESTOPEDIA ACADEMY

Analysis

- As a company's earnings per share rises so does their market value per share
- High P/E ratio-Positive future performance
- Low P/E ratio-Poor current & future performance

*May not always hold true as the PE ratio varies from industry to industry.So the PE ratio of a company should either be compared with its peers

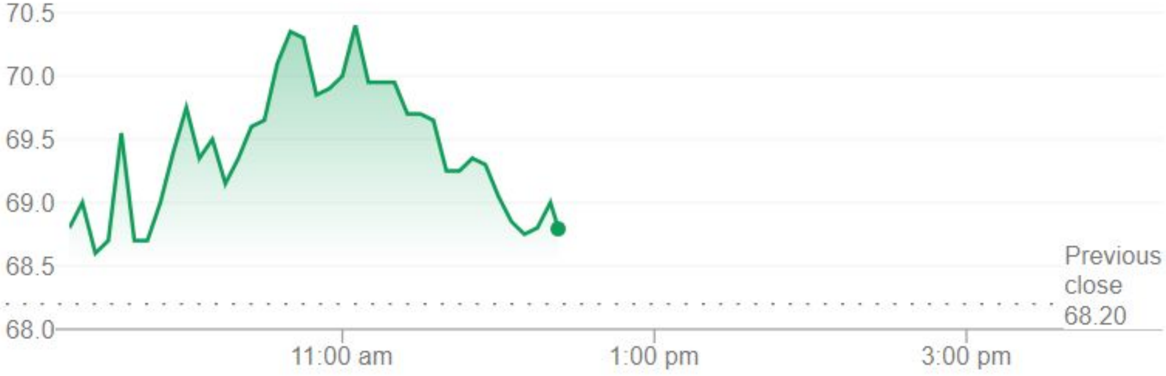
Yes Bank Limited
NSE: YESBANK

+ Follow

68.80 INR +0.60 (0.88%) ↑

14 Nov, 12:23 pm IST · Disclaimer

1 day | 5 days | 1 month | 6 months | YTD | 1 year | 5 years | Max



Open	68.85	Div yield	2.91%
High	70.80	Prev close	68.20
Low	67.10	52-wk high	286.00
Mkt cap	175.85B	52-wk low	29.00
P/E ratio	9.38		

Conclusion

- Debt to equity ratio - Related to the debt that the company is taking on
- Current Ratio - Compares Assets to Liabilities
- Days in Inventory - Tells us about the tied up cash
- Days sales outstanding - Duration company takes to collect payment after sales
- Return on Investment - ROA and ROE
- EPS - shows how much money a company makes for each share of its stock.
- P/E ratio-shows whether a company's stock is overvalued or undervalued

REFERENCES

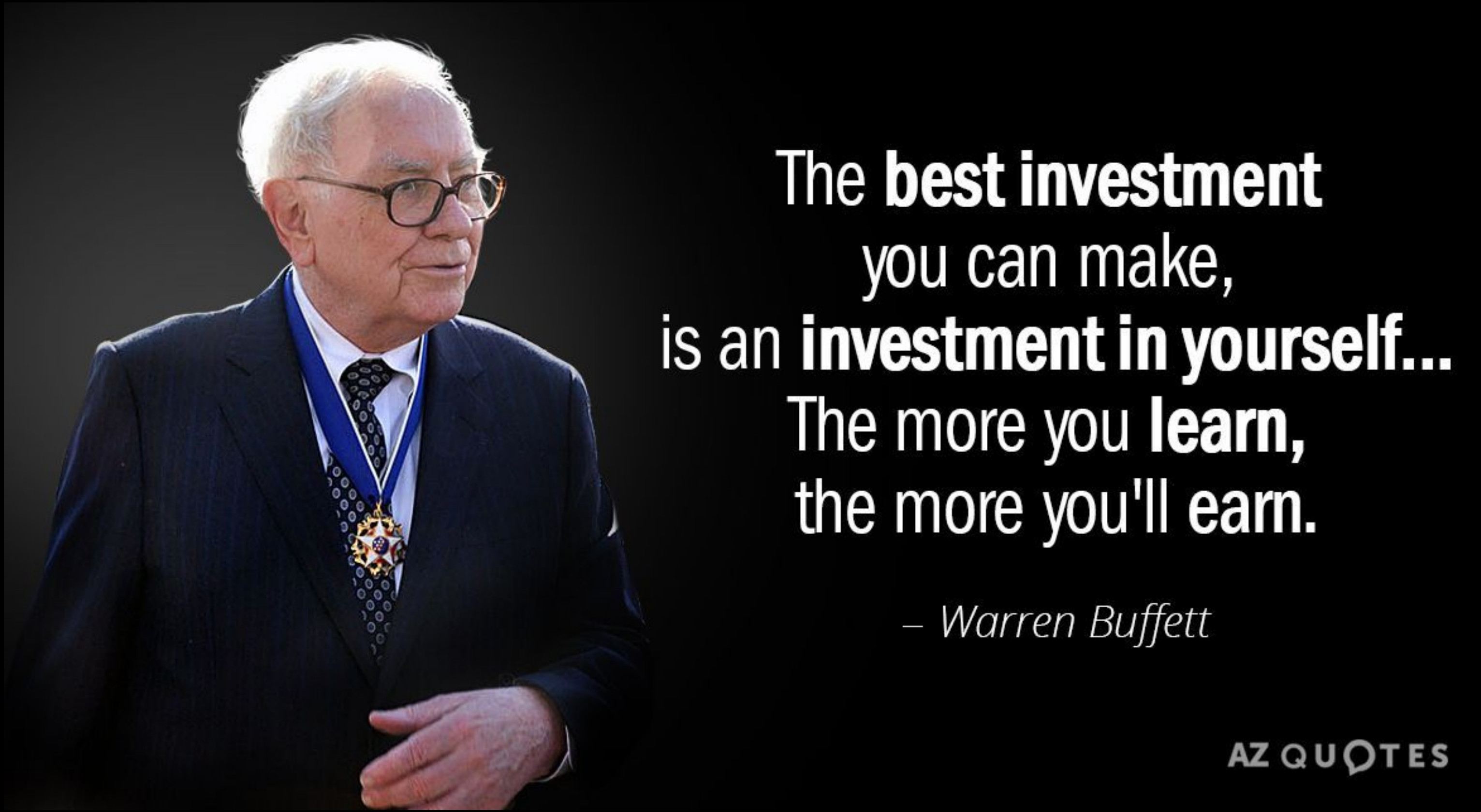
Sites to visit:

- Investopedia
- Money Control
- Economic times

Sites to avoid:

- Quora
- Wikipedia

DEDICATION



The best investment
you can make,
is an investment in yourself...
The more you learn,
the more you'll earn.
– Warren Buffett
AZ QUOTES

Let us calculate the P/E ratio for Walmart Stores Inc. (WMT) as of November 14, 2017, when the company's stock price closed at $91.09. The company's profit for the fiscal year ending January 31, 2017, was US $13.64 billion, and its number of shares outstanding was 3.1 billion. Its EPS can be calculated as $13.64 billion / 3.1 billion = $4.40.

Walmart's P/E ratio is, therefore, $91.09 / $4.40 = 20.70x.

Thank You !!