That's So Crude!

Not too long ago, industry pundits were declaring that gas prices of $5 per gallon had caused the stock market to fall. Pundits speculated that high gas prices negatively impacted discretionary spending for most Americans. Now it seems those same commentators are claiming that not high, but low oil prices are somehow causing the stock market to fall. Their rhetoric is something akin to "Oil company profits are plummeting, so oil company shares are plummeting, and that is dragging down the whole market."

Sound familiar? The good news is that we always ignore the talking heads and prefer to look at the evidence empirically. After all, energy companies make up only about 6% of the global equity market and even less of the global bond market. Still, with the declines earlier this year in both oil and stock prices, questions are common regarding the relationship between oil prices and the financial markets. Here are brief answers to some of the most frequent questions.

Has there been much of a historical relationship between oil prices and the equity market?

The answer over the long run: not really. For the past 30 years (1986–2015), the monthly correlation of the crude oil spot return with US stocks (all stocks listed on the NYSE, represented by the CRSP 1–10 Index) was 0.02. The corresponding correlation with international equities (the MSCI World ex USA Index) was 0.05. This indicates a very weak historical relationship. However, over the past 10 years oil prices have been quite volatile, and some of the large price swings coincided with moves in the same direction in stock markets. The result is an increased monthly correlation of oil with stocks over this 10-year period (0.33 for the US stock index and 0.37 for the MSCI World ex USA Index). Going forward, it is not clear whether these higher correlations will persist or revert to the mean.

It is important to remember that these are contemporaneous correlations (i.e., the oil price change with the stock market return at the same time). In other words, they are not evidence of predictability. When many people ask about the relationship between oil prices and the stock market, they are specifically asking whether falling oil prices are able to predict declines in the stock market. To examine this issue, it is necessary to look at the relationship between previous oil price changes and subsequent market returns.

Looking again at the period of 1986–2015, we calculated average monthly stock returns conditional on previous spot oil returns (see table below). The average returns show no evidence that falling oil prices predict declining stock markets.

Monthly Stock Returns and Previous Spot Oil Returns

	Average Monthly Returns	
	CRSP 1–10	MSCI World ex USA
When the spot oil return is:		
Negative for the previous month	1.12%	0.92%
Positive for the previous month	0.73%	0.57%
Below –10% for the last 12 months	1.02%	1.04%
Below –20% for the last 12 months	1.24%	1.45%

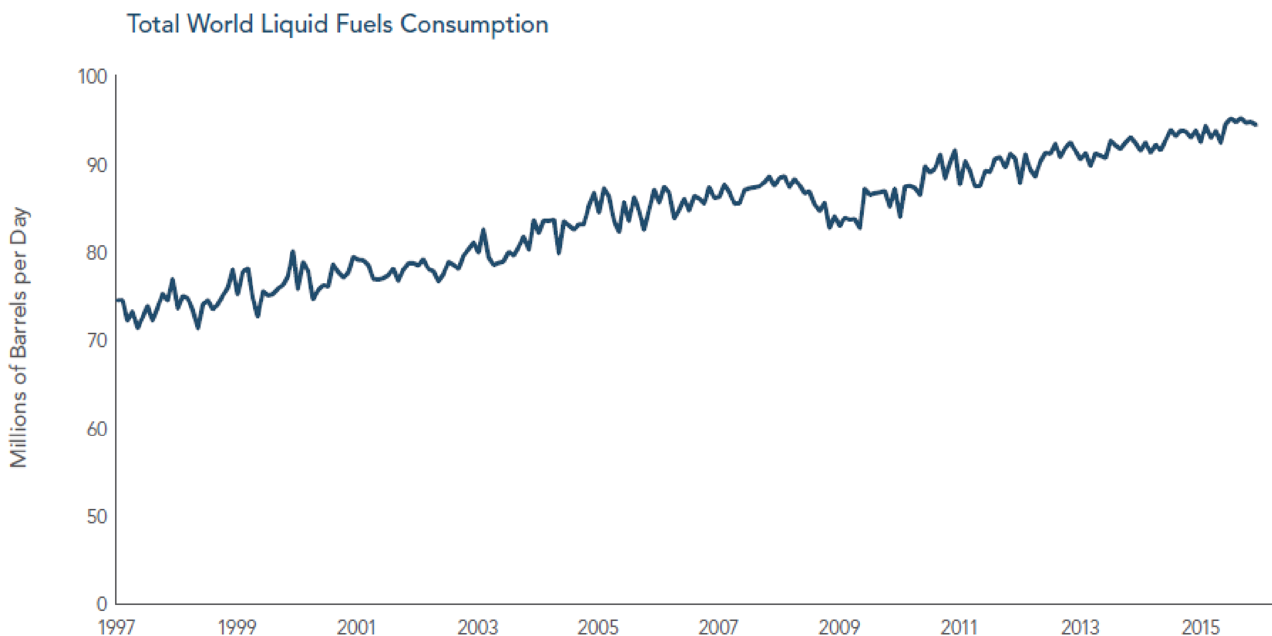
CRSP data provided by the Center for Research in Security Prices, University of Chicago. MSCI data copyright MSCI 2016, all rights reserved.
Past performance is no guarantee of future results.

Is the falling oil price due to slackening demand, which could signal an economic slowdown?

Data provided by the US Energy Information Administration shows that the US crude oil stock (inventory) has risen in recent months, from less than 360 million barrels in late September 2014 to more than 490 million barrels as of January 22, 2016. During that same time period, the price of crude oil declined more than 60%. The amount of crude oil supplied to refineries (ignoring seasonal fluctuations) has been steadily increasing since 2010.

Evidence shows that this increase in the US crude oil stock has not been due to slackening demand. Instead, the noticeable increase in production, only partially offset by a decrease in imports, has been the catalyst for increased crude oil inventories.

Global supply and demand determine oil prices, and it is possible that these US statistics would not capture a reduction in the global demand for crude oil. For evidence of this possibility, the graphic below shows worldwide liquid fuels consumption as a proxy for global oil demand. Using this proxy, once again there is no evidence of slackening demand in recent months. The exhibits do not allow us to make predictions about future crude oil demand. They simply provide evidence about recent demand, and the evidence suggests that demand has not fallen.



Data provided by US Energy Information Administration.

Low oil prices could eventually result in distress for some firms in the energy industry. How much weight do energy firms represent in various equity and fixed income indices?

As of December 31, 2015, the energy sector (including refineries and natural gas producers) had the following market weights:

Weight of Energy Sector in Market Indices

Index	Index Type	Weight
MSCI All Country World IMI	Global equity	5.72%
Russell 3000	US equity	5.91%
S&P 500	US equity	6.50%
Barclays Global Aggregate	Global bonds	1.64%
Barclays Global Aggregate Credit	Global credit	6.78%

Index weights are subject to change.

S&P data are provided by Standard & Poor's Index Services Group. Russell data copyright © Russell Investment Group 1995–2016, all rights reserved. MSCI data copyright 2016, all rights reserved. Barclays Capital data, formerly Lehman Brothers, provided by Barclays Bank PLC.

Plus Two, Minus One

We are immensely proud to introduce Rockwood's newest team members, Scott Kelley and Dina Megretskaia.

Both Dina and Scott fit seamlessly into the family culture here at Rockwood, which places ethical conduct, integrity, and our clients' best interest above all else. We welcome them, knowing their arrival makes Rockwood a stronger firm and enhances our ability to provide world-class service to our clients.

Scott Kelley will be serving in the role of Private Client Advisor. He arrives at the pinnacle of his career in the investment advisory profession with 23-plus years of experience in private wealth management. Scott has held senior positions at Goldman Sachs Private Wealth Management and has served as a managing director at BNP Paribas and Morgan Stanley. His vast experience provides him with unique insight on the value of conflict-free fiduciary relationships and advance planning.

He is dedicated to his community, having served on the school board for the New Hope-Solebury school district and coached various kids' sports teams. When Scott isn't working or serving his community, he tries to fit in the occasional round of golf or tennis match.

Scott holds a master's degree in management with a concentration in finance from Kellogg Graduate School of Management at Northwestern University and a bachelor's degree in accounting from the University of Delaware.

We are immensely proud to introduce Rockwood's newest team members, Scott Kelley and Dina Megretskaia.

Dina Megretskaia joins Rockwood in the role of Financial Planning Associate. She has long been fascinated by the intersection of people and money, particularly behavioral finance and economics. A self-avowed finance geek, she's passionate about helping others take control of their finances and execute a thoughtful plan.

Dina holds a master's degree in finance from the Wharton School of the University of Pennsylvania and a bachelor's degree in economics and math from Carnegie Mellon University. When not working, Dina loves running, hiking, and the company of great friends and books. She lives in Doylestown, PA, with her husband.

On another note, many of you already know that our colleague and dear friend, Bill Aquila, has moved on from Rockwood Wealth Management. We are grateful for his years of dedicated service and wish our dear friend only the best in his future pursuits.

In 204 Words or Less

On February 11, the "journalists" at CNN Money, led by Matt Egan, provided their readership with 204 words of wisdom. In no particular order, here are 25 of those 204 pearls of journalistic astuteness: mayhem, turmoil, punch to the gut, wild trading swings, frail, fell, freaked out, bear market, Great Recession, falling, heading lower, down, anxious, slowdown, lowest level.

While you can probably guess what the article was about, here is the body of work in its ridiculous entirety.

CNN Money Presents: The Crash in Oil Prices Continues to Ruin Your Portfolio

US stocks took another punch to the gut on Thursday as investors freaked out over oil diving back below $27 a barrel. After a day of wild trading swings, the S&P 500 lost another 1.2%. The index, which represents 500 of the largest US public companies, closed at its lowest level since April 2014.

The Dow ended the day down 255 points after falling as much as 412 points. The index has now lost an incredible 1,765 points this year. The Nasdaq fared better, sinking 0.4%. However, the tech-heavy index is still flirting with its first bear market since the Great Recession.

"There's a broad-based lack of confidence," said Anthony Valeri, investment strategist at LPL Financial. "Everything suggests this market is heading lower in the short term. Psychology is too frail."

Global markets are also in turmoil. A global stock market benchmark known as the MSCI all-country equity index officially fell into a bear market on Thursday. It's now down more than 20% from its record high in May. The latest market mayhem reflects how anxious investors remain over the slowdown in global growth and the health of large European banks.

Just in case you are wondering, at the time of writing this article on March 28, 2016, it has been seven short weeks since our friends at CNN Money released this article, and the global equity market has risen **11.63%**. Wait! What happened to "Everything suggests this market is heading lower in the short term"?

> It is analogous to us, as investors, being bombarded by 49 *Us Weeklys* for every one *Time* magazine.

To be clear, Mr. Egan's prototypical, over-sensationalized financial pornography is the reason there are so few respected financial journalists. It is analogous to us, as investors, being bombarded by 49 *Us Weeklys* for every one *Time* magazine. Articles like Mr. Egan's are reckless and verge on being societally irresponsible.

Furthermore, I'm very interested in what Mr. Valeri thinks of our "psychology" now. Perhaps he will appear in an updated article on CNN Money, groveling with apologies. Maybe he will personally reimburse those psychologically frail investors he writes about with the **11.63%** return they missed out on since he caused them to "panic sell" in mid-February.

Great investors ignore this kind of financial tabloid-esque garbage. Great advisors do everything they can to prevent their clients from wasting their time reading other CNN Money articles.

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