

TIPS, Treasuries And Insurance

Traders are bettors at heart, so let's all make a collective bet right now: Very few traders see themselves as being in the insurance business. This is no doubt a matter of self-perception as the insurance industry is seen as dull and bureaucratic, while many traders view *Animal House* as the highest achievement of American cinema. The sentiment is reciprocated as well. Insurance mogul Warren Buffett takes potshots at derivatives wherever and whenever he can, even as his businesses are nothing but a giant derivative trade.

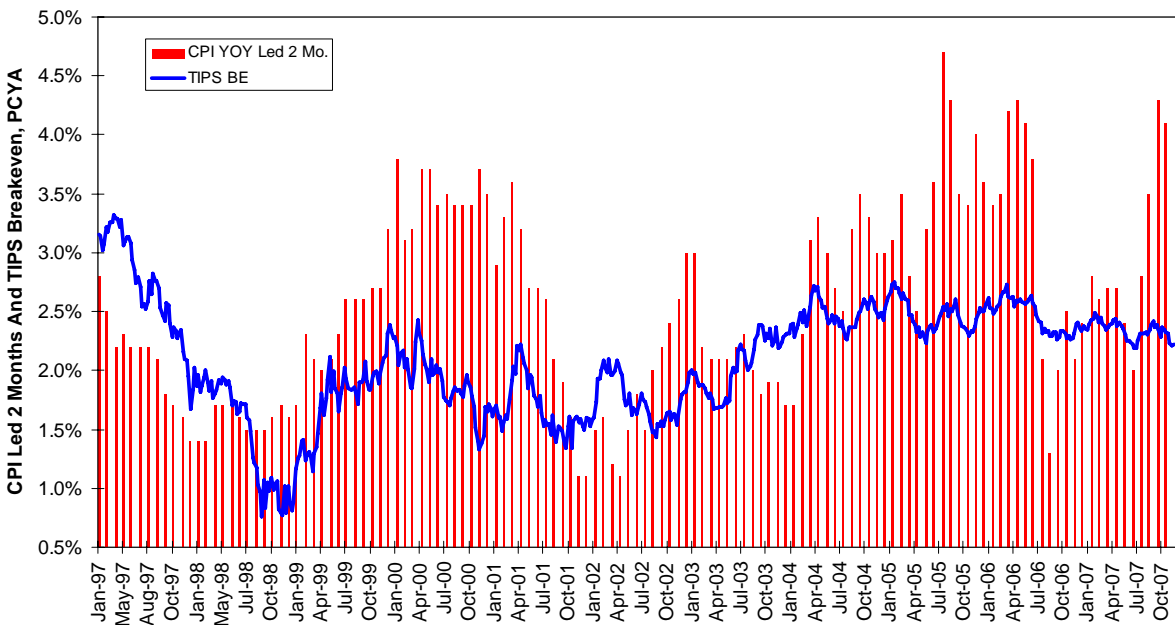
But many of the concepts of trading, options trading especially are explained best in insurance terms. You pay a premium to insure against an event, and you either forfeit that premium or you collect if the event occurs. The concept extends to futures markets, too. A hedger who sells forward in a backwardated market or who buys forward in a carry market is exchanging a known loss against the risk of an even greater loss if he remains unhedged.

TIPS And Inflation Insurance

The market for Treasury Inflation-Protected Securities (TIPS) involves insurance against unexpected increases in inflation. The principal on TIPS increases after a lag along with the all-urban consumer price index, not seasonally adjusted (CPI-U). Certain economists and many investors have become enamored with TIPS for two separate and disparate reasons. Economists like to think the difference in yield between conventional Treasuries and TIPS, the so-called breakeven rate of inflation, is rich with information on the course of inflation. Investors like to think TIPS will protect them from the ravages of inflation. Both are wrong.

Let's take a look at the relationship between TIPS breakevens and the year-over-year change in the CPI-U lagged two months; this is the best statistical fit between the two series. Stare at the chart below as long as you like and search for how well the TIPS market predicts reported inflation. The proper conclusion is it does not.

TIPS Breakeven Rates Ignore Reported Inflation

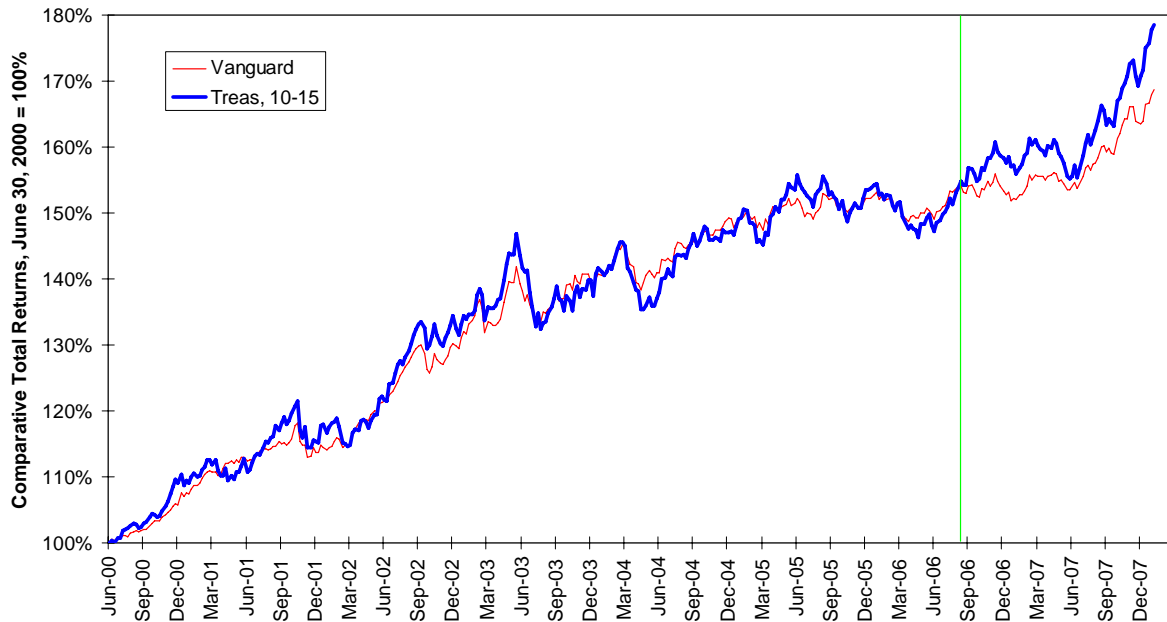


What about protecting investors against inflation? Let's assume, just for the sake of argument, whoever is selling TIPS to you is not a complete fool. Their expectations of inflation are going to be the same as the market's, plus or minus an error term. How could they be otherwise unless we assume TIPS sellers are endowed with some sort of superhuman forecasting abilities denied the rest of us?

This implies TIPS should be priced against future inflation in an actuarially fair manner similar to how other insurance rates are set. And if this is the case, TIPS can provide protection only against unexpected inflation, that quantity in excess of the market's expectations at the time. The implication is properly priced TIPS should return no more than Treasuries over time unless TIPS sellers underpriced the risk of future inflation.

We can compare the total return of a TIPS-based mutual fund from Vanguard against the Merrill Lynch index of 10-15 year Treasuries, both re-indexed to June 2000. The two series matched each other closely until the Federal Reserve abandoned its rate-hike campaign in August 2006, marked with a green vertical line. The implication here is investors began over-paying for inflation protection at this point.

TIPS Underperformed As Breakeven Rates Fell

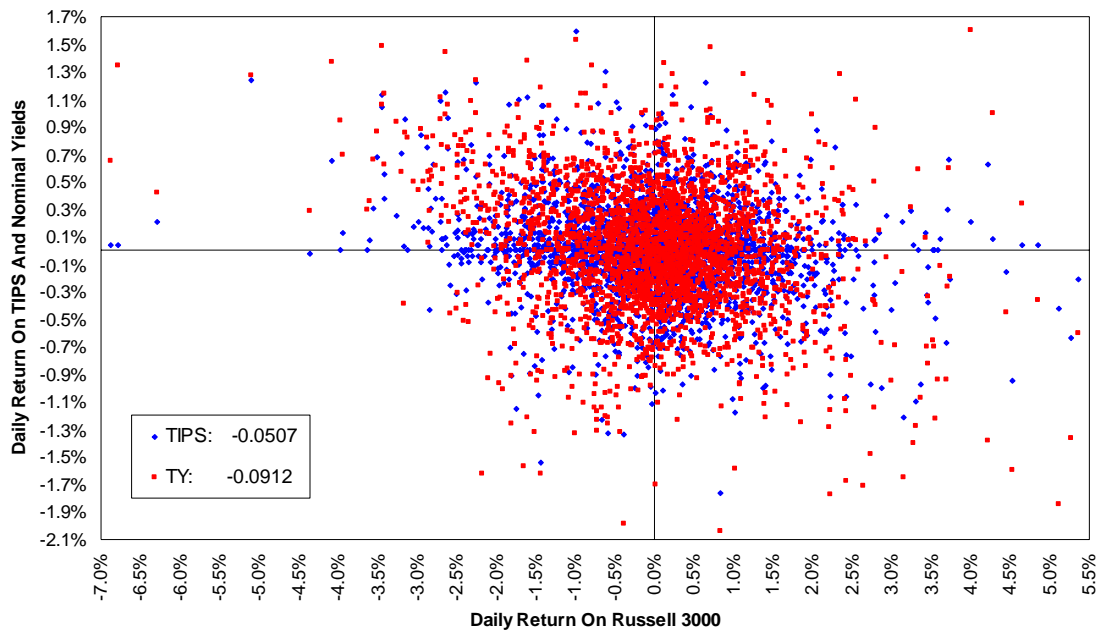


Treasuries And Crisis Insurance

But what if TIPS breakevens were not solely the artifact of inflation expectations but were distorted by swings in Treasury yields? We are all familiar with the flight-to-quality phenomenon, the rush into Treasury bonds for safety whenever the stock market does a face-plant on the pavement. If investors flee into conventional Treasuries and do not flee at an equal pace into TIPS – why should they? – then Treasury yields would fall faster than TIPS yields and the breakeven rate would fall with no change in inflation expectations required.

There is substantial evidence this occurs. If we map the daily percentage changes on TIPS and Treasury yields going back to February 1997 against the daily return on the broad-based Russell 3000 index, we find the regression beta for Treasuries is significantly lower than it is for TIPS, -0.0912 as opposed to -0.0507. Moreover, while the variance of Treasury returns relative to TIPS returns is much larger when stocks rally, it is even larger when stocks falter.

TIPS And Nominal Treasury Returns As A Function Of U.S. Equity Returns



The flight-to-quality observed for Treasuries does not exist in TIPS even though the two securities both bear the full faith and credit of the U.S. Treasury. There are three reasons for this. First, when stocks decline, inflation expectations can diminish. Second, the short call option on government honesty embedded in TIPS – you are at the mercy of the government telling you what their increased obligation to pay more as the result of higher inflation – can increase and diminish the prospective return on TIPS. Third, as TIPS are taxed on their inflation-accrued principal much in the same way zero-coupon bonds are taxed on “phantom” income, the embedded short call option on that element of TIPS’ payoff function can increase and diminish the prospective return on TIPS.

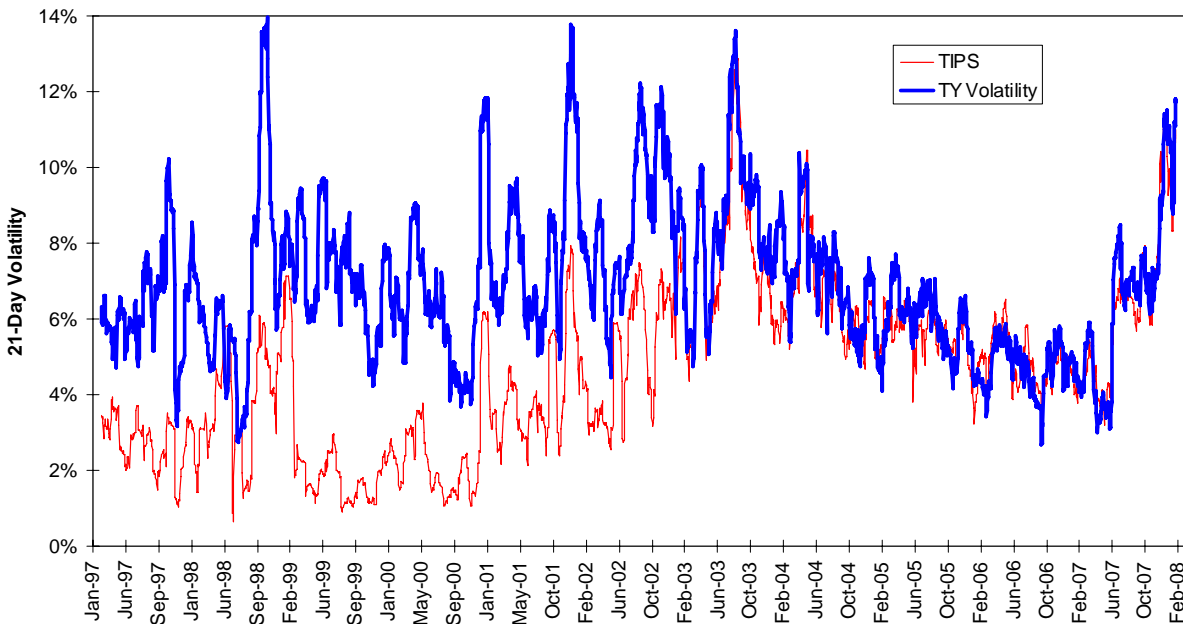
If we view Treasury bonds as insurance against a financial disaster such as the 2007 credit crunch, the comparison starts to come clearly into view. The impulse to buy insurance against an immediate loss of current investments is more powerful than the impulse to buy insurance against the CPI-U over a forward ten-year averaging period, is it not?

Insurance And Volatility

We can compare these relative impulses by comparing the realized volatility of TIPS and Treasuries. Prior to February 2003, TIPS volatility often was less than Treasury volatility. The two measures converged but the deviations often were for TIPS volatility to be less than Treasury volatility, especially during stock market downturns. The February 2003-July 2007 period was characterized by generally declining breakevens.

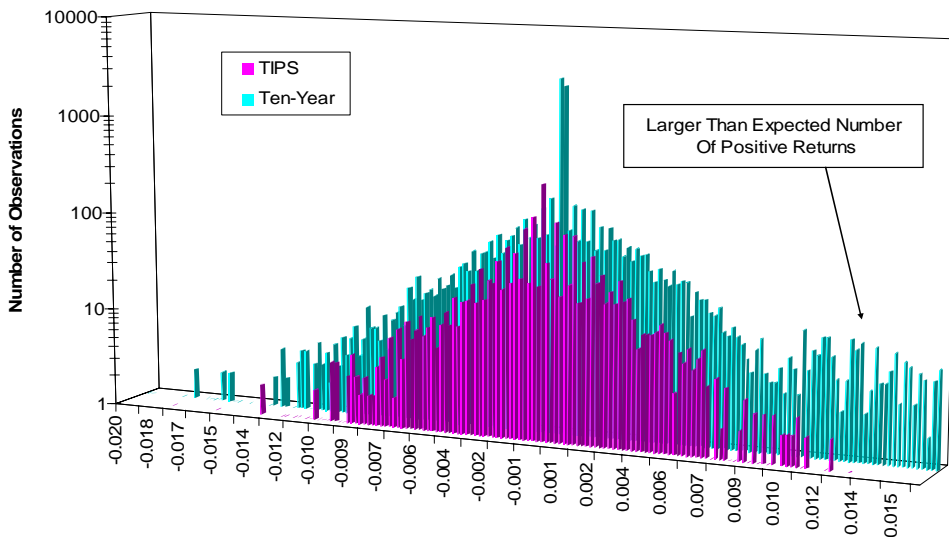
Once the Federal Reserve abandoned its inflation-fighting campaign in favor of flooding the markets with liquidity in response to the credit crunch, the volatility situation reversed. Demand for inflation protection surged, and TIPS volatility moved over Treasury volatility after September 2007.

Comparing Real And Nominal Ten-Year Historic Volatility



A second way of looking at the relative insurance demands of TIPS and Treasuries is to map the distribution of their returns. The distribution of large positive returns for Treasury notes is way higher than expected and dwarfs that of TIPS. These jumps in price tend to occur on days with bad economic news or stock market declines; there are no corresponding surges in TIPS prices.

The Embedded Call Option In Nominal Treasuries



So there we have it: TIPS are the Great Deceiver on two grounds. The first is they let down economists who thought the derived breakeven rate gave them a free lunch, a perfect and frictionless window into inflation expectations. The second is they let down investors who thought the principal accrual game them a free lunch, protection against inflation with no concomitant reduction in return.

Will any of this change TIPS' popularity with either group? Not a chance; those who sell the promise of a free lunch can stay in business for years. Maybe we should talk about Social Security and company-paid medical insurance next.

