P/E Multiple: An Investor's Guide

NaziyaS.Mansuri

Lecturer, Department of Accounting & financial Management The Maharaja Sayajirao University of Baroda, Vadodara, India

Abstract: Nowadays, investors have become more & more aware about their investment choices .investors always make efforts to select the best security for investment. For this purpose, some investors relay on fundamental valuation and some other relay on technical analysis. There are so many tools, techniques and methods available for guiding the investors in their investment decision. Fundamental analysis may be carried out using different methods and tools, One of those tools, is price to earnings multiple. Price to earnings multiple is being widely used by analysts all over the world but small & individual investors are still lacking in understanding this ratio. This paper titled as, "P/E Multiple: An Investor's Guide", is an attempt to give understanding about price to earnings multiple, its interpretation, its use and its implications in different context. Price earnings multiple is being used by investors and analysts as valuation tool. So the paper also focuses on determining whether the security is overvalued, undervalued or fairly valued, considering various parameters such as industry P/E and PEG etc.

Key Words: P/E multiple, investment, stock selection, valuation, industry P/E, Cross- Section Regression, PEG.

1. INTRODUCTION:

It is said that saving is equal to earning. A common man earns and spends on his revenue needs& capital needs, if any surplus is left after meeting his and his family's needs is called 'savings'. These savings should be converted in to investments because savings itself will not earn anything for a person. Savings when invested can generate different returns based on level of risk undertaken by an investor. There are three types of investors Risk Averse Risk, Neutral and Risk Taker .Generally most of the investors fall in the category of Risk Averse i.e. those who avoid risk or those who go for calculated risk. There are so many investment opportunities available in the market like bank deposits, savings with post office, Government security, equity share, preference share, debenture and what not. 'Equity shares' are the most risky investment of all. Equity share holders are owners of the company to the extent of share held by them. Being owner of the company they take maximum risk. So whenever any investor goes for investment in equity share of the company he needs to understand fundamentals factors affecting earning the company or real value of the company.

There are so many methods available for calculating real value or intrinsic value of the company. Real value can be calculated through Dividend Discount Model, Free Cash Flow Model, Real Option Model, and Residual Value Model, Relative Valuation etc. Amongst the most familiar and widely used valuation tools are price multiple which comes under the category of relative valuation models. Price multiple are ratios of a stock's market price to some measure of fundamental value per share and one of the widely used price multiples is 'price earning multiple' it is also known as 'P/E multiple'. This paper is written with the purpose of giving detailed understanding of P/E multiple and discussing its multidimensional usability. It also discusses P/E ratio in terms of navigator for investment.

2. LITERATURE REVIEW:

P/E multiple which is also known as P/E ratio was first time being introduced by Benjamin Graham and David Dodd, in the famous text "Security Analysis" (1934). The P/E effect was first time shown by Nicholson (1960), who found that 'the purchaser of common stocks may logically seek the greater productivity represented by stocks with low rather than high price-earnings ratios.' Basu (1975, 1977) concluded in his study that, on an average, portfolios with high P/Eearn higher absolute and risk-adjusted rates of return& vise a versa. Gordon growth model believed that P/E ratio is directly correlated with expected growth rate and inversely related with the required rate of return. According to Beaver & Morse (1978), "differences in expected growth are commonly offered as a major explanation for differences in PE". While Penman found that, "PE indicates forms ability to earning." According to Easton, The P/E ratio is used to estimate the cost of equity capital (Easton, 2004). Thomas and Zhang (2006) found in their study that replacing the trailing P/E ratio with the forward P/E ratio yields results that are more consistent with the theoretical predictions. Kisor P/E Model developed by WhitbeckKisor in the 19th Century in order to test the relationship between variables like growth rate, dividend payment rate and risk in growth rate using multiple regression technique. The PEG ratio was first introduced by Mario Farina (1969) in his book, "A Beginner's Guide to Successful Investing in The Stock Market." However, PEG ratio become popular after Peter Lynch (1989) written in his book "One Up OnWall Street."

ISSN: 2456-6683 Impact Factor: 3.449 Volume - 2, Issue - 3, Mar- 2018 Publication Date: 31/03/2018

3. OBJECTIVE OF THE STUDY:

- Understanding P/E ratio.
- Discussing various components and determinants of P/E ratio.
- Discussion P/E ratio in different context and understanding usability of P/E ratio.
- Comparing P/E with other P/E ratio like industry P/E and PEG.Understanding valuation based on comparison and decision making based on valuation.

4. DETERMINANTS OF P/E MULTIPLE:

The price-earnings ratio or multiple is the ratio calculated by dividing the market price per share by the earnings per share over a period.

P/E multiple = $\frac{\textit{market price per share}}{\textit{earning per share}}$

Theoretically, The components of the P/E multiple can be derived from the constant growth dividend discount model. (Chandra, 2005)

Price as per constant dividend discount model is, $P_0 = \frac{D1}{r-g}$

Here, $D_1 = E_1 (1-b)$, 'b' stands for retention Ratio

G = growth rate = ROE X b

ROE = Return on Equity

Substituting above in the given formula P_0 will be $=\frac{E1(1-b)}{r-ROE \times b}$

Now, dividing both the sides by E_{1} , we get:

 $\frac{P0}{E1} = \frac{(1-b)}{r - ROE \times b}$

The above formula indicates that the factors that determine the P/E ratio are:

- The dividend payout ratio, (1-b), Firms with lower reinvestment needs i.e higher the payout ratio, will have higher P/E ratios
- The required rate of return, r, higher risk firms will have lower P/E ratios
- The expected growth rate, ROE x b. higher growth firms will have higher P/E ratios

5. UNDERSTANDING P/E RATIO:

Price earnings ratio indicates investor's confidence in the given stock or say, in other words, how many times more an investor is ready to pay for the given earning of the particular stock. It is used to calculate a relative value based on a company's level of earnings. Meaning by, if company is having P/E ratio of 10 then it indicates that the investor is ready to pay 10 Rupees for buying a stock which is earning rupee 1. It indicates that the investor is ready to pay 10 times more against the company's earning. Higher P/E indicates higher confidence level of investors in the stock so it is called overvalued stock and lower P/E multiple indicates lower confidence in the stock so such stock is said to be undervalued one.

6. TRAILING P/E RATIO V/S FORWARD P/E RATIO:

The Trailing P/E, also known as Historical P/E, is calculated using recent past earnings. While the Forward P/E calculated using projected future earnings. (investopedia)

Trailing P/E is calculated by dividing the current market value, or share price, by the EPS over the previous 12 months. So trailing P/E ratio is calculated based on actual performance of the company .At the same time investor should keep in mind that it's based on past and future cannot be predicted just based on past.

Trailing PE Ratio Formula (TTM or Trailing Twelve Months) = $\frac{Market\ price\ per\ share}{EPS\ over\ previous\ 12\ months}$

Forward P/E, also known as estimated P/E ratio, is calculated by dividing the market value, or share price, by the EPS over the next12 months. So, forward P/E ratio is based on future, estimated or projected earnings. One should keep in mind that future is unforeseen.

Forward PE Ratio Formula = $\frac{\text{market price per share}}{\text{forcasted EPS over next } 12 \text{ months}}$

For better decision making investors should refer to both trailing P/E as well as forward P/E. Forward P/E, when compared can be greater than, lower than or equal to, Trailing P/E. If the forward P/E ratio is lower than the trailing P/E ratio, it means analysts are expecting increase in earnings; if the forward P/E is higher than the trailing P/E ratio, analysts expect a decrease in earnings.

7. COMPARISON BETWEEN COMPANY'S P/E AND INDUSTRY'S P/E:

While taking decision about investment in particular stock, P/E ratio should not be used in isolation. Instead of using it in isolation Company's P/E ratio should be compared with peer's P/E ratio or Industries P/E ratio because a peer group is that the constituent companies are similar in their business mix. The idea or concept of comparing, with

peer or industry, is derived from the logic that the similar assets should sell at similar prices. The company's P/E is compared with the Median or Mean P/E of the industry to arrive at a relative valuation. Similarly, multiplying the benchmark P/E by the company's EPS provides an estimate of the company's value that can be compared with the Company's market price. The value derived at the end of process is called intrinsic value.

For better understanding, let's understand relation between company's P/E and industry's P/E in different way.Let's assume that a company is exactly at the Industry Average P/E. There are 6 possible scenarios and 4 possible outcomes:

Table 1 Relationship between company's P/E and Industry P/E Multiple

P/E Ratio	Price Increases	Price Decreases
EPS Increases	If Price increases faster than EPS, P/E ratio tends to rise above the industry average. It could either mean good performance or overvaluation If EPS increases faster than Price, P/E ratio tends to fall below the industry average. It could either mean poor performance or under valuation	P/E ratio tends to fall below the industry average. It could either mean poor performance or under valuation
EPS Decreases	P/E ratio tends to rise above the industry average. It could either mean good performance or overvaluation	If Price decreases faster than EPS, P/E ratio tends to fall below the industry average. It could mean poor performance If EPS decreases faster than Price, P/E ratio tends to fall below the industry average. It could mean over valuation

Source: (Sairam), www.Quora.com

So it is advised that investor should not select the stock just by looking at P/E or by only considering the increase and decrease in P/E. For better Decision Making, investors should refer to all the fundamentals of the company like Assets, liabilities, earnings, cash flows, operating income, residual income and management efficiency etc. Such detailed analysis of the stock will help the investor to decide-

- The increase in P/E ratio, above Industry, is due to good performance or investor have mistakenly overvalued the stock
- The Decrease in P/E ratio, compared to industry, is due to poor performance or just because the stock couldn't win the confidence of investor.

Over and above the consideration of the fundamental factors of the stock, an investor should also keep in mind that P/E ratio is not totally neutral. Any major announcement of a major order or acquisition by the company will certainly push up its PE. One the other hand, News of change in any government policy or death of key personnel may result in to fall in P/E.

8. PREDICTED P/E CROSS - SECTIONAL REGRESSION:

A predicted P/E can be estimated from Cross-Sectional Regressions of P/E. Here, those factors are considered which can affect the value of company. An investor can carry out such Cross - Sectional Regressions by using any set of explanatory variables considered to determine investment value; investor should also take in to consideration the possibilities of distortions that can generated by multicollinearity among independent variables. Cross-Sectional Regression analysis can be carried out considering value affecting factors such as growth rate in earnings, payout ratio, and a measure of volatility, such as standard deviation of earnings changes or beta. Thus, a cross - sectional regression considers a large amount of data in a single equation and can provide a useful additional perspective on a valuation.

However cross sectional regression analysis is not much used because of its limitation: (Jerald E. Pinto)

- The cross sectional regression analysis calculates valuation relationships only for the specific company's share. The usability of cross sectional regression analysis for different company and different time period is unknown
- The regression coefficients and explanatory power of the regressions tend to change substantially over a number of years.

9. PE AND PEG:

The P/E ratio is simple to calculate and being widely used among investors. Generally stock with higher P/E is considered to be overvalued and the stock with lower P/E is considered to be undervalued. However, decision based on Only P/E ratio can prove to be a big mistake and the reason for the same is P/E ratio does not consider Growth rate of company.

According to Lynch, who made the concept of PEG popular, the faster a stock is growing its earnings, the higher the P/E an investor should tolerate. So, here growth rate refer to is 'earning growth' of company.

PEG ratio= $\frac{Price\ earning\ ratio}{growth\ rate\ in\ EPS}$

Thus, PEG is calculated as the Company's P/E divided by the expected earnings growth rate in percent. The number of years used for calculating growth rate can vary. The number of years chosen, for determining growth rate, can vary from 1 year and can go up to 5 years. Growth rate can be trailing or can be predicted based on future expectation.

A lower PEG ratio indicates a cheaper stock so more attractive and a higher ratio indicates a more expensive stock so less attractive stock. The ideal PEG ratio would be one where earnings growth and the current P/E ratio are equal." So, fairly priced securities tend to have PEG equal to 1.

Following point must be kept in mind while taking investment decisions based on PEG: (Jerald E. Pinto)

- PEG assumes a linear relationship between P/E and growth. But Investor should consider the fact that P/E ratio and PEG may or may not have linear relationship.
- PEG does not consider all the risks that are faced by company.
- PEG ratio may be calculated; by taking different duration growth rate will give different results.

10. LIMITATIONS OF P/E:

Limitations in using P/Es based on features of EPS:(Jerald E. Pinto)

- Company can have a very small, zero, negative EPS relative to price, and P/E does not make economic sense with a very small, a zero, and negative denominator.
- Company's income consists of two types of components i.e. operating income which is of recurring type and other is non-operating income which is of non-recurring type. Investors' decision of investment should be mainly based on company's operational ability but it is not possible to segregate these two incomes in given EPS.
- EPS is accounting concept which is derived from profit and loss statement of a company. Different accounting treatment to various items of P&L statement can result in Different EPS. . In making such choices of accounting treatment, accountant may distort EPS as an accurate reflection of economic performance. Such distortions may affect the comparability of P/Es among companies.

11. CONCLUSION:

P/E ratio is being widely used by the investors all over the world for investment decision making. But using P/E ratio in isolation may result in to inappropriate decision making and the investor may end up making huge losses. This paper is written with a purpose of summarizing all the other important parameters that also should be kept in mind, along with company's P/E. The study has found that along with company's P/E, that can be trailing or forward, other factors such as industry P/E, peer's P/E, growth rate in earnings should also be considered. Over and above comparables, company's own fundamental factors which can affect company's earnings should be considered. Further, for a particular decision making, an investor can also carry out a Cross-Sectional Regression analysis by taking important determents of the company under consideration. So, the study believes that decision taken after considering all these parameters can earn a good return to investors. Study suggest that an investor can go for lower P/E ratio or lower PEG because stock with lower P/E or PEG are cheap for investment. Further stock with lower P/E ratio or PEG are undervalued right now so sooner or later its price will increase and the investor can earn by selling such stock in the future.

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