

## **Widening Gap between WTI and Brent Prices and Its Background Factors**

Ken Koyama, PhD

Director

Strategy and Industry Research Unit

Institute of Energy Economics, Japan

Something extraordinary is emerging, with respect to benchmark crude oil prices in the international oil market. Previously, the WTI price, the benchmark in the U.S. market, was usually \$1 to \$2/barrel higher than the Brent price, the benchmark in the European market. In recent years, however, the price difference was reversed, and in recent days, the Brent price has been more than \$10/barrel above the WTI price. For example, on February 7, the Brent price closed at \$99.25/barrel, nearly \$12 higher than the closing price for the WTI price, which was \$87.48/barrel.

Both WTI and Brent are high-quality types of oil with low sulfur content. Regarding specific quality features, (i) the API gravity is 38.7 for WTI and 38.5 for Brent (WTI is lighter); (ii) the sulfur content is 0.45% and 0.41% respectively; and (iii) the yield of heavy fuel oil is 33% and 37% respectively. In short, WTI is roughly equal or slightly superior to Brent in quality. That is why the WTI price was higher than the Brent price by \$1.24/barrel on average between 1980 and 2009.

These two types of crude oil have come to send price signals around the world, based on vigorous trading in a liquid market in line with the development of physical infrastructure that supports physical trading and the development of the futures and forward markets as financial infrastructure. Thus, they have become the benchmark crude oil prices in the U.S. and European markets. It should be noted that the price movement of Middle East Dubai crude (and Oman crude), the benchmark in the Asian market, is said to have strong correlation with that of the Brent.

Why has the price difference between WTI and Brent been reversed with the price of the latter becoming so much higher than the former? One of the key factors is the extreme locality of WTI: WTI is traded not internationally but exclusively in a region in the United States. This means that the supply-demand balance in the region around Cushing, Oklahoma, which is the main delivery point of WTI, has a significant impact on its price formation. On the other hand, while Brent is traded mainly in Europe, it has an international reach in that it may also be shipped to the United States and Asia, depending on the market conditions.

These respective features of the two types of crude oil have resulted in a significant difference in the supply-demand environment surrounding them. As for WTI, attention should be paid to the

strong signs that the supply-demand condition is easing, with crude oil inventories at Cushing rising to the record highest level. According to the Energy Information Administration, crude oil inventories at Cushing amounted to 38.33 million barrels as of January 28, up around 20% compared with the end of January 2010. The inventory buildup was attributed to the supply pressure resulting from an increase in crude oil supply that coincided with the period of maintenance at oil refineries, when demand for crude oil is weak. In particular, an increase in the supply of Canadian oil sands and an expansion of crude oil production in North Dakota have been cited often recently as the causes of the supply pressure. The oil sand supply increase is part of the trend of growing supply of non-conventional oil. As for the crude oil production increase in North Dakota, there is a view that it is related to growth in the production of non-conventional gas, which has been an object of strong interest in recent years in the US and world energy market. Anyway, both symbolize the current energy situation in the United States as examples of an increase in the supply of energy sources due to the development of non-conventional resources. Another factor is a lack of sufficient transport capacity (pipelines) to ease the increased supply pressure from the inventory buildup at Cushing by transporting oil to other regions. In short, the current price situation of WTI reflects a combination of three factors — weak demand, supply pressure (increasing crude oil production) and infrastructure bottlenecks.

Meanwhile, the supply-demand balance for Brent was basically becoming tight due to an increase in demand caused by the cold waves of this winter that came amid the long-term downtrend of crude oil production in the North Seas. Then, the Egyptian crisis broke out in late January. Market sentiment was likely to have been affected by the perception that this crisis would have a greater impact on the European oil market than on the U.S. market from the perspective of logistics (the importance of oil trade between the Middle East and Europe via the Suez Canal and the SUMED pipeline). These supply-demand factors and speculative factors related to the Egyptian crisis triggered a rapid inflow of money into the Brent futures market, boosting the Brent price beyond \$100/barrel temporarily.

Given these background factors, it is not easy to resolve the price difference or to restore the “traditional” price relationship between WTI and Brent. To restore the “traditional” relation, the specific conditions surrounding these two benchmarks would have to change drastically. In particular, there is no doubt that it is necessary to develop infrastructure in order to ease the supply pressure at Cushing, which is one of the key price factors for WTI. At the same time, it is important to note the infrastructure development will take some time.

What should be considered next in this situation is whether WTI is suitable as a market benchmark. The United States is the largest oil market in the world, despite the declining demand there, and will continue to be so in the foreseeable future. It is extremely important for the stability and sound development of the international oil market and the oil industry that the price benchmark for the U.S. market have appropriate characteristics and reliability from various viewpoints. Given that the system of crude oil price formation based on benchmarks crude oil is adopted as a global standard and there is no immediate alternative despite existing defects and problems, the current system is likely to be maintained for the moment, while an improvement is explored.

A look at the history of the mechanism of price determination in the international market shows that the mechanism has changed in response to changes in the market's supply-demand balance and the needs of major market players. During the history, the international oil market has witnessed the come and go of major pricing systems such as: the government-selling price (GSP) system adopted by OPEC, which was dominant in the 1970s; the spot price system, which has grown influential as a result of an increase in spot trading; price signals from forward and futures markets, which were introduced and developed in order to deal with price volatility; the netback pricing system, which was adopted at the time of just before and during the crude oil price collapse in 1986; and the formula pricing system based on benchmark prices, which was later adopted and which has now become a standard. In this sense, from the macro point of view, it is possible to say that the mechanism of price determination will change again in the future in response to the needs of the market. Something extraordinary that is emerging with respect to crude oil benchmarks may prove to be a catalyst for international debate on the future mechanism of price determination.

Contact: [report@tky.ieej.or.jp](mailto:report@tky.ieej.or.jp)

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