

When To Switch Horses

Energy Betas And Implications On Performance

Energy stocks have benefited from the recent surge in crude prices. During March, WTI crude futures spiked to a monthly average of \$103 per barrel, up 15% from February's average of \$90 per barrel. In similar fashion, the S&P Energy Sector (comprised of 40 companies) improved 16.3% during the first quarter of 2011. We would note this is 3 times the broader market's average performance over the same period, as the S&P 500 index returned 5.4%.

First Quarter S&P 500 Returns - By Sector

S&P 500 Sectors	1Q11
Utilities	1.6%
Telecommunication	3.5%
Materials	4.1%
Information Technology	3.2%
Industrials	8.2%
Health Care	5.0%
Financials	2.8%
Energy	16.3%
Consumer Staples	1.7%
Consumer Discretionary	4.4%
S&P 500	5.4%

Source: Standard & Poors

With oil hitting and now coming off a new peak, as traders continue to watch the volatility and react to the troubles in North Africa/Middle East, along with the daily gyrations of the U.S. dollar; this seems a good time to delve into the cyclical nature of the energy markets and some implications.

We calculated and made observations based on relative betas and stock price performances over the last five major trading cycles, comparing the S&P Energy Sector's constituents against the overall sector itself. Our goal was to map each constituent's trading patterns relative to the S&P Energy Sector index in order to determine the strongest gainers and most consistent energy stocks during both up and down cycles.

On average, energy stocks exhibiting the highest betas relative to the S&P Energy sector outperformed the sector during upswings and underperformed during declines. While the averages were consistent with our expectations, we did find some anomalies. Two of the top-three gainers (Tesoro averaged +542%, Southwestern Energy averaged +344%) when cycles trended upwards were companies exhibiting betas of less than one. Both companies however had short-term betas that well exceeded the norm during the August 5, 2002 to May 5, 2005 time-frame when each achieved the bulk of their returns for all five of the up cycles. Moreover, Tesoro actually posted negative returns during two of the five upcycles. From a vantage looking for consistency, the biggest standout during the five upswings was National Oilwell Varco. NOV was the only member of the S&P Energy Sector to post triple-digit gains over four of the five cycles.

The fact that higher beta stocks on average outperformed lower beta stocks during upswings should come as no surprise. However, the average superior performance by high beta energy stocks during good times was quite extraordinary. Before we get into these details, we draw your attention to the following table as it provides a breakdown of betas not just by company but also by industry groups.

S&P 500 Energy Sector Betas - By Industry

Company	Beta	Industry
Peabody Energy	1.33x	Coal E&P
CONSOL Energy	1.21x	Coal E&P
Massey Energy	1.16x	Coal E&P
Average Coal E&P	1.23x	
National Oilwell Varco	1.29x	OFS Equipment Manufacturing
Cameron	1.15x	OFS Equipment Manufacturing
FMC Technologies	1.10x	OFS Equipment Manufacturing
Avg. OFS Equip Manufacturing	1.18x	
Rowan Companies	1.26x	Contract Drilling
Nabors Industries	1.20x	Contract Drilling
Helmerich & Payne	1.13x	Contract Drilling
Diamond Offshore	1.06x	Contract Drilling
Average Contract Drilling	1.16x	
Philadelphia Oil Service Sector Index	1.12x	
QEP Resources	NM	Oil & Gas E&P
Chesapeake	1.10x	Oil & Gas E&P
Pioneer Natural Resources	1.06x	Oil & Gas E&P
Denbury Resources	1.05x	Oil & Gas E&P
Newfield Exploration	1.02x	Oil & Gas E&P
Cabot Oil & Gas	1.02x	Oil & Gas E&P
Average Oil & Gas E&P	1.05x	
Halliburton	1.10x	Oil Field Services
Baker Hughes	1.06x	Oil Field Services
SLB	0.97x	Oil Field Services
Average Oil Field Services	1.04x	
S&P Energy Sector	1.00x	
Noble Energy	1.01x	Independent Oil & Gas
Range Resources	1.00x	Independent Oil & Gas
Anadarko Petroleum	0.99x	Independent Oil & Gas
Apache	0.99x	Independent Oil & Gas
EOG Resources	0.98x	Independent Oil & Gas
Southwestern Energy	0.96x	Independent Oil & Gas
Devon Energy	0.92x	Independent Oil & Gas
Occidental Petroleum	0.84x	Independent Oil & Gas
Murphy Oil	0.83x	Independent Oil & Gas
Average Independent Oil & Gas	0.95x	
Spectra Energy	1.12x	Oil & Gas Pipelines
El Paso	1.01x	Oil & Gas Pipelines
EQT Corporation	0.66x	Oil & Gas Pipelines
Williams Companies	1.00x	Oil & Gas Pipelines
Average Oil & Gas Pipelines	0.95x	
Tesoro	0.95x	Refining
Valero	0.87x	Refining
Sunoco	0.76x	Refining
Average Refining	0.86x	
Hess	0.92x	Integrated Oil & Gas
Marathon Oil	0.86x	Integrated Oil & Gas
ConocoPhillips	0.72x	Integrated Oil & Gas
Chevron	0.63x	Integrated Oil & Gas
Exxon Mobile	0.58x	Integrated Oil & Gas
Average Integrated Oil & Gas	0.74x	

Source: Rigzone, Standard & Poors

We would note that the line of distinction between high betas and low betas is one. All stocks with a beta greater than one were considered high beta stocks for the averages in the tables. Conversely, all stocks with betas less than one were considered low beta stocks when averages were calculated.

As the following table presents, average returns of high beta energy stocks were nearly twice the average of all other energy stocks in the S&P Energy Sector during upswings.

Returns for S&P Energy Sector During Upswings

Up Cycles	Average Performances			
	S&P 500 Energy Sector	OSX Index	High Beta	Low Beta
Aug 31, 2010 - Mar 31, 2011	63%	73%	83%	49%
Oct 3, 2006 - Jul 1, 2008	122%	106%	183%	78%
Aug 5, 2002 - May 5, 2006	290%	233%	625%	294%
Sep 26, 2001 - May 3, 2002	32%	87%	62%	30%
Apr 17, 2000 - May 21, 2001	47%	32%	61%	86%
Average Return	111%	106%	203%	107%

Source: Rigzone, Standard & Poors, NYSE

The next table illustrates that lower beta energy stocks perform better than both higher beta stocks and the average for the S&P 500 Energy sector during downturns. Interestingly, in a depressed market for energy the disparity between high and low beta stocks

Returns for S&P Energy Sector During Downturns

Down Cycles	Average Performances			
	S&P 500 Energy Sector	OSX Index	High Beta	Low Beta
Apr 26, 2010 - Jun 30, 2010	-21%	-28%	-24%	-15%
Jul 1, 2008 - Dec 4, 2008	-55%	-62%	-59%	-42%
May 5, 2006 - Oct 3, 2006	-23%	-26%	-27%	-13%
May 3, 2002 - Aug 5, 2002	-36%	-37%	-47%	-25%
May 21, 2001 - Sep 26, 2001	-44%	-56%	-48%	-31%
Average Return	-36%	-42%	-41%	-25%

Source: Rigzone, Standard & Poors, NYSE

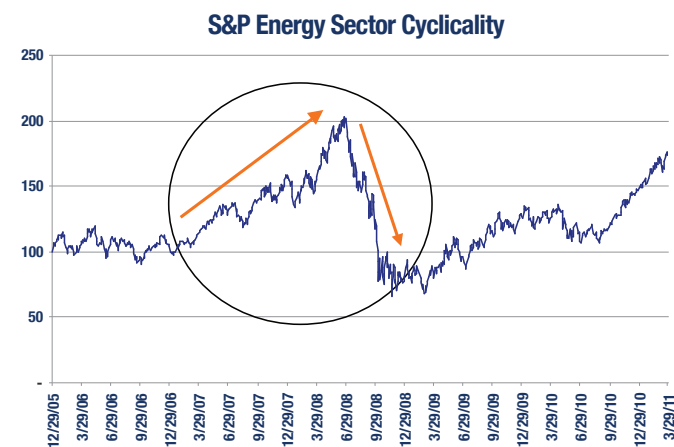
is not as noticeable as what occurs when energy stocks are on the rise. Still, observations of historical data clearly indicate that when it comes to playing the energy markets; optimal returns require investors to switch between high and low beta stocks depending on the direction of overall trend of the energy sector.

Additionally, in both our tables displaying average stock performances during up cycles and down cycles; we calculated betas for each of the up cycles and each of the down cycles. Thus, a stock with a high beta (over the fifteen years we observed) may have had a low beta during a specific cycle (if its beta for the cycle was less than one) and vice-versa.

During cycles where a stock's beta was at odds with its long-term beta, the average performance was included with the group to which its short-term beta corresponded. Interestingly, there were just a few stocks whose betas for each cycle were entirely consistent with their long-term beta, whether they were high or low beta stocks.

National Oilwell Varco and Rowan Companies were the only two high beta companies that exhibited high betas during all of the cycles. Exxon Mobile, ConocoPhillips, Murphy Oil, EQT Corp, Marathon, Chevron, and Sunoco were the only low beta companies that exhibited this trait through each of the cycles. The remaining 31 companies flip-flopped at least once or did not participate in all the cycles.

The Cyclical Nature of Energy Stocks



Source: Rigzone, Standard & Poors, NYSE

A round trip, in trading terms, occurs when a company or industry experiences significant gains over a period of time and then subsequently falters with prices returning to levels seen before the original surge. The circled area in the chart above illustrates a recent example of a round trip pattern for an equally-weighted portfolio of the forty stocks that are constituents of the S&P Energy Sector. Prior to the recent uptrend in the energy markets that began last September, the return for the past five years was just 10% or +1.9% per annum (from Aug. 31, 2005 – Aug. 31, 2010).

We point this fact out because people tend to remember the spike in oil in 2008 but do not recall that oil prices from Aug '05 to Aug '10 oil prices only changed by 4%. So, while timing the markets is generally thought of in abhorrent terms and not considered a valid investment strategy; the buy-and-hold strategy applied to energy investments would typically result in inferior returns relative to the broader markets over the long run.

Mitigating Cyclicity

An alternative strategy for playing the S&P 500 Energy sector would be to take a market neutral position (i.e. long/short). We would note that historical returns are not a predictor of future performance. With that said, the best long/short idea based on both stock performance and betas over the past three years would be going long a coal producer and shorting a refiner, as playing these two industries against one another would likely produce the greatest alpha (i.e. farthest distance between y-intercepts). However, in an environment where the energy sector is trending down on lower commodity prices, the favorable long/short play would be long integrated oil companies and short oil field service firms.

The following table provides both betas and stock performances for the entire S&P Energy Sector with the last five up cycles and the last five down cycles averaged for each firm. The betas were calculated over the past 15 years and the stock performances are for major cycles occurring over the past 10 years.

S&P 500 Energy Sector

Ticker	Beta	Up Cycle Average	Down Cycle Average
BTU	1.33x	380%	-40%
NOV	1.29x	178%	-48%
RDC	1.26x	91%	-45%
CNX	1.21x	270%	-45%
NBR	1.20x	117%	-47%
MEE	1.16x	221%	-56%
CAM	1.15x	102%	-40%
HP	1.13x	144%	-40%
SE	1.12x	36%	-27%
OSX	1.12x	106%	-42%
FTI	1.10x	154%	-33%
HAL	1.10x	167%	-43%
CHK	1.10x	205%	-37%
DO	1.06x	126%	-38%
PXD	1.06x	105%	-31%
BHI	1.06x	106%	-37%
DNR	1.05x	216%	-29%
NFX	1.02x	82%	-31%
COG	1.02x	153%	-33%
EP	1.01x	39%	-38%
NBL	1.01x	102%	-29%
S&P Energy	1.00x	111%	-36%
WMB	1.00x	215%	-42%
RRC	1.00x	279%	-28%
APC	0.99x	92%	-36%
APA	0.99x	106%	-28%
EOG	0.98x	143%	-29%
SLB	0.97x	103%	-35%
SWN	0.96x	344%	-24%
TSO	0.95x	542%	-34%
DVN	0.92x	100%	-26%
HES	0.92x	106%	-31%
VLO	0.87x	192%	-27%
MRO	0.86x	103%	-21%
OXY	0.84x	120%	-19%
MUR	0.83x	89%	-24%
SUN	0.76x	99%	-4%
COP	0.72x	84%	-23%
EQT	0.66x	83%	-22%
CVX	0.63x	52%	-14%
XOM	0.58x	47%	-11%
QEP	NM	40%	NA

Source: Rigzone, Standard & Poors, NYSE

A complimentary spreadsheet that includes all supporting information used in this article is available upon request to all our Riglogix subscribers. Simply email tcowan@rigzone.com with "Beta Request" in the subject line. Those interested in a subscription to Riglogix should contact tkimball@rigzone.com.