U.S. Market Under the Spotlight

Stock Value: The Price/Earnings Fallacy

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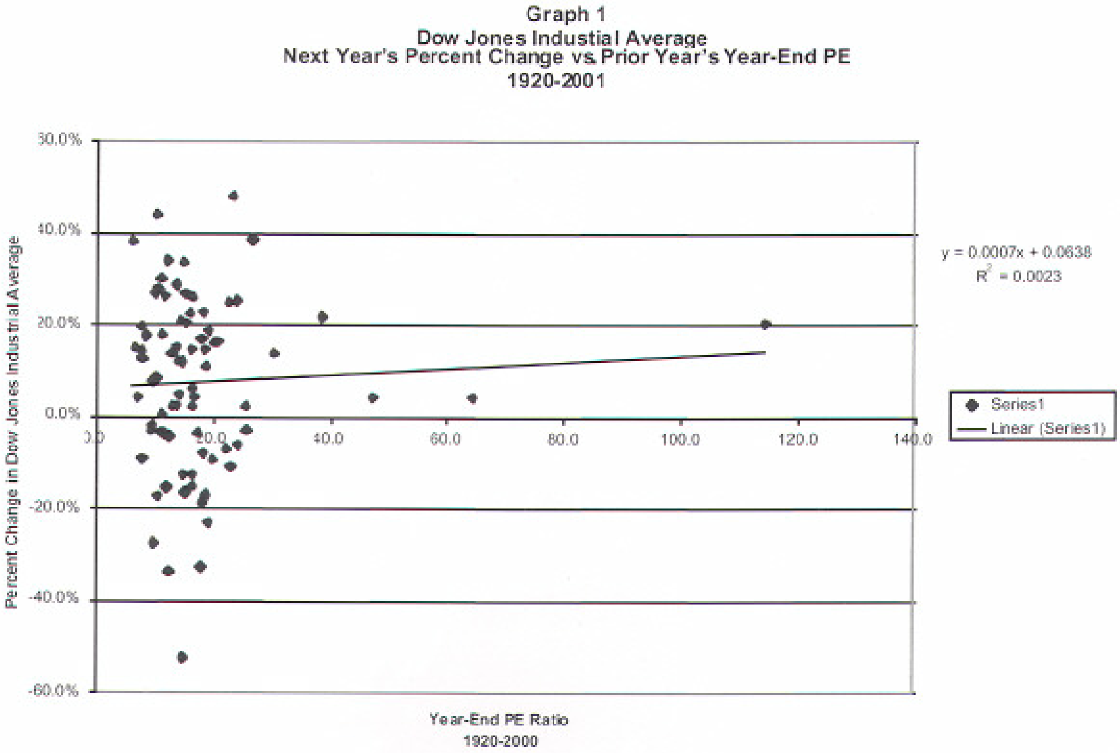
The investor's quest to discover a single, simple measure for stock market value appears to have ended with the popular acceptance of the price-to-earnings ratio as the arbiter of what constitutes an expensive or cheap market. Major business magazines and media outlets frequently quote analysts and market strategists as arguing that the stock market is either too expensive or too cheap depending on whether the price-to-earnings ratio (PE) on the Dow Jones Industrial Average is above or below historical trends.

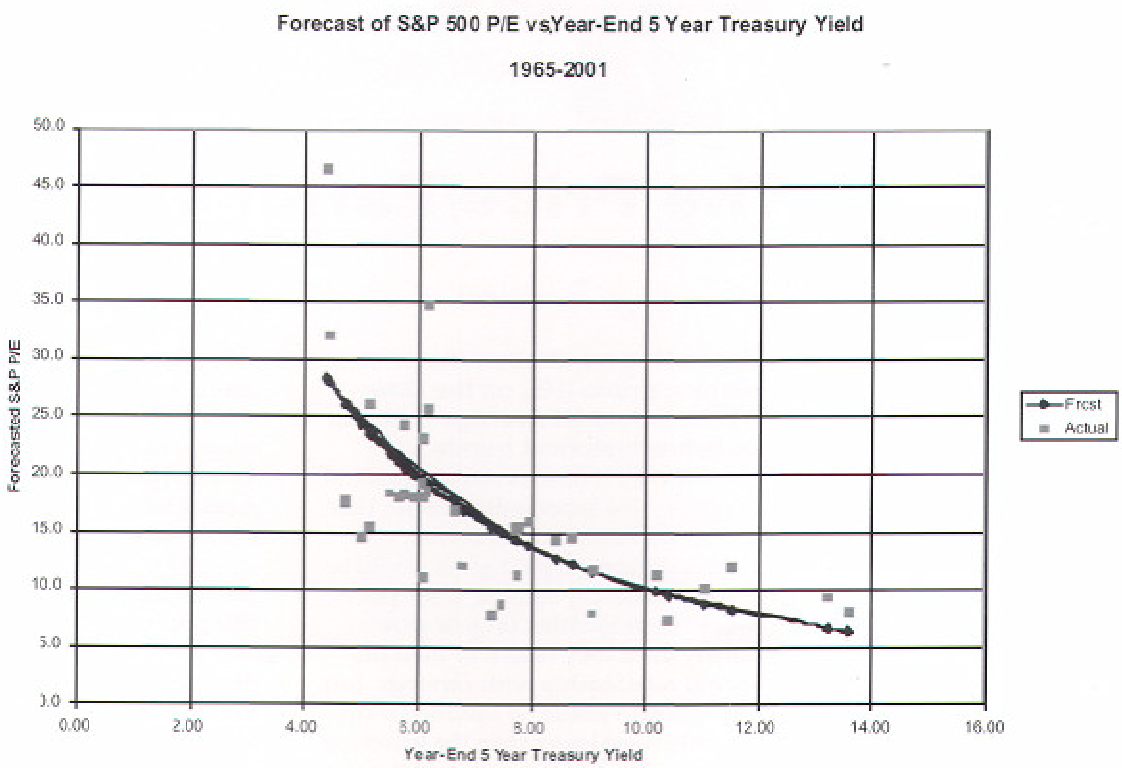
If the PE ratio is above historical averages, this supposedly implies that stocks are more expensive than normal, and future capital gains would be lower than usual because stock prices would need to either drop or grow slowly until they return to their historical relationship with earnings. Just the opposite would be assumed if the PE ratio were lower than the historical average. The widely presumed implications of this theory are twofold: relatively high PE ratios will lead to lower stock prices in the future, and low PE ratios will lead to higher prices in the future. Therefore, one should buy the market when PEs are low and sell the market when they're high.

The problem with this theory is simple. It is wrong. Graph One shows that a statistical analysis of 80 years of data provides a compelling argument that there is no relationship between movements in the Dow 30 Stock average and PE ratios. In 1933, for example, the Dow sold for as much as 52 times

Graph One



Graph Two



that year's earnings, but yet, the next year, the average Dow price was up 17 percent. In 1981, the Dow sold for eight times earnings, but the following year, the average Dow price was down almost 6 percent. The probability of the PE ratio in one year accurately predicting the movement of the Dow the next year is essentially zero. You might as well flip a coin as use the PE ratio to predict whether the Dow will go up or down the following year.

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PEs Don't Predict Stock Values

Price-earnings ratios by themselves are not effective predictors of stock market value. The reason for this is that PE ratios themselves are a result, not a cause, of market movements. PE ratios are the consequence of a constellation of market forces, the most notable of which is interest rates. In the 1970s, PE ratios were extremely low because interest rates were extremely high. The low PE ratios did not cause the high interest rates, nor were they predictive of a higher future stock market. In fact, independently they told the investor very little about the value of the market. A PE of 8 does not create a cheap market when the Federal Reserve's discount rate is 14 percent, as it was in 1981. Graph Two shows the relationship between interest rates and price/earnings ratios. It becomes clear from this analysis that the movement in price/earnings ratios over extended periods of time comes almost entirely from changes in interest rates.

Interestingly, about the only thing PE ratios do predict are earnings. Historically, Dow earnings have gone up as PE ratios increased. Of course, this is somewhat misleading since interest rates are the causal factor behind both phenomena. As interest rates have gone down, PE ratios and earnings have both gone up as a consequence.

There are two ways of explaining the PE-interest rate connection. First, when interest rates fall, people can justify buying stocks with low earnings, with the greater demand for stocks driving up their prices. Second, when interest rates fall, the present discounted value of the corporate earnings stream rises. Because stock prices reflect the present value of future corporate earnings, the current market value of stocks must rise.

Graph Three incorporates the trends of stock prices and interest rates over time. The graph uses historical interest rate patterns to forecast the probable level of the stock market. The second trend line is the actual price performance of the market itself. As can be clearly seen, until 1996, this relationship between interest rates, earnings, and prices was very tight. During the latter 1990s, however, price/earnings ratios expanded far beyond what was justified by interest rates, and a stock market bubble was produced. Beginning in 2001, this interest rate/price earnings ratio began to right itself. If history is a guide, stock prices will eventually rebound to once again align themselves with the historical interest rate/PE trendline.

Defining and Measuring Value

Historically, value has been defined as the difference between returns on assured/liquid accounts such as money market funds and returns from variable/nonassured accounts such as stocks. The market typically must provide a return of between one and two times what the investor can earn from a money market type account just to account for the greater risk of investing in stocks.

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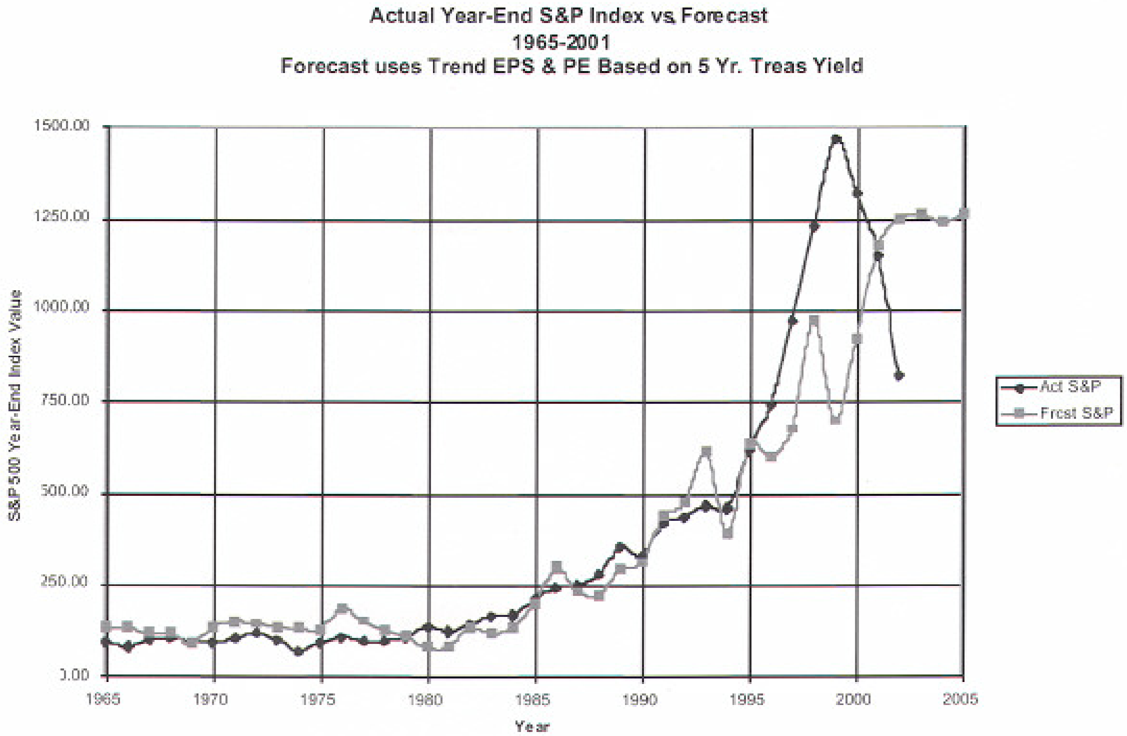
In 1960, the Dow had a year-end PE of 19. This provided an underlying return of 5 percent. Meanwhile, the discount rate was 3 percent. So, the investor's variable, unassured return from the market was 1 3/4 times the assured return.

In 1980, with the Dow selling at a PE of 7, the discount rate was 13 percent at the end of the year. So, the investor's market return was only about 1.1 times the assured return, even though the PE ratio made the market appear extraordinarily cheap. The market has higher value to the investor as the ratio between the variable return and the assured return increases.

"The current environment is most analogous to the 1950s."

The assured return (the investor hurdle rate) defines the minimum cash

Graph Three



yield an investor can earn with no risk. The closer the market return is to that level, the more expensive the market is. As the market return increases above the assured minimum level, the value of the market improves. The higher this relationship between market return and assured return, the more valuable the market is and, consequently, the cheaper it is.

In 1955, the PE on the Dow was 12, providing an underlying return of 8.33 percent. Meanwhile, the discount rate was 2.25 percent; giving this extremely cheap market an advantage of almost 4 to 1. At the close of 1999, the Dow had a PE of 25, for an underlying yield of 4 percent. The discount rate of 5 percent meant this very expensive market had an unassured yield that was less than the assured yield from money market funds or treasury bills.

Today: Look to the '50s

The current environment is most analogous to the 1950s. The discount rate is the lowest since 1948, and has been lower only once since 1914. The Merrill Ready Asset Account (the original money market fund) has been in business since 1975. The current yield, about 1.4 percent, is the lowest ever. The yield on the 5-year treasury note is currently at a 37 year low. This means the investor hurdle rate is at a 50-year low. These interest rate levels imply that over time price earnings ratios will return to historical interest rate/PE ratios, and that the price action of the stock market will follow.

By themselves, price-earnings ratios are not only meaningless as predictors of market value or the fairness of market prices, they can lead investors into misperceptions of which alternatives provide the most attractive returns for their available funds. ■