The Illusion Of TIPS Protection

The urge to get something for nothing is extreme. It motivates numerous political programs, such as Social Security, numerous private-sector employee benefits such as medical insurance and numerous cultural icons such as the Tooth Fairy and Santa Claus.

Why it should permeate financial markets is at once both unclear and indisputable. Take, for example, the three decades of research indicating passive indexation outperforms active management of equity portfolios. The numbers are compelling and yet the public has kept $6.0 trillion in stock mutual funds; the folly is such that devout advocates of indexation such as Jack Bogle and Burton Malkiel often sound bitter when discussing the subject.

A second example in financial markets of expecting something for nothing is the area of inflation protection. Treasury Inflation-Protected Securities, or TIPS, are a successful product no matter how you care to spin them; the Treasury auctions between $5 and $10 billion per issue of varying maturities each quarter.

Inflation is the greatest enemy of bonds as both their principal and the intervening coupons are eroded thereby. TIPS restore some of this value by accreting the changes in the All-Urban Consumer Price index (CPI-U), not seasonally adjusted and lagged three months back to the bonds' principal. While the coupon income stays constant, the value of the bond at maturity – or intervening sale – increases along with the CPI-U.

Embedded Options

Ah, but it is never that simple! Whether most investors are aware of it or not, the accrual process above makes them short two embedded options to the government. The first is the calculation of the CPI-U itself. It is a Laspeyres index, one wherein the price of a fixed basket of goods is tracked forward in time. It generally ignores such simple economic realities as price elasticity of demand, substitution, technological improvements and discounting, and when the Bureau of Labor Statistics does make so-called "hedonic" adjustments for technological improvements, it is accused of manipulating the number. Incentives to manipulate the CPI-U abound. Many government contracts, labor union agreements and escalators for Social Security and other pension plans are linked to its value. As we have found to our collective dismay in the matter of executive compensation, if you give someone, anyone, a large enough incentive to manipulate a number to their benefit, sooner or later they will avail themselves of the opportunity to do so.

The end result, stated as neutrally as possible given the reality of the situation is you are short a call option to the government on its own honesty in constructing, calculating and reporting the CPI-U.

The second embedded call option is in the area of taxation. The principal amount of the TIPS bond is adjusted higher by the CPI accrual multiplier, but just as the implied interest of an original issue discount bond is taxed even though your cash flow is zero, the inflation adjustment of TIPS is taxed. As you do not know what future tax rates will be, you are short a call option on tax rates to the government. As of the time of this writing, tax rates have not been raised from their 2003 levels, but that may not be true forever.

For sake of completeness, another, subtler TIPS option exists, and that is a put option on deflation. Should deflation occur, the principal of TIPS will not fall below par. Paradoxically, an inflation-protection instrument is a terrific deflation-protection instrument, too.

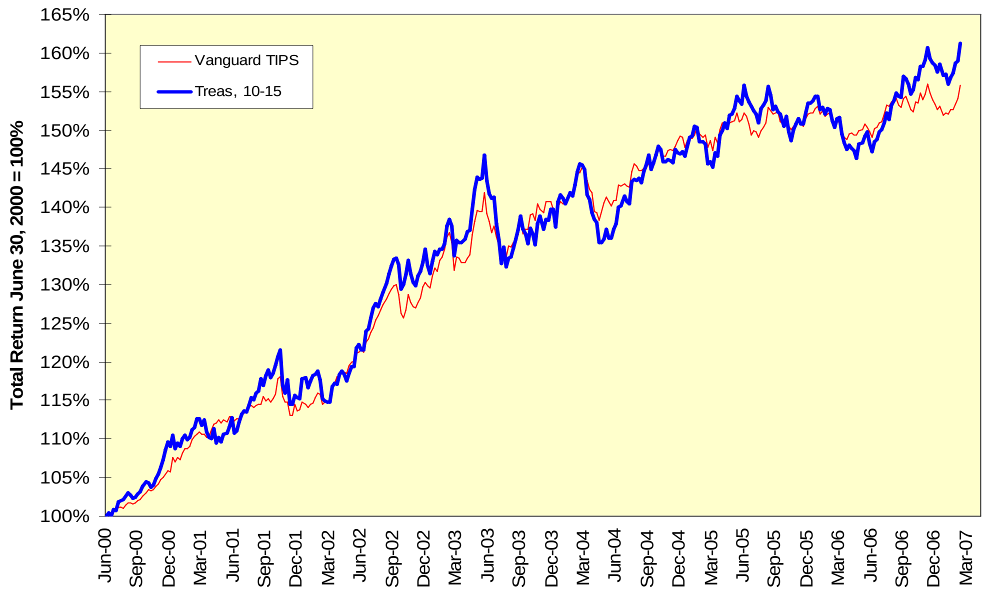
Insurance

Financial engineering is not as difficult as its practitioners make it out to be. As Robert Merton, he of Nobel Prize fame and Long Term Capital Management infamy, noted in the 1970s, you essentially can deconstruct all instruments into a combination of call options, put options and zero-coupon bonds. Speaking from classroom experience, two simple additional concepts nearly everyone understands are borrowing & lending and insurance. Insurance, at its most basic is exchanging a small loss or premium payment today in exchange for receiving a larger future payment should an adverse event occur in the future.

TIPS are insurance against inflation. Their lower coupon yield relative to conventional Treasuries represents the known loss; rising inflation is the adverse event and the principal accrual is the payment. Now comes the fun part: How often do you buy insurance for free? The lower yield on TIPS reflects the market's best estimate not only of the future CPI-U but of the effects of all those embedded options. If the market's estimate is correct, the total return on TIPS and comparable Treasury bonds should be equal subject to unexpected changes in the reinvestment return on coupons received.

We can illustrate this by comparing in Chart 1 the total return on the Vanguard Inflation-Protected Securities Fund, which has an average maturity between 7-20 years against the total return on a Merrill Lynch index of 10-15 year Treasury bonds. Both total return streams will be indexed to June 30, 2000 = 100%. An exact comparison is impossible given the continuously changing composition of both portfolios.

Chart 1: Total Return Comparability



After 6½ years, the total return index on the Vanguard TIPS fund stands at 155.8%, while the total return of the Merrill Lynch Treasury index stands at 161.2%. The two measures have leapfrogged each other over time; until September 2006, the TIPS fund had a higher return.

Should TIPS investors be alarmed? Hardly; this is evidence of an efficient market in action. TIPS sellers charge a higher price for inflation insurance when inflation fears are rising and a lower price when they are not. The lower yield lowers the prospective return and brings TIPS and Treasuries into equilibrium. A second aspect of the market affecting comparative total returns is the reinvestment rate available on coupon income. To the extent greater inflation fears induce higher short-term interest rates, the higher coupons paid by conventional Treasuries will earn more income if reinvested in cash.

While owning insurance is a valuable part of any business plan, no one ever got rich by buying insurance to excess. In the case of TIPS, this means we can achieve higher total returns is when future inflation exceeds current expectations therefor. Why anyone would think otherwise is unclear.

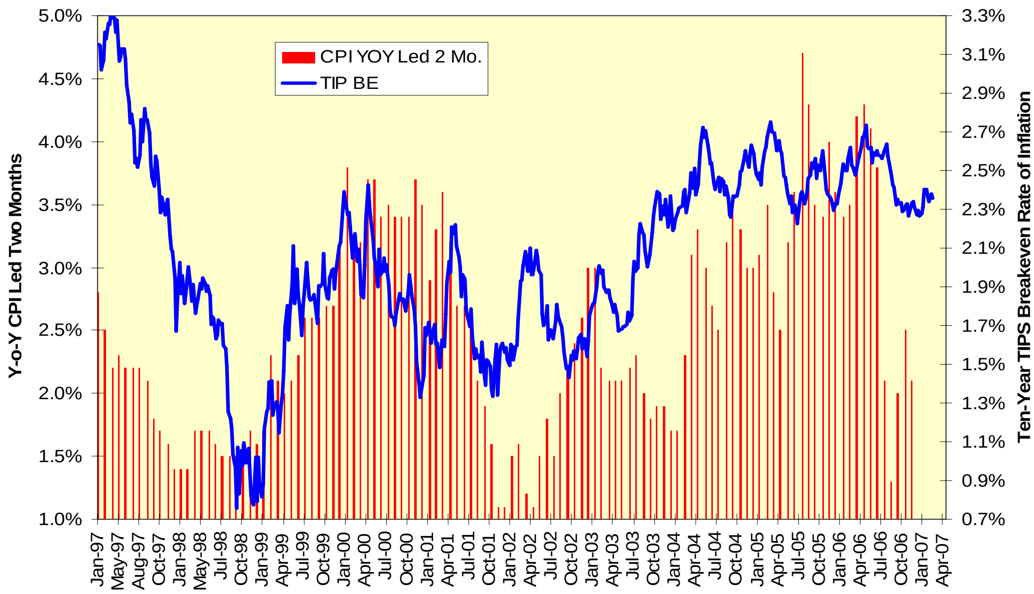
TIPS' Forecasting Ability

If we are dealing with terms such as "expected inflation" or "unexpected inflation," we are dealing with forecasts, and any economist can tell you that forecasting is difficult, especially when it involves the future. The TIPS market has demonstrated no extraordinary abilities to forecast inflation, nor should we expect it to. There's no such thing as a smart market – or a stupid market, for that matter. Gold, for example, often is referred to as a smart market, which then begs the question as to why these traders do not move into other markets, take all the fools' money, and enslave the rest of us. We digress.

Statistically, TIPS' breakeven rate of inflation leads year-over-year changes in the CPI-U by two months; this lag is built into Chart 2. So what; many TIPS have maturities in excess of ten years? And while the market sort of gets the directional changes in the CPI-U more or less correct, it gets the magnitude all wrong. At last reading, the ten-year breakeven rate of inflation was 2.36%; the year-over-year change in CPI-U was 1.8%. TIPS buyers, risk-averse hedgers, have been overpaying for inflation protection for years. Even when the CPI-U declines, this market sees higher inflation as imminent.

Oddly enough, many of these selfsame hedgers are loudest in the assertion government inflation data is manufactured. How they then can reconcile this with making themselves dependent on a government-derived accrual mechanism is not at all clear. If you are short a call on government honesty in one aspect of the market, you are short a call on government honesty in all aspects of this market.

Chart 2: How Well Do TIPS Forecast Inflation?

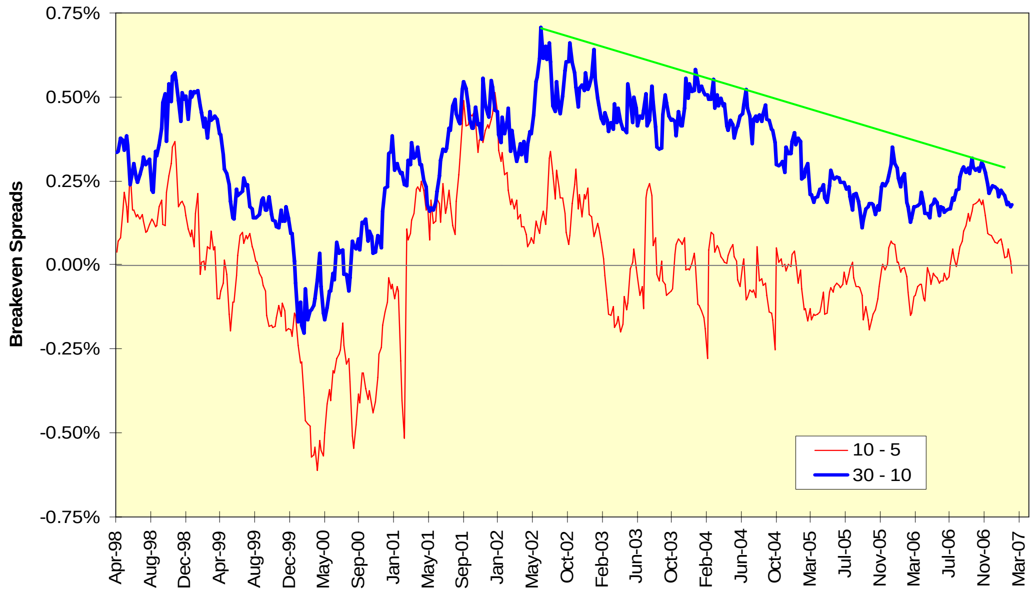


Changing Term Structure

Credibility is the key word when it comes to assessing the Federal Reserve's ability and willingness to fight inflation. For whatever reason, people do not admit publicly the Federal Reserve has acquired some credibility, but the market admits in action. We can see this in the breakeven rates of inflation, the spread between conventional Treasury yields and TIPS yields. These can be constructed at the ten-year maturity, the five-year maturity and the thirty-year maturity. The five-year data are very noisy by virtue of shifts in which note is considered the on-the-run issue.

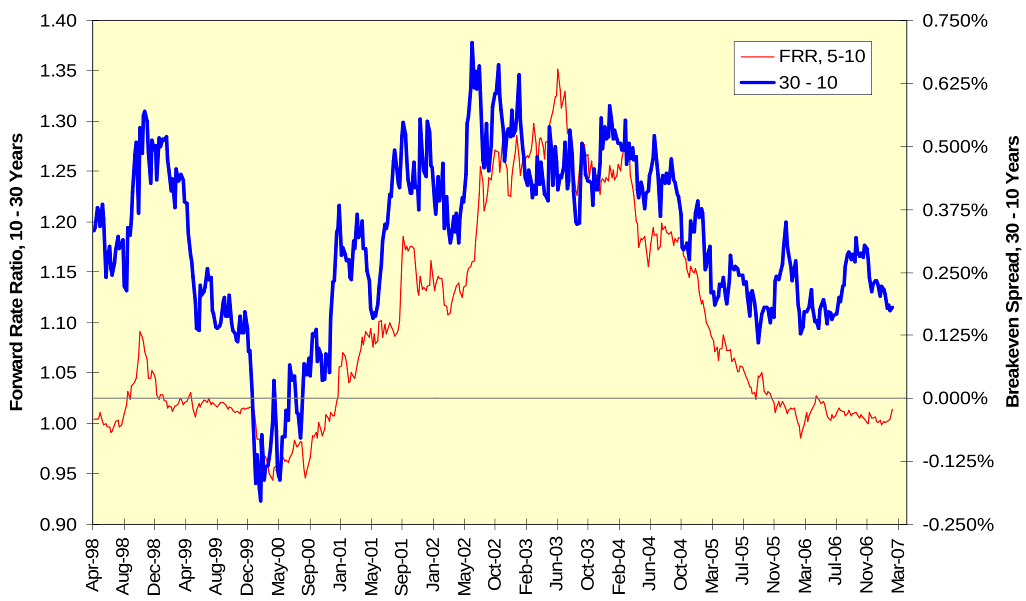
The spreads between these breakeven rates are information-rich as well. The spread between the ten- and five-year breakeven rates has been negative for much of the time since February 2003. It turned positive in August 2006, peaked in November and is now headed lower. The spread between thirty- and ten-year breakeven rates had been in a downward channel, highlighted in Chart 3, since June 2002; it broke higher in August as well but has since resumed its downtrend. The overwhelming and irrefutable message of these spreads is the market believes any upturn in inflation, such as that seen in early 2006, is short-lived and will provoke a monetary policy response.

Chart 3: The Term Structure Of Inflation Expectations



That message is coincident with the flattening of yield curves across the maturity spectrum. The forward rate ratio between five and thirty years, the rate at which we can lock in borrowing for 25 years starting five years from now divided by the thirty-year rate itself, has been in a downtrend since mid-2003. As we can see in Chart 4, the bond market is not pricing in accelerating inflation at the long end of the yield curve.

Chart 4: The Yield Curve And The Inflation Spread



What does this all mean for those who are holding TIPS? Current holders should recognize their total return package will be nearly equivalent to conventional Treasuries. Prospective buyers should recognize their investment will pay off only if their forecast for higher inflation than expected by the market is realized and reported as such by the government. Overall, TIPS are not something to flee from, but neither are they the gift people thought they were buying.