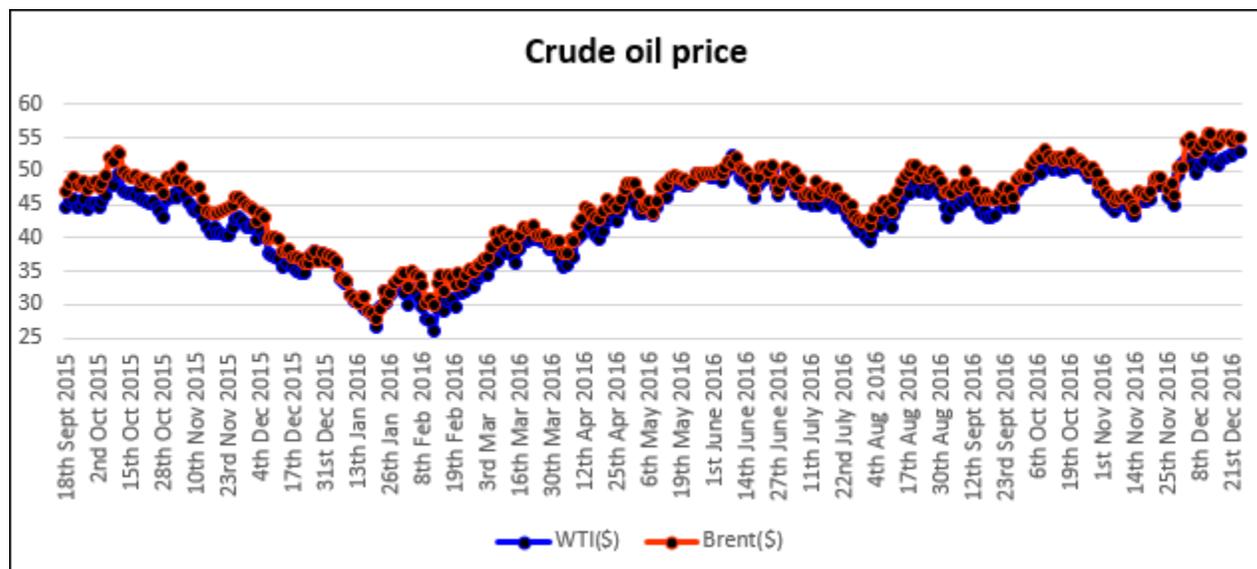


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Some of the news items for this week are as follows:

- Crude oil has traded near \$50 since the OPEC agreement came into existence, followed by the declaration by the non-OPEC producers to trim their supplies. The prices gained strength on Wednesday after a report from industry-funded, American Petroleum Institute disclosed that crude inventories in the US dropped by 4.15 million barrels. The EIA had forecast a decrease of 2.5 million barrels.
- The recent decision to freeze or curtail crude oil output by OPEC and non-OPEC countries as to boost prices may or may not help oil companies to enhance their investment in exploration. The one main reason for this is that oil companies are not sure if the OPEC decision will be followed for six months or more, and how much trust they should put on the hope for implementation of the decisions. While the OPEC and non-OPEC decision has resulted in the crude oil price to increase, still they are half of the prices 2 years ago. So as to boost cash flow and protect dividends, oil companies have been cutting on their spending. The investments are being made very cautiously, even though they realize that the cost of developing new resources has declined over the last two years, and also that investments made now will help them reap the harvests later, i.e. in the next two to five years. What this means is that OPEC's agreement may end up having no impact on oil company investment decisions in 2017.
- According to Paris-based IEA, if the producers do not cheat on their commitments, oil demand could overtake supply in the first half of next year, which will be a significant change after seeing an oversupply over three consecutive years.
- A recent report from Goldman Sachs Group says that the oil price increase due to the OPEC and non-OPEC developments may be capped by the middle of 2017. The reasons are that the price

increase will prompt revival in production by the US shale producers, as at \$55, the US shale producers will grow their output by 800,000 b/d in 2017. In the short term the proposed cuts and strong demand growth will see the prices increase to \$55. Goldman estimates OPEC supplies will reduce by 974,000 b/d in 2017, and supplies from non-OPEC producers will reduce by 338,000 b/d. The demand growth will reach 1.55 mb/d by the end of 2016 and 1.5 mb/d in 2017. The price forecast by Goldman is \$57 by the middle of 2017, but may come back to \$55 by late 2017 or early 2018.

- According to EIA, the US crude oil proved reserves declined by 4.7 billion barrels (11.8%) from their 2014 year end levels to 35.2 billion barrels at the end of 2015. Similarly, US natural gas proved reserves decreased by 64.5 Tcf (16.6%) to 324.3 Tcf at the end of 2015. This is a trend that we will see echoing in other countries due to reduced investments, and could pose real production problems in the future.
- In preparation for reducing their outputs, OPEC is assessing its strategy with regard to intermediate trade flow routes. It appears that the Middle East suppliers will prioritize Asia over US and Europe. The crude pumped in West Africa, the North Sea, the Black Sea, and the Mediterranean could stay within the region. The Western buyers could be left to themselves. Such developments will impact tanker business, if long-route transport gets curtailed.

So much for the industry news this week.

For the lighter side this week

After working for a few hours we tend to lose concentration, and our bodies tend to get lethargic. We look forward to having a steaming cup of tea or coffee, which serves as a stimulant, and then we continue to work for longer hours. It is quite common these days to see most work places have tea/coffee stations, where the employees can help themselves to tea or coffee as and when they like. When I first started working in Calgary, I would pour myself some freshly brewed coffee, a couple of times a day, to which I would add cream and sugar to my taste. After a few weeks I experienced a 'sense of dryness' on my hands and arms. I put the words in quotes as it was not the genuine dryness on the skin, which you can fix by applying some cold cream or Vaseline. What I was feeling was different and also giving me the feeling of pin pricks or twitches. It had to do with my consuming freshly brewed coffee as it was strong for my body, and it went away after I switched over to tea. Having grown up in India, drinking tea all along and instant coffee once in a while, I was not used to having freshly-brewed coffee. That effect then made me pose the question, which is stronger, tea or coffee, and why?

Tea is essentially the leaves of a plant called *Camellia Sinesis*, whereas coffee beans are either coffee Robusta or coffee Arabica plant. Caffeine is a naturally occurring substance in tea and coffee, and is a stimulant. Before they are brewed, *tea leaves contain more caffeine than coffee beans*. During brewing, really hot water is gradually poured through ground roasted coffee beans, so that the caffeine gets extracted better. When a tea bag is soaked in hot water for a few minutes, not as much caffeine gets extracted. The tea bag should be soaked for at least 5 minutes to brew, which is the least time required for the caffeine locked away in the form of chemical structures to come into the water as well as for getting the flavor. It may be mentioned though that caffeine is a water-soluble substance and could get

extracted easily, but the chemical structure and age could make it somewhat difficult. Besides, coffee is usually had black in North America. But as per one's taste, milk or cream, and/or sugar is added. Tea is usually had by adding these ingredients, which tend to dilute the drink somewhat. So, all in all, a cup of coffee has more caffeine than an equivalent cup of tea.

One can check this by holding a glass cup of tea without milk and an equivalent glass cup of black coffee against the light. The coffee looks way darker and you may not be able to see through it. It is mostly due to the higher caffeine levels in it.

The caffeine levels in tea depend on when the tea is harvested, the climate, and also the way it is processed. The variation in the caffeine levels in different varieties of tea comes from the oxidation that the tea leaves are subjected to when the picked leaves are exposed to the air, the oxygen in the air can oxidize them and bring out different flavours and aromas from them. Leaves with no or very little oxidation are gentler in their aroma and caffeine, whereas heavily oxidized tea has a darker colour and more caffeine content. White tea leaves undergo very little processing, in that they are picked very early and not allowed to oxidize. Similarly, green tea is heat processed to eliminate the enzyme that is responsible for oxidation. Black tea leaves are fully oxidized after picking. Tea makers also try and mix various kinds of tea for creating specific flavours or blends, as strong or medium or light tea. Similarly, delicate teas such as white or green do not require boiling water for brewing; rather lower temperatures and less time for bringing out the right flavour. Black tea needs more time and hotter water for brewing.

Robusta and Arabica are two different species of coffee plants from which beans are harvested. These plants are grown at different altitudes, dependent on the climate, moisture, shade and sun. But importantly, Robusta plants have three times more caffeine content than Arabica plants. Also the former variety is disease and insect resistant, produce a larger crop and are cheaper than the latter. The Arabica variety is liked better for its taste and some people prefer the less caffeine that it has.

Thus, I look at having tea (with milk) as a refreshing and a comforting drink and enjoy it. Once in a while I don't mind having a cup of coffee. I believe there is nothing wrong in having one or the other, and which one is preferred would be a matter of choice. So long as one is aware of the caffeine levels in coffee, and does not indulge in several cups a day and get caffeinated, I think it should be all good.

I hope you will find this interesting.

Did you know?

... the effects of global warming are not only associated with changing weather patterns around the world. Researchers have found that global warming is probably having an impact on the animal kingdom also. A few examples have been reported.

Fish have lost half their average body mass as a result of global warming over the past 20 to 30 years.

Similarly, varieties of the same birds are found to be smaller near the equator, and larger closer to the poles, which helps them conserve heat better.

Soay sheep have also been found to be shrunk in size by 5% over the last 25 years (Soay sheep are species found in the island of Soay in St. Kilda Archipelago, close to the western Isle of Scotland). This effect has also been observed in other animals, including North American squirrels and blue tits (small bird belonging to the tit family).

While climate change is being blamed for all other observations, I wonder if it could be said more conclusively.☺