Integrated Oils' Response To Crude Oil Prices

Here's a quiz for those of you looking to ruin someone else's Fourth of July picnic: Your loud and obnoxious brother-in-law (and is there any other kind?) serves up a stock tip along with the potato salad. The stock goes up 2% next week while the broad market as measured by the S&P 500 goes up 3%.

He calls you up and shouts into the phone, "Was I right or was I right when I told you to buy, buy, buy!?" The answer is both yes and no. Yes, his "buy, buy, buy" did chalk up 2% into the win column, but no, the stock itself underperformed the broad market. But as he will not shut up on a dare, you take the path of least resistance and concede his genius wearily knowing you are going to have to endure his financial pots-and-pans banging again at some point.

Being Right And Adding Value
Too many of us forget this should be a business of building wealth slowly over time and controlling the downside exposure and focus instead on the entertainment value trading can provide. This is not unusual; globally we have cities such as Las Vegas and Macau whose economies are based on people flying hundreds of miles to play negative-expectation games in exchange for a cheap thrill or two. There they can engage in some simian chest-beating and out-of-line taunts and hopefully exorcise some deep-seated demons.

But do they add value? Incremental economics is based on performance relative to a base case such as beating the S&P 500. In our example above, the 2% "right" call underperformed the 3% benchmark and therefore did not add value.

Factor Analysis
Incremental economics and the concept of valued-added apply to commodity-linked investments in general and commodity-linked equities in particular. Let's use the case of integrated oil companies ExxonMobil, Chevron and British Petroleum and the price of crude oil as an example. Here is how the data in the charts below were calculated:

1. Add the dividend history of the three stocks back into their price history going all the way back to April 1988, 21 years, to approximate their total return;
2. Normalize that total return series against the total return of the S&P 500 to approximate how much each stock over- or underperformed the base case of simply holding an index fund;
3. Create a daily return series of this normalization; and
4. Create a rolling three-month correlation of returns history of this normalization against a daily return series of 12-month NYMEX strips

This rolling correlation of returns tells us the incremental response relative to the market each stock has as a function of changes in crude oil futures. The calendar strip allows us to account for both forward prices and to sidestep the short-term fluctuations involved with front-month crude oil futures.

The Conclusion
I have contended for years the integrated oils are a poor way to play crude oil prices. They have large downstream operations, refining in particular, for which rising crude oil prices represent greater costs unless offset by a combination of rising refining margins and volumetric throughput. Their chemical operations are subject to cyclical concerns and to rising natural gas and natural gas liquids prices. They are net buyers of crude oil for their daily operations and they face diminishing returns on large capital investments for replacing their reserves. They are subject to the tax whims of politicians everywhere and to the risk of expropriation in a large number of countries.

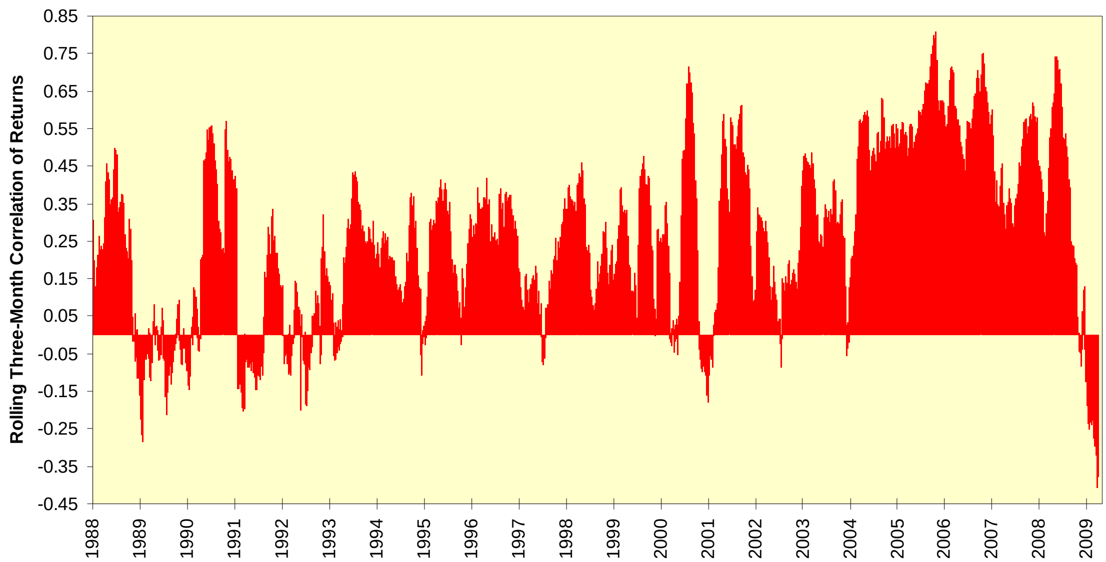
The proverbial bottom line? At no point in the history of these three firms has their incremental performance relative to crude oil prices been more negative than it is today. This is visible in the three charts below. The negative values seen in the most recent data points tell us the incremental return of the three integrated oils examined have been declining as crude oil prices have been rising from their winter lows.

In fact, the incremental return has been declining since the July 2008 peak in crude oil prices. The equity market sensed the high prices of 2008 would lead to a decline in crude oil demand growth and lower projected margins over time.

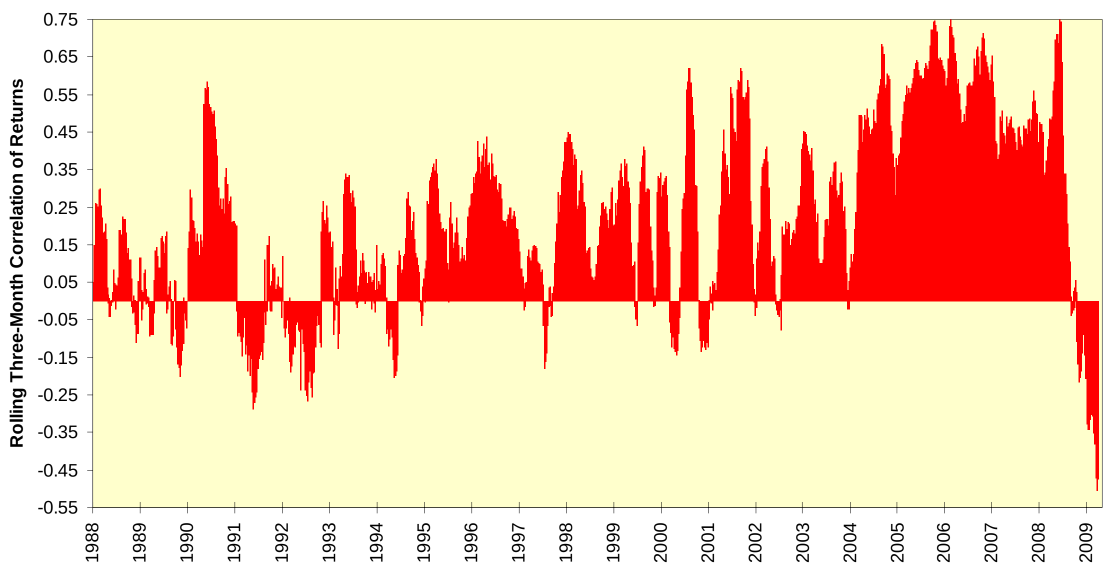
Does it matter whether the integrated oil companies' stock rose? Well, just like your brother-in-law's pick, they may have gained or lost on an absolute scale but anyone who advised you to buy them on a relative basis to simply buying an index fund or to capture rising crude oil prices added no value whatsoever.

The Histories

Incremental Return Of Chevron As A Function Of 12-Month Crude Oil Strip Prices



Incremental Return Of ExxonMobil As A Function Of 12-Month Crude Oil Strip Prices



Incremental Return Of British Petroleum As A Function Of 12-Month Crude Oil Strip Prices