

The P/E Ratio, Value, and the S&P 500

Is the market fairly valued, and where is it likely to go?

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Most investors, when they think about the fundamental value of a company, think about only one thing: the price to earnings (per share) ratio. The P/E ratio is popular because it's easy to understand. But while it may be tempting to substitute that for real research, the ratio can be misleading. Still it can be a very useful tool to understand for helping you value an individual stock. It can also be used as a starting point for forming an opinion on the likely future direction of the market as a whole.

You may have noticed when I write about a company's earnings, I usually include earnings per share, in addition to the straight earnings number. The first thing to understand is that we really want to value a stock, not the company, and stocks are priced per share. If the number of shares of a given stock suddenly jumps up, while earnings remain flat, the stock price will naturally drop. That is why we always look at earnings per share.

That is why the P/E ratio is actually telling you the price of one share of stock, divided by earnings per share. It tells you what the market is willing to pay right now for anticipated future earnings. A stock with a P/E ratio of 15, for example, means it will take 15 years for the company's earnings to add up to your original purchase price.

To see if a stock is over or under valued you really need to compare its current P/E ratio to its past P/E ratio. But the company does not operate in a vacuum, so you also need to compare its P/E ratio to the ratios of other companies in the same industry, as well as to the market as whole.

Low-P/E stocks are not necessarily a good value. Buy a few low P/E stocks and you are sure to discover later the reason they were so cheap. A low P/E ratio usually indicates that investors expect little growth in a company's earnings.

By the same token, a high P/E ratio does not always mean a company is overvalued. There are many reasons investors might pay a premium for a company. P/E ratios can be especially misleading when companies miss their earning estimates. Due to what are often temporary problems, a company's P/E ratio will be restated, often in concert with accounting charges that have to be taken. These companies will then show a high P/E ratio or, in many cases, even have a loss. If it is only temporary than the ratio typically reverts to more normal levels after a few quarters.

Although using discounted cash flows to calculate the present value is the correct way to value a company, people prefer to use a simple rule of thumb. But drawing the conclusion of how long it will take you to be "paid back" by simply using the P/E ratio assumes that the company is in a mature stage, where earnings are constant.

If you were to actually use the discounted cash flows formula on a zero-growth company, you find that its fair P/E ratio is $1/r$, where r equals the discount rate (or rate of return you need to make the investment worthwhile). So if you require a rate of 10%, you would find that a fairly valued stock price for a mature company would have a P/E ratio of 10. If you felt a real interest rate of 2% (around the historical average) was fair, add that to the 5-year treasury rate of 2.3%, and you would see that a fair P/E would around 23.

For example, take a stock that is selling for \$9.70 and earned 6 cents a share last year. Its P/E ratio is 161, so at current earnings of 6 cents per share, the company would have to earn that amount for 161 years to justify the stock price. That is exactly the current figure for Charles Schwab. While I know your investment advisor probably tells you to invest for the long term, 161 years seems just a bit too long to me.

Naturally, investors aren't really willing to wait that long. What is missing is growth. Investors expect a sharp increase in earnings soon, at least much sooner than 161 years from now. You should be willing to pay a higher P/E ratio (calculated on current earnings) if you feel that a company's earnings are going to grow in the future, since your payback time would be quicker.

So although P/E ratios can help you gauge valuation risk, a high P/E ratio doesn't always mean the stock is overvalued. It is also important to understand a company's growth rate. In fact, if you only buy low P/E stocks, you are likely to just end up with a portfolio of under performing stocks. So when evaluating a stock's P/E ratio, you also need to consider the expected earnings growth rate. Some investors like to use a measure called PEG, which is the P/E ratio divided by the expected growth rate. That helps compare the amount investors are willing to pay for a stock's anticipated future earnings on more of an apples-to-apples basis.

Just as you can calculate the P/E ratio for any individual stock, you can also measure the P/E ratio of any group of stocks. A broad market average like the S&P 500, after all, does have a price. You probably see it quoted, along with how much it went up or down, every trading day. And to get an earnings figure, you simply add all the earnings for each of the 500 stocks.

That may seem like a lot of work, but just as you can easily look up the current P/E ratio of any stock, you can also look up the current P/E of the S&P 500. To get that information, I always go straight to the source. To see the current information on the S&P 500 on the Standard and Poor Website, [click here](#).

So what would be a reasonable P/E for such a broad market? Not surprisingly, it depends. Just as there is no single "right" P/E for a stock, there is no single number where you can say the market is fairly valued. But of course we can always make a judgment call. The old rule of thumb was always that a normal range for the P/E ratio was between 10 (undervalued) to 20 (overvalued).

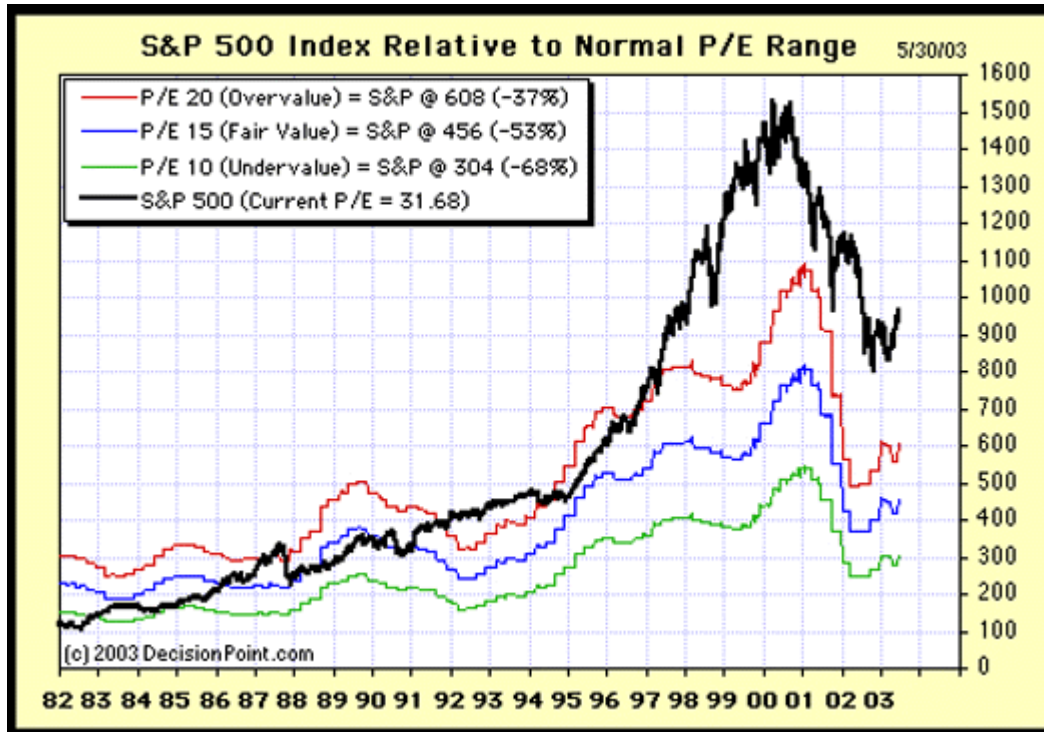
We already saw how the rate of return you require can be a big factor in judging when a "fair" P/E ratio. When inflation and interest rates are high, blue chip stocks can trade at P/Es two to four points below normal (for example, 12 instead of 16). With the low-inflation, low-interest rate conditions right now, average multiples of 20, or a little higher, could easily be sustainable.

So what is the current P/E ratio for the S&P 500? The real P/E ratio for the S&P 500 is based on "as reported" or GAAP earnings

(calculated using Generally Accepted Accounting Principals). You could also calculate by pro forma earnings, or the new "core" earnings rate that Standard and Poors has recently begun to calculate. But I prefer the real P/E, since there it is the historical standard for reporting earnings, and is directly comparable to past readings.

Looking at the spreadsheet the earnings shown as of May 21 is 94% complete for the first quarter, so I used those, plus the previous three quarters, to the twelve-month trailing earnings of \$30.42. Since the S&P 500 closed Friday (5/30/03) at 963.60, that gives you a P/E ratio of 31.68, well above the 20 level that used to be the point where stocks were considered overvalued.

Below is a graph from decisionpoint.com that the current P/E graphed against P/Es of 10, 15, and 20. While it has not fallen below the undervalued 10 mark for over twenty years, it has stayed well above the 20 mark for the past few years:



Naturally, just like an individual stock, if you expect earnings to increase substantially in the future, you would be willing to pay a higher price, meaning a higher P/E ratio calculated on current earnings. And looking at the spreadsheet, this quarter showed an 8.6% increase in annual earnings over the previous quarter.

Looking ahead, there is also a substantial increase being forecast, especially once that unusually low \$3 reading from the fourth quarter of last year drops out. A "fairly valued" P/E of 16 would imply future annual earnings for the S&P 500 of \$60.23 per share, or an average of \$15.05 per quarter. That seems a bit high, given that the most optimistic quarter in the forecast right now is \$14.50 in 3/31/2005.

Does that mean the market is destined to fall. Not necessarily. Future forecasts are based on a host of variables, so earnings might be higher. More likely, with the low inflation and interest rates right now, investors will probably be willing to pay more for those future earnings. A nominal return of 4.5%, as shown earlier, translates into a P/E of 22-23 for the S&P 500.

That implies annual earnings per share of \$42.83, which is almost exactly the \$42.62 forecast for 2003, and less than the \$48.90 forecast for 2005. So the current level seems sustainable.

As we saw earlier, much depends on the rate of return investors are going to require. If they demand a higher one, a P/E ratio of 16 and annual earnings of \$42.62 would imply the S&P 500 could fall as low 682, a drop of nearly 30% from today's level.

On the bullish side, if investors continue to be willing to accept a P/E ratio of 32 or so, that would indicate the S & P 500 could go as high as 1,360 in the next year, an increase of more than 40% from the current price.

The current P/E for the S&P 500 makes a drop more likely than a big bull run. But after bear markets like the one we have had the past three years, historical returns have averaged around 7.5% for the next several years. I think that the large declines in the equity markets recently, combined with the tiny returns available on treasuries, savings accounts, money markets, and CDs, mean that a return of 4.5-5% is beginning to sound much better to investors now than it did a few years ago.

So the most likely scenario is that there will be some pullbacks and minor rallies as the market moves steadily higher. As long as inflation and interest rates stay low, an annual return of 6-8% seems perfectly feasible for the equity markets as whole. The P/E of 23 I estimated as "fair" in the current economic environment, along with forecast earnings, would indicate a level of 1,104 for the S&P 500 in the next 12-18 months, an increase of 14.5% from today.