

# A Primer on PE Ratios

The PE ratio is the most common tool used by investors and financial analysts to ascertain how expensive or how cheap a stock is. Unfortunately, it is also one of the most misunderstood tools in the investment business. A stock which may be having a PE of 5 may be thought to be cheap and yet it may turn out to be quite an expensive mistake. Similarly, a stock which may be having a PE of 100 may be thought to be too expensive may actually turn out to be a bargain.

What are the determinants of a stock's PE ratio? There are eight. These are: (1) Stability; (2) Growth; (3) Dividends; (4) Return on invested capital; (5) Leverage; (6) The proportion of non-operating assets in a company's asset base; (7) Financial community's appraisal about the industry and the company, including its managers; and (8) Interest Rates.

## Stability

Stable earning power is worth more than volatile earning power. The most stable and predictable the earnings, the higher will be the PE ratio, other things remaining unchanged.. Markets do not like unpleasant surprises. They love companies which can grow their earnings in a stable, predictable way. Such companies are rewarded by markets by making their stocks sell at relatively high PE multiples as compared to stocks of cyclical companies. Never expect a cyclical stock to sell at a very high PE multiple of normalised earning power.

## Growth

Growing earnings are worth more than non growing earnings. Assume that you were offered to pay a lump-sum of money in exchange of a promise to receive ten thousand rupees a year forever and ever. How much should you pay to buy this future stream of non-growing earnings? That will depend upon your opportunity cost of capital. Suppose that instead of investing your money in this future earning stream, you could lend money by incurring the same risk and earn a return of, say 10% a year.

The formula for valuing a perpetuity is  $C/[r-g]$  where C is the cash to be received one year from now, r is the opportunity cost of capital, and g is the annual growth rate in C. In this case, since the growth rate is zero, the formula reduces to  $C/r$  or  $Rs\ 10,000/10\%$  which is equal to  $Rs\ 1,00,000$ . The value of this perpetual, non-growing earnings stream to you is  $Rs\ 1,00,000$ , or 10 times annual amount receivable. You should, therefore, agree to pay somewhat less than  $Rs\ 1,00,000$  to buy this earning stream.

The figure of 10 times arrived at above can be likened to the PE ratio. Suppose, instead of the earning stream, you were offered a 100% stake in a firm which was expected to earn  $Rs\ 10,000$  ever year, forever and ever. Also suppose that this firm would pay you all of its earnings to you as dividends. Then the maximum price that you would put on this business, given your cost of capital of 10% a year, would be  $Rs\ 1,00,000$ , implying a PE of 10.

Now assume that instead of receiving a non-growing earning stream, you were to receive an earning stream which grew at 5% p.a. Then the value of this growing perpetuity to you would double to  $Rs\ 2\ lakhs$  i.e.  $10,000/[10\%-5\%]$  implying a PE multiple of 20. The non-growth earnings stream was valued at a PE multiple of 10. The 5% growth earnings stream was valued at a PE multiple of 20.

When investors' expectations about the growth prospects of after-tax earnings of a company are revised due to some developments, the PE multiple of its stock will change. This makes investing in growth stocks, which are already selling at high PE multiples quite risky. The market's expectation about future growth are already discounted by the high PE multiple. If earnings growth were to slow down, then the PE multiple could decline quite rapidly.

### **Dividends**

Generally speaking markets tend to be wary of companies which retain much of their earnings instead of paying them out as dividends. If you were to rank stocks on the basis of dividend-payout ratios and PE ratios, you will find that there is a strong positive correlation between the two. Most MNCs in India pay out a large part of their earnings as dividends. This is one reason why their stocks tend to sell at higher PE multiples than Indian-promoted companies.

While it is true that sometimes, companies which do not pay any dividends (e.g. Infosys) sell at high PE multiples, but such companies are quite rare.

### **Return on Invested Capital**

Stocks of companies which earn high returns on their invested capital and are expected to do so in the future tend to command high PE ratios. The important point to note here is that the relationship between the return on invested capital and PE ratios is not linear. If a company earns 15% return on its invested capital and rationally sells at a PE of 15, this does not mean that a company which earns a 25% return on its invested capital should sell at a PE of 25. The reason for this is very simple. The second company is compounding its shareholders funds at a much faster pace than the first company. If you compound Rs 1,000 @ 15% a year for 20 years, your terminal wealth will be Rs 16,366.54. If, instead you were able to compound Rs 1,000 @ 25% a year for 20 years, then your terminal wealth will be Rs 86,736.17. This vast difference in terminal wealth would be the result of seemingly small difference in the two compounding rates. However, markets would tend to discount that differences in future terminal wealths of both companies today by according vastly different PE multiples to their stocks. The second company's stocks could easily sell at a PE multiple of 40.

### **Leverage**

Stocks of companies which have large amounts of debt, in relation to their total assets, sell at low PE multiples as compared to stocks of low-debt companies. Companies with high debt levels are correctly perceived to be far more risky by the market than companies with low, or no debt. That is why stocks of financial companies, which typically are highly leveraged, tend to sell at relatively low PE multiples.

### **Non Operating Assets**

A company may be in possession of a large quantity of assets which are not contributing anything significant to the company's bottomline. However, such assets could still be very valuable and would enter into the company's total valuation. However, since these assets are not contributing much to the reported earnings of the company, the denominator in such companies' PE ratio will be low, implying a high PE multiple.

### **Financial Community's Appraisal**

Markets are frequently irrational in valuing companies in the short-term. At any given point of time, there is usually a group of companies which are held in high esteem by the financial community. Such companies' stocks tend to sell at high PE multiples. If it was finance companies in 1992-94, it is software companies today. MNC stocks have always sold at relatively high PE multiples in India because the financial community views the economics

of these companies' businesses as well as the quality of their managements in a favourable light.

### **Interest Rates**

The final factor affecting PE ratios is the factor of interest rates. When interest rates decline, two things happen: (1) the opportunity cost of capital declines, making the present value of perpetual income streams in equities go up; and (2) the savings of the public are diverted away from fixed income securities markets, which are no longer attractive, given lower interest rates, and is pumped into the stock market. These two factors, of a rise in intrinsic value of equities and the weight of money results in a rise in the general level of PE ratios. When interest rates rise, the reverse happens. Stocks, which are perpetuities, fall in intrinsic value and money is moved from the stock market to the bond market where the interest rates have become more attractive than before.

These, then, are the eight determinants of a stock's PE ratio. However, it must be emphasised that these factors are interrelated and sometimes work in the opposite direction. For example, a company which pays out a large proportion of its earnings as dividends may deserve a high PE multiple. However, by paying out large sums of money to shareholders, the company could end up with less cash to finance its growth, which implies a low PE multiple. Which of the two factors will have a more significant impact of this company's PE multiple is impossible to predict. Nevertheless, I find the above framework useful in trying to understand and interpret PE ratios.

### **Note**

Sanjay Bakshi works with Capital Ideas India Limited, a New-Delhi based investment advisory firm. He can be contacted at [sanj@vsnl.com](mailto:sanj@vsnl.com).

© Sanjay Bakshi. 1999.