

# SUMMARY SHEET



**Equity  
Valuation**





# EduTap Hall of Fame



**RBI Grade B 2020 - 21**

**198 Selections Out of 257**



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Mr. Aman Choudhary



Mr. Arun Sharma



Ms. Ila Sahu



Mr. Nishant Yadav



Ms. Ojaswi Dale



Mr. Parimal S Athaley



Ms. Resmarani Sahoo



Mr. Ryan Varghese



Mr. Shubham



Mr. Somya Atre



Ms. Srishti Dabas



Ms. Twinkle Dahiya



Mr. Vaibhav Nayer

**SEBI Grade A 2020**

**63 Selections Out of 80**



Mr. Gaurav



Mr. Abhishek



Mr. Abhishek



Mr. Adesh



Mr. Adil



Miss. Gopika



Mr. Harsh



Miss. Akansha



Mr. Amit Meena



Mr. Dhruv



Mr. Digant



Mr. Durga Parsad



Mr. Hitesh



Mr. Johnson

**NABARD Grade A 2020**

**65 Selections Out of 69**



Mr. Gourav Kumar



Mr. Sayed Saif



Mr. Vinay Jadhav



Mr. Ratan Singh



Mr. Vishal Singla



Mr. Mohan Das



Miss. Garima



Mr. Amandeep



Miss. Arpita



Mr. Krishan Kumar



Mr. Shivam



Mr. Karan Sharma



Miss. Shivani Bhosle



Mr. Prasad

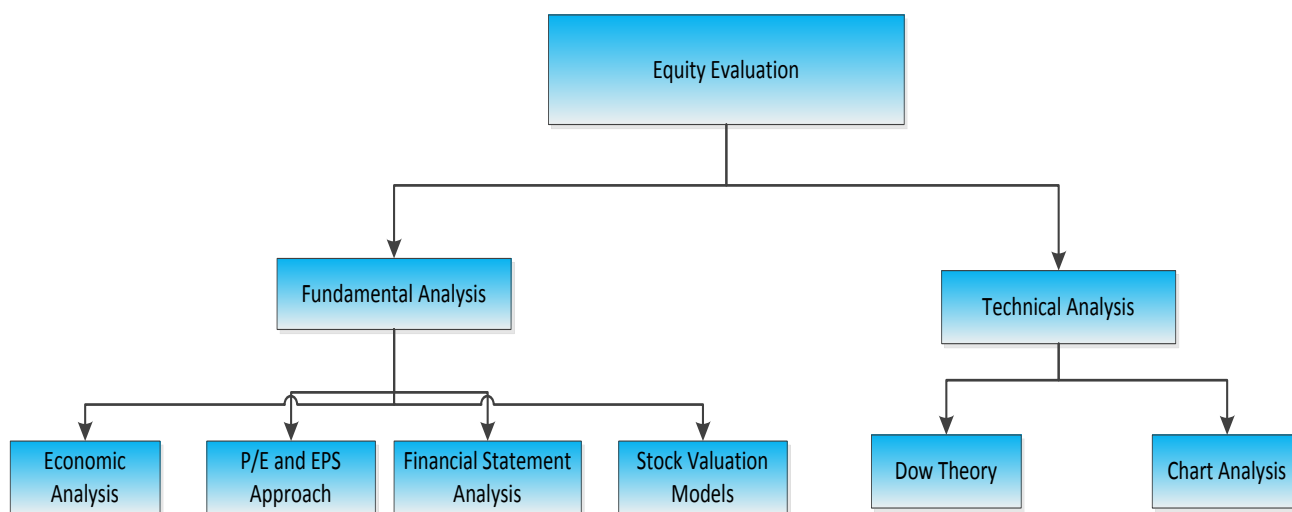


## Important Points

1. This Summary Sheet shall only be used for Quick Revision after you have read the Complete Notes
2. For Building Concepts along with examples/concept checks you should rely only on Complete Notes
3. It would be useful to go through this Summary sheet just before the exam or before any Mock Test
4. Questions in the exam are concept based and reading only summary sheets shall not be sufficient to answer all the questions

## 1 Summary Points

- **Equity Valuation:** Process of determining the fair market value of equity securities



- **Fundamental Analysis** of company's stocks relates to observing profits, revenues, business model, economic scenario and other such company specific analysis procedures
- **Economic Analysis:** Related to the impact of performance of global economy, GDP, inflation, interest rates, fiscal deficit, current account deficit and other macroeconomic parameters to the economy (hence, equities market) as a whole
- **Earnings per Share (EPS) = Total Earnings of the Company/Number of Shares**

Example: EPS of 100 means that for each share the profit generated is Rs. 100

➤ **P/E Multiple (Price/Earnings Ratio):**

$$\text{P/E ratio} = \text{Price per Share/Earnings per Share (EPS)}$$

- **Example:** If the earnings per share of the company are Rs.100 per share and Price of Stock is Rs. 1000 per share then the P/E ratio would be  $1000/100 = 10$ . This means that investors in the stock are willing to pay Rs.10 per share for every Rs.1 of earnings (profits) per share that the company generates.
- **Low P/E ratio** means that one must pay less price for the profits generated by the company
- **High P/E ratio** means that one must pay more price for the profits generated by the company and market expectations could be for higher future growth of the stock
- **Book value of a Stock = Assets – Liabilities /Number of Shares**
- **Price to Book Value of a Stock = Market Price of stock / Book value**
- If the market price of the stock is lower than the book value and the PBV is  $< 1$ , the stock may be undervalued
- **Stock Valuation Model – Dividend Discount Model:** In this, the value of a stock is equal to the present value of all future cash flows in the form of dividends plus the present value of the sale price expected when the equity share is sold. Dividends earned could be constant or grow at a certain rate
- **Case 1: Dividend remains Constant in Future For N years**

$$V_0 = \frac{D_1}{1+k} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \frac{D_4}{(1+k)^4} + \dots + \frac{D_n + P_n}{(1+k)^n}$$

V = Present Value of Share

$D_1, D_2, \dots, D_n$  are Dividends each year till the  $n^{\text{th}}$  year

$P_n$  = Sell price of the stock in  $n^{\text{th}}$  year

K = required rate of return

- **Example:** A Company is expected to give dividend of Rs. 20 for next 3 years. If the investors' required rate of return on the share is 12%, what would be the current theoretical value of the share now if after 3 years the sell price of share is 100?

**Solution:**  $D_1, D_2$  in this case would be 20

K = 12% or .12

P = 100

n = 3

$V = (20/1+.12) + 20/(1+.12)^2 + 20/(1+.12)^3 + 100/(1+.12)^3$

$V = 17.85 + 15.94 + 14.23 + 71.7 = 119.2$

- **Shortcut formula for calculating Market Price of the Equity (Net Proceeds):**

$$\text{Required Rate of Return} = \frac{\text{Dividend Payment} + (\text{Maturity Value} - \text{Net Proceeds}) / n}{(\text{Maturity Value} + \text{Net Proceeds}) / 2}$$

Where, Dividend Payment is Dividend Payment on Equity Shares

Maturity Value is the value obtained at Maturity

**Net Proceeds** is Market Price. There would be no issuing expenses involved as it is internal cost of equity which is being used from retained earnings

N = number of time periods

➤ **Case 2: Dividend remains Constant in Future for Infinite Time:**

$$V = D_1 / K$$

V = Present Value of Stock

D<sub>1</sub> = Dividend in first year

K = Growth Rate

- **Example:** The Company is expected to give dividend of Rs. 40 for the rest of life. If the investors' required rate of return on the share is 10%, what would be the current theoretical value of the share?

**Solution:** V = ?

D<sub>1</sub> = 40

K = 10% or .1

Since, V = D<sub>1</sub> / K

V = 40 / .1

V = 40 / .1 = **400**

➤ **Case 3: Dividend grows at Constant Rate for N years:**

$$V = D_0 (1+g) / (1+K) + D_0 (1+g)^2 / (1+K)^2 + D_0 (1+g)^3 / (1+K)^3 \dots \dots \dots (D_0 (1+g)^n + P_n) / (1+K)^n$$

V = Present Value



$D_0$  = Dividend in current year  
 $g$  = Growth rate of dividend year on year  
 $K$  = Required Rate of return

- **Example:** The Company gave a dividend of 20 this year and is expected to give dividends for next 3 years with growth of 5% each year. What is the present value of the share if the required rate of return is 10% and price after 3 years is 100?

**Solution:**  $V = ?$

$g = 5\%$  or .05

$D_0 = 20$

$D_1 = 20 * (1+.05) = 21$

$D_2 = 20 * (1+.05)^2 = 22.05$

$D_3 = 20 * (1+.05)^3 = 23.15$

$K = 10\%$  or .10

$P = 100$

$$\begin{aligned}
 V &= 21 / (1+.1) + 22.05 / (1+.1)^2 + 23.15 / (1+.1)^3 + 100 / (1+.1)^3 \\
 &= 19.09 + 18.22 + 17.39 + 75.13 \\
 &= \mathbf{129.83}
 \end{aligned}$$

- **Case 4: Dividend grows at Constant Rate for Infinite Years (Gordon Growth Model):**

$$V_0 = \frac{D_0(1 + g)}{k - g} = \frac{D_1}{k - g}$$

$V$  = Present Value

$D_1$  = Dividend in first year

$K$  = Rate of return

$G$  = Growth Rate of Dividend

- **Example:** If a stock pays a 4 dividend this year, and the dividend has been growing 6% annually, then what will be the intrinsic value of the stock, assuming a required rate of return of 12%?

**Solution:**  $V = ?$

$K = 12\%$  or .12

$G = 6\%$  or .06

$D_0 = 4$

$D_1 = D_0 (1+g) = 4 * (1+.06) = 4.24$

$V = 4.24 / .12 - .06$

$V = 4.24 / .06$

$= \mathbf{70.66}$

- **Stock Valuation Model – Based on Earnings:** Used when firms retain part of their earnings for re-investing in the firm's projects to earn higher future growth due to which less dividends are earned by the investors. In such cases, **earnings per share valuation** is considered instead of only dividend discount model. EPS model is as,

$$P = \text{EPS} (1-b) / (k - br)$$

P = Price of share

EPS = Earnings per Share at the end of year 1

b = retention ratio i.e. % of earnings being retained

r = Rate of return from the reinvestment of Profits

k = required rate of return or risk-free rate of return

- **Case 1 : When retention ratio is zero and 100% earnings are distributed as dividends**

$$P = \text{EPS}/k$$

- **Case 2: When retention ratio is > 0 and only some % earnings are distributed as dividends**  
**Example:** Suppose a firm has earnings of 9 per share. It has retention ratio of 40%. What is the value of the equity share if required rate of return is 15%? It is expected that retained profits would be re-invested to generate return of 25%

**Solution:**  $P = \text{EPS} (1-b) / k - br$

EPS = 9

b = 40% or .4

k = 15% or .15

r = 25% or .25

$$P = 9 (1-.4) / (.15 - (.4*.25)) \\ = 5.4 / .15 - .1 = 108$$

- **Case 3: When rate of return on re-investment of profits of the firm is equal to required rate of return**

$$P = \text{EPS}/k$$

- **P/E multiple analysis conclusions using EPS model approach:**
1. As interest rate(k) increases, ideal price of share decreases
  2. As risk in the market increases, ideal price of share decreases
  3. r is return from the re-investment of retained profits, then as  
✓ If  $r > k$ , ideal share price would increase

✓ If  $r < k$ , ideal share price would decrease

- **Technical Analysis:** Uses historical financial data on charts to find meaningful patterns, and using the patterns to predict future prices based on supply and demand of securities
- **Dow Theory (By Charles H. Dow):** According to it, stock market is influenced by three cyclical trends, namely
  1. Primary trend (Bear or Bull Markets): Long term movement of prices
  2. Secondary or intermediate trend (Short term deviations in prices)
  3. Tertiary or minor trend (Daily fluctuations of the stocks carrying little value)
- **Charts:** Used to predict probable future performance of a stock, evolving and changing patterns of price behavior based on historical price-volume information of the stock