

Comments On Valuation Measures

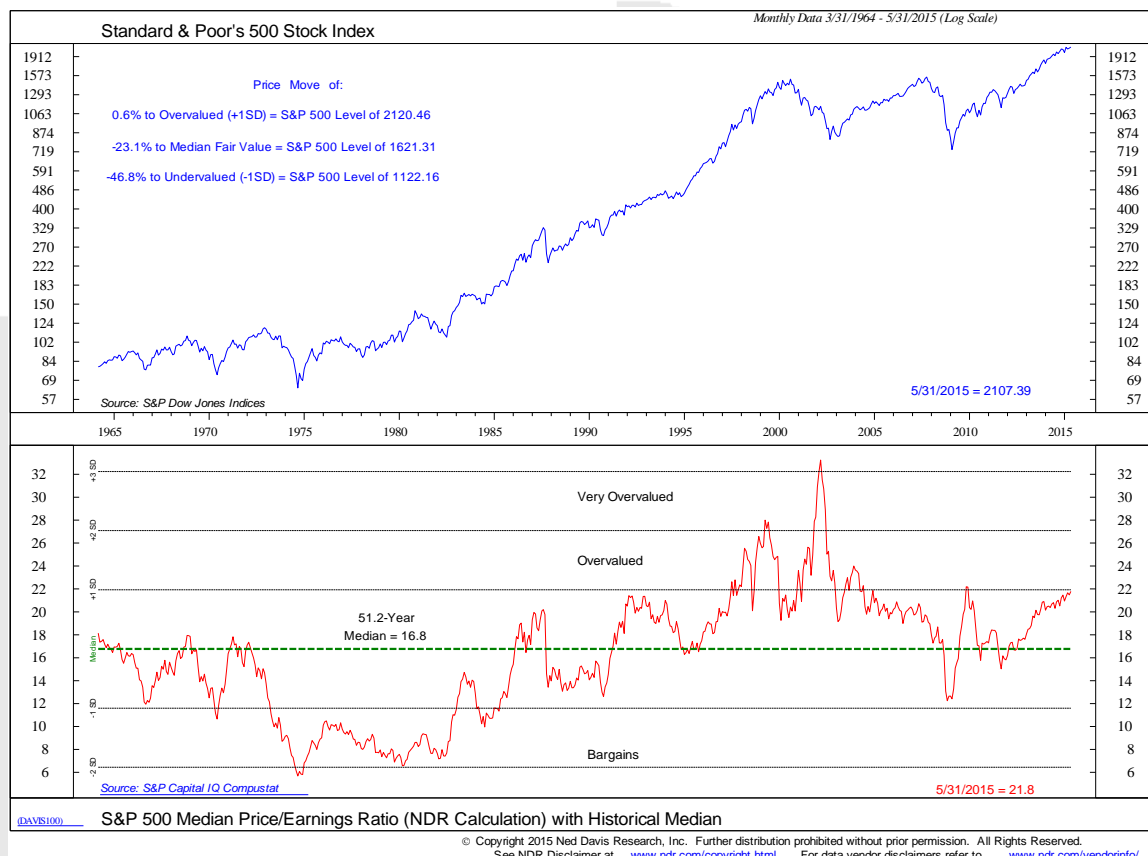
Broadmark uses a variety of measures of equity market valuation to determine where we are in the market and economic cycle. Below we discuss a few of these measures and comment on how we are using them to inform our current view of valuation levels.

PRICE-TO-EARNINGS RATIO

One of the most common methods of looking at stock market valuation is through the traditional price-to-earnings ratio (P/E ratio). Where Broadmark may differ a bit from other methods of calculation, which often use forecasted earnings, is in its use of 12-month trailing earnings. This is because forecasted earnings can often go wrong - particularly at inflection points in the equity market and economic cycle.

The median P/E of the S&P 500 on trailing 12-month earnings is now 21.8, which is relatively high by historical standards, but not alarming, in our opinion; particularly when we adjust for the current low level of interest rates. The reason that we look at the P/E ratio in relation to interest rates is that when interest rates are rising, bond yields rise and become potentially more attractive relative to stocks.

Here is a chart of P/E multiples from 1965 to the present.



As one can see from the chart above, the median P/E multiple on the S&P 500 is reaching its 2010 level, but was higher in the late 1990's to early 2000's.

A 2012 study in the Journal of Financial Planning; "Improving Risk-Adjusted Returns Using Market-Valuation-Based Tactical Asset Allocation Strategies (2012)," focuses on the relationship between the historical level of P/E ratios and subsequent stock market performance. Their study found that: "Historically, in high P/E environments, the subsequent five-year annualized returns for stocks and bonds were 1.03 percent and 6.04 percent, with standard deviations of 13.22 percent and 3.90 percent, respectively.

Below is the raw data from the article on performance at various P/E levels:

Table 1: Historical Performance of Different P/E Groups		
<i>Entire Sample</i>	Stocks	Bonds
Average Return	11.16%	5.62%
Standard Deviation	27.53%	10.24%
Sharpe Ratio*	0.30	0.26
Correlation	0.15	
<i>Top 10% P/E</i>	Stocks	Bonds
Average Return	1.03%	6.04%
Standard Deviation	13.22%	3.90%
Sharpe Ratio*	-0.15	0.78
Correlation	0.37	
<i>Middle 80% P/E</i>	Stocks	Bonds
Average Return	11.14%	5.26%
Standard Deviation	25.50%	9.25%
Sharpe Ratio*	0.32	0.24
Correlation	0.09	
<i>Bottom 10% P/E</i>	Stocks	Bonds
Average Return	18.69%	8.00%
Standard Deviation	22.61%	17.16%
Sharpe Ratio*	0.69	0.29
Correlation	0.20	

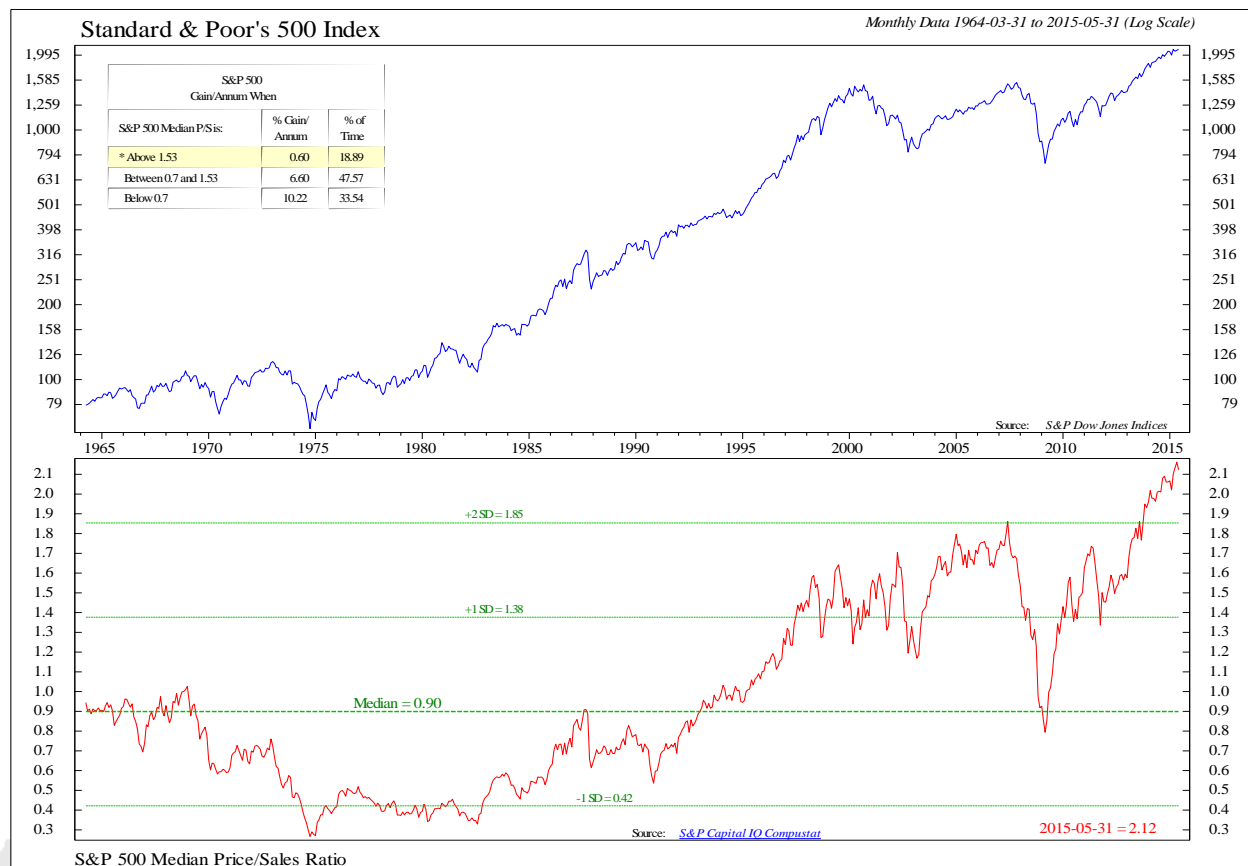
* Assuming a 3% risk-free rate

Referring to the table above, P/E multiples are now in the "Top 10% P/E" environment referred to in the article. According to the study, the average projected 5-year return in the current P/E environment is expected to be only 1.03%, based upon historical precedent.

On the issue of stock market valuation relative to bonds, we see in the chart above that historically bonds returned 6.04% during the high P/E environments. However, given then current 2.39% yield on the 10 year US Treasury Note and 3.18% on the 30-year bond, is it realistic to think that we will see as much as 6% on bonds in the next decade?

John Hussman addressed this issue recently in an essay “Why Stocks Are Not Cheap Relative to Bonds” (June 8, 2015, the Hussman Funds). For valuation reasons similar to those presented in this paper, he sees very low stock market returns in the next decade. “He adds: “What we haven’t see at any point in history is the combination of dismal projected returns for the S&P 500 coupled with similarly dismal yield-to-maturity on bonds.” He points out that the Fed’s unprecedented series of quantitative easing programs has already given investors the gains that they would otherwise have waited years long to achieve, in both stocks and bonds. Nonetheless, he agrees with the historical studies that over the next decade, as poor as returns may be, bonds may indeed outperform stocks.

2. PRICE-TO-SALES RATIO



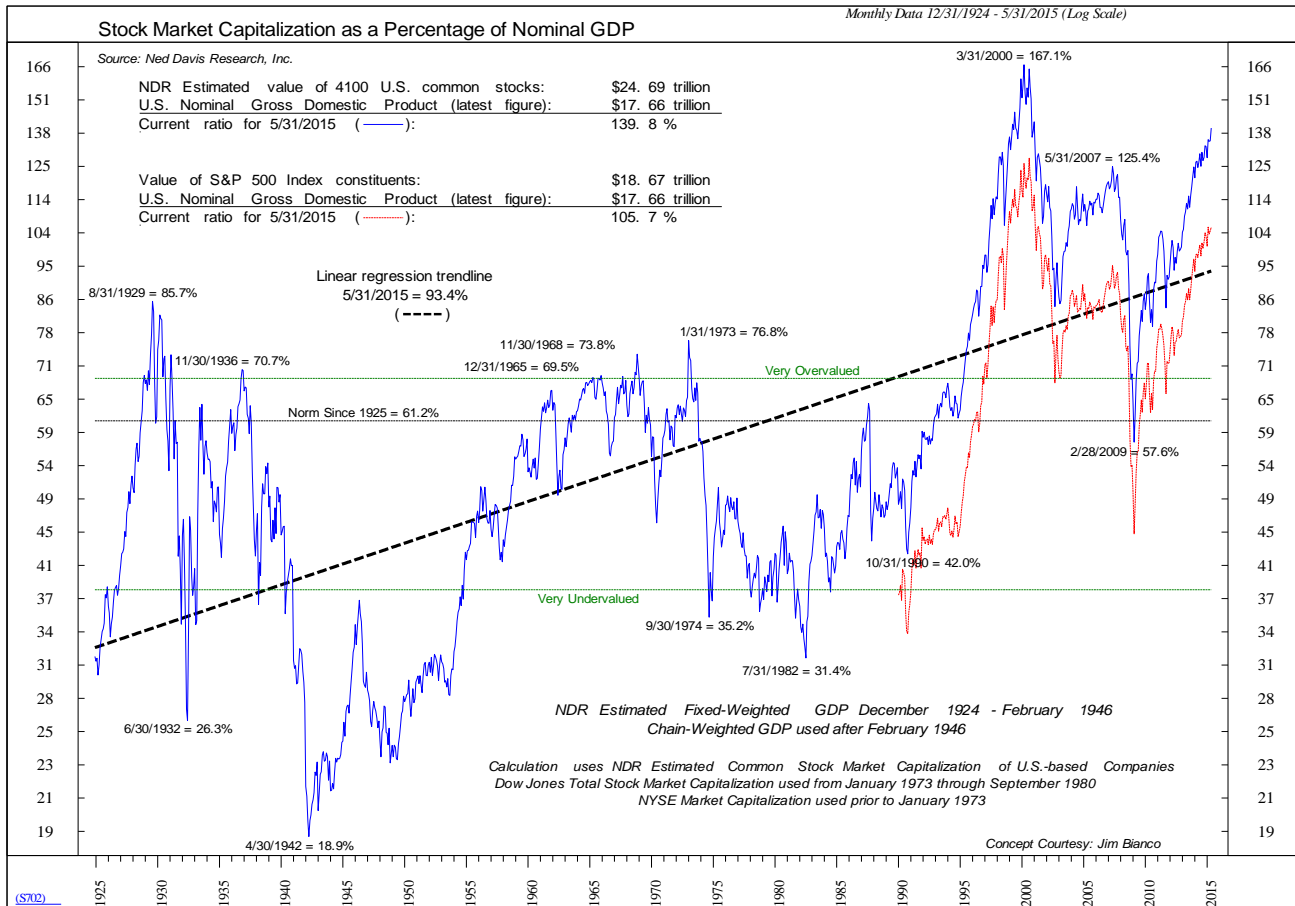
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Another way of looking at valuation is the price-to-sales ratio. This is a statistical measure of how much an investor is paying for each unit of sales. As noted above, the traditional P/E ratio uses earnings as the denominator in the calculation. Following the 2008-2009 financial crisis, corporate America has done a good job at producing better earnings through better governance, cost-cutting, greater productivity, better management of inventories, etc. This has produced a good gain in reported corporate earnings, which has largely kept pace with stock market gains and has had the effect of moderating the rise in P/E multiples.

By contrast, the Price/Sales ratio uses total sales, rather than earnings, in the calculation. This method of valuation may be a better indicator as sales are not subject to accounting creativity as earnings are. When examined through this lens, we see a potential significant overvaluation, at least by historical standards, which may be missed when looking only at price/earnings data.

3. STOCK MARKET CAPITALIZATION AS A PERCENTAGE OF GDP



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The chart above measures valuation by looking at the total value of stocks as compared with GDP. The chart includes two measures:

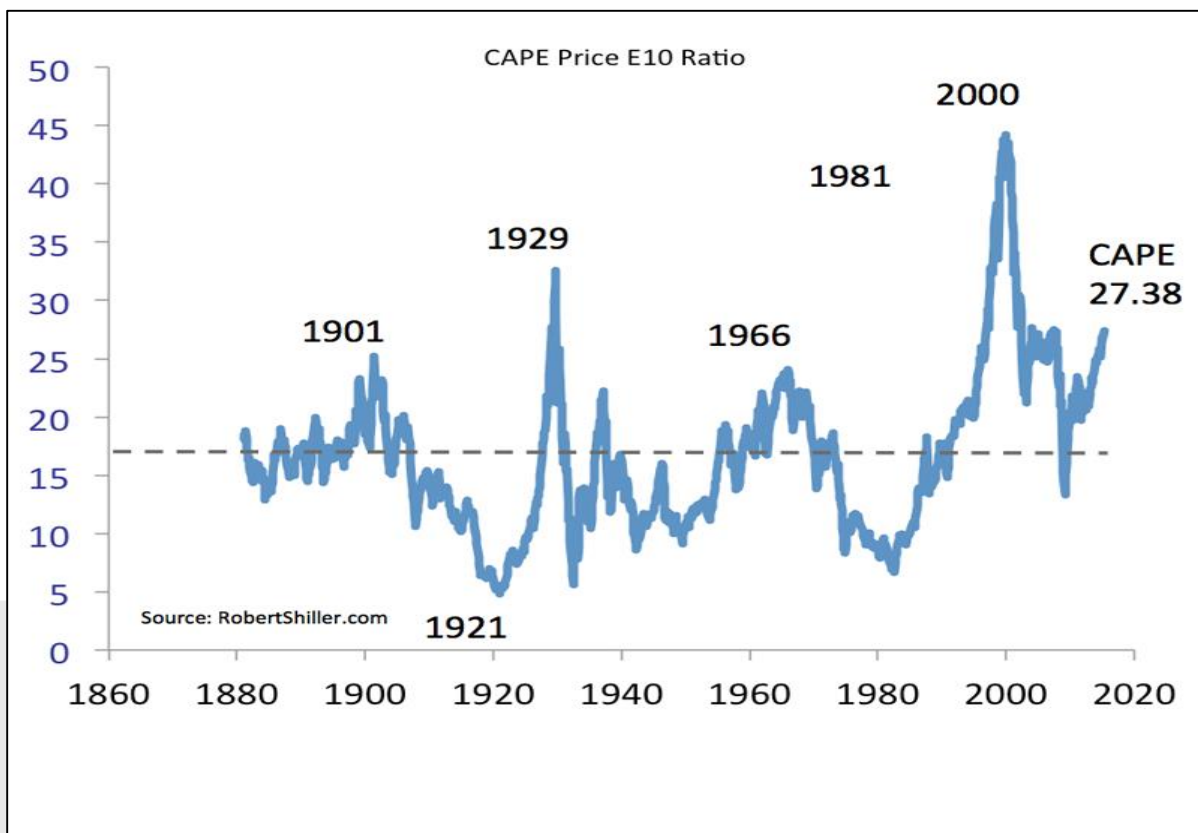
The blue line represents a broad measure of the total value of 4,000 common stocks. The red line represents the total value of the stocks in the S&P 500. As one can see from the above chart, both of these measures of stock market capitalization have risen above their 2007 financial crisis stock levels, although neither is as high as the levels reached prior to the 2000 dot.com bubble.

The general level of stock market percentage of GDP has been rising since 1940, and it may be that this is a long-term secular uptrend. If so, perhaps the stock market's percentage of GDP will tend to rise over time due to structural factors.

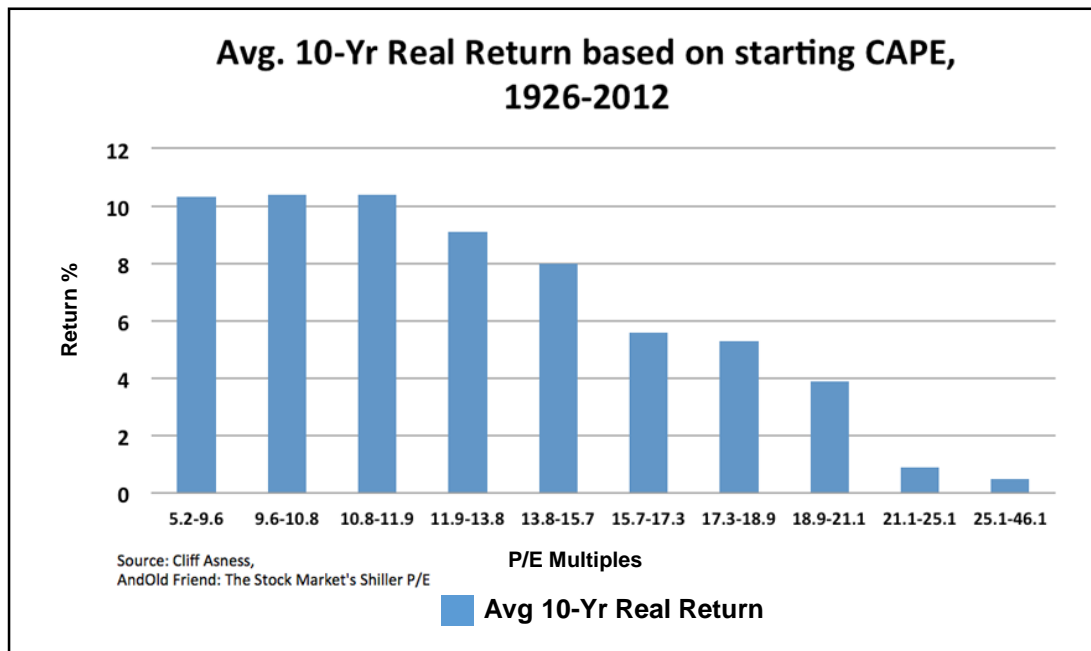
Nonetheless, this indicator clearly confirms the price/earnings and price/sales data: namely, that valuations are entering areas that are elevated by historical standards.

4. CYCLICALLY ADJUSTED PRICE-TO-EARNINGS RATIO (CAPE)

The CAPE ratio is calculated by taking the current S&P 500 price level and dividing it by the average of 10 years' worth of earnings. The CAPE ratio is often called the Shiller ratio after Dr. Robert Shiller, Yale professor and Nobel Prize winner. Professor Shiller has said that if the ratio is above 16, the market is considered expensive. As can be seen from the chart below, the ratio now stands at 27.38.



Professor Shiller says that stocks have not been this expensive since 2007. The only other instances of this ratio being higher were in 1929 and 2000, right before the market crashes.¹ The chart below shows the average 10-year real return (after inflation) at various levels of the CAPE ratio.



Based upon this analysis, with the CAPE ratio at 27.38, the real return on common stocks is projected to be less than 1% for the next 10 years. In this analysis, the real return is the return of nominal stocks minus inflation.

Why does this “normalized” measure show such a high level of valuation; at least as compared with the median P/E measure discussed above?

In a recent letter to the **Economist**, (June 13-19, 2015) Dr. Jeremy Siegel, Professor of Finance at Wharton School of Business, suggests an answer. “The mandates of the Financial Accounting Standards Board in the 1990s required firms for the first time to employ ‘mark-to-market’ accounting, a procedure which greatly increased the volatility of reported earnings.”

Dr. Siegel says that “The failure to correct for the change in accounting methodology leads to a significant overstatement of the CAPE ratio and the model’s substantial under prediction of realized stock returns in recent decades.”

He concludes that “When a time-consistent series of corporate earnings, such as those published in the national income accounts are used instead of GAAP earnings, not only does the predictive power of the CAPE ratio improve, but the current stock market does not appear nearly as overvalued.”

1. <http://www.forbes.com/sites/laurengensler/2015/06/01/shiller-stocks-are-expensive-but-buy-them-anyway/>

SUMMARY AND CONCLUSION

In this brief paper, we have presented four measures often used in the valuation of stock prices.

In summary, Broadmark looks at all of the measures presented above, and many more. We would note that Broadmark has been using the median P/E data based upon trailing 12-month earnings since our CIO, Chris Guptill, developed Broadmark's methodology in the late 1980s. We have found this measure to be highly reliable. This measure shows us that the market is at an elevated valuation level, but is not yet at levels that are alarming. We also believe that Professor Siegel's adjusted view of the CAPE ratio supports this view. The big caveat here, however, is interest rates. The data clearly shows us that any rise in the general level of interest rates would move all of these measures into an area of greater overvaluation.

When we take all of these measures into account, we believe that we are nearing a high-risk zone for stocks for a market correction. We don't yet know what the catalyst for a market correction might be. One possibility is a structural change in the potential illiquidity of the fixed income markets as the Federal Reserve moves closer to normalizing interest rates. A period of elevated volatility for fixed income securities could indeed be the catalyst for a stock market correction.

We will continually reassess our valuation measures in light of all these factors.

