

Are Investors Underpricing Current Risks?

Since the U.S. election, the risk premium has gone down, which is puzzling.

In one of my previous **posts** I looked at the stock market valuations in the U.S. to conclude that they were in line with recent historical data. In fact, the stock market looked cheap relative to most years since the mid-1980s. But that was before the U.S. election! Since the election, the stock market has gone up and interest rates have gone up as well. How do stock market valuations look today?

I follow the same methodology of the previous post and start with the Price-Earnings ratio constructed by **Robert Shiller**. We know that this P/E ratio has been high relative to historical averages – today it stands above 28, a level previously achieved only in the 2000 bubble or in 1929.

But the P/E ratio depends on several macroeconomic variables, in particular the level of real interest rates. In my previous post I made the argument that once we correct for the level of the real interest rate, the current P/E ratio looks reasonable.

In particular, if we express the price of stocks as the net present (real) discounted value of earnings. Under the assumption that current earnings are expected to grow (in real terms) at a rate G and using R to denote the risk-adjusted discount rate we can write:

$$P = E / (R - G)$$

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In other words, the Price-to-Earnings ratio can be written as:

$$P/E = 1 / (R - G)$$

To make the expression easier to read let's invert it:

$$E/P = R - G$$

And let's express the risk-adjusted discount rate as the sum of a risk-free rate (RF) and a risk premium (RP).

$$E/P = RF + RP - G$$

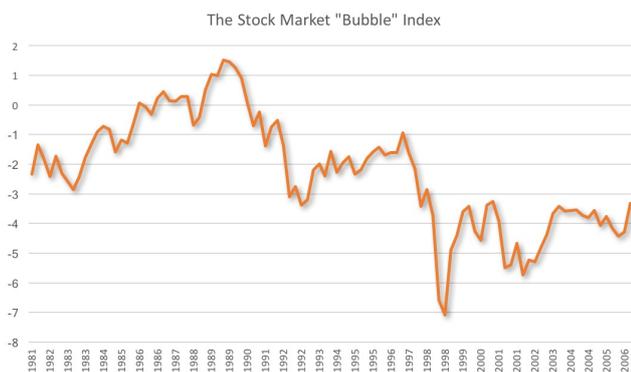
This expression says that the E/P ratio is a function of three factors. Each of them can make the ratio low (i.e. stock prices high relative to earnings): either real interest rates are low, or investors expect earnings to grow fast or they feel good about risk and they are willing to accept a low-risk premium.

The last two terms are the ones that depend on expectations, can be more volatile and are capturing the optimism or pessimism of investors regarding macroeconomic conditions (both potential growth and perceptions of risk). While there is nothing in this formula that allows us to assess how irrational investors are, one would expect that at times where stock prices are seen as "bubbly" are when either estimates of growth are

too high or the risk premium is too low. Let's combine the two together by rewriting the equation above to construct a potential "bubble" index of the stock market:

$$\text{"Bubble" Index} = G - RP = RF - E/P$$

Measuring the real risk-free rate using 10-year interest rates and inflation expectations from inflation forecasts from the survey of professional forecasters posted at the **Philadelphia Fed**, we get the updated picture below.



line with historical estimates.

One issue that might be relevant for this chart is that we have been downgrading expectations of potential growth over all these years. How much would our assessment change if we took this into account?

Using **CBO potential growth** estimates for the following 10 years as a measure of estimated real earnings growth we can calculate the implicit risk premium as:

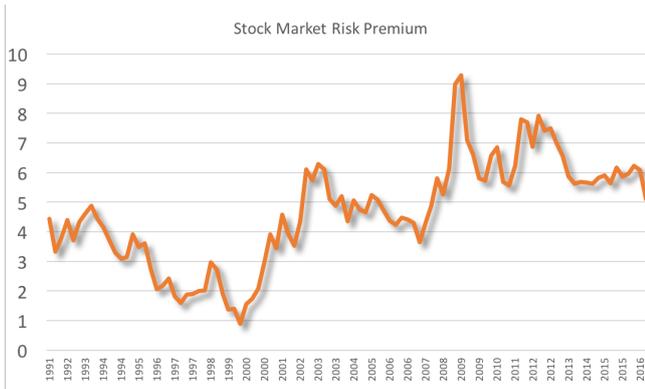
$$RP = E/P - RF + G$$

This number tells us the implicit compensation that markets expect for risk given current E/P ratios, real interest rates and assuming markets share the views of the CBO about future growth rates (and that earnings grow at similar rates as GDP).

Below are the results of such a calculation.

We can see that after the election the index has increased both because of higher stock prices and also higher interest rate. The stock market is more "bubbly" than it was back in October but it is still in

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What we can see in this chart is that the risk premium today remains in line with historical estimates although it has come down after the election, as expected. The risk premium reached a very low level at the end of the 1990s when we combined extremely high P/E ratios (above 40) with fairly high real interest rates. This is strong sign of a bubble because either markets overestimated growth (relative to CBO forecasts) or underpriced risk.

The risk premium was extremely high during the 2008-09 crisis when P/E ratios were extremely low and interest rates had come down very fast, but those were times of very high uncertainty. In the last couple of years, the risk premium has been around 6 percent. While stock prices climbed, interest rate

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fell and kept the risk premium stable.

Since the election, the risk premium has gone down by 1 percent and it is about 5 percent. That is not a low number but the change is significant. Clearly markets are:

- a) upgrading their expectations of growth relative to CBO estimates or
- b) assuming the policies of the new administration will make earnings grow faster relative to GDP or
- c) feeling that uncertainty has gone down with the election of Trump as the next president.

How much growth will increase remains a source of debate. While some believe that potential expansionary fiscal policy might boost growth, it is still unclear how much of it will be implemented and the actual policies that will be adopted might not be as growth friendly as markets believe. Given what we know so far, I remain sceptical about the potential for acceleration of growth rates in the coming years.

Earnings could grow faster than GDP growth with policies that are friendly to companies but, as the labour market becomes tighter, it is not obvious how large this effect can be.

And this takes us to the last issue: risk. Clearly investors are not pricing much risk into the stock market, quite the contrary. This is a surprise. Regardless of what you believe about Trump's stated policies, he has provided very few details on what his actual policies will look like, he has contradicted himself numerous times and several of his statements open the door for very damaging events from a political and economic point of view that could lead to a global economic slowdown or a recession (not to mention other, more catastrophic, events). The market is clearly not pricing any of this risk. I find this puzzling.

Is this a bubble? We will find out soon but it is starting to look like the beginning of one where two very dangerous features are present:

- a) Investors associate high P/E ratios with potentially higher stock market returns because they extrapolate recent trends. This is wrong. High valuations mean lower future returns (if everything else remains constant).
- b) Investors seem to be underpricing risk at time where some caution might be needed.

We are still 1 percent point from the risk premium at the 2007 peak and very far from the 2000 craziness so there might still be some room to go. But let's remember that those are the years that preceded a significant fall in the stock market, which should not be the most encouraging benchmark to use.

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