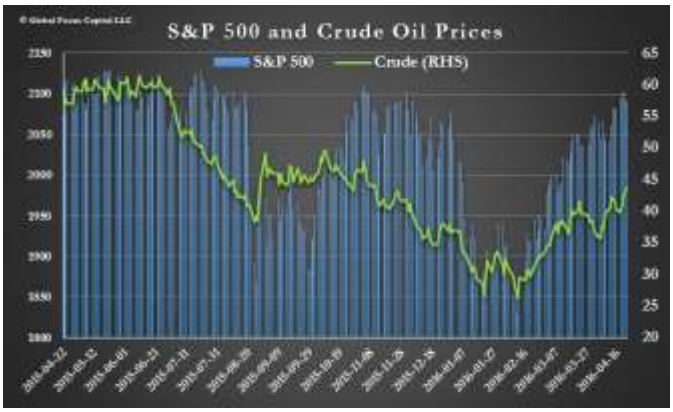
GLOBAL FOCUS CAPITAL LLC
INSIGHT THAT MATTERS

Is It Really All About Oil?



A large number of stories in the financial press this year have revolved around the relationship between equity prices and oil. In fact some commentators have focused on a recovering oil price as the key lynchpin for rising equity prices.

For example, the Wall Street Journal published an article this year "Oil, Stocks at Tightest Correlation in 26 Years". Many other publications and strategists have written pieces this year noting the close relationship between oil prices and equity index performance. The rough start to the year for risky assets, in general, left investors looking for explanations.

The human mind is conditioned to look for patterns and in the tumult of early 2016 the oil market meltdown started playing a leading role in explanations of why global equity markets were under stress. But as any econometrics professor will say "correlation is not causation". You can have two data series perfectly aligned but with no meaningful economic connection. It could also be the case that two data series are economically related but that other factors are of much greater importance.

It was not that long ago (last Fall) that global stocks staged a remarkable recovery following a summer of increasing investor risk aversion and commensurate large equity market losses while energy markets continued their downward slide into mid-February of this year.

Looking at the 20 day correlations between the S&P 500 and crude oil price changes depicts a highly variable picture. Over the last year correlations have fluctuated between 0.8 and -0.2. The most recent estimate as of April 22 stands at 0.2.

Over the last year daily price changes have been mostly positively correlated, but there has been a lot of variability. The average correlation has been 0.32 with an interquartile range of 0.29. Higher oil prices have been associated with higher S&P 500 index levels, but the relationship has been quite volatile.

We also depict correlations between stock and US bond market daily returns (Barclays Aggregate) and find similar levels of variability. In this case we find higher bond market returns being associated with lower equity returns. The average daily correlation is -0.36 with an interquartile range of 0.30.

Over the last year higher than average daily stock returns have been associated with rising oil prices and negative bond market returns. The contemporaneous effects appear slightly stronger for bonds with about equal levels of variability in the relationships.

The point of looking at bonds and oil in respect to stock returns is simply to point out that correlations will often fluctuate and appear to be meaningful but that at the end of the day there must be an economic story that provides context to the empirical observations.

Second order effects play a significant role in determining the oil to equity return relationship

. Few equity investors would dispute the importance of interest rates for equity valuation. As a first order effect, higher interest rates translate into lower present value of profits. Second order effects are no doubt present but pale in importance.

The relationship between oil price changes and equity returns is indirect. Unless oil is a direct output or input into the business structure of a firm the implications for equity returns involve second order effects.

Higher oil prices could signify increasing energy demand due to rising economic growth expectations. In this scenario companies sensitive to rising levels of broad economic activity would exhibit higher levels of top-line and hopefully earnings growth. A positive association between oil prices and equity returns would be expected in this simplified scenario.

Higher oil prices could, however, also be associated with lower levels of supply. A leftward shift in the supply curve reflecting lower available quantities of oil along with an unchanged demand picture would lead to higher oil prices. Assuming that most companies are net consumers of energy, rising oil prices should lead to diminished levels of profitability. The resulting association between oil price changes and returns would thus be negative.

The relationship between oil and equity market returns is thus highly context specific. Assessing current oil market dynamics combined with a slowing global growth picture leads us to the conclusion that the key driver behind the recent oil price recovery is supply driven.

Ongoing supply cutbacks in high cost regions are already happening or at the very least are expected to start taking effect. The recent Doha meeting failed to reach a supply agreement, but OPEC cartel members seem attuned to the perils of further price wars especially in terms of their own fiscal imbalances. It is not clear without a breakout in global economic growth that $20 / barrel would be beneficial to any of the major producing powers.

The current financial press interpretation of rising oil prices being positive for equity markets seems misplaced in our opinion. Market disorder is never a welcome condition for investors but given that we attribute the higher oil price to supply curtailment we would expect a negative association to broad stock market returns. We see the current positive association masquerading other more important capital market relationships.

Looking at oil price changes through a risk management lens.

As part of our risk management disciplines we estimate the sensitivity of key asset class returns to various macroeconomic factors. We employ weekly return intervals as daily estimates are subject to significant asynchronies (due to different market hours and time zones).

Our risk management system measures sensitivities of asset class returns to among others global equity and bond market returns, credit spreads, yield curve term horizons, currency movements, inflationary expectations and commodity prices.

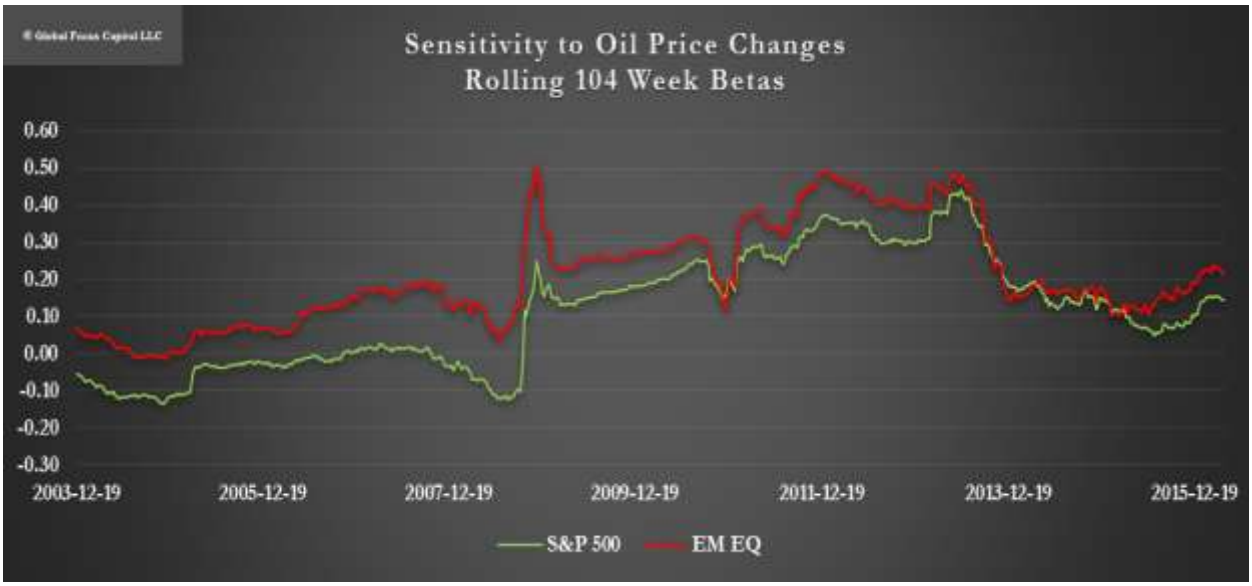
While sensitivities vary over time the two most important risk exposures invariably turn out to be to factors related to global equity and bond market returns. Equity sub-asset classes will gravitate toward the central tendency for the global equity market and high-quality fixed income investments will likewise be strongly linked to sovereign bond market developments.

Estimating asset class sensitivities in a vacuum is usually a recipe for misplaced conclusions. In econometric theory this issue is usually referred to as "omitted variables bias". Estimating oil price sensitivities without accounting for the effect of other important variables such as the global equity and bond market factors is an example of this type of misspecification.

What you see is not always what you get.

The chart below calculates the sensitivity sometimes known as beta of the S&P 500 and the MSCI Emerging Markets Index to weekly oil price changes over rolling 2 year intervals. In this setting the betas are intimately related to pairwise correlations as the calculated beta is a function of the correlation adjusted for volatility differences of stock returns and oil price changes.

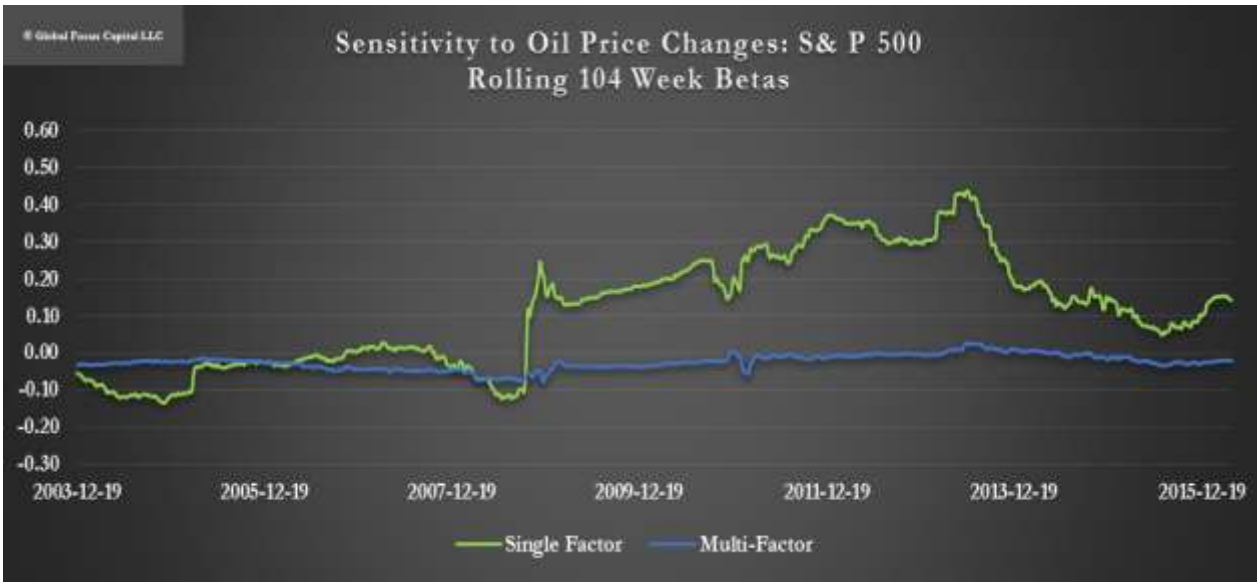
These betas were prior to 2008 fairly close to zero. Most of these estimates were statistically insignificant. From about 2009 to late 2013 we note rising levels of sensitivity for both EM and US equities. Since then the trend in sensitivity has been down with only the last few months showing an upward drift.



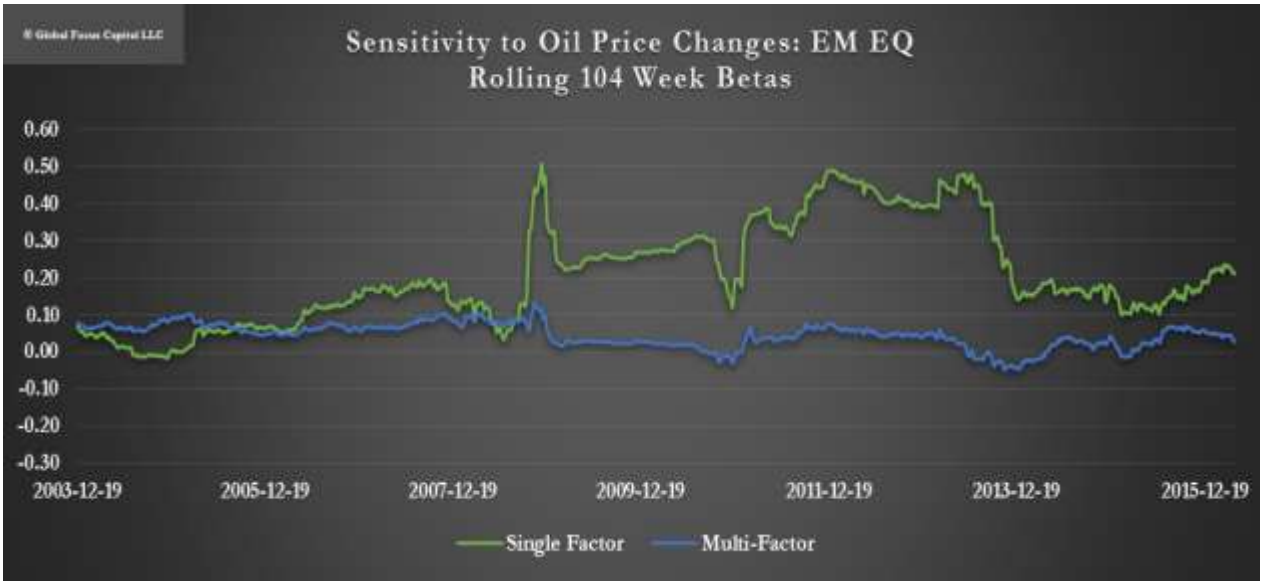
As of April 22 the beta of the S&P 500 was roughly 0.14 while that of the MSCI EM Equity Index was 0.2. Since 2009 most betas have been statistically significant. On the surface, oil prices seem mildly positively related to stock market returns.

But what investors are failing to account for is the effect of other important factors. Once other typical factors are included in the estimation procedure the sensitivity and statistical significance of oil price changes drop off considerably.

The chart below depicts the betas estimated previously in a stand-alone manner (green line) as well as betas (blue line) estimated from a multi-factor model including the typical host of other risk factors. The differences are stark. Once one includes other factors in the estimation the betas of oil price changes become essentially zero for the S&P 500.

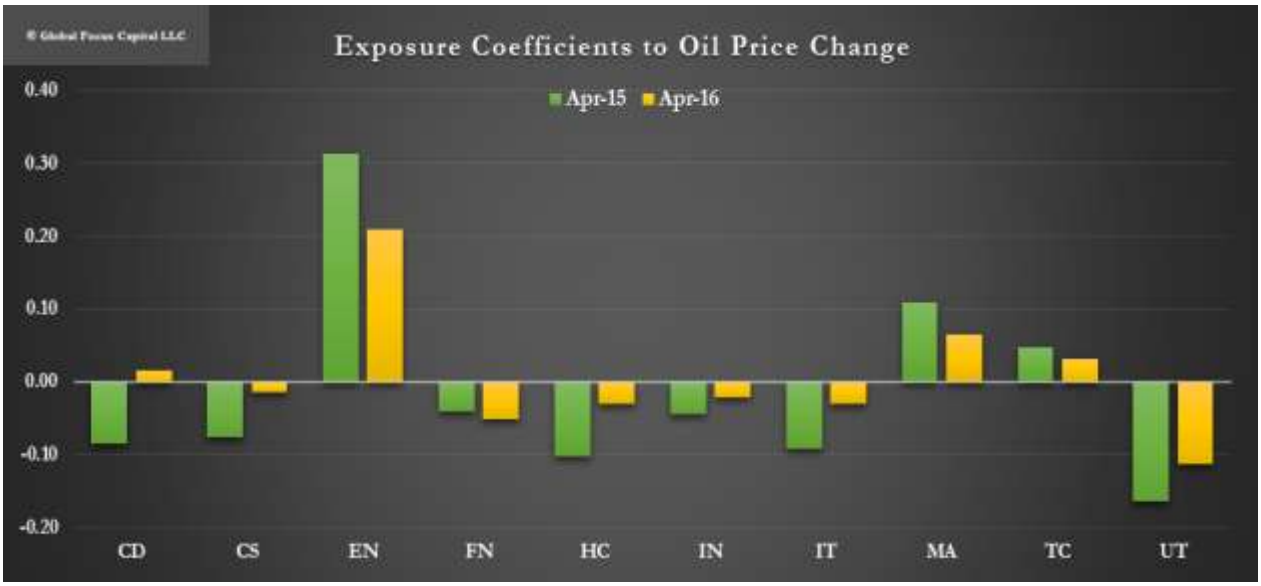


What about for emerging equity markets? After all given the economic significance of oil to several of the largest emerging market economies should the sensitivity not remain high?



Again we see the same result as for US stocks. Other factors such as global equity and bond markets remain more important.

What type of results do we get at the level of economic sectors? Here we plot the ten GICS sectors for the S&P 500 at two different points in time – as of mid-April 2015 and 2016. We actually see less sensitivity to oil in the latter period (lower betas). This result applies even to Energy stocks where the beta dropped from 0.3 to 0.2 over the last year. Utilities, one of the strongest performers for 2016, exhibit negative betas to oil price changes but again the sensitivity has dropped from a year ago. Materials does show some sensitivity probably due to high correlations of oil to other commodities but the current beta is only 0.06.



The key lesson to us from our analysis is that commonly heard explanations for asset return drivers are often incomplete and in some cases highly misleading.

Every market environment has its own context and no single factor in isolation will ever be able to fully explain the complexities of market behavior. Even in hindsight it is often hard to pin down a story that holds up to serious research.

Best to stay humble and realize that over shorter time periods capital markets will always be subject to a lot of noise of no material significance to long-term investors.

Eric J. Weigel, ***Managing Partner of Global Focus Capital LLC***

Feel free to contact us at Global Focus Capital LLC (mailto:eweigel@gf-cap.com or visit our website at http://gf-cap.com to find out more about our asset management strategies, consulting solutions and research subscriptions.