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107 Park Street—Saugatuck—MI--49453—312-565-0112 – rgenetski@classicalprinciples.com

# Assessing the Outlook for Stock Prices

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Any analysis of the outlook for stock prices should begin with an assessment of the fundamental or underlying value of stocks. The two major factors to consider in such a valuation are earnings and interest rates.

## Earnings Trends

Earnings are the most important factor in determining the underlying value of stocks. Over long periods of time, earnings tend to rise. As the chart below shows, earnings for the S&P 500 have grown at an average yearly rate of 6½% a year since the end of World War II.

This 6½% trend is approximately the same as the growth in GDP, which measures the current dollar growth in the overall economy. Since this trend growth rate has existed for such a long period of time under a wide range of economic conditions, it appears likely it will continue in the future. If so, it means record-high stock prices are normal. In fact, any failure to experience record-high stock prices would be abnormal.

At the end of this report are charts showing the profit trends for Dow Jones stocks and for the entire corporate sector. The earnings trend for Dow stocks has been 5½% a year, while the trend for the entire corporate sector has been 7½% a year. These growth rates make it apparent that earnings for smaller companies tend to grow more rapidly than for larger companies.

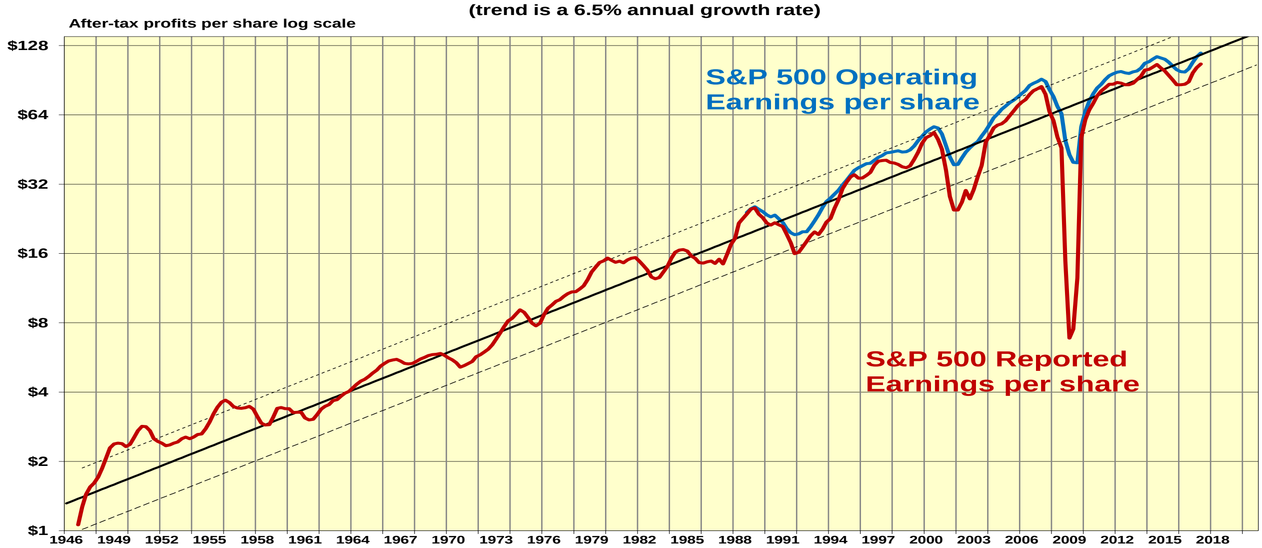
These trends indicate the prospects for greater appreciation in stock prices is likely to come from a diverse group of small and middle-cap stocks as opposed to larger cap stocks.

## Price/Earnings Ratios

A first step in determining whether stocks are appropriately valued is to compare the price of the market to an average price-earnings (P/E) ratio. For the S&P 500, the average P/E ratio from 1947 to 2016 has been 17.5 when using reported earnings for the past year.

In the fourth quarter of 2016, the P/E was 23. This simple P/E analysis suggests the S&P 500 was overvalued by 32%. Such an analysis has led some to conclude stocks are significantly overvalued. There are two problems with this analysis. First, stock prices depend more on future earnings than past earnings. Second, it ignores the impact of interest rates.

**S&P 500 Profits & Trend**
**(trend is a 6.5% annual growth rate)**




Earnings are for the year ending at the plotted point; upper and lower boundaries are 1 standard deviation from the trend line.

**Anticipating Earnings**

Projecting future earnings is always a major challenge. One approach is to use analysts' estimates of earnings. Another is to use the earnings implied by the S&P 500's longer-term trend. Using such a trend assumes profits will tend to gravitate to this trend. This approach can guard against overly optimistic earnings estimates when profits are already above their longer-term trend. It can also help to guard against overly pessimistic estimates when earnings are below their longer-term trend.

Using the 6½% profit trend and applying an average P/E ratio of 17.5 produces a fundamental value for the S&P 500 of 2010 for the first quarter of this year. By the first quarter of next year, the upward trend in earnings produces a value for the S&P 500 of 2140. Under this approach stocks are moderately (10%-17%) overvalued, before adjusting for interest rates.

**Adjusting for Interest Rates**

Hence, it is important to adjust the value of stocks for the current interest rate environment. All financial assets are substitutes for other assets. Longer-term fixed-income securities are substitutes for shorter-term securities. Stocks are substitutes for bonds. The relative attractiveness of each type of asset depends on its yield relative to its competing assets.

From 1947 to 2016, the yield on high-grade corporate bonds averaged 6.9%. This compares to an average yield of 4.1% in the first quarter of this year.

Hence, today's interest rates are 2.8 percentage points below the average that existed during the period for which the average 17.5 P/E was calculated. This means stocks are more valuable today than during this past period. As a result, it's necessary to adjust the average P/E ratio upward to compensate for lower interest rates. The challenge is to determine how much of an adjustment to make.

To view the relationship between the return on bonds and the return on stocks, it helps to visually compare the return on bonds to the return on stocks. This can be done by comparing the interest rates on bonds to the inverse of the P/E ratio. Earnings divided by price (E/P) represents the earnings yield on stocks. The charts on the following page show the historical relationship between yields on high-grade corporate bonds and the yield on the S&P 500 index.

The first chart shows the longer-term relationship between the rate on high-quality corporate bonds and an E/P ratio, where earnings are for the prior year. The second chart shows a similar comparison except earnings are those indicated by the long-term trend growth of 6.5% a year.

In the period after World War II memories of the Depression led investors to assign a very high risk premium to stocks. As a result, yields on stocks were consistently well above the yields on high-quality bonds.

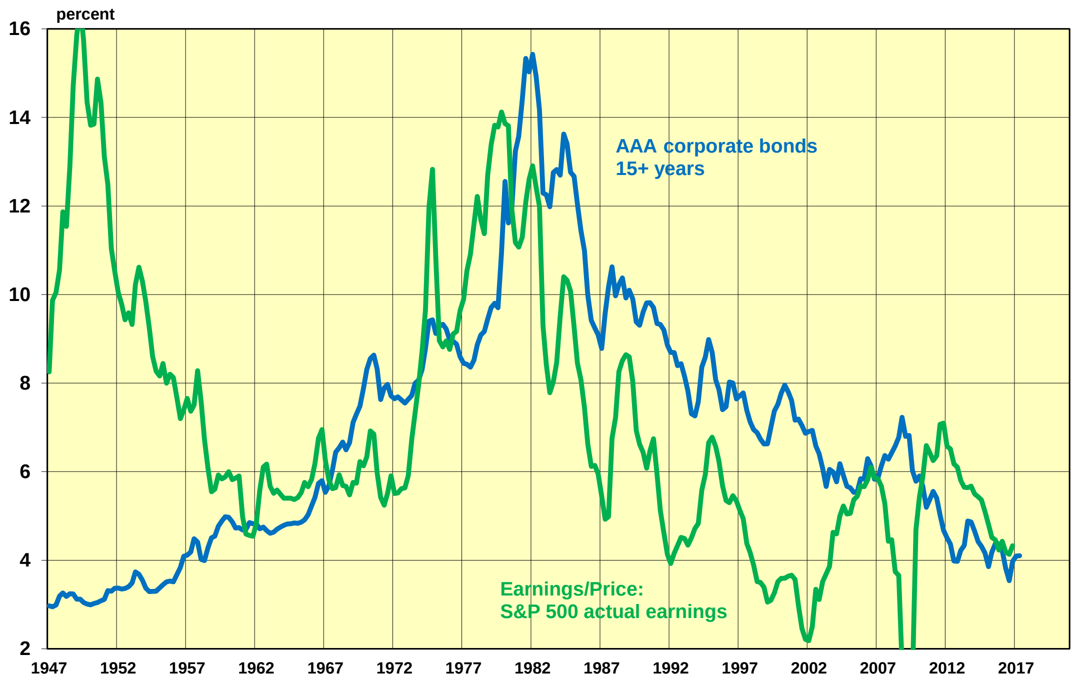
During the 1960s and 1970s, sharp increases in interest rates corresponded to significant losses to bonds. By the end of this period, investors perceived bonds as more risky than stocks. Hence, in the 1980s and 1990s, bond yields were often 2 percentage points higher than the yield on stocks.

A sharp decline in stock prices following 9/11 brought the yields closer together as investors once again associated stocks with a higher risk premium. After the financial crisis, investors raised their assessment of the riskiness of stocks even further. As a result, the yield on stocks actually moved higher than the yield on corporate bonds.

As these long-term charts indicate, there is no "normal" relationship between the yield on stocks and the yield on bonds. The relationship depends on the time period considered and on investors' recent experience.

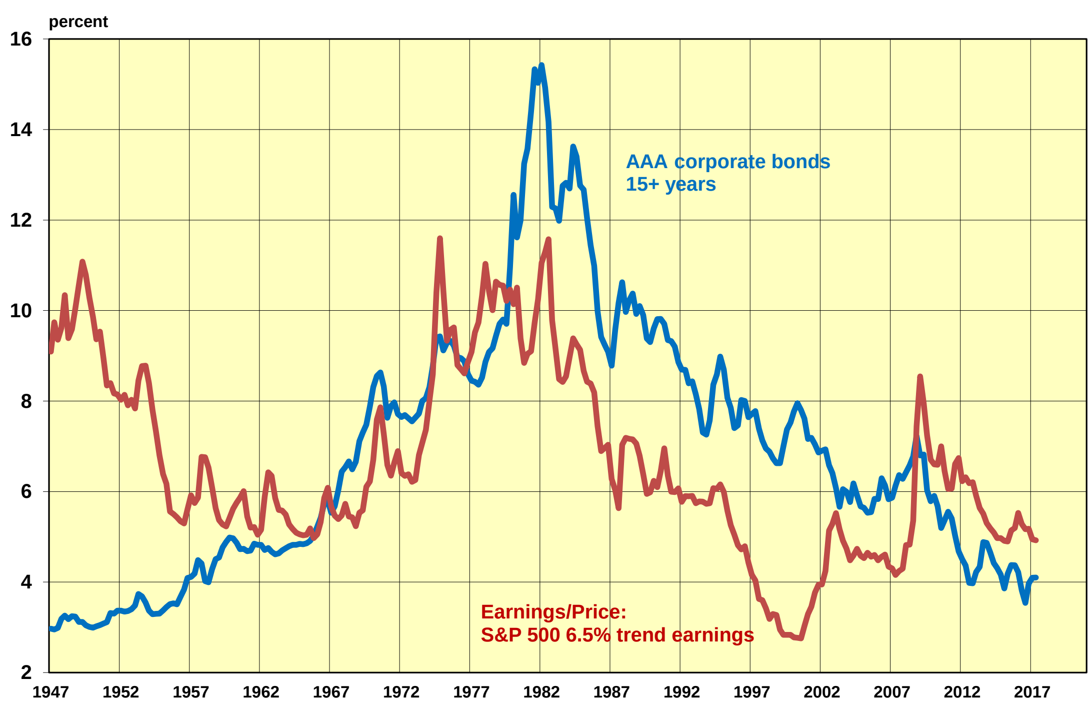
Whenever stocks have performed poorly, the yield on stocks equals and even surpasses the yield on bonds. When stocks have performed well and bondholders have suffered, the yield on bonds tends to exceed the yield on stocks.

## S&P 500 Earnings/Price Ratio & Corporate Bond Yields




E/P ratio is trailing four quarter reported earnings divided by S&P 500 stock price.

## S&P 500 Earnings/Price Ratio & Corporate Bond Yields




E/P ratio is 6.5% tend for reported earnings divided by S&P 500 stock price.

## Current Yields & the Outlook for Stocks

We are currently in a transition period in terms of the relative yields on stocks and bonds. After eight years of a bull market, investors appear to be reducing the risk premium they associate with stocks.

The chart below depicts recent trends in these yields. For the first quarter of 2017 the yields are based on *actual* stock prices and *actual* interest rates. Second quarter estimates are based on the most recent interest rates and stock prices.

We won't know first quarter earnings until May. As a result, the earnings yield on stocks for 2017 uses two extreme assumptions for earnings. The lower estimate assumes there is no earnings increase following the fourth quarter of 2016. The higher assumes the latest analysts' estimates for 2017 earnings.

If earnings fail to increase from their fourth quarter level, the yield on stocks remains close to the current yield on bonds.

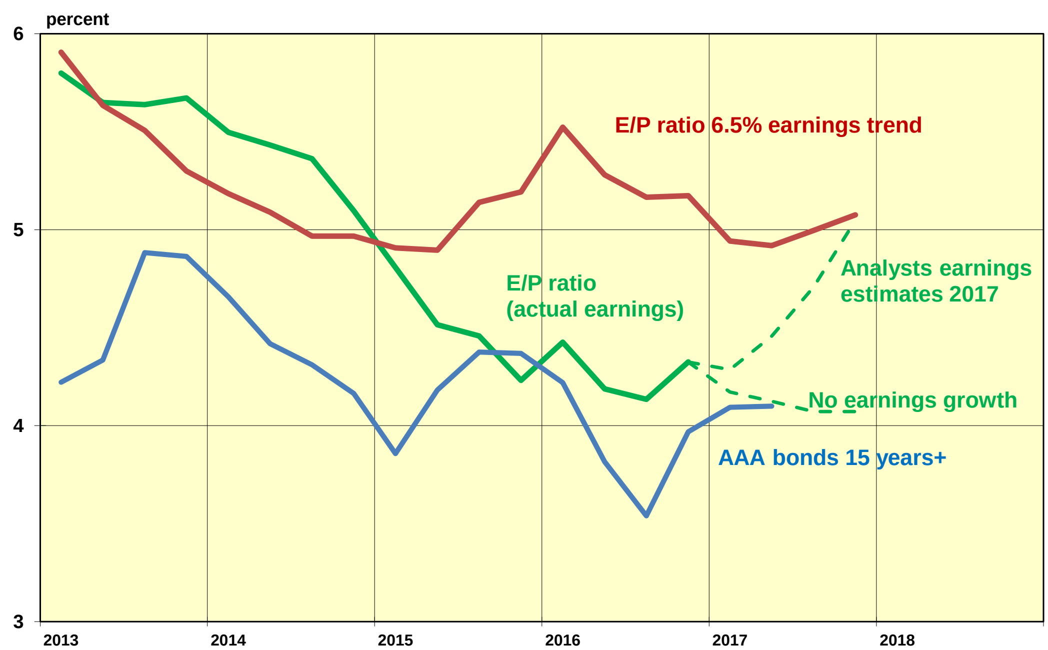
In contrast, if profits recover to their longer-term trend, the yield on stocks remains a full percentage point above the current yield on bonds. Interestingly, analysts' estimates currently show earnings returning to their longer-term trend by the end of this year.

## Conclusion

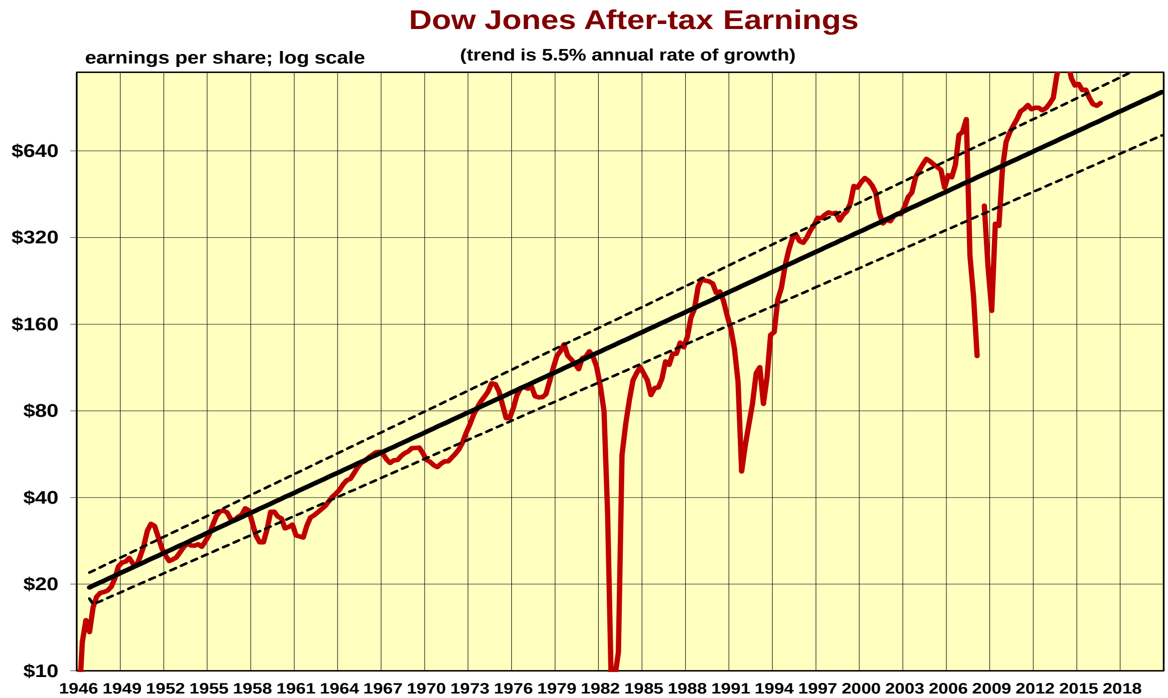
Our historical analysis indicates stocks remain significantly undervalued at the present time. When corporate profits are *below* their longer-term trend, as they currently are, and when the return to stocks is equal to or higher than the return to bonds, stock prices tend to be significantly below their fundamental value.

This conclusion is only a starting point in forecasting stock prices. A successful forecast will always depend on an accurate forecast for earnings and interest rates. Assuming earnings growth this year is midway between no growth and analysts' estimates, the returns to stocks should continue to exceed the returns to bonds. This makes stocks highly attractive.

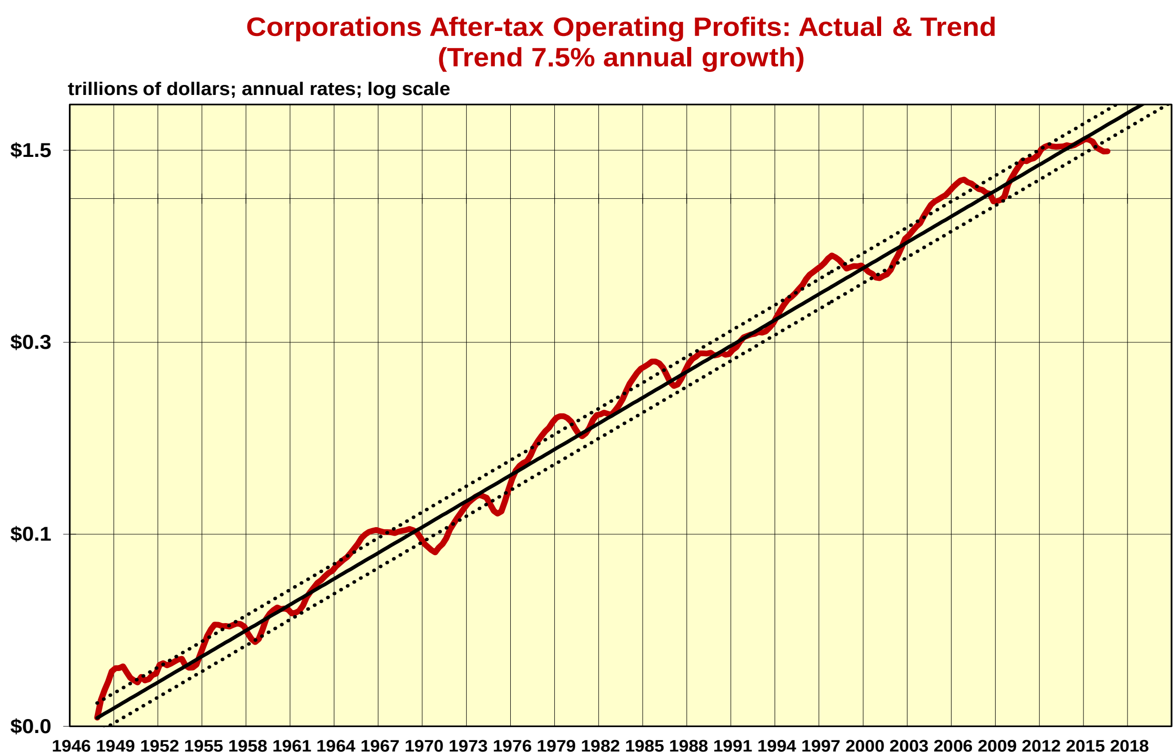
**S&P 500 Earnings/Price Ratio & Corporate Bond Yields**




Source: Federal Reserve Bank of St. Louis; classicalprinciples.com. SFirst and econd quarter 2017 estimates for actual earnings assume no change from the fourth quarter of 2016.




After-tax earnings are for the four quarters ending in the period plotted. Upper and lower boundariess are 1 standard deviation




**After-tax adjusted earnings for the 4 quarters ending at the plotted point; upper and lower boundries are 1 standard deviation rrom the trend.**