Crude Oil And Inflation: It's Real This Time

A modern Rip Van Winkle waking up from a twenty-year nap would have a few things to ponder. First, why are gasoline prices roughly the same in nominal dollar terms while global crude oil demand is up more than 60% and the roads are filled with SUV's? Second, why has the economy steamed forward with only one minor recession, unemployment fallen to 4.1%, and yet bond yields have fallen by more than half since the early 1980s? Third, given the economy's strength and the near-tripling of crude oil prices in less than two years, why isn't inflation a problem yet at the consumer level? Indeed, the CPI for August fell for the first time since 1986. Finally, if the federal budget is in persistent surplus within a slowing economy and the trade-weighted dollar index is at its highest level since the mid-1980's, then why is the yield curve steepening?

Many of the answers to these questions depend on the vast structural changes in the economy, including lower energy expenditures per dollar of GDP. Another critical piece of the puzzle is the extent to which we are just now incorporating higher crude oil prices into our economic expectations. This is not a temporary price hiccup, and we better accept this and adjust our investments accordingly.

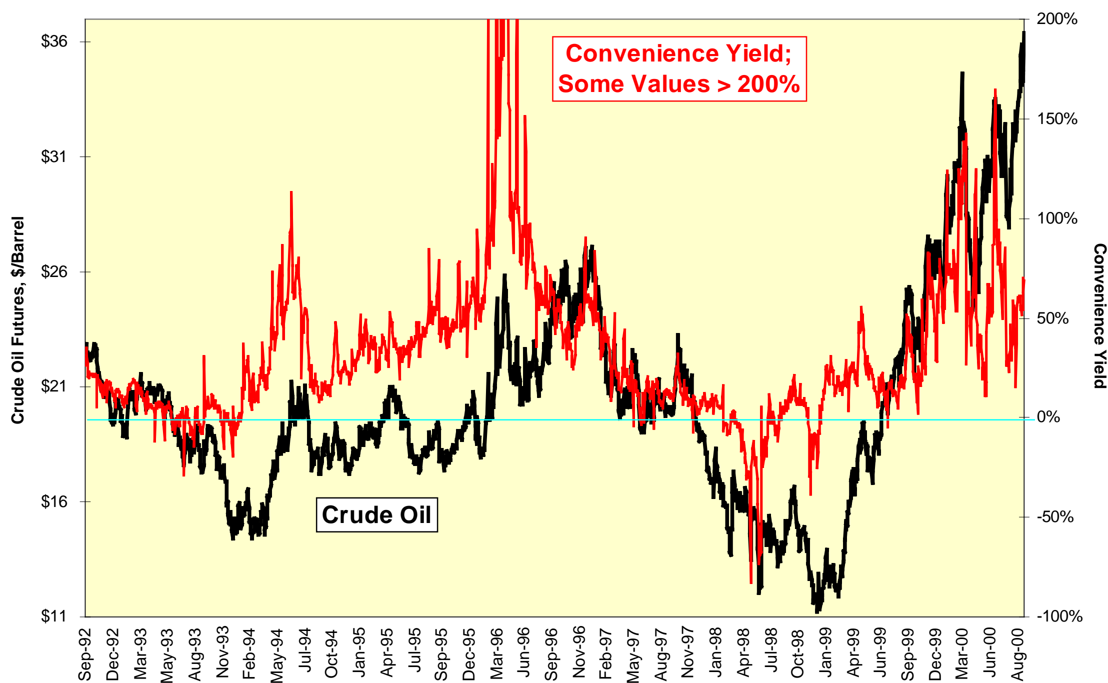
How Convenient

For a long time, the crude oil market has exhibited a persistent anxiety about its own ability to sustain price levels, as witnessed the sharp downdrafts on rumors of increased OPEC production. We can measure this anxiety by convenience yield, defined below for the first and second months of crude oil futures.

$$ConvenienceYield = \left[\frac{M_1 * e^{r*365/30} + StorageCost - M_1}{M_1}\right]^{365/30} - 1$$

The greater the convenience yield in a backwardated market, one in which the first month is trading over the nearby month, the less comfortable the market is with its ability to sustain price. The opposite holds true for negative convenience yields in a contango market, one in which the nearby month is trading well over its theoretically fair level. The price/convenience yield relationship for crude oil over the past eight years is depicted below.

Front-Month Crude Oil Futures And Convenience Yield 1992-2000

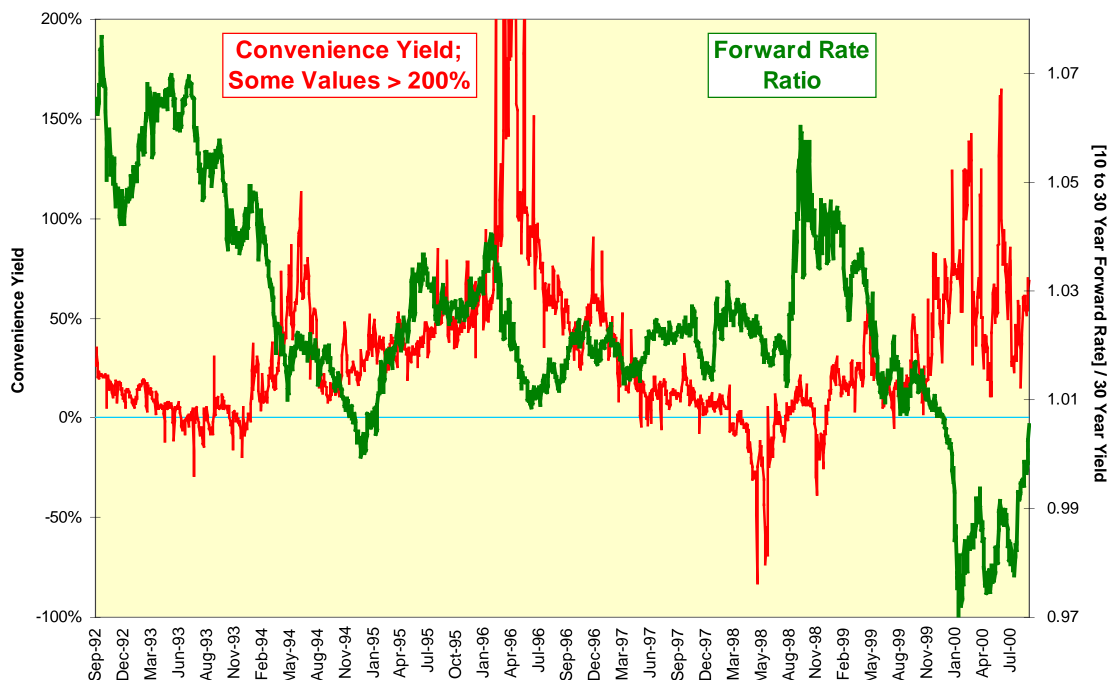


Spikes in convenience yield tend to lead major turning points in all physical markets; in the case of crude oil, this lead ranges from six to nine months. It peaked, for example, in April 1996, and crude oil prices started to fall in December 1996. It hit a bottom in May 1998, and crude oil prices bottomed in January 1999.

Today, however, the story is quite different. As the price of crude oil climbs to a post-Gulf War high on a daily basis, convenience yields are falling. The interpretation is unequivocal: The market is growing increasingly comfortable with much higher crude oil prices. For those of us who have grown comfortable as consumers with ever-declining real energy prices, this is not good news.

Inflationary Expectations In The Yield Curve

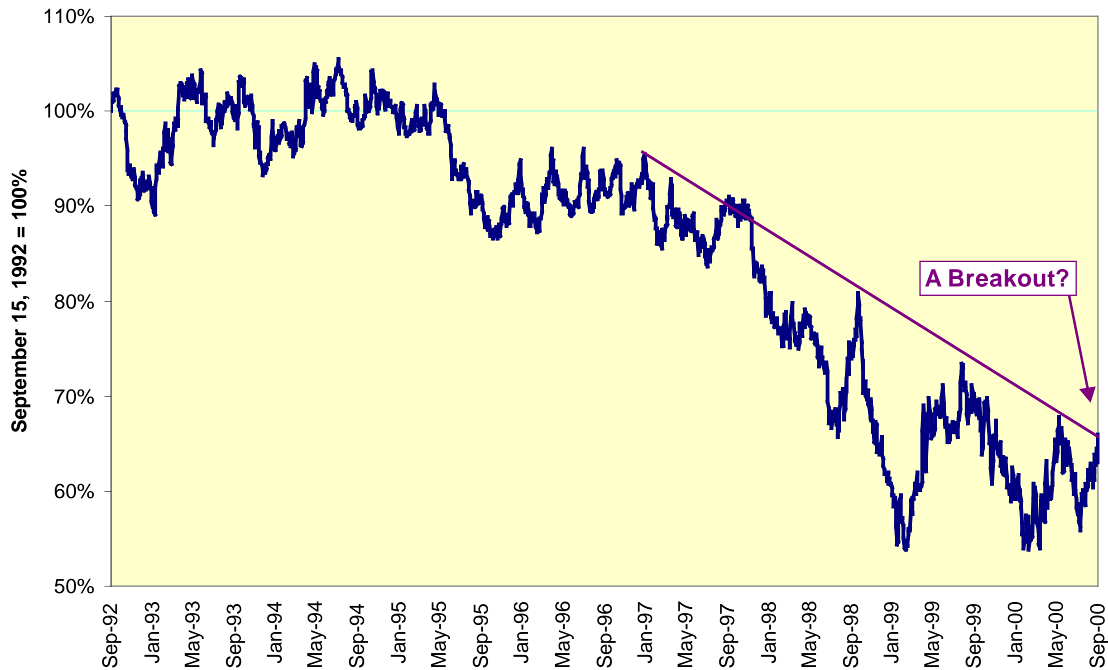
Inferring inflationary expectations from the yield curve calls to mind Paul Samuelson's remark about the stock market forecasting nine out of the past six recessions. It's the job of bond traders to fear inflation, and they're good at it. The combination of the federal surplus and the Treasury's bond buyback coinciding with a series of six rate hikes by the Fed has made analysis of the yield curve's recent history more difficult than usual, but some things are obvious still. If we take the ratio of the forward rate between 10 and 30 years to the 30-year yield as a proxy for inflationary expectations at the long end of the yield curve, we see monetary policy changes clearly. With the rather prominent exception of the 1998 crisis, Fed policy has been restrictive in general since the end of the early 1990s recession, and inflationary expectations have been low as well. However, the inversion at the long end of the yield curve has been disappearing rapidly since January, and this is unmistakable evidence of either increased inflationary expectations injecting a liquidity premium into the long end of the curve, looser monetary policy, or both. These expectations are occurring simultaneously with greater acceptance of higher crude oil prices.



Dust Off Your WIN Button

If the slowing economy and plunging euro tempt the Fed to engage in monetary stimulus, we run the risk of reversing our recent paradise of high growth and low inflation to a 1970s-style stagflation. Since oil stocks were one of the few bright spots of that woeful decade, how has this group been performing relative to the S&P 500 of late?

AMEX Oil Index Vs. S&P 500



The 15-member AMEX Oil Index underperformed the S&P 500 fairly continuously throughout the bull market, but this might be changing at last. The index is trading at a trailing P/E of 16.94, which puts it squarely in the value camp, and amazingly it's only up 9.2% so far this year. Whether any impending relative recovery in this group will endure cannot be determined at this time. If the signals being thrown off by the forward curves in crude oil futures and bonds are any indication, we're going to be in a high price and higher inflation environment for a while.

Bill Clinton had the fortune of being president during a wonderful confluence of events. The next guy might be seen walking around the White House at night talking to the portrait of Gerald Ford.