

## Inflation Fears and Stock Valuations: Is it All Bad?

**I**nflation fears and financial market reactions have recently become a daily event. Headlines such as “Gold rises on inflation fears,” “China’s inflation accelerates ...” and “UK Inflation soars 4% in January.” Headlines are designed to grab attention but they leave two legitimate underlying questions for stock market investors.

[There may be inflation fears, but what is the trend for inflation expectations?](#)

How do inflation expectations drive stock values?

A click on the above hyperlink provides current information about inflationary expectations along with some fundamental technical information. That is, the headlines may play up potential fears but what are the numbers currently really telling us? Second, in the near future it will also provide important insights into the relationship between the value drivers for a stock’s price and inflation expectations.

## Interpreting the Graphs

The graphs are current and provide inflationary expectations for 5-, 7-, 10-, 20-, and 30-year time horizons. These graphs will be updated daily and will provide expectation implied from the current US Treasury yield curve. To some degree these implied expectations are influenced by Central Bank actions. This especially the case for the very short end of the yield curve but this influence weakens as you move along the yield curve. As a result, the set of maturities for inflation expectations will start from 5-years to 30-years when assessing inflationary trends.

The graphs will also provide 30-day exponential moving averages to identify current trends as well as 2-sigma volatility bands. In this way significant shifts in current behavior can be assessed.

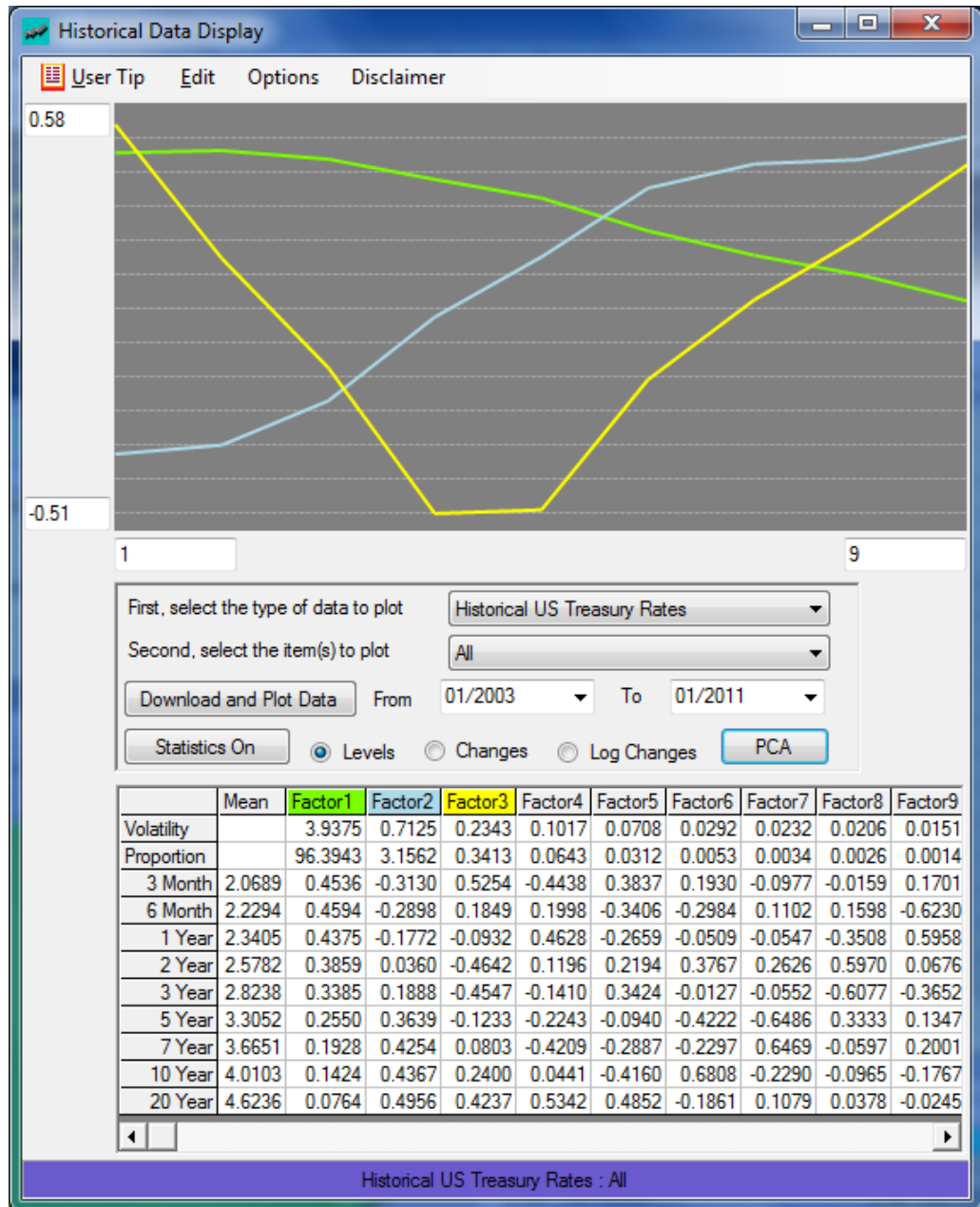
## **What is the Sensitivity of the Major Stock Indexes to These Numbers?**

To gain some insights into this question we first run a regression on monthly data from January 2003 to current time using the inflationary expectations backed out from the Treasury Yield Curve. In this regression the y or dependent variable is returns from the DJIA index and the X-variables are the 5-, 7- and 10-year inflation expectations. The regression demonstrates a significant relationship between changes in inflationary expectations and the DJIA Index returns (probability less than 0.0009) that accounted for 16% of the monthly return variance. The sensitive series is the 7-year horizon and the 7-year coefficient is 0.02,  $p < 0.00005$  which is larger than the 5- and 10-year coefficients (0.001,  $p < 0.018$ , 0.005,  $p < 0.79$  respectively). That is, sensitivity falls off after 7-years. Over a reduced dataset, in order to include the 20-year coefficient the 7-year coefficient is the only remaining significant coefficient and thus the other variables do not add significant additional explanatory power for the reduced dataset covering the last 6-years as opposed to the last 10-years. These results raise several questions.

First, why is the 7-horizon so sensitive?

## **Importance of the 7-Year Series**

The 7-year time horizon is far enough along the yield curve so that the influence of the Central Bank is weaker. In addition, it is directly in the range that is sensitive to changes in the shape of the US Treasury yield curve. That is, if it shifts in a non-parallel manner such as a twist or bends, then this typically occurs around the 7-year horizon. In particular, over this time range a factor analysis of the US Treasury Yield Curve reveals that the first two factors account for over 99.5% of the variance exhibited by the yield curve.



Source: The FTS Interest Rate Module ([www.ftsweb.com](http://www.ftsweb.com)).

In the above the first factor (green factor 1) approximates a parallel shift. Observe that all factor loadings are positive. They are non constant but the loading is positive across the range of horizons. That is, if rates for one time to maturity increase then the others also increase. Factor 2 (blue) represents the classic twist. That is, observe that the factor loadings for the short end are negative (and increasing) whereas the factor loadings beyond 1-year become positive. The classic twist is when the yield curve shifts up (down) at the short end and down (up) at the long. For example, suppose the Federal Reserve Bank raises short term

interest rates as a pre-emptive strike against assessed inflation. If the market agrees that this will be effective then you would observe the short end increases whereas rates in the long end would fall.

## Summary to Date

Overall, for the relatively low inflationary decade for 2001-2011 the overall relationship between returns and inflation is positive. This point we will return to in the context of the second question when considering how inflation expectations drive stock prices via growth expectations. Second, it is clear from the 16% explained variance that inflationary expectations are a major driver of systematic risk. Again in the context of the second question this will imply that this is an important driver of stock prices via the cost of equity capital or discount rate in an intrinsic value analysis. As a result, the ultimate impact upon a particular stock will depend upon how these two opposing drivers counteract each other. Overall, for the index it was observed that this impact was positive which reinforces the implication that inflation fears for the stock market is not all bad for a relatively low interest rate economy.

Ultimately, the question is though how do current inflationary expectation trends drive stock values? It is this question that we turn to now.

## How Do Current Inflationary Expectations Drive Stock Values

From the discussion to date we have identified that when inferring information from current inflationary trends that this will have two opposing effects on a particular stock's price. First, it will impact *nominal growth* forecasts which in turn influence assessments of future cash flows from a stock. Second, it influences the *cost of equity capital* by contributing significantly to the systematic risk in the economy. For the relatively low inflationary decade for 2001-2011 the overall relationship between returns and inflation is positive. This implies that if we define the intrinsic value of a stock to be the present value of all future *economic dividends* discounted back at the cost of equity capital then the impact of inflationary expectations upon nominal growth forecasts is stronger than the impact from an increased cost of equity capital (i.e., discount rate).

This question will be addressed in a future blog where we will apply Valuation Tutor ([www.valuationtutor.com](http://www.valuationtutor.com)) to interpret and assess the impact of inflationary expectations upon individual stock prices.