# Behavioral Finance
# 360° Behavioral View
**May 2015**

***Our Periodic Review Exploring Multiple Topics Related to Behavioral Finance***

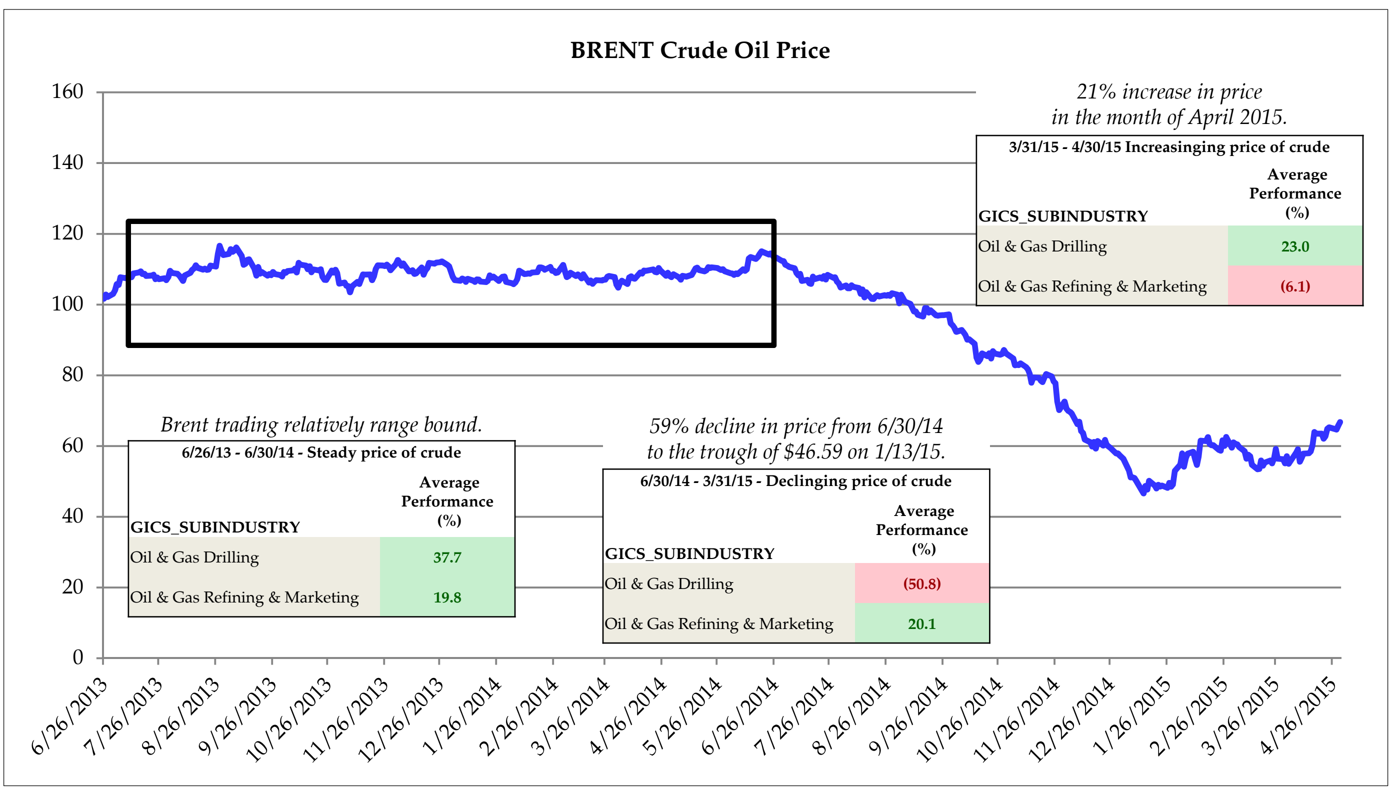
**• Market Driven • Economic • Psychological • Probabilistic • Investable •**

## Market Inflections…Sometimes the Tides Shift; Sometimes it is Just a Head Fake

**The recent volatility in the price of oil has provided a good backdrop to review how Sterling's Behavioral Equity Strategies dynamically adjust to changing market fundamentals and sentiment.**

### Oil Price Recap

Oil traded in a fairly tight range around $110 since the middle of 2013. That all changed in the middle of 2014 when oil started its descent that ultimately lead to an almost 60% decline in price where the trough was reached on January 13, 2015 at a price of $46.59. April saw another significant shift in the energy markets. Brent crude oil rallied from $55.11 to $66.78 in the month of April (a 21% gain in the period of a month). This completely reversed the negative returns associated with Brent (3.9%) in the first quarter.



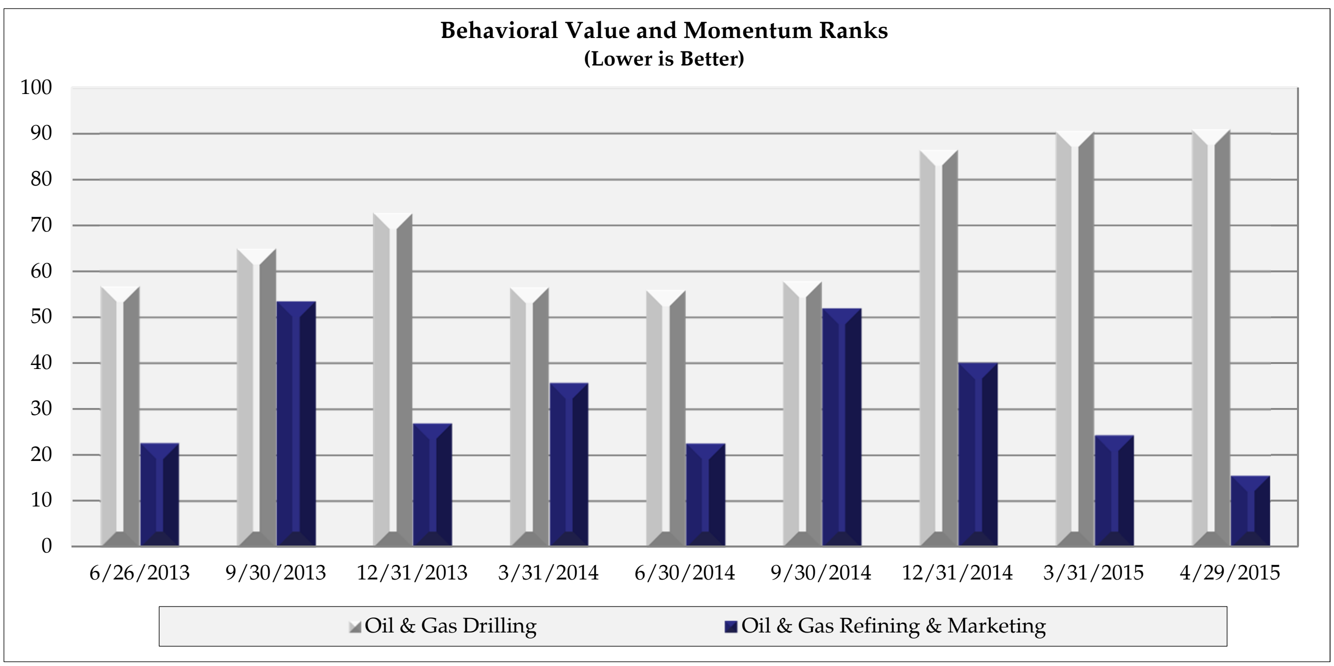

Data as of 4/30/15. Source: Bloomberg, Sterling Capital Management Analytics.

## Energy Sub Industry Analysis

Oil and gas drilling companies are heavily levered to the price of oil (they also have a fair degree of financial leverage). At $110 a barrel, drilling can be quite lucrative. Indeed, from the middle of 2013 through the middle of 2014 US large and midcap drillers' average return was over +37%. This contrasted with the refiners (less impacted by the price of oil) which had an average return of just over +19% during the same period. As the price of oil fell significantly, the drillers significantly underperformed the refiners; average returns of -50% relative to +20% respectively. As the price of oil rebounded in April, those companies more highly levered to the price of oil such as the drillers massively outperformed those less levered to the price of oil as evidenced by the drillers average April 2015 return of +23% relative to the refiners of just shy of -6%. During the rebound in price of oil we saw in April, the drillers significantly outperformed the refiners as the prospect of higher oil prices on drillers earnings going forward was viewed favorably by the market.

## Sterling Capital Behavioral Portfolio Construction – A Dynamic Investment Process

Integral to our portfolio construction process is our stock ranking methodology that seeks to capitalize upon investor biases and heuristics (rules of thumb). Each of our behaviorally driven momentum and value factors is ranked relative to the entire investment universe (in the case of large cap, the largest 1,000 stocks by market cap). The ultimate result leads to a portfolio of stocks that is cheaper than and has more momentum than the associated benchmark index. Sterling's behavioral value and momentum ranks are dynamic: they adjust as new information enters the market.

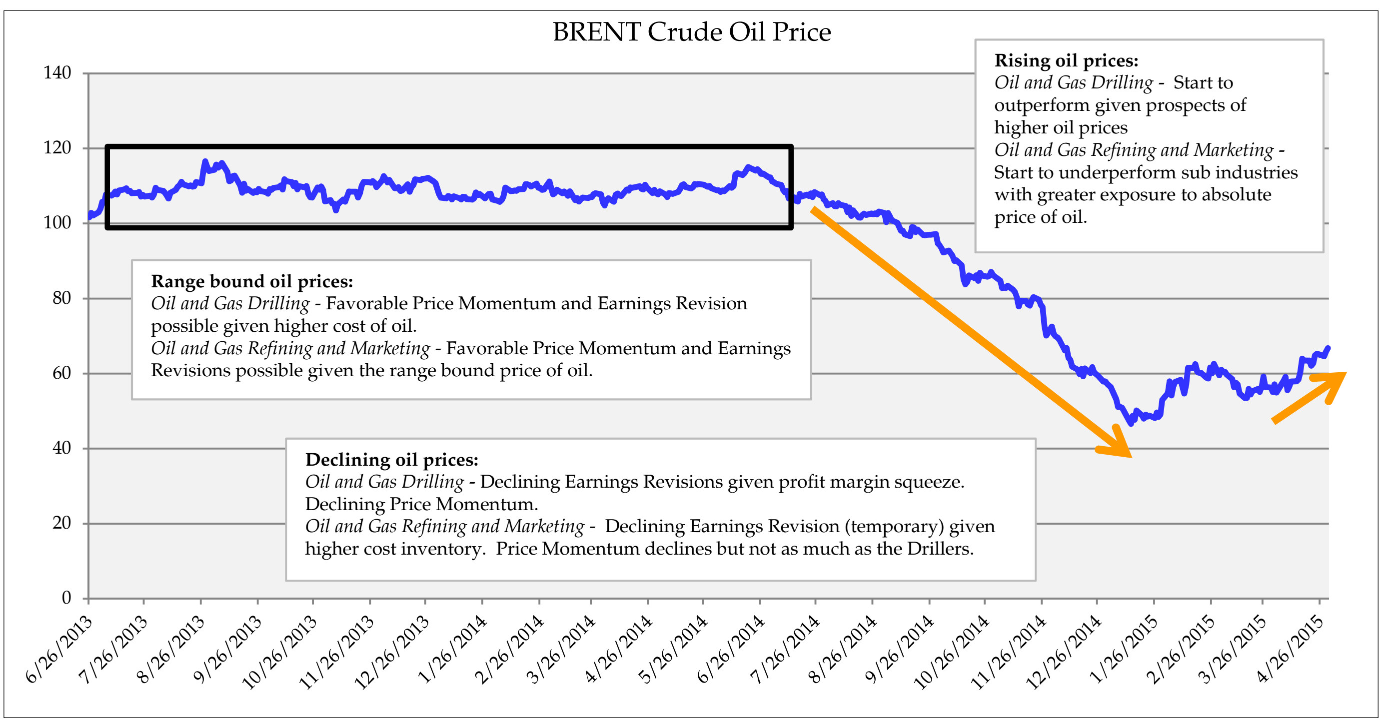



Data as of 4/29/15. Source: Bloomberg, Sterling Capital Management Analytics.

Using the previous two sub industries as an example, one can see ranks adjust as new information comes to market.

*Oil and Gas Refining and Marketing – A sub- industry that is less sensitive to absolute price of oil*
US Large and Midcap refiners have exhibited favorable value and momentum traits to various degrees from the middle of 2013 through today. What is interesting is that their ranks deteriorated at the margin as the price of oil moved. In the time series ranks listed above one can see a noticeable decline in rank between June and December 2014 in tandem with the fall in oil prices. This was largely driven by momentum, specifically our behaviorally based Price Momentum coupled with Earnings Revisions as analysts took into account the fact that refiners had a bunch of higher cost inventory (oil) on their books that they would have refine and sell at lower prices. Once these adjustments were made, refiners enjoyed a period of attractive relative returns as the costs of goods (oil) were aligned with their proceeds (gasoline, other refined products).

*Oil and Gas Drilling – A sub- industry that is more sensitive to absolute price of oil*
This sub-industry is highly levered to the absolute price of oil (the higher the price, the more profitable). Despite the average (hovering between the 50 and 60th percentile meaning average behavioral value and momentum traits) constituent ranks of the sub-industry during the boom times, there were companies in it that were attractive when the price of oil was trading around $110/barrel. Once the oil price decline commenced, as can be expected, momentum collapsed led by earnings revisions as analysts took down future earnings estimates which was followed by deterioration in price momentum. Unlike the refiners, the momentum didn't re-establish itself. This was due to the fact that this subindustry is more sensitive to the absolute price of oil, at a price in the mid $40's drilling for oil is nowhere near as lucrative as $60 never mind $110.




Data as of 4/30/15. Source: Bloomberg.

## A Tale of Two Portfolios, or More Applicably a Portfolio in Transition:

As the price of oil collapsed, our behavioral large cap value strategy dynamically shifted energy exposure from a stance that was positioned to capture the high price of oil to one that was less susceptible to the price of oil. Below are three different periods showing the energy exposure of a Behavioral Large Cap Value representative account. The first two cuts show how we were positioned at peak oil, the last how the portfolio had shifted exposure as the price of oil declined. In the first two time periods, notice how our overall exposure to sub-industries that are more levered to the absolute price of oil is little changed. Contrast this with the 12/31/14 portfolio. Note how the portfolio dynamically adjusted to sub-industries less driven by the absolute price of oil.

| | | **6/30/2013** | **% of Energy Exposure** | |
|---|---|---|---|---|
| Sensitivity to Absolute Price of Oil | More | Oil & Gas Drilling | 8% | |
| | | Oil & Gas Equipment & Services | 15% | |
| | | Oil & Gas Exploration & Production | 15% | 38% |
| | Less | Oil & Gas Storage & Transporta | 0% | |
| | | Oil & Gas Refining & Marketing | 45% | |
| | | Integrated Oil & Gas | 18% | |
| | | Coal & Consumable Fuels | 0% | 62% |
| | | **6/30/2014** | **% of Energy Exposure** | |
| Sensitivity to Absolute Price of Oil | More | Oil & Gas Drilling | 12% | |
| | | Oil & Gas Equipment & Services | 24% | |
| | | Oil & Gas Exploration & Production | 5% | 41% |
| | Less | Oil & Gas Storage & Transporta | 0% | |
| | | Oil & Gas Refining & Marketing | 41% | |
| | | Integrated Oil & Gas | 18% | |
| | | Coal & Consumable Fuels | 0% | 59% |
| | | **12/31/2014** | **% of Energy Exposure** | |
| Sensitivity to Absolute Price of Oil | More | Oil & Gas Drilling | 4% | |
| | | Oil & Gas Equipment & Services | 12% | |
| | | Oil & Gas Exploration & Production | 0% | 16% |
| | Less | Oil & Gas Storage & Transporta | 22% | |
| | | Oil & Gas Refining & Marketing | 62% | |
| | | Integrated Oil & Gas | 0% | |
| | | Coal & Consumable Fuels | 0% | 84% |

Source: Sterling Capital Management Analytics

## Conclusion

Our Behavioral based strategies are specifically designed to trade on actual shifts in fundamentals and sentiment, not market "head fakes." Over time more often than not the market will go one direction in the short term only to turn on a dime and head the other direction. As the price of oil continues to climb the odds are increasing that the portfolio will self-adjust and gain more exposure to those sub-industries that have greater exposure to the absolute level of oil as it becomes more attractive to own them. That said it is futile to try to game the investment process. As of this time, our investment process has not adjusted the portfolios due to this increase in oil price. One should be rest-assured, if the trend persists (and or the price of oil doesn't go back down and fundamentals support an adjustment), much as we saw the adjustment occur on the way down to holdings less sensitive to the price of oil, we will likely see the portfolio positions adjust and ultimately own more names that are levered to the absolute price of oil.