The price-earnings ratio is one of the most commonly used measures in fundamental stock analysis because it is simple to calculate and it provides a great deal of insight. The price-earnings ratio is calculated by dividing the stock price by earnings per share. It relates the market’s expectation of future company performance, embedded in the price component of the equation, to the company’s earnings performance. However, it can be tricky to determine whether a price-earnings ratio represents a buying opportunity. Price-earnings (P/E) relative compares a company’s price-earnings ratio to that of the market or industry. The P/E relative can be used in a number of interesting ways to help guide your investment analysis.

Overview and Factors

Just because a stock has a high price-earnings ratio does not necessarily mean it is too expensive. A high price-earnings ratio can occur in a stock because of superb growth prospects. Likewise, a stock with a low price-earnings ratio should not be automatically seen as a cheap stock. The company may be in dire financial difficulties, or there may be a great deal of uncertainty surrounding future earnings.

Growth is a central factor when analyzing price-earnings ratios. Often times, investors will use a stock’s forward price-earnings ratio, which uses the expected earnings per share in the calculation. It’s also prudent to use a base case along with bull case and bear case scenarios. There is also the issue of investor emotion. Stock prices are inclined to be bid too highly on good news and depressed too far down on bad news. Comparing the current P/E relative to historical relatives allows you to determine where the price-earnings ratio has strayed away from its normal range.

Calculating the P/E Relative

In order to calculate a stock’s P/E relative, we must first calculate the firm’s price-earnings ratio and the market’s price-earnings ratio. Fortunately, these ratios are straightforward and only require two pieces of data—price and earnings. This information can be found at many financial websites such as Morningstar.com and Yahoo! Finance. Dividing the current price by the trailing 12-month earnings will provide the current price-earnings ratio, and dividing the current price by estimated earnings will provide the forward price-earnings ratio. Calculating the price-earnings ratio for the market involves the same steps. Usually, investors will use a common index such as the S&P 500 as the market measure. Sites such as Yahoo! Finance will provide up-to-date price quotes, but you may need to visit the Standard & Poor’s site directly (www.standardandpoors.com) for earnings figures on the index.

Let’s consider Apple as an example. Yahoo! Finance provides the closing price. As of December 1, 2010, Apple closed at $316.40 and their earnings for the last four quarters were $15.41 per share (using basic earnings, not diluted earnings). Using Stock Investor Pro, which provides estimates from I/B/E/S, Apple’s consensus earnings estimate for 2011 is $18.92 per share. According to these numbers, Apple’s current price-earnings ratio is 20.53 ($316.40/$15.41) and their forward P/E is 16.72 ($316.40/$18.92). The Standard & Poor’s website provides both earnings and price-earnings ratios for the S&P 500. We must keep in mind that Apple’s fiscal year ends at the end of September, so we should maintain this consistency for the S&P 500. Standard & Poor’s provides an Excel spreadsheet that offers quarterly price-earnings ratios, which does a portion of the work for us. The average price-earnings ratio for the S&P 500 from September 30, 2009, to September 30, 2010, was 18.08, and for September 30, 2010, to September 30, 2011, the average is estimated to be 14.90. We can also come up with these numbers by using the ending S&P 500 price and dividing that by the average earnings.

With these numbers, we are able to calculate a P/E relative to the S&P 500. The P/E relative for Apple in 2010 was 1.14, while the P/E relative using 2011 estimated data is 1.12. Apple is trading at 1.14 times the price of the S&P 500 based on trailing earnings and 1.12 times based on expected earnings.

Table 1 provides a quick look at the calculation of the P/E relative.

Using a Valuation Worksheet

Using a valuation worksheet will help you calculate both multiple relative ratios and, ultimately, intrinsic or fair value for a stock. Computerized Investing readers have exclusive access to a valuation worksheet template available at www.aaii.com/ci/spreadsheets/stockval.xls.

At first glance, the amount of data may seem daunting. However, only the cells highlighted in yellow need to be updated. All the other numbers are automatically derived from what you enter in these cells. Figure 1 shows the top part of the worksheet with data for Apple as of December 6, 2010, entered in the highlighted
Most of the data can be found from websites such as Yahoo! Finance and Standard & Poor’s, while more specific company data might require using the company 10-K. There are also a few cells that require you to enter estimates.

Figure 2 shows the Model Based on Relative P/E Multiplier section from the valuation worksheet, again using Apple data. This model illustrates how the P/E relative can be used to generate a fair price. The spreadsheet calculates five-year average P/E relative numbers for three scenarios—the stock’s high and low prices during each year and the close at the end of the year. Each of these numbers is multiplied by market price-earnings ratios based on the current market earnings and two earnings estimates that you enter. These numbers are the adjusted price-earnings ratios. Applying the expected earnings to these price-earnings multipliers will provide valuation ranges.

There are a few advantages to using a spreadsheet for fundamental stock analysis. First, this spreadsheet will calculate the P/E relative going back five years, as long as all the data is entered. Even though the purpose is to calculate the average P/E relative, these figures independently show how the company’s price-earnings ratio has fared compared to the market’s over the past few years. Second, it provides a consistent technique for examining a stock and its relationship to the market. It allows you to test various assumptions by simply changing a few cells.

Interpreting the Results

Interpretation of the P/E relative figure can be the most challenging aspect of the entire process. Going back to our example for Apple, we can see that it is trading at a higher price-earnings ratio than the S&P 500. The key is whether Apple has normally traded at a premium or at a discount to the market and whether anything has changed with Apple that should result in Apple’s P/E relative changing in the future.

In order to further examine this issue, we can find the historical P/E relative figures for Apple and compare them to the figures we calculated. Also, we can find the P/E relative to the stock’s industry. Using Stock Investor Pro, we find the median price-earnings ratio for the stocks currently in the S&P 500 for the last seven years, 17.6. Apple’s price-earnings ratio for the last seven years was 18.6, which means the historical P/E relative for the previous seven years was 1.06 (18.6 ÷ 17.6). Because the P/E relative we calculated earlier (1.14) is higher than 1.06, we can conclude that Apple is trading at a higher level than it has historically. Also using Stock Investor Pro, we find the current industry (technology) price-earnings ratio is 14.2. Using this figure, we calculate Apple’s current P/E relative to be 1.45 (20.53 ÷ 14.2), meaning that it is trading significantly higher than other companies in its industry, based on trailing earnings. Although Apple is generally acknowledged as a leader even in the technology industry, you must take into account the premium at which Apple is trading and weigh it against its earnings potential when making an investment decision.

Overall, P/E relative is a superb ratio to start with when using fundamental analysis. The difficulty lies with interpreting its meaning. Although stock analysis is not an exact science, ratio analysis is a rewarding tool and should not be overlooked.

![Figure 1. Entering Apple Data Into the Valuation Worksheet](image1)

![Figure 2. Calculating Apple's Valuation Using the P/E Relative](image2)