Valuation of The Equity Market

July 31, 2009

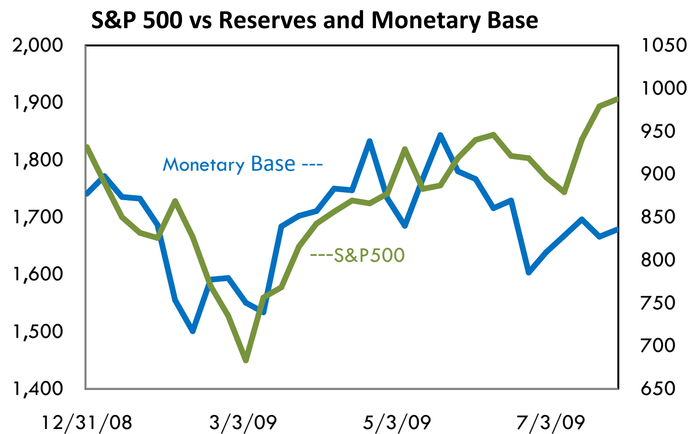
The U.S. Market Capitalization versus GDP

This article discusses the current valuation of the U.S. equity market and what level of returns we think can be expected in the long term. As the S&P500 sits at 986 today, we think the valuation of the equity market is generous, and not supported by current corporate fundamentals. However, an immense amount of government sponsored liquidity is in the market as well as on the sidelines. Of the many factors affecting the valuation of equities, we believe that rising interest rates, GDP growth, and the increasing money supply will have the greatest impact on returns in the coming decade. With all three of these variables working against the investor, we think the increasing money supply will win out. This will be the catalyst to a rising stock market until the Federal Reserve has no choice but to increase interest rates.

The U.S. market capitalization versus the U.S. GDP is a useful metric for a rough judgment of where the market sits at one point in time versus a reliable benchmark. The U.S. market capitalization is a close approximation of the market capitalization of the 6,208 equities in the S&P database. Since 1925, the overall value of total U.S. stocks to GDP has averaged 60%, but that number includes several decades of low multiple valuation after the great depression. In 2000, the market value was 174% of GDP, and by 2007, it was 130% of GDP. Today, the overall market value of U.S. stocks is 81% of our 14 trillion dollar GDP, up from the 62% level we saw in March. [1]Our inference is that the market can be valued at a much higher multiple than where it is currently.

Estimation of the Long Term Equity Market Return

Before we discuss the long term valuation of the equity market, we first need to identify expectations for interest rates over the long term. Risk free interest rates are treasury bills and treasury bonds that are used as a base discount rate by investors to determine the present value of future corporate earnings. Thus, the higher interest rates increase, the lower the present value of equity securities will be. Interest rates and after-tax corporate profits as a percentage of GDP is one measure for our long term estimate. Based on our analysis, interest rate volatility has a greater effect on market returns over a 5 to 15 year period relative to GDP growth and corporate earnings. The 10-year Treasury bond has increased 108 basis points since the beginning of the year to yield 3.50%. As our national debt, budget deficit, and money supply increase at a rapid rate, we believe interests rates will be increasing at a steady pace. The Federal Reserve has maintained short term treasury yields low since the beginning of the year, but it has been less than successful with yields on longer maturities. Our view is that the ten-year U.S. Treasury bond will exceed a yield of 6% within five years. While this rate is not out of line historically, the effect of the near doubling of the risk free rate will have a significant effect on the stock market by acting as a weight to multiple expansion.



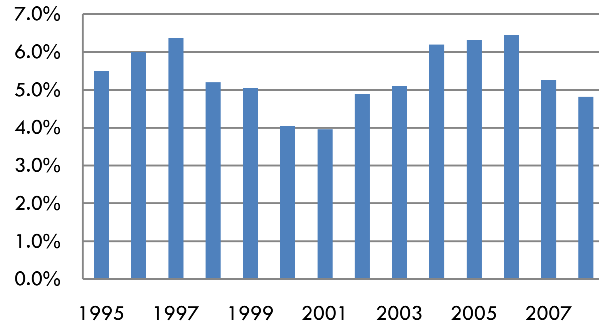
Monetary Base is sum of currency in circulation, reserve balances from Federal Reserve, and service related adjustments. Federal Reserve Bank of St. Louis. S&P500 data from

The long term effect between rising interest rates and the increasing money supply is less clear. As the money supply has increased this year, the indexes have followed; leading us to believe that there is a lot of money in the

[1] We arrive at the market value of U.S. stocks by dividing the market cap of the S&P 500 ($8,688 Billion), which accounts for 77% of the 6,208 equities in the Standard and Poor's database, by that number to arrive at a U.S. market cap of $11,283 billion.

market as well as money not yet in the market without enough stocks to buy. The resulting effect may be one that we learned in microeconomics 101: too many dollars seeking too few goods.

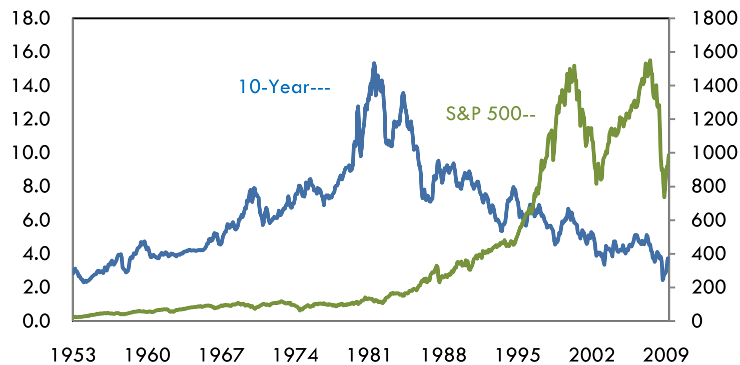
Another factor impacting the valuation of equities is corporate profits. Historically, after-tax corporate profits as a percentage of GDP have averaged between 4-6.5%. In 2007, the ratio hit a two decade high of 6.45%. In 2008, the ratio fell to 4.83%, but after the write-downs of fall '08, we estimate that it will increase back near the 5.5% level by 2010. Because of competition and the fact that a component of an aggregate cannot indefinitely grow faster than the aggregate, our estimate is that the long term average for after-tax corporate profits will be pressed to exceed 5.5%. Assuming that after-tax corporate profits as a percentage of GDP do not increase, the long term real return from equities must come from GDP growth, which we expect to be about 2.5%. Permanent multiple expansion could also result in an increase in return, but we do not see that as likely. In order to estimate nominal return, we must add inflation. Our range for inflation is 3% to 5%, the first being a historical average and the second being the scenario where inflation really picks up. Our long term equity nominal market return is therefore a range between 5.5% and 7.5%.



Gross domestic income by type of income. Bureau of Economic Analysis

From the beginning of 1953 to the end of 1981, the S&P 500 returned an average of 5.05%. Even with robust growth in the economy after WWII, the equity returns, measured by the S&P500 were muted by an upward trend in interest rates that peaked with the 10-year Treasury bond at 15.3% in the fall of 1981. From the beginning of 1982 to October 2007, the S&P 500 averaged 10.4%. It is no coincidence that the equity returns increased as interest rates fell between 1982 and 2009. Even after the downturn of 2008, the S&P 500 still returned 7.6% from 1982 through July 1, 2009.

In the midst of these variables: GDP, after-tax corporate earnings, and interest rates, we still remain focused on our core fundamentals of price and value when buying equity securities. Based on the amount of liquidity in the system, we estimate that the market will trend higher until the Federal Reserve is forced to raise interest rates.



10-Year Treasury bond. GS10 Board of Governors of Federal Reserve System. S&P500 data: yahoofinance.com. (Monthly)

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