

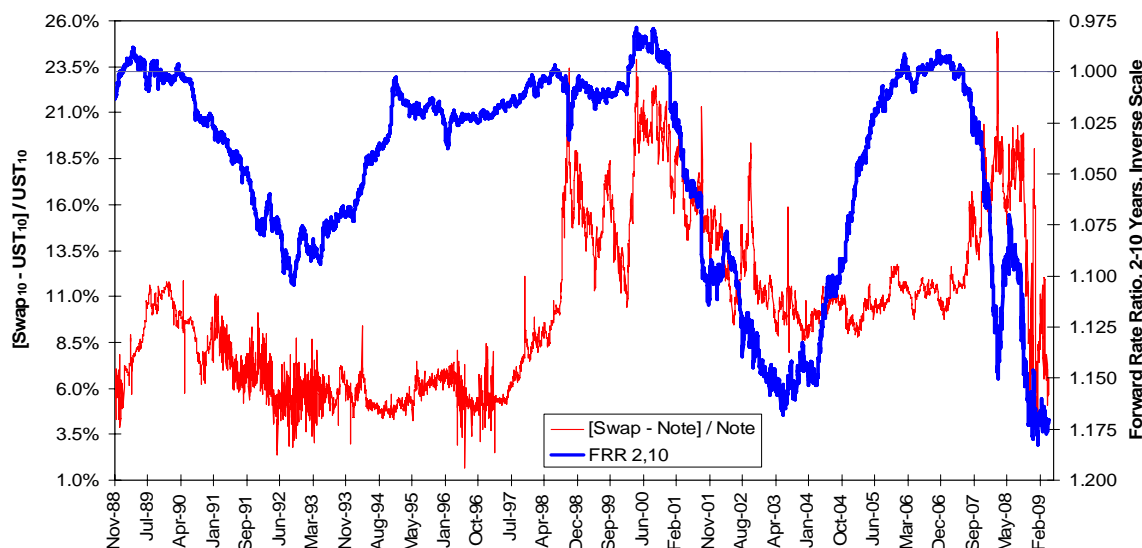
## Trading Inflation Impossible In A Deflationary World

We teach very young children the answer to, “Which weighs more, a pound of feathers or a pound of lead?” is they both weigh the same. This is most regrettable in the world of finance where we all have to learn the hard way the more closely related two or more assets are, the more interesting the trading and analytic opportunities.

One well-studied set of differences between closely related instruments is single-maturity bonds versus interest rate swaps. The fixed leg of an interest rate swap is the present value of the yield curve; this over-weights the shorter maturities of the yield curve as they are discounted by a smaller divisor.

We can measure the shape of the yield curve by the forward rate ratio between two and ten years ( $FRR_{2,10}$ ), the rate at which we can lock in borrowing for eight years beginning two years from now, divided by the ten-year rate itself. If the yield curve is flat or even inverted, an  $FRR_{2,10}$  near or less than 1.00, the normalized spread between the ten-year swap and the ten-year Treasury is wide. Conversely, the normalized spread becomes narrow when the  $FRR_{2,10}$  is steep.

Swaps And Treasuries Diverge More In Flat Yield Curves



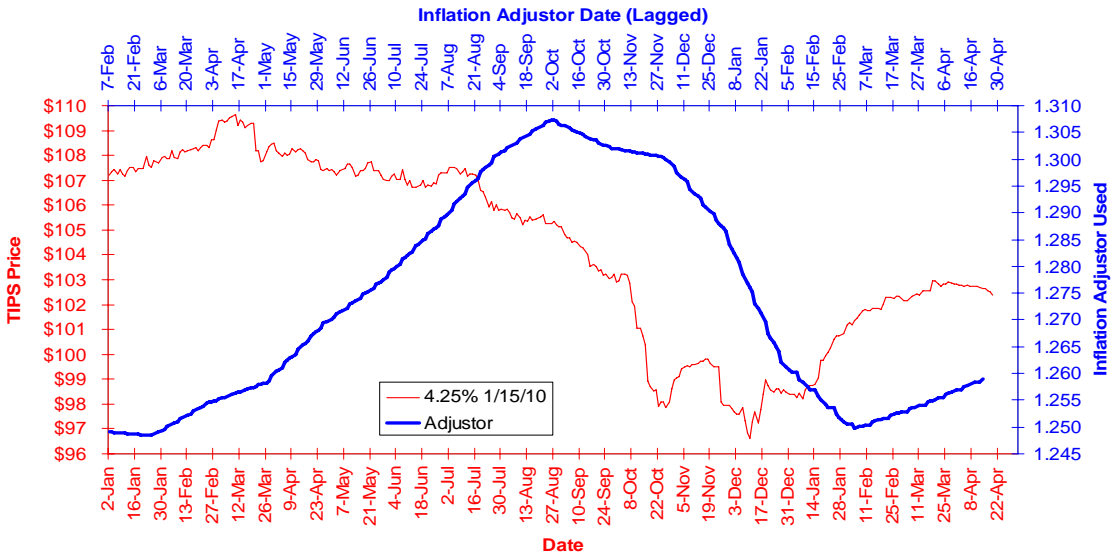
We will now ask the question of which measure of inflationary expectations derived from the TIPS (Treasury Inflation-Protected Securities) market is more accurate in a deflationary environment, one derived from individual bonds, one derived from swaps, both or neither? Hint: The answer is “neither.”

### Enter The TIPS Market

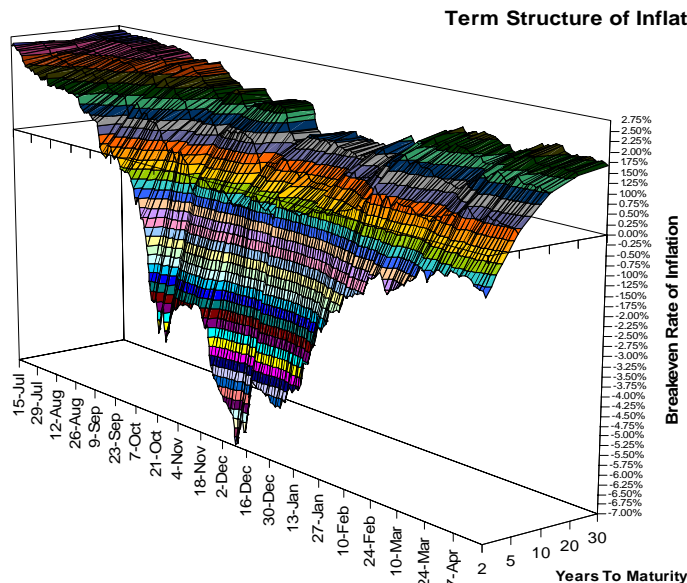
The mechanics of swap calculation should affect a market where the shortest maturity instruments are distorted for whatever reason. Short-dated TIPS began to rise in yield relative to conventional Treasuries of similar maturity as far back as January 2008. In addition, conventional Treasury yields fell more than did TIPS yields over the same period as Treasuries became “crash insurance” during 2008’s dreadful markets (see “TIPS, Treasuries And Insurance,” May 2008).

But it was the shortest maturity TIPS, those whose influence will be over-weighted in inflation swap calculations that were affected most. The principal of TIPS is adjusted daily by an interpolated index of the All-Urban CPI, not seasonally adjusted, lagged three months. If the CPI-U falls, as was the case in late 2008 and early 2009, the prospective buyer of TIPS is faced with erosion of the accreted principal to-date and will demand a higher yield in recompense. We can see this phenomenon for one short-dated TIPS, the 4.25% due January 15, 2010, and its inflation adjustor.

### Short-Dated TIPS Price Led Inflation Adjustor



That higher TIPS yield when subtracted from the conventional Treasury yield of the same maturity, can lead to some extraordinarily negative apparent breakeven rates of inflation; we can see this in the chart below depicting breakeven rates of inflation as calculated between individual TIPS and individual conventional Treasuries.



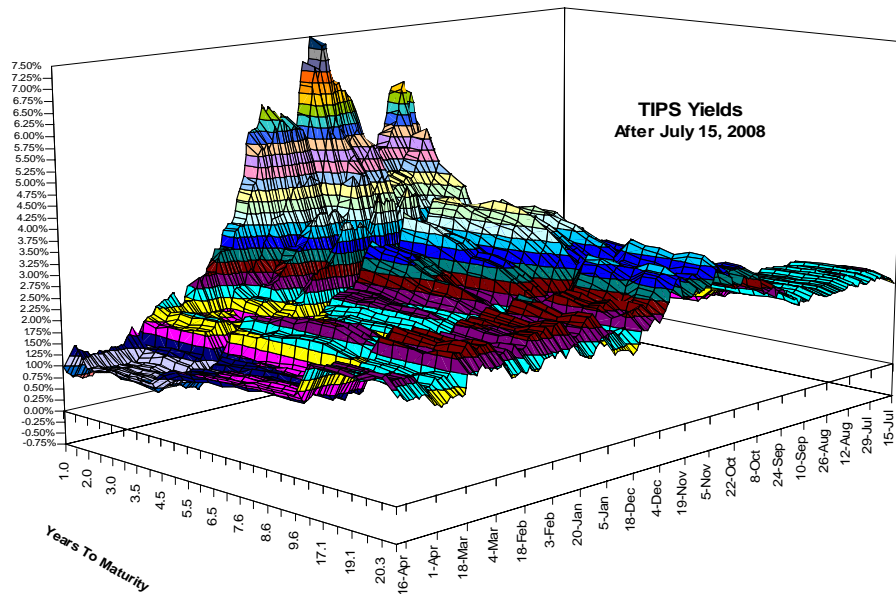
Finally, TIPS offer a number of embedded options. The two discussed most are the short call option on government honesty in reporting inflation and in tax rates. In the case of the former, the CPI-U is what the Bureau of Labor Statistics says it is. In the case of the latter, TIPS holders are charged a “phantom” tax on the accretion of principal noted above; should future tax rates rise, the TIPS will become worth less. No negative tax or tax rebate is offered in return should the inflation accrual index decline. The third option, and one which applies in a deflationary environment, is the par value of TIPS will never be less than \$100; the Treasury will make up the difference. This is equivalent to a free put option on deflation over the life of the TIPS.

### Life After Fannie

Future historians might divide the history of the United States into two eras, a more-or-less democratic republic lasting between 1789 and July 12, 2008, and a dictatorship of the Secretary of the Treasury beginning immediately thereafter with the de facto nationalization of Fannie Mae and Freddie Mac. The last 5½ months of 2008 under Henry M. Paulson and all of the Obama administration under Timothy F. Geithner witnessed the most extraordinary and most ill-planned extension of government into the economy ever, and it will take at least a generation to undo the damage.

This is more than a digressive rant; inflation expectations and indeed the sovereign credit risk of the United States changed drastically with that event, so we will begin the maps below with July 15, 2008.

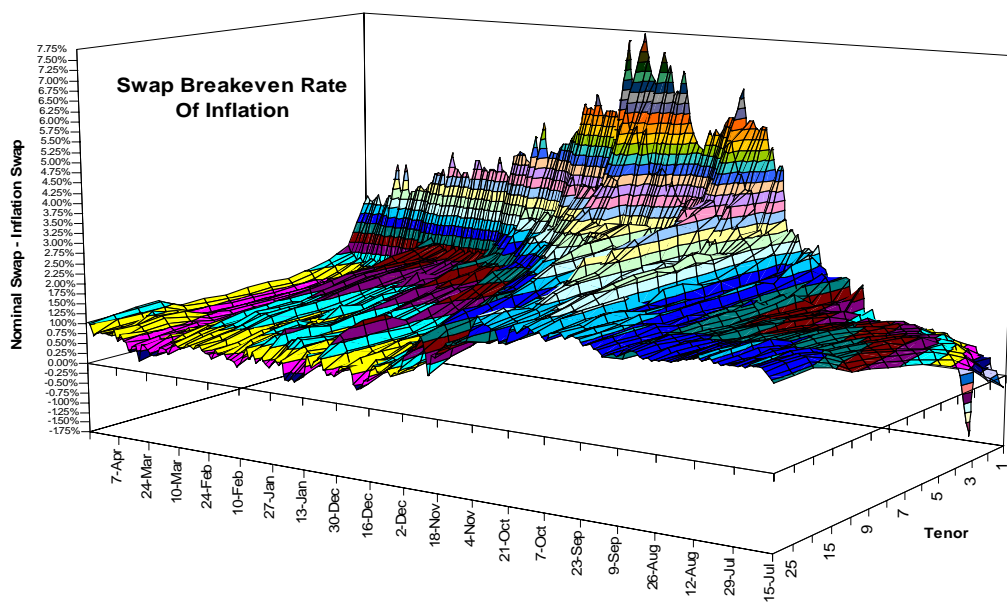
First, let's map the "real" yields on individual TIPS over time. The chart below depicts the yield to maturity for 26 different TIPS ranging in maturity from January 2010 to April 2032. All TIPS yields rose in late 2008 and early 2009, but the yields increased most rapidly at the shortest maturities as investors sought protection from the loss of accreted inflation. Once the Federal Reserve announced quantitative easing, or de facto printing of money, in March 2009, the term structure of real TIPS yields renormalized.



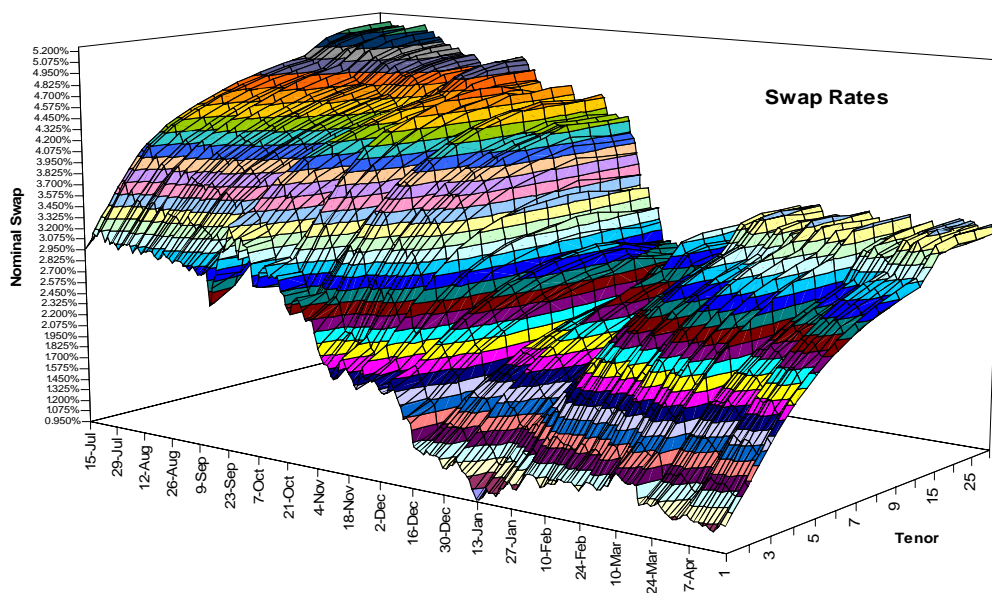
### Inflation Swaps

If we shift our attention away from individual securities to inflation swap rates, will the pictures seen above change? The fixed leg of an inflation swap is the present value of the TIPS curve and will over-weight the shortest maturity securities as discussed above.

First, the entire swap curve shifted downward in a massive bullish steepening after July 15, 2008, as the Federal Reserve drove short-term interest rates to near-zero levels and engaged in a form of Japan-like quantitative easing. As short-term TIPS yields were rising, short-term swap rates were falling. The chart of the swap breakeven rate of inflation depicts the difference between the nominal swap and the inflation swap.



The nominal swap rate chart is shown below. The bullish steepening of the yield curve is readily visible.



If we net the two charts above to produce a chart of the inflation swap itself, we do see a less abrupt decline in inflationary expectations at the short end of the yield curve than we did for individual issues. Still, we are left with the unexpected conclusion we can see some very deflationary numbers, and these numbers represent both the artificially high short-dated TIPS rates and the low nominal short-term swap yields created by the Federal Reserve's manic monetary policy.

This leaves us with the very unsatisfying conclusion that all measures of inflation derived from TIPS can be distorted at the short end of the yield curve by the threatened loss of accreted inflation. This is quite dangerous from a policy standpoint: Policymakers are liable to err on the side of self-congratulation and assume their wanton monetization of the debt has no inflationary consequences. This will be true until the minute it is not, and that is when we will see some breathtaking increases in short-term interest rates *a la* Paul Volcker in 1979-1982 to break that inflation.