



Presents

EP2: Identifying Reasonable Buying Price Of Asset(P/E)

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&

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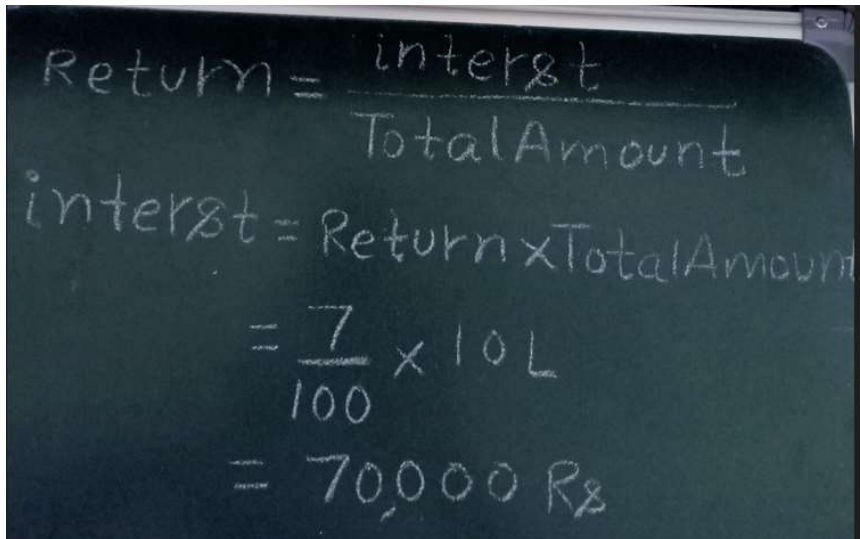
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Identifying reasonable price of an asset/business

- All rates of return gets compared with the rate of return that is paid on the government bond/interest rate. In recent times, 10-year Indian bond return(yield) is range of 7 %.
- P/E(Price To Earning) & P/B(Price To Book) tool helps us to determine the reasonable price of a business to pay while buying.
- For simplicity we would continue to assume book value or total equity of the company is the total capital employed.
- Earning Yield(Return) is simply calculating the profit/return earned for total capital invested. This is most important thing and we all do it all the times!!.

Earning Yield(Return)

- If we invest 10 Lakh where we are supposed to get 7% return. How much we expect to get?


$$\begin{aligned}\text{Return} &= \frac{\text{interest}}{\text{Total Amount}} \\ \text{interest} &= \text{Return} \times \text{Total Amount} \\ &= \frac{7}{100} \times 10 \text{ L} \\ &= 70,000 \text{ Rs}\end{aligned}$$

Revisit our hypothetical company

- To make it more realistic, let us consider variable ROE of the company.

	Equity	Profit	ROE
Year			
0	10.0	1.0	10
1	11.0	2.1	19
2	13.1	2.0	15
3	15.1	1.5	10
4	16.6	1.7	10
5	18.2	2.7	15
6	20.9	2.3	11
7	23.3	3.5	15
8	26.7	4.5	17
9	31.3	5.3	17
10	36.6	6.6	18
11	43.2	4.8	11
12	47.9	4.8	10
13	52.7	7.9	15
14	60.6	9.1	15
15	69.7	9.1	13

Example1: In year 6, profit = 2.3 Lakh, TotalAmount = 20.9 Lakh

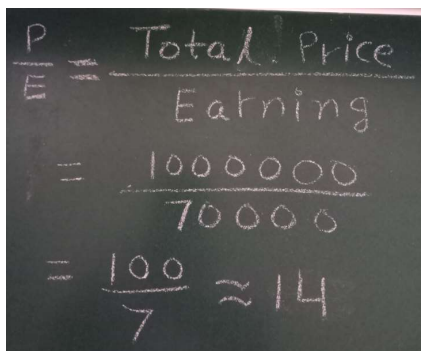
$$\text{earningYield} = \frac{2.3}{20.9} \times 100$$
$$\approx 11\%$$

Example2: In year 10, profit = 6.6 Lakh, TotalAmount = 36.6 Lakh

$$\text{earningYield} = \frac{6.6}{36.6} \times 100$$
$$\approx 18\%$$

P/E Ratio

- How much investor is willing to pay for company current profit/return. For an example, if we buy an asset in 10 Lakh which earned a profit of 70000 Rs, what would the P/E?



A handwritten calculation on a chalkboard showing the P/E ratio. The formula is written as $\frac{P}{E} = \frac{\text{Total Price}}{\text{Earning}}$. Below this, the numbers are substituted: $= \frac{1000000}{70000}$. The final result is shown as $= \frac{100}{7} \approx 14$.

- In general, a P/E ratio less than 10 is considered low, between 10 and 20 is considered moderate, and greater than 20 is considered expensive.
- As P/E is inverse ratio of the earning yield, now it makes sense that why low is considered good/cheap. Of course, if the quality of an asset is good/excellent then low P/E is favorable.
- Our view is first quality check and then low-price work in long term investment. We believe that this philosophy would continue to work in future as well!!

P/E value series of asset bought at same price as its value

- When we buy asset where price is approx. equal to its value, the earningYield should be same with business return(ROE).
- Under this scenario, P/E is simply inverse ratio of the ROE. Expected!!!!.

Year	MCap=Value	P/E	Equity	Profit	ROE
0	10.0	10.0	10.0	1.0	10
1	11.0	7.9	11.0	1.4	13
2	12.4	8.9	12.4	1.4	11
3	13.8	9.9	13.8	1.4	10
4	15.2	10.1	15.2	1.5	10
5	16.7	9.3	16.7	1.8	11
6	18.5	9.2	18.5	2.0	11
7	20.6	6.2	20.6	3.3	16
8	23.9	5.6	23.9	4.3	18
9	28.2	5.3	28.2	5.3	19
10	33.5	6.2	33.5	5.4	16
11	38.9	5.3	38.9	7.4	19
12	46.3	7.7	46.3	6.0	13
13	52.3	5.9	52.3	8.9	17
14	61.1	5.0	61.1	12.2	20
15	73.4	9.1	73.4	8.1	11

In year 7, profit = 3.3 Lakh, TotalAmount = 20.6 Lakh

$$\text{earningYield} = \frac{3.3}{20.6} \times 100 \approx 16\%$$

$$\frac{P}{E} = \frac{1}{16} \times 100 \approx 6.2$$

$$\frac{P}{E} = \frac{20.6}{3.3} \approx 6.2$$

P/E value series of asset bought at Discount price

- When we buy asset at discount to its value, earningYield would be higher than its business return(ROE).
- Under this scenario, P/E should be lower values as compared with previous scenario. Awesome!!!.

Year	MCap=0.5Value	P/E	Equity	Profit	ROE
0	5.0	5.0	10.0	1.0	10
1	5.5	3.9	11.0	1.4	13
2	6.2	4.4	12.4	1.4	11
3	6.9	4.9	13.8	1.4	10
4	7.6	5.1	15.2	1.5	10
5	8.3	4.6	16.7	1.8	11
6	9.2	4.6	18.5	2.0	11
7	10.3	3.1	20.6	3.3	16
8	11.9	2.8	23.9	4.3	18
9	14.1	2.7	28.2	5.3	19
10	16.8	3.1	33.5	5.4	16
11	19.4	2.6	38.9	7.4	19
12	23.1	3.9	46.3	6.0	13
13	26.1	2.9	52.3	8.9	17
14	30.6	2.5	61.1	12.2	20
15	36.7	4.5	73.4	8.1	11

In year 7, profit = 3.3 Lakh, TotalAmount = 10.3 Lakh

$$\text{earningYield} = \frac{3.3}{10.3} \times 100 \approx 32\%$$

$$\frac{P}{E} = \frac{1}{32} \times 100 \approx 3.1$$

$$\frac{P}{E} = \frac{10.3}{3.3} \approx 3.1$$

P/E value series of asset bought at Expensive price

- When we buy asset which is at higher to its value, earningYield would be lower than its business return(ROE).
- Under this scenario, P/E should be higher values as compared with normal scenario. Surprise!!!!

Year	MCap=2*Value	P/E	Equity	Profit	ROE
0	20.0	20.0	10.0	1.0	10
1	22.0	15.7	11.0	1.4	13
2	24.8	17.7	12.4	1.4	11
3	27.6	19.7	13.8	1.4	10
4	30.4	20.3	15.2	1.5	10
5	33.4	18.6	16.7	1.8	11
6	37.0	18.5	18.5	2.0	11
7	41.2	12.5	20.6	3.3	16
8	47.8	11.1	23.9	4.3	18
9	56.4	10.6	28.2	5.3	19
10	67.0	12.4	33.5	5.4	16
11	77.8	10.5	38.9	7.4	19
12	92.6	15.4	46.3	6.0	13
13	104.6	11.8	52.3	8.9	17
14	122.2	10.0	61.1	12.2	20
15	146.8	18.1	73.4	8.1	11

In year 7, profit = 3.3 Lakh, TotalAmount = 41.2 Lakh

$$\text{earningYield} = \frac{3.3}{41.2} \times 100 \approx 8\%$$

$$\frac{P}{E} = \frac{1}{8} \times 100 \approx 12.5$$

$$\frac{P}{E} = \frac{41.2}{3.3} \approx 12.5$$

Summary

- Discussed about how we can identify reasonable price of asset.
- P/E is one of tool which we gets widely used. It should be understood as inverse of the earning return(yield).
- In next part, we would continue our discussions on other tools(P/B) to determine the reasonable price of the business.
- We would also discuss how quality(ROE) and price(P/E & P/B) are related to each other.

Thank You 😊