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# Oil Prices and a Stronger Dollar: Causation or Correlation?

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Honors Senior Capstone

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## Introduction

A stronger dollar is accountable for a major effect on declining oil prices. Since oil is traded in U.S. dollars, oil prices are more likely to fall when the dollar becomes stronger. Thus, companies within the oil industry are delivering their worst results of the current decade due to plunging oil prices. However, the stronger dollar is not solely responsible for falling oil prices; the deteriorating demand of oil is the result of slowing growth in major countries such as China.

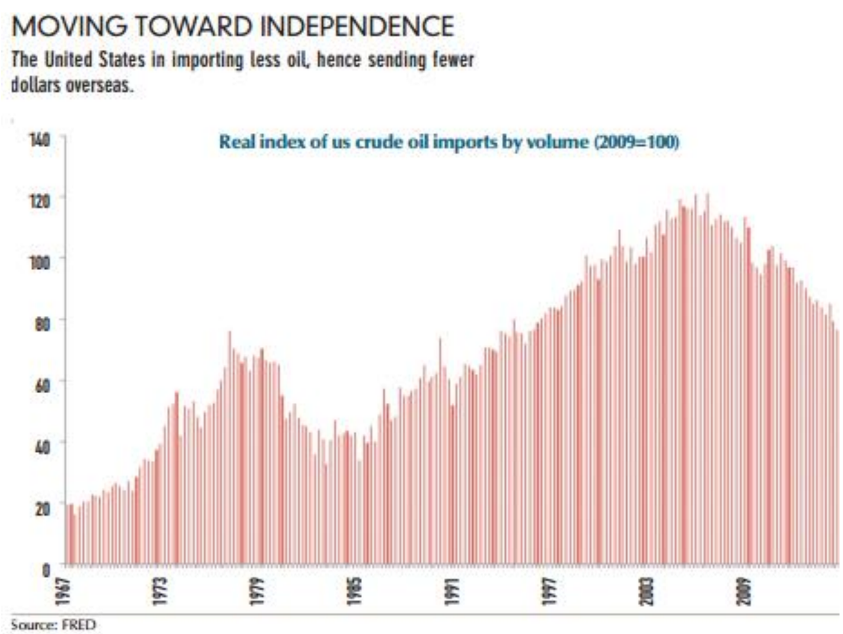
## Stronger Dollar

### *What It Means*

A dollar can be described as either weak or strong, to describe the value of the U.S. dollar against other currencies. A dollar is considered strong "when the U.S. dollar has risen to a level against another currency that is near historically high exchange rates for the other currency relative to the dollar" (What Do the Terms Weak Dollar and Strong Dollar Mean?). When the dollar increases in value compared to another currency over a period of time, it is seen as getting stronger, or appreciating. On the other hand, the U.S. dollar is considered to be weakening when it has less purchasing power, or is able to buy less of the currency it's being compared to.

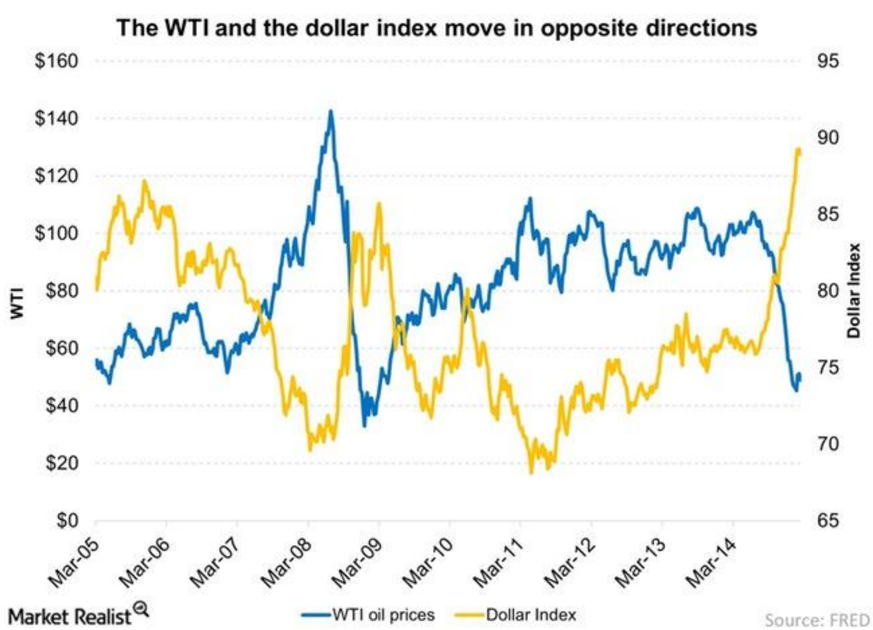
### *History*

The strength of the dollar is used to measure and signify multiple facets of the economy. The relationship between the dollar and the U.S. economy is that of: "when the dollar is strong against other currencies, it signifies that our economy is good and the world's faith in the U.S. is high" (Lim). This is also the case when examined inversely: a depreciating dollar is usually a warning sign that something about the U.S. economy is wrong. In addition to the dollar having effects on the U.S. economy, the U.S. economy can also impact the state and condition of the dollar. Recently, there has been a divergence in GDP growth between the U.S. and the rest of the world, where the United States has been recording robust numbers. This has caused international investment to be placed in U.S. stocks, which thereby causes the dollar to strengthen (Why an Improving Economy Is Good for the Dollar). Not only has a favorable GDP influenced the dollar to appreciate, but monetary policy, encouraging yields, and U.S. energy production have all contributed. Other central banks such as the Bank of Japan and the European Central Banks have initiated aggressive easing policies, whereas the U.S. Fed is working to exit their perpetual easing mode. As previously mentioned, domestic investment opportunities have been more attractive due to economic indicators such as Gross Domestic Product and yield premiums on Treasury bonds. In addition, the United States has taken steps to develop its hydraulic fracking production, and in conjunction with a general reduction in the energy intensity of GDP, both have reduced the volume of money spent on energy into the global financial system. With regards to the future of oil, “there will be fewer dollars flowing into the coffers of oil producers – and that implies fewer dollars will be sold in exchange for non-dollar-denominated goods, services, and assets” (Azous).



*Relationship with Oil Prices*

There are many factors that affect the strength of the dollar; in addition, the strong dollar, in turn, also affects multiple facets of the economy, mainly the price of oil. Since oil is traded in U.S. dollars, a stronger dollar will force commodity prices, particularly oil, to fall. A stronger dollar, coupled with a slowing global economy, are one of many reasons for the recent falling oil prices. As most commodities are traded globally, in dollars, price movements in the U.S. dollar have important consequences: "A weaker dollar is often positive for crude oil producers, whereas, an appreciating, or strengthening U.S. dollar is often viewed as negative" (How the Strengthening U.S. Dollar is Impacting Crude Oil Prices). If the dollar continues with its rally, crude oil prices will continue to be put downward pressure on, which will cause trouble for the energy sector. The following chart shows how the U.S. oil benchmark, West Texas Intermediate (WTI), and the dollar index are inversely related (Why an Improving Economy Is Good for the Dollar).



The above chart depicts a strong correlation of -76% between oil prices and the dollar index, where, over the last 10 years, a rise or fall in the U.S. dollar has explained 76% of the rises and falls in oil prices. Although it may seem that there are no other worthy contributors to the changes in oil prices, there is still roughly a quarter that is left unexplained. Weaker growth in Europe, Japan, and China has led to subdued demand for oil, combined with OPEC's unwillingness to cut production as U.S. refineries have kept production high (How the Strengthening U.S. Dollar is Impacting Crude Oil Prices).

*Affecting Corporate Earnings & Commodity Markets*

A stronger dollar and lower oil prices are beneficial to consumers, but can negatively affect the business world. Exports become more expensive when the dollar is strong, as the international market must pay more for what they purchase, which may drive these businesses to look elsewhere for the goods and services they once bought when the dollar was weaker. "A stronger dollar…can hurt big companies: The stuff they export ends up costing more, driving down sales. Procter & Gamble, the world's biggest consumer-goods giant, said the rising value of the dollar dragged down sales about 5 percent" (Harwell).

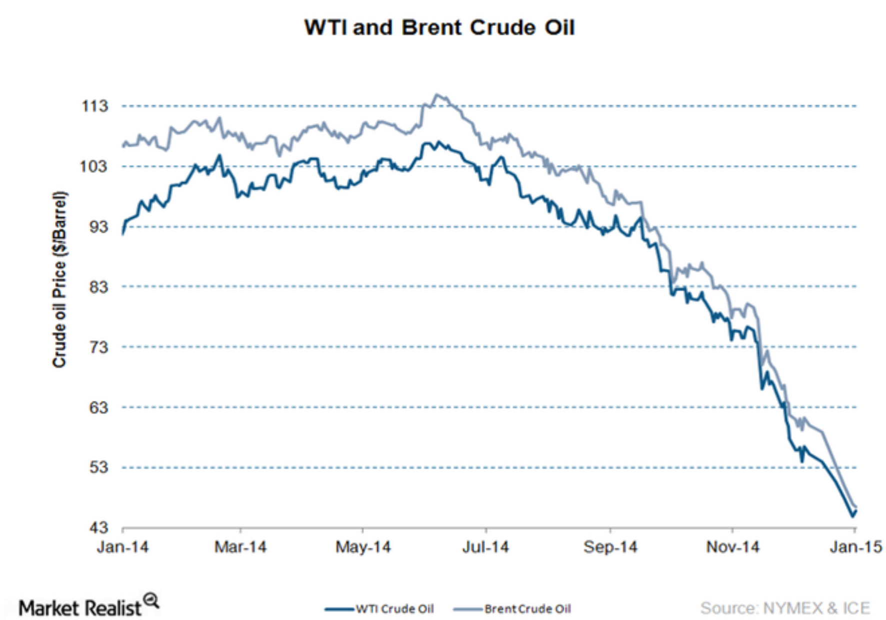
*Future of the Dollar*

The dollar is expected to continue its ascent during the next few quarters, and is forecasted to do so due to a number of factors. "Relative monetary settings should remain supportive of dollar strength; if anything, they will become more so if and as the Fed begins a gradual tightening of monetary policy" (Azous). In addition, the dollar will continue to be attractive for investors looking for yield, although if financial conditions tighten, investors may look elsewhere. The dollar bull market is expected to continue until one of two things happen. Either situations arise that would put the Fed in a place to prefer easier financial conditions within the United States, or the rest of the world prefers tighter financial conditions. “History…suggests that when the rest of the world is easing policy and the United States isn’t” the dollar will continue to be in a bull market (Azous).

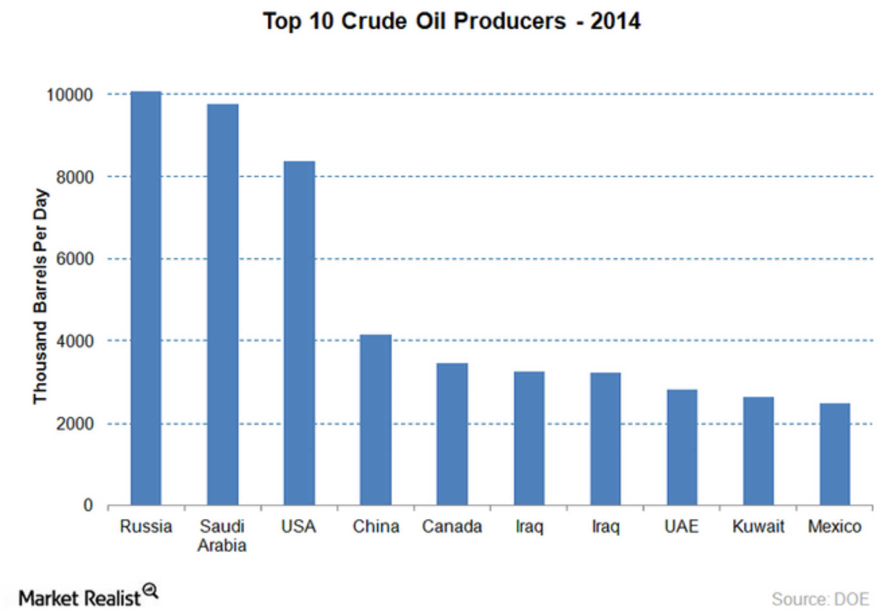
**Oil Prices**

*History*

WTI, or West Texas Intermediate, is the benchmark crude for U.S. oil and represents the receiving price of oil producers in the United States.  On the other hand, Brent crude oil is the benchmark of international crude oil price and represents the price of international oil producers. The chart below depicts the history of WTI and Brent Crude Oil prices from January 2014 to January 2015.




The producing countries of crude oil are highly impacted when it comes to the fluctuation in crude oil, which then directly affects the profit of the oil-producing companies within those countries.  As depicted in the graph below, “the top ten oil-producing countries hold a market share of about 64% of crude oil production in the world" (How the Strengthening U.S. Dollar is Impacting Crude Oil Prices).




An organization called the Organization of the Petroleum Exporting Countries, or OPEC, was created to unify petroleum exporters and also to ensure the balance and cohesion of the oil markets "in order to secure an efficient, economic, and regular supply of petroleum to customers as well as a steady income to producers with a fair return" (How the Strengthening U.S. Dollar is Impacting Crude Oil Prices). This influences crude oil prices because OPEC has the ability to increase or decreasing global crude oil production.

During the summer of 2014, oil had fallen dramatically from around $100 per barrel to under $45 per barrel that was attributed to booming U.S. oil production, flowing oil from OPEC nations, and rising demand not being enough to absorb the flood of oil (Fahey-You Think the Stock Market is Crazy?). In addition, demand was less than expected while global supplies were rising coupled with fears that global economic growth was slowing sharply highly contributed to the fall in oil prices within the past two years. "At the same time, the U.S. and Iran reached an agreement that could lift sanctions against the OPEC nation, paving the way for more Iranian oil to return to the market, adding to already high supplies" (Fahey – You Think the Stock Market is Crazy?). This recent turbulence in oil prices has been publicly attributed to factors, that which do not include a stronger dollar. Producers have thus been forced to "slash spending on new exploration and production, and forced oil service companies facing a slowdown in drilling to lay off thousands of workers. When drillers stop sinking new wells into the ground, production begins to fall and prices rise" (Fahey - Price of Oil Tumbling Again).

*Traded in U.S. Dollars*

Most commodities are traded using the U.S. dollar and crude oil falls under this assumption. Like aforementioned, oil prices and a strong dollar have an inverse relationship due specifically to the fact that this commodity is dollar-denominated and is traded globally using the U.S. dollar. Therefore, "an appreciating U.S. dollar is negative for crude oil producers and vice versa. A strong dollar makes crude oil expensive against the domestic currencies, [which] results in lower crude oil prices" (Crude Oil Prices Fall).

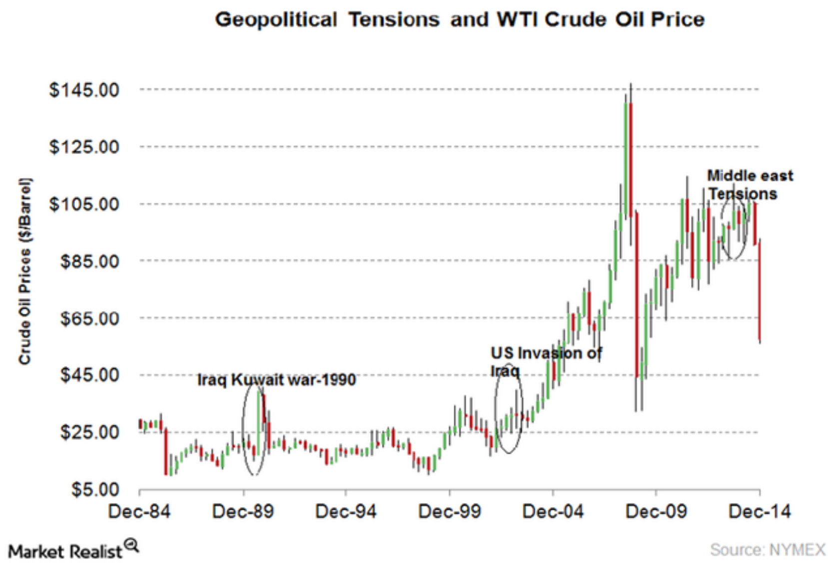
*Other Factors*

Although a stronger dollar has a negative correlation with the price of oil, this does not mean that there are no other factors that influence the commodity's price. In fact, there are five distinct determinants that determine the price of crude oil: slowing economic growth, rising global supplies, less-than-expected demand, OPEC sanctions, and geopolitical tensions. These components coupled with an appreciating U.S. dollar can significantly put downward pressure on oil prices.

China's slowing economic growth is a concerning topic in regards to the price of oil as they are the second-largest oil consumer. In addition "federal data now definitively show that

U.S. oil output peaked in April and has steadily fallen since, [while] consumption has grown sharply this year. But a sharp surge in production by the Organization of the Petroleum Exporting Countries has outweighed the U.S. supply drop" (Friedman – Oil Bears Aren't Going Away). These elements collectively keep oil prices low while punishing bullish investors. On the contrary, according to the article, *Lid on Price of Oil Refuses to Budge*, the "rapid growth in America's production over the past several years" is made responsible for the "plunge in the benchmark U.S. oil price, which down 53% from a year ago" (Friedman – Lid on Price of Oil Refuses to Budge). U.S. oil production coupled with increased production from other areas of the world, such as Saudi Arabia and Iraq, has been faulted for the inability for oil to resume its normal trading price.

The last contributing factor to the impact of oil prices is that of political tensions between different geographical locations. Although this is true for many other things, oil is one that is directly affected by whether or not areas of the world are congenial with each other. If there is political unrest, it will "affect production and reduce supply" and thus "the consensus of a shortage of oil supply leads to an increase in oil prices" (Must know: Geopolitical Tensions Impact Oil Prices). Wars and periods of tension or unrest are noted and benchmarked against the price of crude oil in the chart below. It can also be seen that not all geopolitical tensions directly affect the price of oil, such as the Middle East tensions of 2013, but this is attributed to various reasons.




A strong dollar, slowing economic growth, rising global supplies, less-than-expected demand, OPEC sanctions, and geopolitical tensions all impact and effect the price of the U.S. dollar for differing reasons. Where these impact oil prices, oil prices, in effect, have an impression on other facets of the economy, such as corporate earnings and commodity markets.

*Affecting Corporate Earnings & Commodity Markets*

Although average American consumers see drops in oil prices as an advantage or benefit, businesses are directly impacted, both favorably and unfavorably. Within the transportation industry, airlines are able to buy more oil for less money, and therefore will earn more as they could effectively charge the same price per airline seat, but their operating costs could be lower. On the other hand, “Cheap oil punched a hole in Caterpillar, which predicts its construction-equipment sales will plummet amid a huge economic slowdown in China and a drop-off in oil-producing regions” (Harwell). In particular, companies within the oil industry have been hit the hardest: “Oil giant Exxon on Friday announced quarterly earnings that fell more than 50%, missing Wall Street expectations and delivering its worst quarterly performance in six years.

The problem, which has impacted the entire oil industry in recent months, was sliding oil prices" (Fehrenbacher).

An impact on companies reporting on their earnings is a more widely-known result of lower oil prices, whereas the influence on the commodity markets is less publicized. The food industry, in particular, is related due to the fact that "oil is used to fuel farming equipment and the transport vehicles necessary for processing the raw materials and delivering the final output to consumers [and thus] oil is a component of many agricultural chemicals used widely in the farming industry" (Impact of Low Oil Prices…). This translates into a demand in biofuels when oil prices are volatile, which in turn "negatively affects the demand and prices for their input – the food commodities" (Impact of Low Oil Prices on Food and Other Commodities).

Commodity prices largely influence the daily movements of the markets through the impact on the earnings of public companies. Specifically, oil prices are "one of the cornerstones of the North American economy and its price is highly important to companies of all stripes" (Commodities that Move the Markets). The price of oil affects a wide variety of industries, sectors, and companies that may range from manufacturing and transportation to retailers. For example, "this means that these companies either have to eat the rising cost of fuel or try to pass some of it along to consumers in the form of higher prices. Unfortunately however, if they aren't able to pass along the cost increase, it can have an adverse impact on margins and net income, which can put downward pressure on stock prices and hurt investor returns" (Commodities that Move the Markets).

**Future of Oil Prices**

Rex Tillerson, CEO of Exxon Mobil, publicly voiced his opinions in March of 2015 on the future of oil prices as far out as the next two years: "expects the price of oil to remain low over the next two years because of ample global supplies and relatively weak economic growth" (Exxon CEO: Get used..). Where there have been no improving reports on global economic growth, Tillerson does not see crude oil being priced above $55 a barrel. In addition to this, Exxon Mobil's CEO's forecasts are aligned with that of the industry: "new sources of oil around the globe, relatively weak growth in demand, and large amounts of crude in storage will keep a lid on prices for the foreseeable future" (Fahey – Exxon CEO). These factors joined with an ever-stronger dollar will continue to put downward pressure on oil prices, which will have a negative impact on much of the global economy.

**Conclusion**

Due to correlation analysis, the price of oil has historically had a negative relationship with a strong dollar, and has even explained 76% of the fluctuations in oil prices, yet there are multiple other factors that are more publicized. Analysis of this topic has concluded that the relationship between oil prices and a strong dollar are that of just a relationship, not in influence of one due to the other. Supply and demand of oil, among other contributors, directly impact the price of oil, whereas when the dollar is getting weaker, it is highly probable that oil prices will be on the rise. This does not mean that the price of oil is explained wholly due to a strong or weak dollar, it is the case of a negatively correlated relationship, whereas global economic growth, supply and demand, OPEC sanctions, and geopolitical tensions are the explanation and answer as to why oil prices are falling or climbing.

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