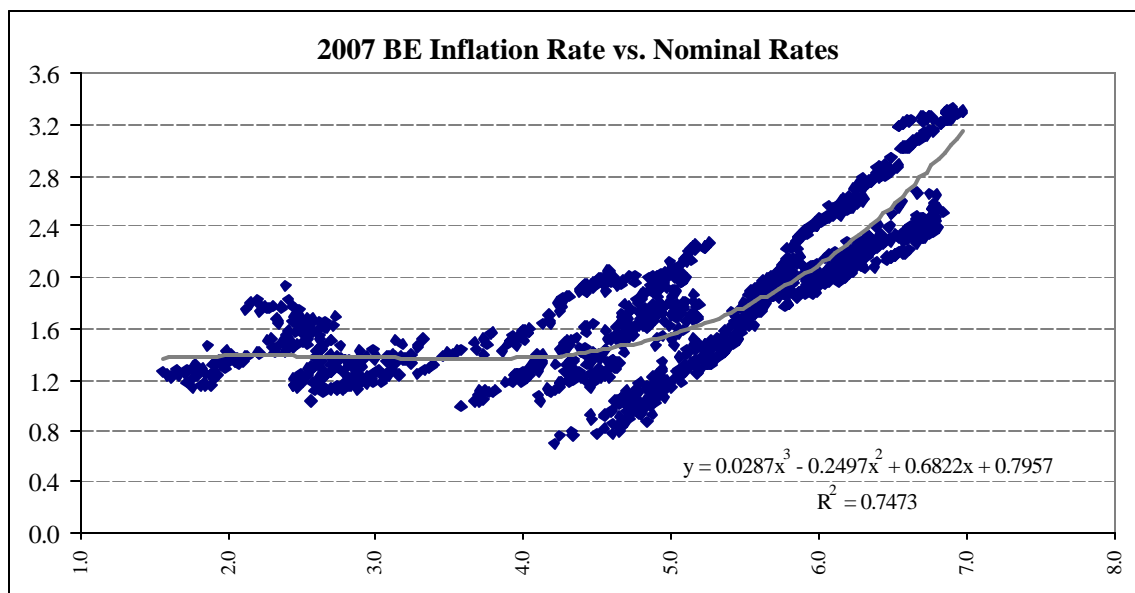


The Directionality of Yield Beta

There has been some discussion among TIPS investors and dealers about whether or not yield betas are directional. That is as nominal rates rise, yield betas falls and vice versa. Given the dramatic back-up in rates and the widening of break-evens over the last 6 weeks, we've decided to examine this relationship.

The chart below shows a scatter plot of nominal rates and BEI rates for the period March 1997 – July 2003. From these points, it appears as if there in fact a directional relationship between nominal rates and yield beta. However, it appears as if the relationship between the two variables is curvilinear rather than linear. To show this, we performed a polynomial regression, which is one statistical method for testing a non-linear relationship. The polynomial regression produced a relatively strong R^2 of .75 while a simple linear regression produced an R^2 of only .51.



A curvilinear relationship seems to make sense as yield betas will tend to stay somewhere between 0 and 1. Of course, there are several factors that cause yield betas to temporarily exceed 1 or become negative. These factors include liquidity, issuance, MBS hedging and commodity prices. Despite this, we believe this relationship is useful in that it provides the underpinnings of a framework to help TIPS investors anticipate yield beta within the context of their market expectations.

To understand the intuition behind this relationship, it is helpful to review the Fisher equation, which states that nominal rates = real rates + inflation expectations + inflation risk premium ($n = r + ie + rp$).

Let's now assess what usually happens to the equation factors during a period of falling nominal rates such as during 2002 when 5 year rates fell from 4.5% to 2.75%. If we recall what was happening at this time – growth prospects dimmed as economic numbers showed continued signs of weakness and inflation expectations remained benign. During such a period, we would expect yield betas to rise as real rates fall to reflect diminishing growth prospects and nominal rates fall by similar amount. This is essentially what happened.

n	=	r	+	ie	+	rp
Fall		Falls as growth prospects wane		remain constants or fall slightly		Remain constant or fall slightly

Conversely, in a period of rising nominal rates, one would expect real rates to rise as growth prospects and the demand for capital increase. Further, as the economy reaches full capacity, one would expect both inflation expectations and possibly the risk premium to also rise. This would cause nominal rates to rise faster than real rates, and thus break-evens would widen.

n	=	r	+	ie	+	rp
Rise		Rise as growth prospects increase		Rise slightly		Remain constant or rise slightly

What does this mean for investors? The general relationship says buy TIPS in a rising rate environment, and buy Treasuries in a falling rate environment. However, anyone who held TIPS last year knows this isn't a perfect methodology. Instead, we believe that the key to analyzing break-even inflation spreads lies in an understanding of the economic environment and how it will impact the components of the Fisher equation. In this vein, we believe that both growth prospects and demand for capital will put upward pressure on the real rate component going forward. However, while breakeven spreads imply a significant rise in inflation - even beyond what economists predict - we do not see anything to substantiate increased inflation expectations in the near term. Therefore we expect inflation expectations to remain flat or even fall slightly. All of this suggests that Treasuries will outperform TIPS in the near term.