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SPECIAL REPORT ON

Brent Crude Oil



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Brent Crude Oil

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Brent Crude.....Benchmark of Growth

Crude oil is always known as most reliable indicator of global growth. This is also world's most important energy source as it works as engine of global growth. So the smooth availability of oil and its prices plays an important role in industrial and economic development. *The crude oil market is significantly larger than that for any other commodity, both in terms of physical production and financial market activity.* Crude oil is also an essential raw material for manufacturing plastics and also used in cosmetics, fertilisers, detergents, paints and medicines.

There are different types of crude oil. The most important type of crude oil used in Europe is Brent Crude. Here we talk about the brent crude oil as the leading exchange of India NSE has launched trading in two variants of brent crude oil(Mini 10 barrels and Regular 100 barrels) a few month back. *India is 3rd largest consumer of crude oil in the world, after United States and China.*

The leading exchange of India NSE has launched trading in two variants of Brent crude oil(Mini 10 barrels and Regular 100 barrels) a few month back.

What is Brent Crude

The Brent Crude is extracted from the North Sea and its prices serves as a benchmark price for purchases of oil worldwide. Roughly two-thirds of all crude contracts around the world reference Brent Blend, making it the most widely used marker of all.

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Brent crude oil, classified as sweet light crude, has relatively low sulfur content and a relatively high gravity on the American Petroleum Institute's standard scale. Light sweet crude oils are easy to process into products such as gasoline because they contain a higher proportion of hydrocarbon molecules than other oils. The lower the sulfur content the easier and cheaper it is to refine into various products. Therefore, they tend to fetch higher prices on commodity markets. This large North Sea Brent crude deposit is bounded by the United Kingdom, Norway, the Netherlands, Germany, France, Denmark, and Belgium. Brent Crude oil is also known as London Brent, Brent Blend & Brent Petroleum.

"Brent" actually refers to oil from four different fields in the North Sea: Brent, Forties, Oseberg, and

	Brent	WTI
Sulphur Content	0.37%	0.24%
API Gravity	38.3	39.6
Extraction Location	North Sea	North America(Texas, Louisiana and North Dakota)
Extraction Process	Mostly From Seaborne Well	Mostly From shale Rock
Transportation	Pipeline & Cargo	Pipeline
Consumption By	Mostly Exported	Mostly domestic use By USA
Trading Platform	ICE	NYMEX
Geopolitical Impact	Highly Sensitive to geopolitics	Less Sensitive to geopolitics Due to land confined
Difference in Prices	Traded at premium to WTI	Traded at discount to WTI

Ekofisk(BFOE). Brent crude is actually a blend of oil from more than a dozen oil fields located in the North Sea. Brent, Forties, Oseberg and Ekofisk are slightly different crude oil grades, with separate delivery points. BFOE cargo trades are used to form price assessments on which the ICE Brent Index is calculated. The ICE Brent Index is used as a basis for the financial settlement of the Brent futures contract.

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Futures Market Trading

The ICE Futures Europe symbol for Brent crude futures is B. It was originally traded on the outcry International in London, but since 2005 has been traded on the electronic Intercontinental Exchange, known as ICE. WTI futures contracts are traded on the New York Mercantile Exchange (NYMEX), which is owned by the Chicago Mercantile Group (CME).

Brent Index

The Brent Index is the average price of trading 600,000 barrels on the 25-day Brent Blend, Forties, Oseberg, Ekofisk (BFOE) market. The index is calculated as the average of:

- The weighted average of first-month cargo trades in the BFOE market.
- The weighted average of second-month cargo trades in the BFOE market plus or minus a straight, non-weighted average of the spread

- between the first and second month cargo trades.
- A straight, non-weighted average of "designated assessments" as published officially in the media.

Other well-known classifications (also called references or benchmarks)
OPEC Reference Basket, Dubai Crude, Oman Crude, Shanghai Crude, Urals oil

The Battle of the Benchmarks: Brent vs WTI
 The benchmark makes it easier for traders, investors, analysts, and others to determine the prices of multitudes grades of crude oil varieties and blends.

A. OPEC is powerful group for pricing benchmark

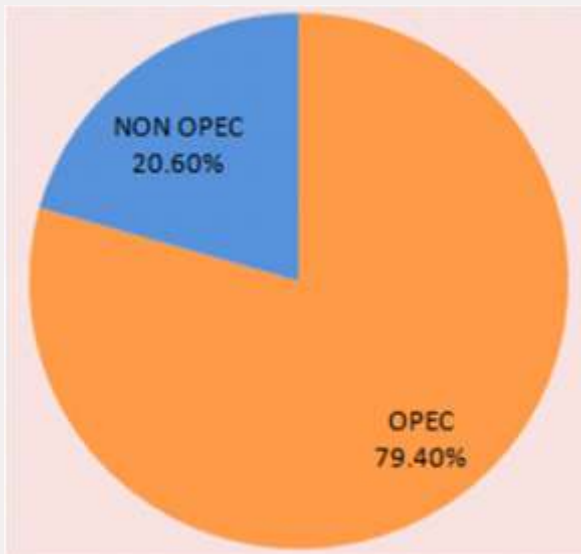
Brent Crude and West Texas Intermediate dominate the oil market, and both dictate pricing in their respective markets. The pricing mechanism for Brent dictates the value for roughly two-thirds of the world's crude oil production. OPEC, a group of 14 of the most powerful oil exporting countries, use Brent as their pricing benchmark. They are considered an extremely powerful group, as oil prices dictate the budgets and policies of many countries. So they control most of the Brent production and distribution, often dictating costs for not only oil suppliers but countries as well. According to current estimates, 79.4% of the world's proven oil reserves are located in OPEC Member Countries, with the bulk of OPEC oil reserves in the Middle East, amounting to 64.5% of the OPEC total.

OPEC, a group of 14 of the most powerful oil exporting countries, use Brent as their pricing benchmark.

	Brent (ICE)	WTI (NYMEX)	BRENT(NSE)	CRUDE (MCX)
Contract size	1000 barrels	1000 barrels	100 barrels	100 barrels
Priced in	USD & Cent	USD & Cent	Rs	Rs
Deliverable	Yes	Yes	No	No
Ticker Symbol	BZ	CL	BRCRUDE	CRUDEOIL
Trading hours	Sunday-Friday from 7:00pm to 5:00pm Chicago Time CT the next day	Sunday-Friday 5:00pm to 4:00pm Chicago Time (CT) with a 60min break each day	Monday - Friday 9:00 am to 11:30 pm/11:55 pm	Monday - Friday 9:00 am to 11:30 pm/11:55 pm

Source: Dailfx.com,NSE,MCX

World's proven oil reserves 2018



Source: OPEC

According to current estimates, 79.4% of the world's proven oil reserves are located in OPEC Member Countries, with the bulk of OPEC oil reserves in the Middle East, amounting to 64.5% of the OPEC total.

B. Restriction on export of WTI

On other side, before December 2015, WTI crude oil produced in US was not allowed to export. WTI gets influenced by Brent's trading price. Since 2010, when WTI has started trade at a discount to Brent, it reflected the fact that the

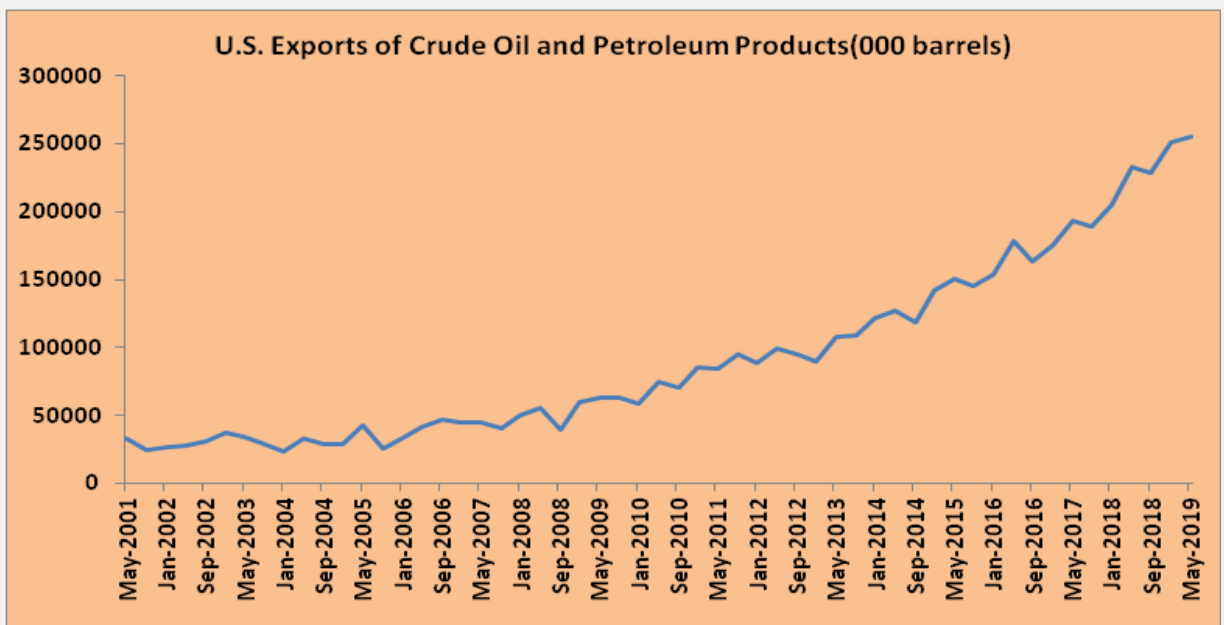
U.S. is no longer the driver for crude demand. This has provided the edge to Brent as benchmark. So the Brent Crude become emperor of world oil market.

C. Ban lifted on US crude export

After the removal of restrictions by US on exporting domestically produced crude oil in December 2015, WTI has accessed to world market. Now WTI is competing with Brent directly in the global market. Asia is competitive market for WTI and Brent oil. In 2018, U.S. exports of crude oil rose to 2.0 million barrels per day (b/d), nearly double the 1.2 million b/d rate in 2017. Till start of 2018, China was the second-largest destination for U.S. crude oil exports after Canada. But after tariff row, U.S. crude oil exports to China fell and exports to South Korea, Taiwan, Canada, and India increased. So the Asian countries tend to use a mixture of Brent, WTI and Dubai crude benchmark prices to value their crude oil depend on their respective oil basket.

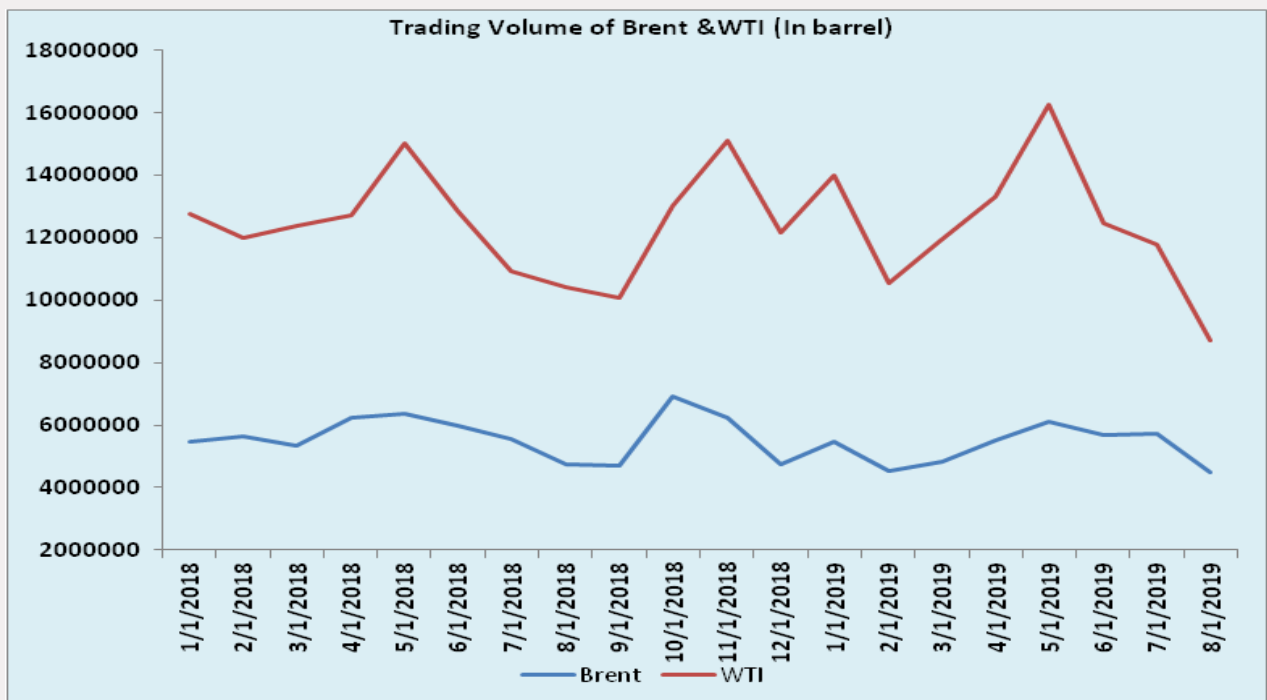
D. Transportation costs is major drawback for WTI

Transportation and storage costs to deliver the crude oils to various markets also determine the values of crude oils back at the wellhead. To compete with Brent in Asia, major drawback for WTI is its additional transportation costs due to its landlocked production. The transportation is more expensive for WTI than a waterborne crude oil such as Brent.



Source: EIA

Although, a surge of WTI production has led many traders and analysts to consider it an important pricing benchmark vs. Brent, if not even close to the total production of the WTI. The oil output from the US has gone up to 12.3 million barrel per day, making the country the world’s top oil producer leaving Russia and Saudi Arabia behind. Even as countries with high oil demand are looking to switch to US supplies, but transportation cost and oil processing facilities currently favor Brent over WTI, especially for Asian nations like India. This is why nearly, two-thirds of world’s oil demand is for Brent.



Source: Reuters & SMC Research

Traded volume was low in August compared to previous months, reflecting traders’ caution amid high uncertainty about global oil demand and supply growth this year.

Brent-WTI spread: Affected by geopolitical events, quality, location & global demand and supply

We have already mentioned above that Brent and WTI crude have different properties. Therefore, the price differential is a quality spread. Also, the two crudes are located in different parts of the world, Brent in Europe and WTI in North America. Therefore, Brent versus WTI is also a location spread.

A. Global geopolitical uncertainties support Brent price

Even global geopolitical events also cause the spread between Brent and WTI. The Brent was trading at a premium to WTI when the Arab Spring

started in 2011. Fears of a closure of the Suez Canal and a lack of available supply caused Brent crude oil to become more expensive than WTI. Once the spread has increased to \$25. The premium for Brent started to drop in 2015, when Iran allowed exporting oil after an agreement on nuclear issue. Currently the U.S.-China trade row & the rising tension in middle-east over Iran again is deciding the spread. West Texas Intermediate is less affected with geopolitical uncertainties because it is based in landlocked areas in the United States. So the spread between Brent and WTI is a perfect example of how geopolitical events, quality and location spreads affect the structure and ultimate pricing of crude oil around the globe.

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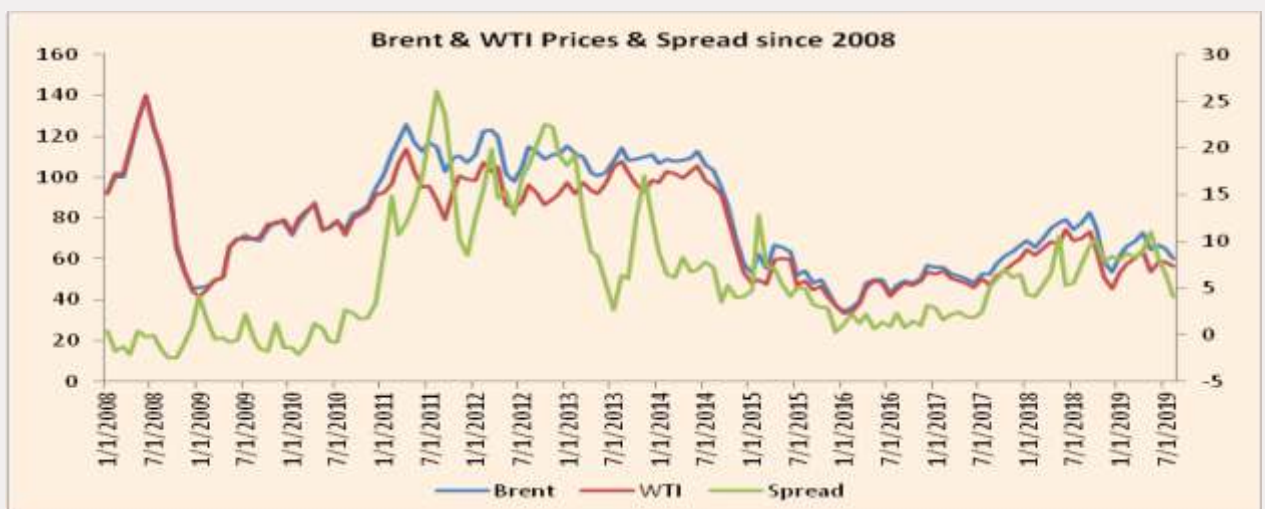
B. OPEC production cut support Brent price

OPEC, a group of 14 of the most powerful oil exporting countries, uses Brent as their pricing benchmark. OPEC and its allies led by Russia have been reducing 1.2 mbd oil output since 2017 to prevent prices from sliding amid soaring production from the United States, which has overtaken Russia and Saudi Arabia to become the world's top producer. OPEC has extended oil supply cuts until March 2020

C. Shale revolution and pipeline import from Canada lowered WTI premium

Historically price differences between Brent and WTI and other index crudes have been based on physical differences in crude oil specifications and short-term variations in supply and demand. Prior to September 2010, WTI was trading on premium against Brent. But after shale revolution with hydraulic fracturing and pipeline import from Canada, WTI had started trading on discount against Brent. At the start of 2011, the Brent-WTI spread was close to flat. The U.S. oil boom has restarted the competition between two of the world's largest exchange operators, NYMEX and ICE. The surge of supply has made WTI more useful to global traders and shippers. In 2017, trading volumes of WTI futures surpassed those of Brent by the largest margin in at least seven years.

- Currently the spread between Brent and West Texas Intermediate (WTI) crude is in the range of \$4-5 down from \$8.37 in the start of this year. The spread peaked in last week of May at \$10.99.
- EIA expects West Texas Intermediate crude oil prices will average \$5.50/bbl less than Brent prices during the fourth quarter of 2019 and in 2020, narrowing from the \$6.60/bbl spread during July. In the July EIA forecast the Brent-WTI spread to average \$4.00/bbl in 2020.
- The narrowing spread reflects EIA's assumption that crude oil pipeline transportation constraints from the Permian basin to refineries and export terminals on the U.S. Gulf Coast will ease in the coming months.
- By the end of 2019, we expect the price differential between WTI and Brent to narrow substantially as growing U.S. exports of light oil come to compete in Atlantic Basin and Asian markets.
- Expectations of declining U.S. crude supplies are also driving bullish sentiment & thus have impacted the lower spread. The NYMEX WTI is supported by declining US crude oil stocks. Lower production in the Gulf of Mexico and sustained demand for US crude oil exports also supported the WTI price.
- The narrowing gap between Brent and WTI crude oil prices could increase the transportation



Source: Reuters & SMC Research

During times of crisis, the spread blows out as political uncertainty leads to surges in Brent Crude prices. West Texas Intermediate is less affected because it is based in landlocked areas in the United States.

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cost burden for US crude oil exporters. The higher spread could help mitigate transportation costs and increase profits.

- But there has been a positive relationship between US crude oil exports and the Brent-WTI spread. With the lower spread, US crude oil exports might fall in the coming weeks.

In 2017, trading volumes of WTI futures surpassed those of Brent by the largest margin in at least seven years.

The difference between Brent and Dubai/Oman

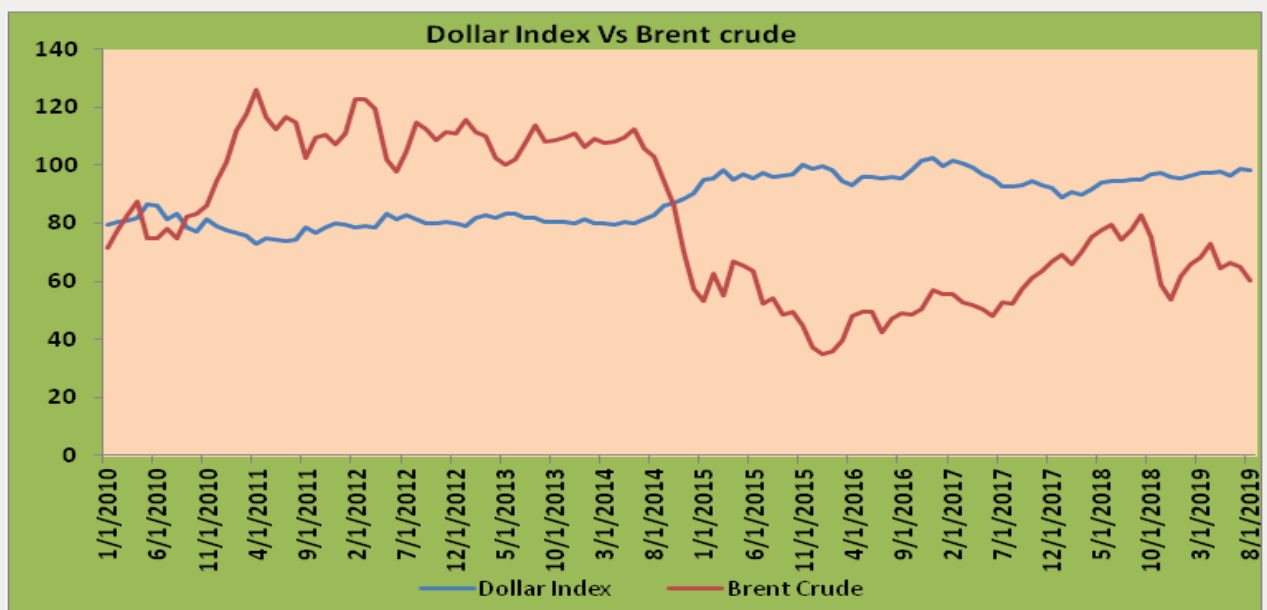
Due to low-density and low-sulphur oil, Brent is ideal for refining into diesel, petrol and other fuels. Dubai/Oman crude oil is of slightly lower quality, putting it in sour grade. It is a basket of crude oil from Dubai, Oman or Abu Dhabi. The composition of Dubai/Oman and Brent in the Indian basket of crude oil is decided on the processing capacity of oil companies. Dubai/Oman crude oil is popular in the Asian market.

Dubai/Oman crude prices are supported by healthy Asian demand and lower supplies from the Middle East. Prices of Middle Eastern grades were further supported by tighter heavy and medium sour crude markets amid lower supply and exports from the Middle East and Latin America due to geopolitical tensions.

India's basket of crude oil

India is the world's third-largest oil importer. According to Petroleum Planning & Analysis Cell, the Indian basket of crude oil is a derived basket comprising of sour grade (Oman & Dubai average) and sweet grade (Brent dated) processed in Indian refineries in the ratio of 74.77 to 25.23. Although the Indian basket represents the average of Dubai/Oman and Brent crude, but the price of India's basket of crude oil is heavily dependent on the price of Brent.

As part of India's evolving energy security architecture, the government is also working on the second phase of strategic petroleum reserves. Such reserves will help India manage short-term supply disruptions. India has an existing storage capacity of 5.3 million tonnes.



Source: Reuters & SMC Research

The government in June approved construction of an additional 6.5 million tonnes of strategic crude oil reserves. These facilities together will help support 22 days of India's crude oil requirements.

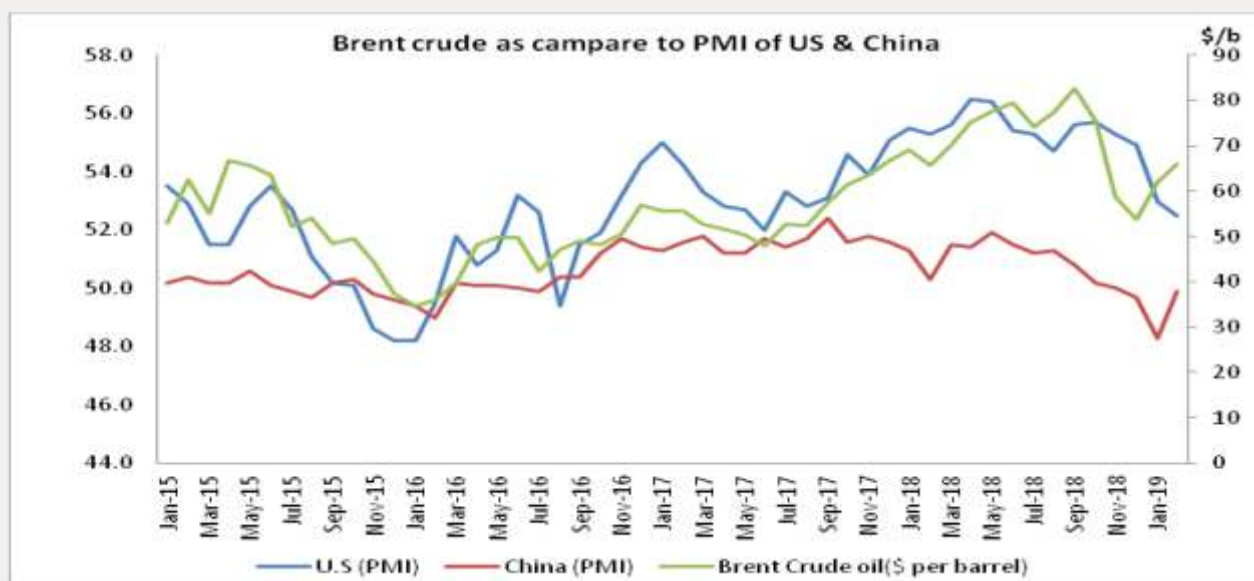
The cost of the Indian basket of crude, which averaged \$47.56 and \$56.43 per barrel in FY17 and FY18, respectively, was \$62.39 in June 2019, according to data from the Petroleum Planning and Analysis Cell (PPAC).

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Factors affecting market

- Global demand-supply
- Movement of currencies, especially in Dollar
- Global Economic Growth & Trade Policies
- OPEC & Non-Opec Decisions about oil production level
- US Crude Inventories
- Geopolitical Development
- Weather, specially hurricane season in Atlantic sea
- Other macro economic factors: recession, inflation, tariff war
- Speculation, Hedging & Investment

Correlation between US PMI & Chinese PMI with brent crude prices



Source: Reuters & SMC Research

The above chart shows almost 80-90% correlation between US PMI & Chinese PMI with brent crude prices. Above chart show that when PMI reading of both US & China come under 50 during November 2015 to February 2016 the Brent prices nosedived to below \$ 35/b. We know that China, the Asian giant is responsible for consuming massive amounts of raw materials-almost 45% copper, 55% of aluminum and second highest consumer of crude oil. China imports majorly Brent crude. Most interesting, the PMI reading of US & China both has impacted the Brent prices significantly. So when the PMI falls in both China and the U.S., the two largest economies in the world, it's not a good sign of economy and for Brent crude also.

Settlement Price in NSE

All the contracts would have monthly expiry and the expiry day would be the last business day of the expiry month. The settlement price of the contract would be based on the ICIS price 'Front-month cash BFOE (Brent-Forties-Oseberg-Ekofisk) assessments' as made by ICIS. They provide five intra-day assessments on the cash-settled market which is used in the computation of the Brent Index that is the cash settlement price of the ICE Brent Futures contract at ICE (Intercontinental Exchange) futures exchange.

NSE Brent Crude Oil Specifications

Brent Crude Contract	Regular	Mini
Lot Size	100 Barrel	10 Barrel
Tick Size / Quotation	Rs. Per 1 Barrel	
Contract Cycle	Monthly Contracts	
Expiry	Last Business Day of the contract expiry month.	
Settlement	Cash Settled	
Due Date Rate (DDR) / Final Settlement Price (FSP)	<ul style="list-style-type: none"> Due date rate (FSP) shall be the settlement price, in Indian rupees, as arrived at from the average of the five intra-day 'Front-month cash BFOE (Brent-Forties-Oseberg-Ekofisk) assessments' as made by ICIS on the last trading day of the NSE Brent Crude Oil Contract. The last available RBI USDINR reference rate will be used for the conversion. The price so arrived will be rounded off to the nearest tick. 	

Settlement Price Comparison

Expiry Date	Brent Index (In \$)	ICIS Avg. (In \$)	RBI Reference USD INR	Price diff per Barrel (USD)	Price diff per Barrel (INR)
31-Jan-19	61.87	61.88	71.0333	-0.01	-1
28-Dec-18	52.28	52.31	69.9786	-0.03	-3
30-Nov-18	58.69	58.75	69.6574	-0.06	-4
31-Oct-18	75.50	75.50	73.9936	0.00	0
28-Sep-18	82.67	82.68	72.5474	-0.01	-1
31-Aug-18	77.43	77.44	70.9255	-0.01	0
31-Jul-18	74.25	74.48	68.6068	-0.23	-16

Source: NSE

ICIS Settlement

ICIS carries out assessment of the cash market value of the expiring front-month ICE Futures Brent contract. The assessment is done by ICIS, 5 times a day as per below mentioned timings:

Period	London Time	India Time*
Morning	10:30 AM	3:00 PM
Midday	12:30 PM	5:00 PM
Afternoon	2:30 PM	7:00 PM
Snapshot	4:30 PM	9:00 PM
Exchange Close	7:30 PM	12:00 AM

* India time shall increase by 1 hour in case of day light savings

Settlement Price

- ICIS carries out assessment of cash market value of the expiring front-month ICE Futures Brent contract.
 - Assessment is done by ICIS 5 times a day
- Computation of settlement price by ICIS
 Cash market value of the expiring front-month ICE Futures Brent contract (in US\$)=
 2nd month ICE contract + EFP for such 2nd month + cash front-month to 2nd month spread
- Latest available RBI reference rate used to convert above settlement price into INR
- The price so arrived will be rounded off to the nearest tick.
- NSE shall disseminate the reference price twice a day

India Time	Details of disseminated price
6:45 pm*	Average of price assessments received from ICIS for their assessment carried out at 10:30 am & 12:30 pm (London Time)
9:00 am	Average of all price assessments received from ICIS for their assessments on the previous working day (London Time – 10:30 am, 12:30 pm, 14:30, 16:30 & Close assessment)

NSE * India time shall increase by 1 hour in case of day light savings

Technical View

ICE Brent

Brent price are gapped near support and kissing the key moving average of 200. Based on weekly chart formations if prices manage to sustain below \$57.93 the downtrend is probably going to stay unblemished for the time being. The bearish rally could be approached all the way down to \$52.50 levels whereas; it could face resistance near \$61.80. Another scenario indicates that if break above \$61.80 then there are chances to test \$66.30 levels.



Crude OIL

Crude oil price are open gap down on weekly basis near \$53.20 in congestion area. Based on weekly chart formation prices still manage to sustain above the key support of \$53.20, as long as price stays above \$53.20 chance to test \$57.95 levels. Otherwise bearish rally could approach all the way to \$48-50.



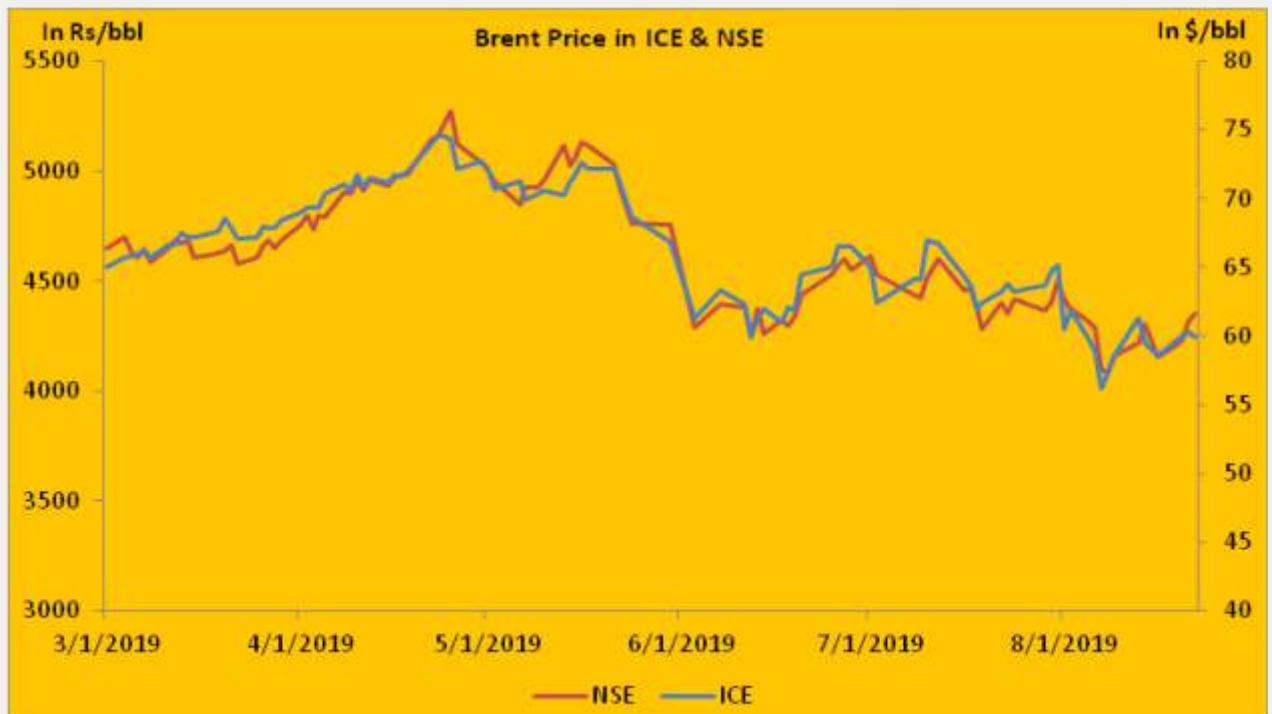
Brent WTI Spread

The Spread is presently trading above 380, if continue to sustain above the level then the bullish rally could approach all the way to 450 levels in coming few sessions. Based on weekly charts prices rebound from the key support of 250.



NSE Brent

Brent oil prices presently trading well above the key support of 4174, prices rebounded after kissing 3940; 200 DMA. As long as prices sustain well above the 4174 levels chances to target 4594. Another scenario indicates that if prices failed to sustain above 4174 then it may test 3960-3910.



Source: Reuters & NSE

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