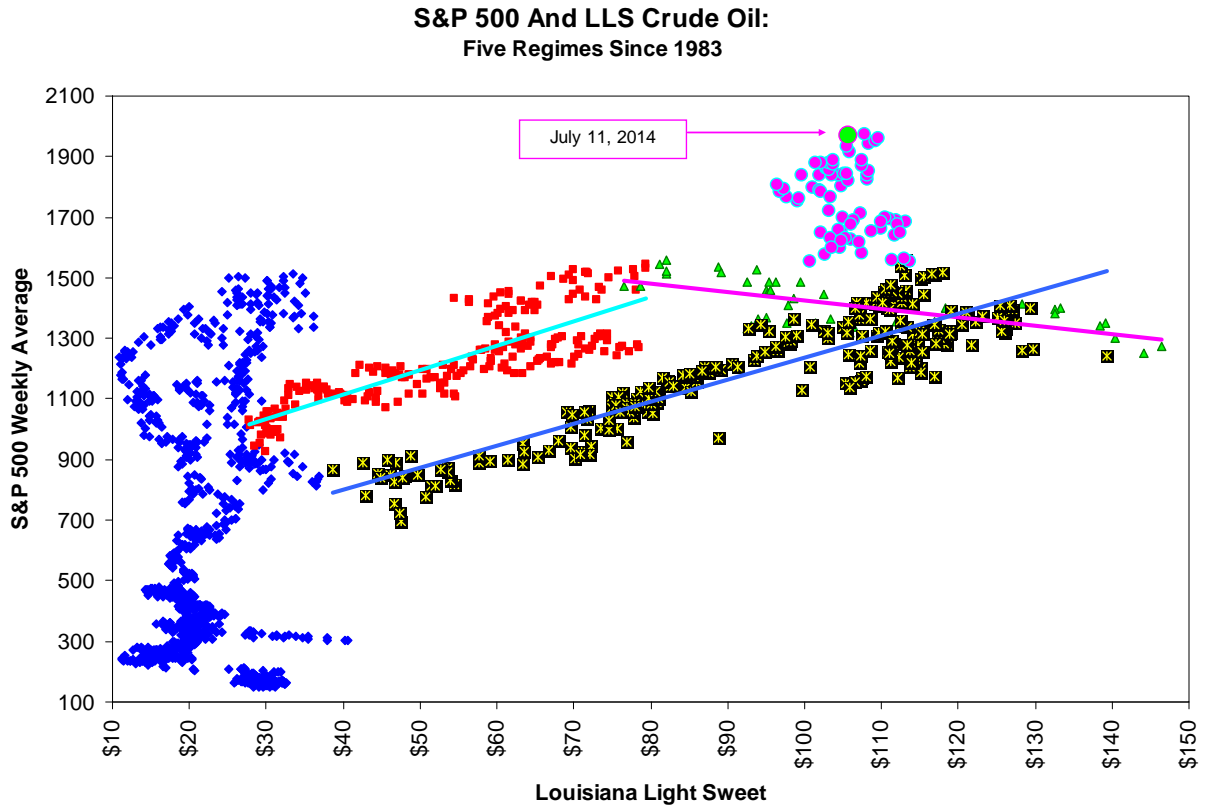


## Crude Oil Price Decline To Have Small Impact On U.S. Equities

August WTI crude oil futures have had a rough go of it since June 25, 2014, taking it on the chin and elsewhere for a 5.5% decline. In a question that would have appeared to be self-answering in both directions at different times over the past 30 years, is this good or bad news for the U.S. stock market?

Let's map the relationship between the weekly averages of Louisiana Light Sweet (LLS) crude oil and the S&P 500 index from January 1983 onwards. I use LLS instead of the West Texas Intermediate (WTI) basis for the NYMEX crude oil contract as its price history was not affected by the mid-continent discount at Cushing, Oklahoma, and as it trades in a tighter spread to Brent at the U.S. Gulf Coast.



The history can be broken into five regimes. The first (blue markers, left-hand chart) is from January 1983 until the May 2003 declaration of war on deflation by the Federal Reserve. The second, from May 2003 through the August 2007 abandonment of monetary discipline by the Federal Reserve (red markers) shows a decisively positive relationship between U.S. equities and crude oil prices. The third, from September 2007 through the July 2008 high in crude oil (green markers) had been the only period wherein a negative relationship is demonstrable. The fourth sample (black and yellow markers) extended from July 2008 to March 2013.

A fifth regime beginning in March 2013 (turquoise and magenta markers) is characterized by a strongly negative beta of -6.81 as opposed to the previous 7.29. This negative beta was produced by rising equity valuations in the face of falling crude oil prices. It differs causally from the Regime 3 relationship of falling equities associated with rising crude oil prices.

### Industry Group Impact

The implication here is the decline in crude oil prices will help the broad market far more than it will hurt stocks in selected industry groups. Let's move on from correlation to the statistical measure of partial contribution of 18-month crude oil strip prices to the relative performance of S&P industry groups vis-à-vis the S&P 1500 Supercomposite. The table below shows the groups with positive and negative partial contributions at a 90% significance level, their weight in the Supercomposite, their beta and the product of weight and beta.

Crude Oil Beta-Weighted Impact On S&P 1500							
	SPR	CL	Weighted		SPR	CL	Weighted
	Weight	Beta	Beta		Weight	Beta	Beta
Pharmaceuticals	5.45%	0.162	0.009	Oil & Gas Exploration	2.30%	0.383	0.009
Integrated Telecommunications	2.03%	0.214	0.004	Oil & Gas Equipment	1.54%	0.370	0.006
Household Products	1.74%	0.219	0.004	Multisector Holdings	1.18%	0.278	0.003
Electric Utilities	1.60%	0.230	0.004	Integrated Oil & Gas	3.75%	0.075	0.003
Soft Drinks	1.55%	0.179	0.003	Asset Management & Custodial Banks	1.22%	0.172	0.002
Biotech	2.32%	0.109	0.003	Life & Health Insurers	0.93%	0.217	0.002
Packaged Foods	1.44%	0.175	0.003	Investment Banking & Brokerage	0.87%	0.196	0.002
Hypercenters & Superstores	0.87%	0.286	0.002	Industrial Machinery	1.1%	0.162	0.002
Tobacco	1.22%	0.179	0.002	Oil & Gas Drilling	0.35%	0.433	0.002
Multiline Utilities	1.10%	0.180	0.002	Construction & Farm Machinery	0.72%	0.200	0.001
Restaurants	1.27%	0.133	0.002	Regional Banks	1.54%	0.091	0.001
Home Improvement Retailers	0.86%	0.133	0.001	Semiconductors	1.8%	0.069	0.001
Drug Retailers	0.75%	0.146	0.001	Oil & Gas Refining	0.64%	0.181	0.001
Healthcare Equipment	2.0%	0.051	0.001	Communications Equipment	1.63%	0.067	0.001
General Merchandise Retailers	0.39%	0.234	0.001	Diversified Chemicals	0.76%	0.142	0.001
Property & Casualty Insurers	0.9%	0.095	0.001	Multiline Insurers	0.65%	0.164	0.001
IT Consulting & Services	1.53%	0.049	0.001	Application Software	0.94%	0.094	0.001
Healthcare Distributors	0.52%	0.119	0.001	Electrical Components & Equipment	0.76%	0.113	0.001
Cable & Satellite	1.10%	0.056	0.001	Diversified Metals & Mining	0.2%	0.400	0.001
Airlines	0.29%	0.206	0.001	Steel	0.24%	0.346	0.001
Air Freight & Logistics	0.67%	0.073	0.000	Auto Parts & Equipment	0.38%	0.170	0.001
Apparel Retailers	0.63%	0.069	0.000	Fertilizers & Agricultural Chemicals	0.48%	0.129	0.001
Healthcare Services	0.58%	0.074	0.000	Construction & Engineering	0.24%	0.253	0.001
Automotive Retailers	0.35%	0.117	0.000	Apparel & Accessories	0.57%	0.101	0.001
Footwear	0.36%	0.099	0.000	Life Sciences Tools & Services	0.56%	0.099	0.001
Retail REITs	0.62%	0.055	0.000	Commodity Chemicals	0.23%	0.217	0.001
Food Retailers	0.29%	0.109	0.000	Electronic Equipment & Instruments	0.23%	0.196	0.000
Residential REITs	0.40%	0.075	0.000	Semiconductor Equipment	0.34%	0.121	0.000
Insurance Brokers	0.33%	0.084	0.000	Railroads	0.83%	0.049	0.000
Food Distributors	0.14%	0.163	0.000	Consumer Finance	0.89%	0.041	0.000
Environmental Services	0.26%	0.081	0.000	Broadcast & Cable TV	0.33%	0.099	0.000
Distillers & Vintners	0.2%	0.085	0.000	Building Products	0.18%	0.183	0.000
Reinsurance	0.12%	0.099	0.000	Electronic Comp	0.27%	0.118	0.000
Gas Utilities	0.2%	0.046	0.000	Homebuilding	0.20%	0.135	0.000
Computers & Electronics Retailers	0.07%	0.113	0.000	Hotels	0.29%	0.089	0.000
Brewers	0.06%	0.087	0.000	Consumer Electronics	0.08%	0.310	0.000
Water Utilities	0.03%	0.150	0.000	Aluminum	0.08%	0.309	0.000
Alternate Carriers	0.03%	0.124	0.000	Paper Products	0.16%	0.128	0.000
				HR & Employment Services	0.14%	0.146	0.000
				Real Estate Services	0.07%	0.306	0.000
				Construction Materials	0.1%	0.179	0.000
				Casinos & Gaming	0.15%	0.129	0.000
				Technology Distributors	0.13%	0.149	0.000
				Industrial REITs	0.1%	0.169	0.000
				Electrical Equipment Manufacturing	0.15%	0.127	0.000
				Trading Companies	0.27%	0.067	0.000
				Home Entertainment Software	0.06%	0.223	0.000
				Advertising	0.15%	0.081	0.000
				Tires & Rubber	0.03%	0.300	0.000
				Home Furnishings	0.09%	0.105	0.000
				Agricultural Products	0.19%	0.051	0.000
				Motorcycle Manufacturers	0.08%	0.111	0.000
				Personal Products	0.13%	0.065	0.000
				Office Services & Supplies	0.07%	0.123	0.000
				Household Appliances	0.07%	0.085	0.000
				Specialized Consumer Services	0.10%	0.057	0.000
				Forest Products	0.02%	0.247	0.000
				Marine	0.04%	0.062	0.000
				Heavy Electrical	0.01%	0.270	0.000
				Real Estate Development	0.00%	0.324	0.000
Subtotal:	34.28%		-4.88%	Subtotal:	31.64%		5.13%
				<b>Total:</b>	<b>65.92%</b>		<b>0.25%</b>

A total of 38 industry groups in the S&P 1500 accounting for 34.28% of market capitalization have a statistically significant negative relative performance beta to crude oil prices. Their beta-weighted contribution is -4.88%. Healthcare and Utilities are the only sectors with concentrated representation here.

Sixty groups accounting for 31.64% of market capitalization have a statistically significant positive relative performance beta to crude oil prices (right-hand cells). Their beta-weighted contribution is 5.13%. Unsurprisingly, the Energy and Basic Materials groups are represented heavily here, as is Technology.

The net contribution is 0.25%. Each 1% increase in WTI crude oil strip prices, about \$0.965 per barrel at current levels, will have a .0025% positive contribution to the S&P 1500, all else held equal.

If we net the two analyses, the drop in crude oil should be a minor factor for the market. Imagine saying that for most of the past thirty years.