Money, Stocks And Illusions

A rite of passage in dorm-room bull sessions is discussing what is and is not real. This has been going on, as far as anyone can tell, since we came out of the trees. Consider this famous passage out of Boswell's "Life of Samuel Johnson":

> *After we came out of the church, we stood talking for some time together of Bishop Berkeley's ingenious sophistry to prove the nonexistence of matter, and that every thing in the universe is merely ideal. I observed, that though we are satisfied his doctrine is not true, it is impossible to refute it. I never shall forget the alacrity with which Johnson answered, striking his foot with mighty force against a large stone, till he rebounded from it -- "I refute it thus."*

Modern physics runs into the problem of reality as well; a century after Einstein and Planck outlined relativity and quantum mechanics, respectively, we have arrived at the juncture where 73 percent of the universe is posited to be something called dark energy and another 23 percent dark matter, meaning we have no actual grasp of 96 percent of what is out there. Small wonder physicists, seldom known as a witty bunch, refer to "the dreams stuff is made of."

Money Illusion

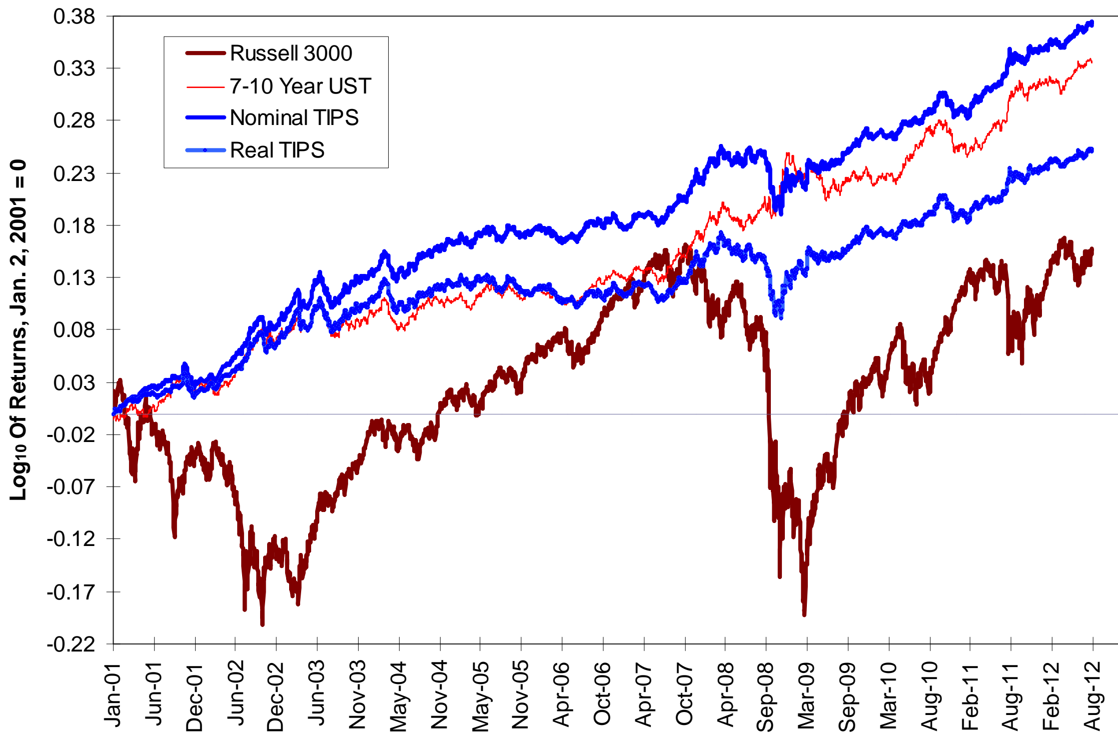
Ever since the Federal Reserve and its sister central banks began printing money furiously, repeating the Divine trick of creating something from nothing, economists have wondered whether money illusion, the tendency of people to measure their welfare in nominal rather than in real terms, at least until inflation bursts the bubble, has been dominating markets. The opinion here is, "Yes," as the destruction of the monetary measuring stick destroys the relative exchange value of all goods and services traded for that fiat money. Certainly the stock market rallies following the first quantitative easing (QE1) in March 2009 and the announcement of QE2 in August 2010 indicate a form of money illusion that future earnings will be worth more only if we measure them in increasingly worthless units.

Some analysts have taken money illusion to the next step, claiming stocks rise and fall with expected inflation as measured in the TIPS market. If true, the *reductio ad absurdum* is disturbing: Economic value is not created, it remains constant and only its measure changes with the integrity of money. Fortunately, this does not seem to be the case, as illustrated below.

Inflation Accrual

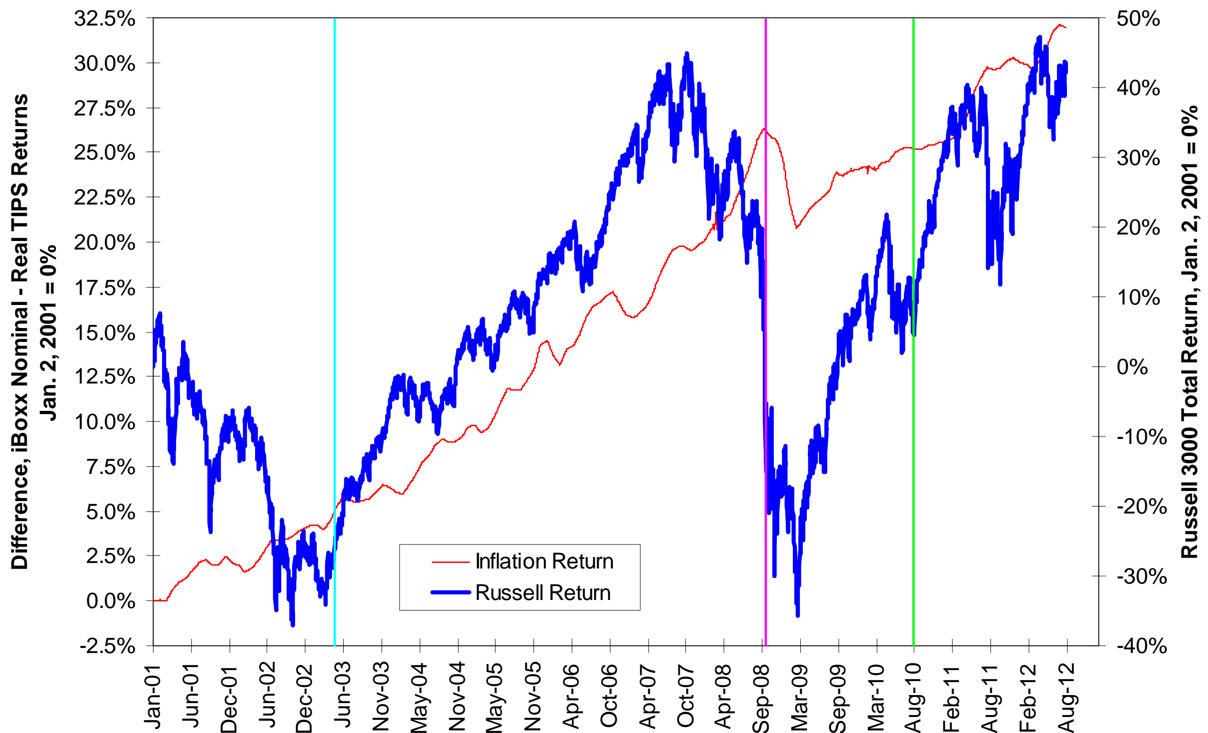
The good people at iBoxx have created nominal and real return indices for TIPS. The difference between the two lies in the inflation accrual adjustment index assigned to each bond to determine both the ongoing tax liabilities for these phantom gains and the terminal value of the bond itself. We can plot the total return paths for the nominal and real iBoxx indices, the Russell 3000 stock index and the total return for the Merrill Lynch 7-10 year nominal Treasury index on a common logarithmic scale.

Comparative Return Paths



Now let's rearrange the data to plot net inflation accrual, the difference between the nominal and real TIPS returns against the return on the Russell 3000. If stock returns were really just money illusion incarnate, the two lines would cleave together closely; they do not.

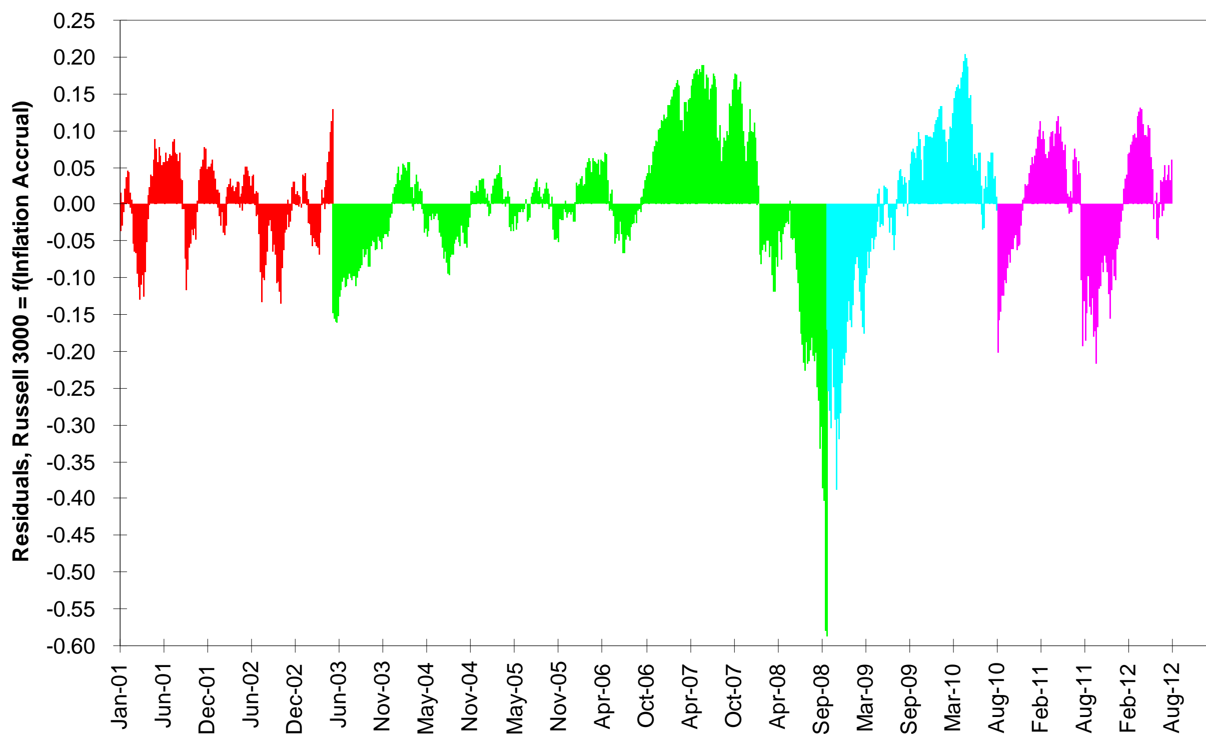
Are Stock Returns Inflation-Driven?



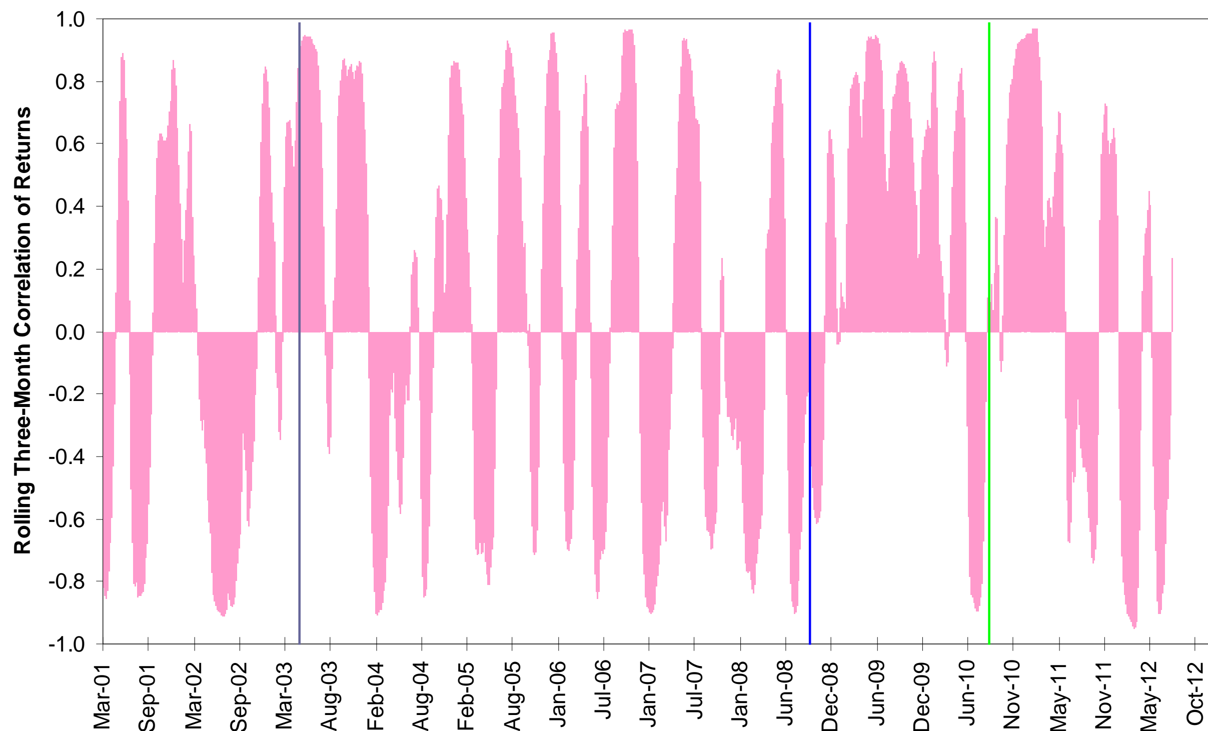
Three dates are marked on the chart with vertical lines. The first is the May 6, 2003 declaration of war on deflation by the Federal Reserve; this involved keeping the target federal funds rate at 1 percent until June 2004 and is blamed in many quarters for inflating the real estate bubble peaking in 2006. The second is October 10, 2008; this date represented the depths of the 2008 financial crisis and the local peak in inflation expectations. The contraction in credit that followed was used as a justification for QE1 or the second war on deflation, beginning in March 2009. The third date marked is the August 27, 2010 Jackson Hole speech hinting at QE2, or the third war on deflation.

If you are keeping score, the Federal Reserve declared war on the same thing three times in just over seven years without ever acknowledging an intervening victory or defeat.

The relationship between equity returns and net inflation accrual is anything but stable over time. This can be confirmed by regressing the daily returns of the Russell 3000 against those for the net inflation accrual index over the four periods noted above and comparing their residuals. The statistical answer confirms what you see below; each regime differs from its predecessor at near-100 percent confidence. This is equivalent to saying no constant relationship between stocks and net inflation accrual exists and therefore money illusion is, um, an illusion.



The same conclusion can be illustrated in one final manner, and that is by mapping the three-month rolling correlation of returns of the two series. If the stock market was a strong function of inflation accrual, we would see a near-level correlation with almost no oscillation between positive and negative values. Instead, we see the exact opposite, a strongly oscillating and very non-constant correlation series.



It is quite easily to understand why so many analysts have come to believe in money illusion. The infamous "Greenspan put," the instinctive easing of monetary policy after every financial crisis, and the behavior of Ben Bernanke have created a Pavlovian association between financial stress and easier monetary policy. The mental linkage then proceeds onward to easier money leads to higher inflation and higher expectations thereof. In reality, however, both reported and actual inflation have disconnected from monetary policy due to the dysfunctions of the commercial banking system in converting the monetary base into greater credit and therefore into an expanded money supply. Inflation has manifested itself not in the classic domestic price inflation, but rather in various forms of domestic and global asset inflation.

The problem, therefore, lies not in money illusion but in the unwillingness of so many analysts and commentators to examine their own logical premises, chiefly those that simply assert an easy money policy leads to higher inflation expectations. Reality exists; the trick is finding it.