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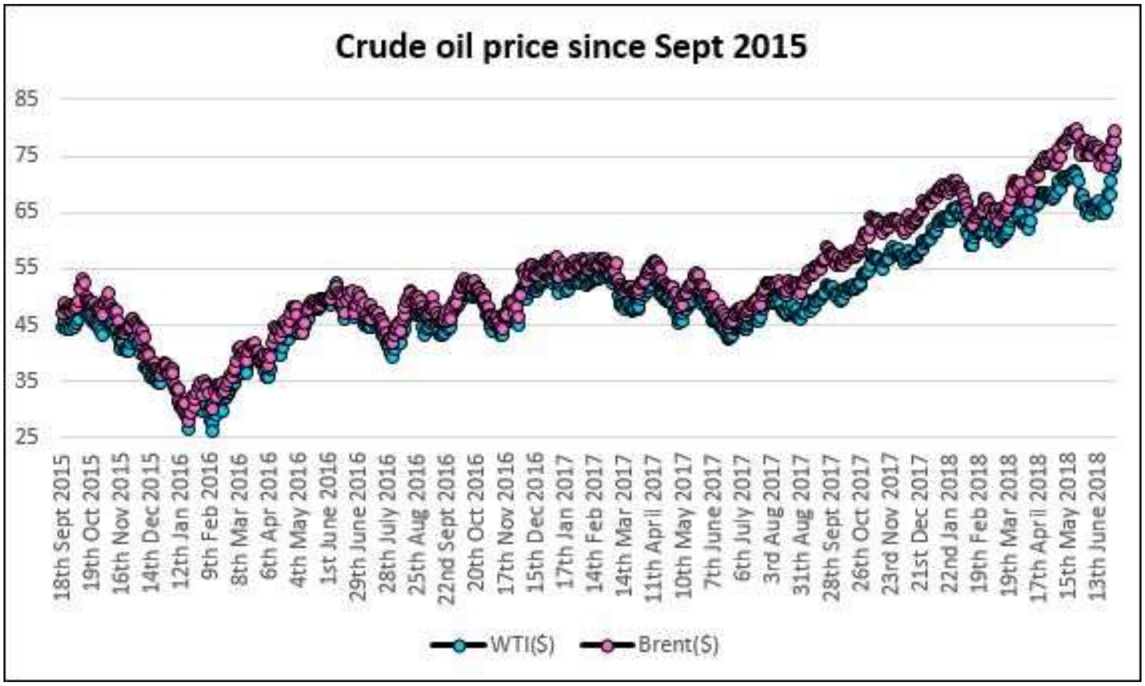

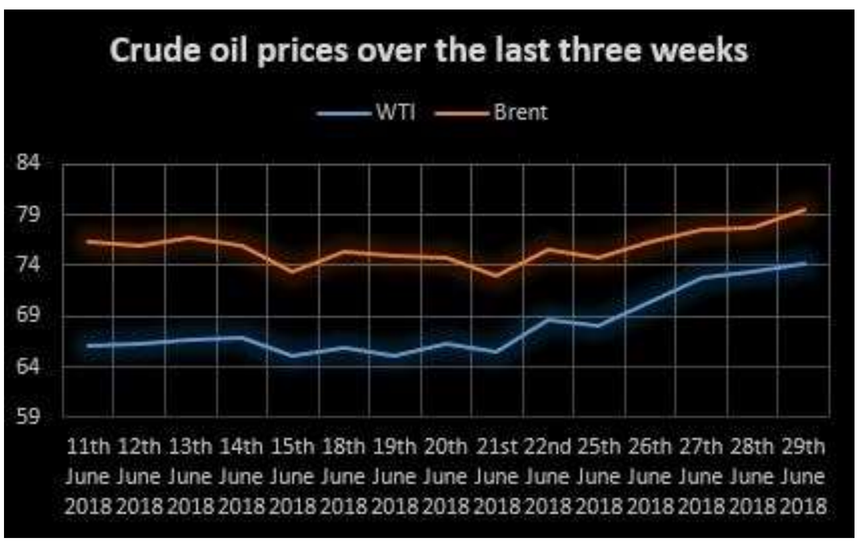

- When the US imposed sanctions on Iran in 2012, countries could continue buying crude from Iran at reduced levels in exchange for waivers from US financial restrictions. The oil market was more relaxed then as it responded to the news. But after President Trump imposed fresh sanctions after cancelling the nuclear deal, the US has been asking its allies to reduce or completely stop importing crude oil from Iran. The four Asian nations being approached for taking necessary steps to dissuade importing Iranian crude by November 4 are China, India, South Korea and Japan.

This has given rise to speculation that Iran's crude export will be curtailed, and has boosted the crude oil price this week. In fact, it has risen to the highest level in the last three-and-a-half years. The other reason for a boost in the crude price hike this week has been a drop in the US crude oil inventories by 9.89 mb last week, following high refinery processing boost since 2005, and exports reaching an all-time high 3 mb/d last week. The market speculation is also due to supply risks that seem evident now. Venezuela's production has been down at 1.44 mb in May. Angola's production fell to 1.5 mb/d, the lowest since 2014, and is likely to drop over the next coming months. Infighting in Libya has made the country lose 450,000 b/d in exports. Kazakhstan also had crude disruption by about 240,000 b/d from its Kashagan field. Canadian production fell by 350,000 b/d due to a problem at an upgrader plant.

- The Panama Canal connects the Atlantic Ocean to the Pacific Ocean, and provides a shorter route for ships. It allows ships to travel through a series of three locks, spread over a 51-mile length. In view of the US exports of LNG and crude oil, the Panama Canal Authority (PCA) will ramp up the movement of tankers through the locks. Two tankers will be able to move through the canal in different directions at the same time. Since June 26, 2016, when PCA last expanded the canal for larger tankers, 372 LNG tankers have passed through the locks. It takes the tankers about 13 hours to pass through the 51mile length of the canal. The LNG tankers pay between $500,000 to $525,000 to pass through, with the bigger ships paying up to $1million. The tanker traffic through the canal is thus a big source of revenue for PCA, running into billions of US dollars. The passage through the canal is cheaper and faster for cargo ships from Asia.
- Over the last couple of years, though Russia is not a member of OPEC, but both Russia and Saudi Arabia have been cooperating and dominating the discussions at the meetings. The two largest oil-producing nations have also formed a close working relationship, and this has at times done away with the more traditional decision-making process. They have together led a group of 24 producers, comprising some countries outside of OPEC. The two leading nations are now considering forming a permanent body of the 24 countries with its own constitution and secretariat. The different structure of the bigger group, for the present being touted as the OPEC+, or super-OPEC, would probably allow more weightage to the two largest producing nations. The preliminary discussions for the formations of the supergroup are underway, and all the 24 countries may soon be invited for giving a concrete shape to the new body, and formalizing the structure.
- At the end of last year, when President Trump slashed corporate tax, the US oil industry welcomed it and the big oil executives has said it would boost growth in onshore shale production, as well as building midstream and downstream infrastructure such as pipelines and chemical plants along the Gulf Coast. But with the Trump administration slapping trade tariffs on steel and the tough talk on free trade has dampened their enthusiasm of the oil industry. The oil industry is a heavy user of steel, all of which is not produced in the US. Besides, raw materials are imported from Canada and Mexico, and after converting into high value fuel and chemical projects re-exported around the world as well as Canada and Mexico. Also, with China as a largest consumer of US LNG, any trade war between the countries is not in the interest of the US.
- As per the IEA's latest annual gas market report, the global natural gas markets are likely to see a transformation in the next 5 years. The global gas demand will grow at an average rate of 1.6% a year and reach 4,100 Bcm in 2023, which was 3,740 Bcm in 2017. With China likely to become

the world's largest gas importer in the next two to three years, the US production and exports are expected to rise strongly. The largest growth area for gas is the replacement of power generation with coal the world over. All this will need the gas prices to stay affordable, as the LNG trade rises from a third to the predicted 40% share of the total gas trade.

- When President Trump's trade mission group visited Beijing last November, the China Energy Investment Corp. pledged around $84 billion in shale gas and chemical manufacturing projects across West Virginia. This was part of some $250 billion in trade deals between the US and the Chinese companies announced then. But with the recent tariffs slammed by the US on imported Chinese goods (worth $34 billion), as well as counter tariffs on US goods imported by China, the fate of the Chinese investments in the US seem to be in doubt. The signs that the investments seem to be in jeopardy are clear, as the executives of a power company cancelled a visit to a petrochemical conference in Pittsburg recently, where the details of some projects were to be discussed. Looks like the stage is being set for a trade war between the two countries, wherefrom no one will emerge a winner.

For the lighter side this week

Cloud computing

The way we have been doing computing till now is that we have one or more computers, where the operating and application software reside and computations are carried out, and we have the data storage, wherein various input/output operations are carried out. Both these are physical entities and exist within the work space of the business enterprise. We then saw some changes to this model that came about in that different users could remotely login to their computers at the workplace, but the data storage and the localized network of computers were still occupying physical space at the business premises.

Over the last 5 years or so, the idea of traditional computing is gradually being relegated, and cloud computing has gradually been coming to the fore. It has now reached a point, where cloud computing has started changing the way businesses are being done by different companies.

At the outset I may mention, all data are stored on a network in a centralized location offsite, which is usually referred to as the cloud. The cloud allows the storage and access to all the data, as well as the software over the internet. This can be done from anywhere, i.e. office, home, or a remote location while travelling.

There is this question of speed of access of data. When data are stored on the local drive of your PC, it can be accessed fast, but when your PC is part of an integrated network, it takes a tad bit longer. The added advantage of a network is that many users can access data from a central storage.

Besides the availability of cloud computing round the clock, it efficiently offers seamless access to any software application that may be required for a business, as they are all available on the cloud and the businesses pay charges for the usage. Thus, the businesses do not need to buy separate software licenses as and when required. The speed with which the computations are carried out are not limited by the speed of the local available hardware, as even a low-end PC will provide a good user interface.

Another interesting difference is the scalability of solutions. Suppose a business needs to expand its operations; in such a case the cloud service is readily available and the business only pays for the extra service utilized. There is no extra expenditure for buying extra machines and software licenses. Cloud computing has all the required latest updates in terms of functionalities and performance. The computing in the cloud is rapid as it taps into the processing power of the computers connected to the cloud.

With cloud computing the space requirements for businesses is shrinking, as machines and data storage requirements are collapsing. Coupled with smaller size of the office space is the reduced operational cost of maintenance of the machines. There is no upfront investment for startup businesses as access to cloud computing helps with operations from day one.

The data stored in the cloud is safe. All data are protected by a professional service, and so is not at risk through hacking off a user's machine. Some of the prominent cloud providers are Amazon Web Services, Microsoft Azure, Salesforce, Google, … Space and software are allocated by the providers and they charge money for their service.

Cloud solutions are practical, custom made and tailored to specific needs, and one can safely add convenience, speed, flexibility, quality, security and proficiency to this list. No wonder then that cloud computing is revolutionizing our businesses.

I hope you find these interesting.

So much for this week! Till the next post, stay safe and happy!