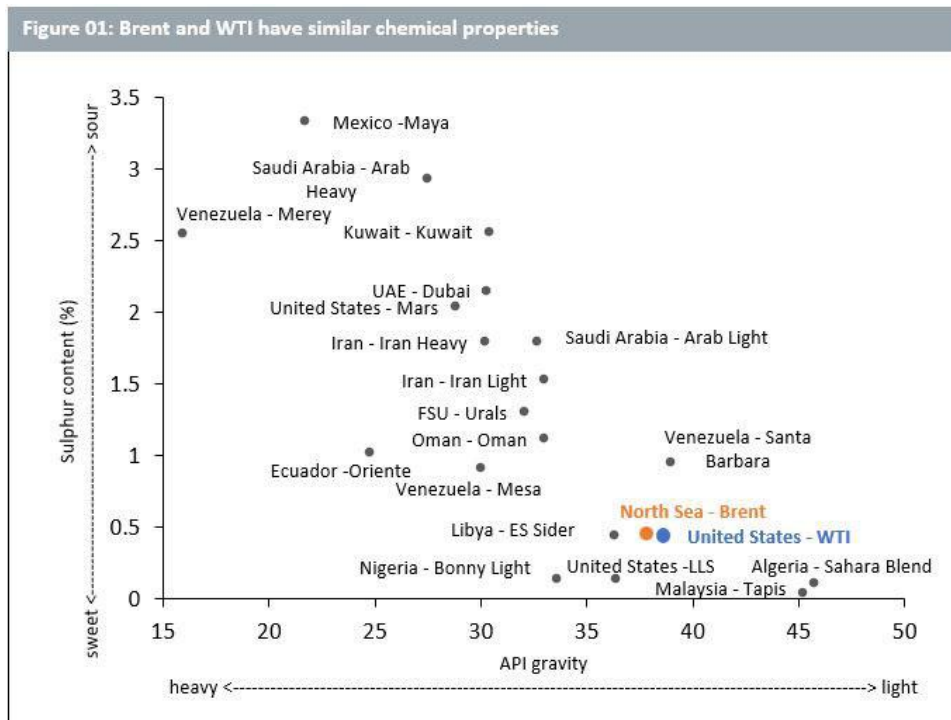

BRENT AND WTI – A TALE OF TWO BENCHMARKS

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04 May 2020

Brent and West Texas Intermediate (WTI) are two globally recognised oil benchmarks. When market participants refer to the price of oil, they typically refer to one or the other or both. But despite having quite similar chemical properties, there are important distinguishing features between the two. Financial markets recognise these differences and, as a result, price the two differently. The two benchmarks have contrasting features in terms of where the oil is produced, how it is stored and transported and the way it is traded in international markets. These differences not only explain the historical price discrepancy between the two, but also help us understand why the two have behaved differently during the coronavirus pandemic and the ensuing market volatility. This article will contrast the distinguishing features between the two and, after developing a new lens to view the two benchmarks, replay the recent episode when WTI prices crashed into negative territory. The article will conclude by outlining the forces which will shape the fluid commodity going forward.

Same, same, but different

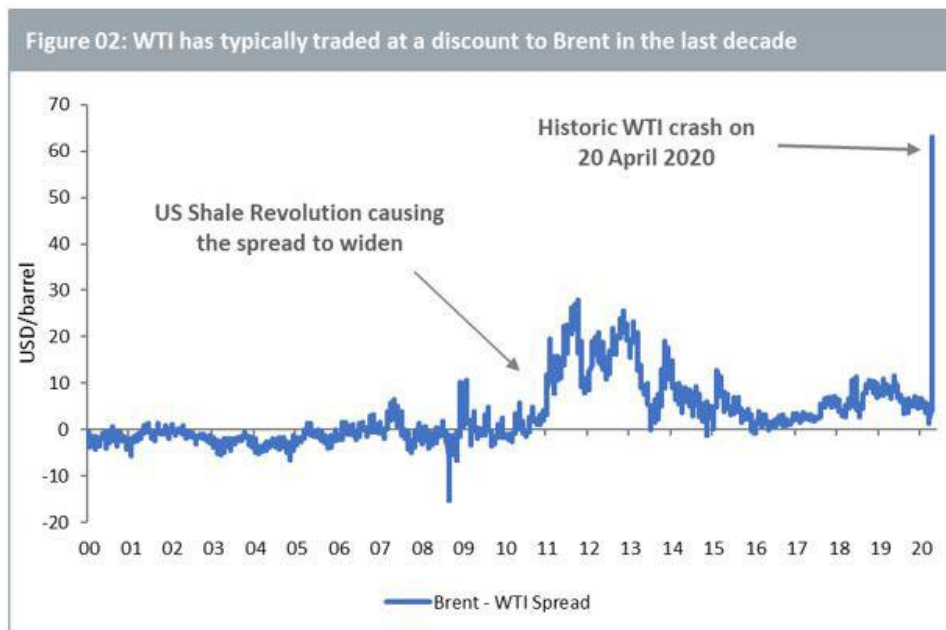
In ‘A tale of Two Cities’ by Charles Dickens, Sydney Carton sacrifices his life to save Charles Darnay, who is married to the woman Carton loves, by taking his place in prison moments before he is taken to the guillotine during the French revolution. He is able to pull off this selfless act of bravery thanks to the uncanny resemblance between him and Darnay. Similarly, most people would not be able to tell the difference if a barrel of WTI was replaced with one for Brent given the likeness between the two. Both Brent and WTI are referred to as light and sweet. They are ‘light’ in terms of the American Petroleum Institute (API) gravity. Having an API gravity greater than 10 makes them light and allows them to float on water, while an API gravity of less than 10 would have caused them to sink. Similarly, both have low sulphur content making them ‘sweet’ and easy to refine (See Figure 01).



Source: Energy Information, McKinsey & Company, WisdomTree.

Historical performance is not an indication of future performance and any investments may go down in value. You cannot invest directly in an index.

But while Carton and Darnay looked alike, they were distinctly different individuals. Brent and WTI too, despite their resemblance, have their disparities. Brent Crude is extracted from the North Sea. Oil production from Europe, Africa and the Middle East tends to use Brent as its main benchmark. This accounts for around two-thirds of internationally traded crude oil. The Organisation of the Petroleum Exporting countries (OPEC), an intergovernmental organisation comprising 13 key oil producing countries as well as their 10 partner countries (collectively referred to as OPEC+), also typically use Brent as their oil price benchmark. In contrast, WTI is sourced primarily from Texas and most oil production in the US uses WTI as its main benchmark.



Source: WisdomTree, Bloomberg. Data as at 29 April 2020. Spread calculated as the difference between the prices of the generic first futures contracts of Brent and WTI.

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Brent and WTI have always traded at different prices giving rise to the Brent - WTI spread (Figure 02). Purely in terms of quality, WTI has a slight edge over Brent on account of its lower sulphur content making it moderately 'sweeter' and thus easier to refine. For this reason, WTI ought to theoretically trade at a premium over Brent. For a large part of the first decade of this century, WTI did indeed trade at a premium, i.e. the Brent - WTI spread was negative. Over the last decade however, the shale revolution in the US has brought large volumes of oil into the market making the US one of the largest oil producers in the world. The shale revolution refers to a combination of technological improvements and financial infrastructure enabling the US to produce oil from low-permeable shale, sandstone and carbonate rock formations in larger quantities than ever before. The shale oil industry has grown rapidly since 2011 and accounted for 63% of total US crude oil production in 2019 (according to the US Energy Information Administration). In line with economic principles of demand and supply, as the total volume of oil production increased in the US, this put downward pressure on WTI. The Brent - WTI spread has generally been positive in the last decade.

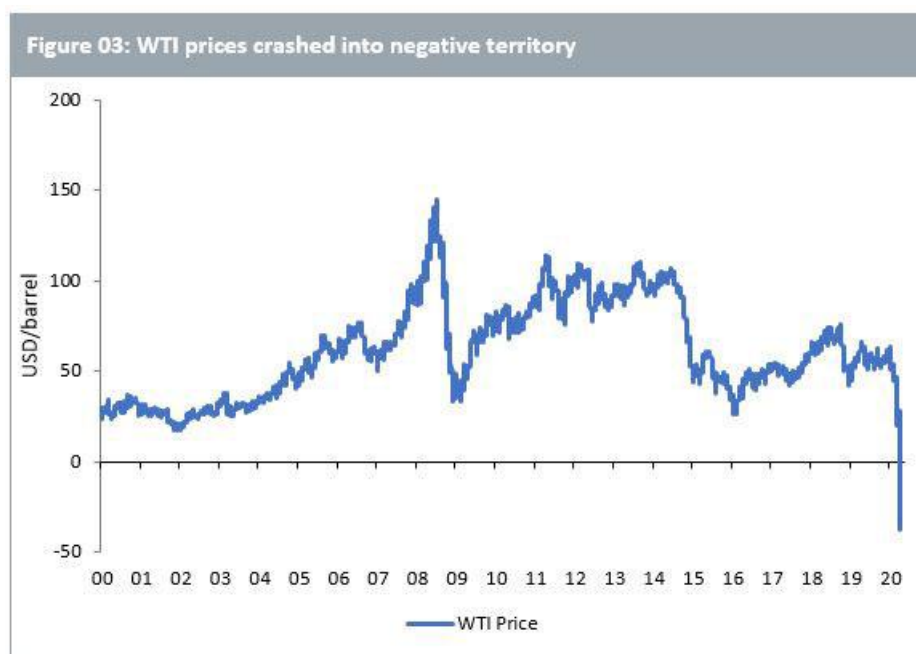
Another reason for the Brent - WTI spread is the logistical challenge for the US to transport oil from landlocked production hubs through a network of pipelines and to ship it overseas. This impinges on the overseas demand for oil from the US (WTI). In contrast, Brent is produced at or closer to sea making it easier for it to reach its overseas destinations. The US is however investing heavily in its pipeline infrastructure to enable it to send large vessels of oil from its shores to international buyers. Several such infrastructure projects are expected to be completed by 2021-2022 when we might see an increase in demand for WTI and thus a narrowing of its spread with Brent.

The historic WTI crash

The explanation above of the spread between the two benchmarks omits any discussion

about the unprecedented spike on 20 April 2020. This section will unravel the story behind the anomalous occurrence.

On Monday 20 April 2020, markets witnessed a historic crash in WTI prices (Figure 03). The crash occurred a day before the active Nymex WTI futures contract was due to expire. This contract, meant to deliver oil between 01 May and 31 May, crashed into negative territory as oil storage in the US became very tight. With the coronavirus pandemic causing considerable oil demand destruction putting entire countries in lockdown and bringing economic activity to a grinding halt, the reduction in oil production was not enough to balance the market creating a supply glut. The main delivery and settlement point in Cushing, Oklahoma was approaching its storage limit with any additional capacity likely already leased out or earmarked for other purposes. This acute pressure, so close to contract expiry at the point where contracts settle, contributed to the negative price. Those taking physical delivery from the expiring futures contract were being paid to take the oil and find a place to store it. The May contract expired the following day in slightly positive territory. When the June contract became the active contract upon the May contract's expiry, prices recovered further as the issue of June deliveries creating the same problem was less worrying, at least at that point.



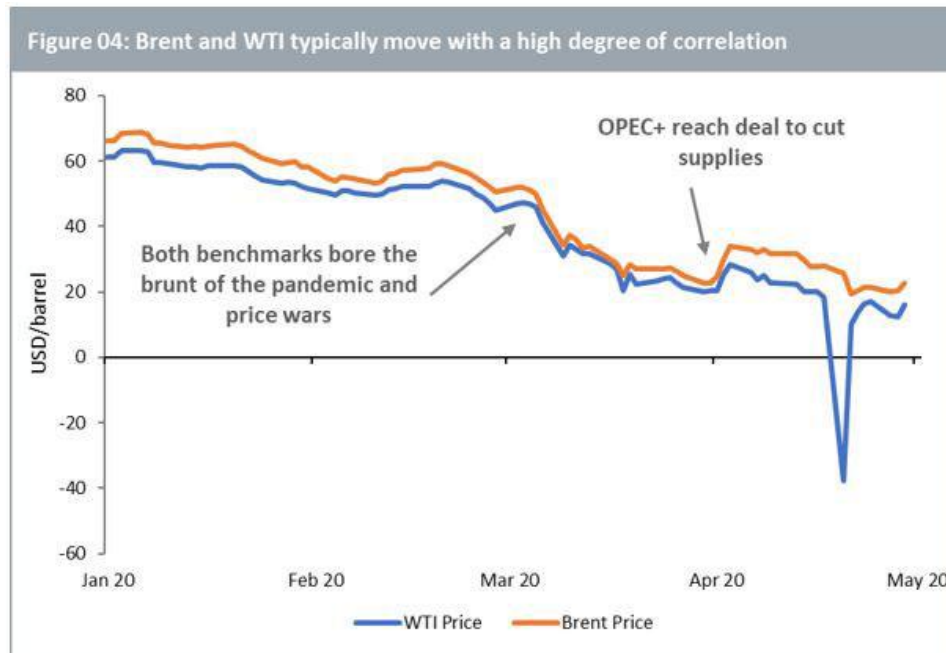
Source: WisdomTree, Bloomberg. Data as at 29 April 2020.

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But Brent did not endure a similar crash. The main reason for this is that WTI, traded on the New York Mercantile Exchange (NYMEX), is a deliverable futures contract. Thus, upon expiry, the holder of the futures contract takes delivery of the underlying, i.e. barrels of oil. Brent however, traded on the Intercontinental Exchange (ICE), has a cash settlement procedure whereby the holder of the futures contract need not take delivery of the underlying upon expiry. Therefore, storage issues create a more direct risk to investors in WTI futures.

Outside of this idiosyncrasy pertaining to futures trading, the two benchmarks generally move with a high degree of correlation (Figure 04). At the peak of the coronavirus

pandemic's acceleration in April, a third of global oil demand was wiped out. Soon thereafter, major oil producers Saudi Arabia and Russia engaged in a price war. This created a double shock for oil as the suppliers opened the floodgates at a time when demand had just crashed. Both benchmarks experienced severe price weakness. But as policy decisions from OPEC+ can be expected to impact Brent prices more than WTI, the deal¹ reached by the group at the start of April to cut supplies provided slightly more cushioning to Brent.



Source: WisdomTree, Bloomberg. Data as at 29 April 2020.

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What happens next?

With a deeper understanding of the drivers of the two benchmarks, historic and recent price behaviour makes more sense. But the all-important question is, “what happens next?”. The fate of oil prices rests heavily on how quickly the world can overcome the pandemic and get the economic engines firing again. Volatility in oil prices may persist in the coming weeks, or even months, until uncertainty with regards to the pandemic and lockdowns diminishes. The relative price behaviour of WTI and Brent during this period will depend on the degree to which producers in the US and OPEC+ cut supplies to balance the market.

We however hope to paint a more optimistic picture of the world in the second half of this year. Oil prices may not recover quickly to where they were in February this year due to an overhang of excess supply, a fractured OPEC+ and a dented global economic engine. Nonetheless, after all the pain, the world will eventually return to some semblance of normalcy. Manufacturers will switch their machines on again, cars will return to the roads and aeroplanes will return to the skies. Once again, oil is expected to be in demand. And while one protagonist had to sacrifice himself to save the other in the tale told by Dickens, we expect both mainstays from the tale of two benchmarks to rise again when the crisis is over.

¹ The OPEC+ deal included production cuts of 9.7mn barrels per day (mb/d) from May to June 2020 relative to October 2018 tapering to 5.8mb/d until April 2022. See our blog post [OPEC+ reaches a historic deal: but is it enough?](#)

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