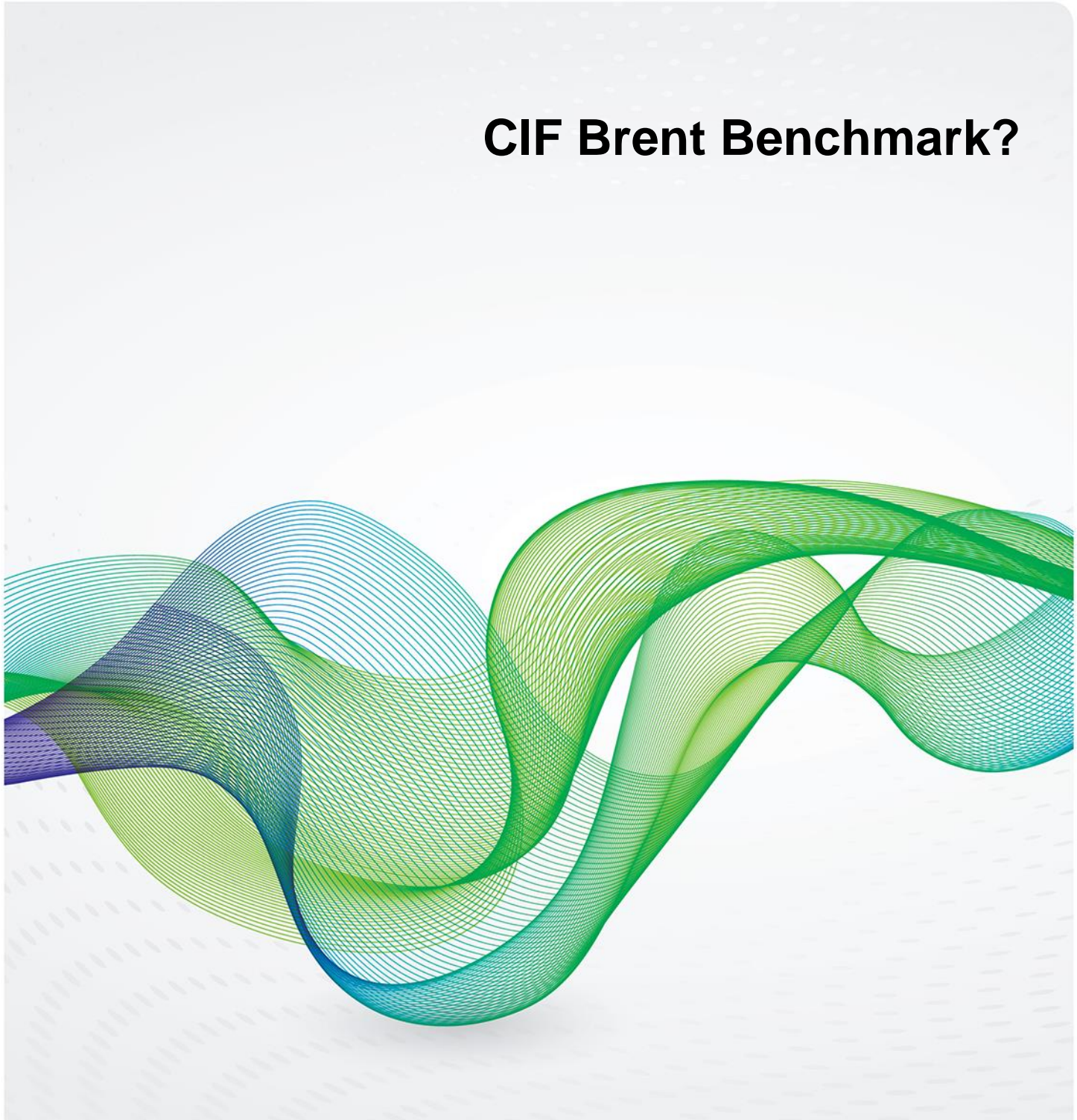


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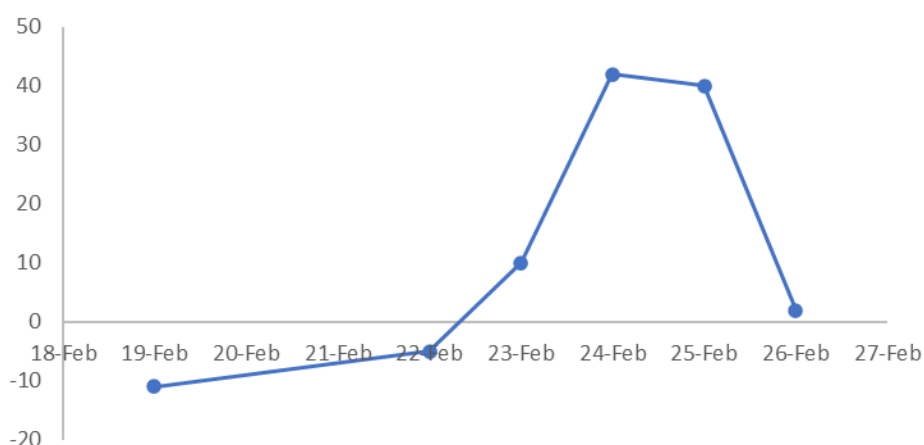
CIF Brent Benchmark?



Introduction

During the February 2021 'IP Week', the price reporting agency (PRA) S&P Global Platts (Platts) made an announcement that it will include WTI Midland in the Dated Brent¹ and Cash BFOET² assessments from July 2022 crude oil deliveries. This move was expected³ and heralded - a formal consultation on the proposal was launched early in December 2020, and according to Platts, the proposal found 'widespread support'⁴. The main reason for the announced changes is a dwindling supply of the five North Sea crude oil grades included in the Brent benchmark. The volume of Brent deliverable oil fell to only 774,000 b/d in March⁵ and is expected to reach 780,000 b/d in April 2021, below the 800,000 b/d 'rule of thumb' limit at which the benchmark may become unstable, volatile, and easy to be influenced by any one player⁶. At the same time, the volumes of imports from the United States have become a significant part of the feedstock of European refineries⁷. According to Argus, WTI Midland, included in the Argus New North Sea Dated Brent, sets the price about 45% of the time⁸. But the real shock was the announcement⁹ that Platts would amend their Brent assessments to delivered basis, turning both their Dated and cash Brent assessments into CIF¹⁰ Rotterdam prices. The market response was swift: the liquid Dated to Front Line (DFL)¹¹ market reacted, factoring an additional freight cost of about \$0.50 a barrel in the Dated Brent assessment, immediately after the Platts announcement on February 22nd (see Figure 1).

Figure 1: Dated to Front line futures market, cent/barrel



Source: Broker assessments, OIES.

¹ WTI Midlands (42 API and 0.2% S) directly competes with Ekofisk (38.9 API and 0.21% S) which is a part of the 'Brent basket'.

² Brent, Forties, Oseberg, Ekofisk and Troll (BFOET) are all deliverable grades in the 'Brent basket'. For brevity, S&P Platts generally refers to the basket as 'BFOE'.

³ See Adi Imsirovic, 'Changes to the 'Dated Brent' Benchmark: More to come', OIES Energy Comment, March 2019. The original announcement goes back to 25 February 2019 when Platts, announced the inclusion of delivered, or CIF (Cost, Insurance and Freight), Rotterdam offers of North Sea oil cargoes into its flagship Dated Brent1 benchmark starting from 1 October 2019.

⁴ See <https://www.spglobal.com/platts/en/our-methodology/subscriber-notes/022221-platts-to-reflect-wti-midland-in-dated-brent-cash-bfoe-from-july-2022-deliveries-amend-brent-assessments-to-delivered-bas>

⁵ 'Platts to add U.S. WTI crude to dated Brent benchmark', Reuters News, 22-Feb-2021.

⁶ With the usual summer turnarounds in the North Sea, the key Forties production may fall from the usual 14 to only 2 cargoes this summer.

⁷ 'With daily export volumes of over 1 b/d, WTI Midland is now a baseload grade for the European trading community and its refiners. It has become a core part of the North Sea oil market with similar characteristics to the rest of the five grades – Brent/Ninian, Forties, Oseberg, Ekofisk, and Troll that make up the basket.' Vera Blei in https://markets.ft.com/data/announce/detail?dockey=600-202102220514PR_NEWS_USPRX_NY86283-1

⁸ Interviews with Argus. Another important implication may be that the involvement of the US crude in the Brent benchmark may be an open invitation to the US CFTC to get involved in the North Sea market.

⁹ There was no prior, formal subscriber note hinting at such a change.

¹⁰ Delivered, including cost, insurance, and freight (CIF) expenses.

¹¹ It is a swap (usually for a calendar month) between Dated Brent and the first month futures settlements.



The market settled only after clarifications from Platts that it would continue to publish the FOB Dated Brent assessment, but calculated only by using a 'netback' methodology from the main, CIF assessment¹², and an official circular from the ICE exchange¹³ stating that: 'Existing Exchange contracts that reference the current Platts FOB-basis Dated Brent value will continue to settle against this assessment until June 2022. All existing maturities on the exchange would remain to be available. New maturities of existing Dated Brent related futures will continue to be listed, up to and including June 2022 where these have not yet been listed'. After June 2022, the Exchange will list contracts based on the new Dated Brent assessment¹⁴. There will be two tradeable DFL contracts, with maturities from July 2022: One based on the continuing Platts FOB assessment¹⁵, while the other will be based on the new CIF-based assessment¹⁶.

To fully understand the magnitude and importance of the proposed changes in the key benchmark of the most important commodity in the world, we should briefly revisit the evolution of the benchmark itself.

Evolution of the Brent benchmark

BP discovered a huge Forties field in the UK section of the North Sea in October 1970. A year later, Shell and Esso¹⁷ discovered Brent, one of the most iconic fields in the world. Ekofisk started production in 1971, Forties in 1975 and Brent in 1976. In 1981, the Sullom Voe terminal was completed where Brent and Ninian crudes would be stored and loaded. Eventually, the two grades of oil would be commingled into one stream, the Brent Blend¹⁸. UK government's fiscal¹⁹ and liberalisation policies of the early 1980's encouraged trading, and the falling market of 1982 and rising volatility further spurred activity. In particular, a tax loophole gave oil majors, with both oil production and refining, an opportunity to sell equity oil and buy third-party barrels in order to optimise tax²⁰.

In 1983, the British government monopoly, the British National Oil Company (BNOC), moved from using Forties to setting a Brent 'marker' price²¹. The focus of 'tax spinning' also gradually shifted to Brent, loading at Sullom Voe terminal. By 1984, most of the procedures for trading 15-day forward Brent were established and accepted in an informal and unregulated market. The biggest lifters were the three majors, Shell, Esso, and BP, lifting almost a half of the volume loaded from the Sullom Voe terminal in that year²². They were major buyers of both spot and term from BNOC as well. Given those volumes, they had strong incentive to 'spin' Brent cargoes and maintain an orderly and well-functioning market. Therefore, the forward Brent market was at the root of the overall Brent complex, which gradually developed later²³.

In March 1983, the New York Mercantile Exchange successfully launched its first crude oil futures contract. It was a light sweet crude oil contract with a physical delivery in Cushing, Oklahoma. It further encouraged arbitrage trades with 15-day Brent. At the end of the same year, the International Petroleum Exchange (IPE) launched its first Brent futures contract. It was also a contract with physical delivery,

¹² Note that this is very different from the original FOB assessment process.

¹³ The ICE Circular 21/032, 2021, 'Clarification on treatment of changes announced to Platts Dated Brent'.

¹⁴ See <https://finance.yahoo.com/news/ice-run-parallel-contracts-platts-191735556.html>

¹⁵ Platts code PCAAS00.

¹⁶ Platts code AAOFD00.

¹⁷ Standard Oil of New Jersey rebranded and changed name to Exxon Corporation in 1972. Its UK entity involved was Esso Exploration and Production UK.

¹⁸ They included ten fields in total: seven in the Brent and three in the Ninian system. See Horsnell and Mabro (1993), p.11.

¹⁹ For details on the subject, see Mabro R., Bacon R., Chadwick M., Halliwell M., Long D. (1986): 'The Market for North Sea Crude Oil', Oxford University Press for the Oxford Institute for Energy Studies.

²⁰ Royalty was charged at 12.5%, PRT at 75% and Corporate tax at 53% (reduced to 35% in 1986). When the market price was below the PRT, they could sell equity production to minimise the PRT. They could buy third-party barrels at the same time and the downstream (trading) would pay only the (much lower) corporate tax. Effective rates were even lower, see: Mabro et.al. (1986), p.110-122.

²¹ These prices were set by BNOC and vetted by the UK Treasury, not unlike the original OPEC government selling prices. In fact, they were often set after consultations with OPEC.

²² Mabro et.al. (1986), p.54.

²³ See Fattouh B. (2010), An Anatomy of the Crude Oil Pricing System, OIES Paper WPM 40.



but in tanks in the Amsterdam-Rotterdam–Antwerp (ARA) area. That attempt was unsuccessful as it did not satisfy the needs of the oil industry at the time.

Trading the whole forward Brent cargoes was not ideal for most players. In the absence of a liquid futures contract in Europe, there was a need for smaller volumes trades in Brent, especially for hedging product cracks²⁴. This was where banks added value with a clever solution: a ‘Partial Brent’ market²⁵. The success of the Brent partials market was probably a blueprint for the third and successful IPE futures contract in 1988. That year, a successful FOB²⁶ contract, complementary to the prevailing 15-day Brent forward market with delivery at Sullom Voe terminal²⁷ took off.

Brent ‘paper’ evolved from being a ‘forward²⁸’ market in physical cargoes in the 1980s, to becoming the most complex oil market in the world. The operational tolerance in buyer’s option²⁹ encouraged traders to participate in the market and add to liquidity. Due to falling production of the Brent Blend, other sweet North Sea grades were gradually introduced into the Brent delivery mechanism forming what we now call a Brent or ‘BFOET³⁰ basket’, comprising and named after: Brent, Forties, Oseberg, Ekofisk and Troll grades of crude oil. Forties grade was introduced in 2002 (with Buzzard field entering production and feeding into the Forties stream in 2007), Oseberg in 2002, Ekofisk in 2007, and Troll in 2018. The physical volumes of oil in the ‘Brent basket’ have also been increasing over time by widening the loading ‘window’ or the number of cargoes which qualify for the price assessment of Dated Brent. From 1987 to 2002, this ‘window’ was from 7 to 15 days ahead of the date of assessment (known as 15-day Brent). In 2002, the window was expanded to 10–21 days ahead; in 2012 it was expanded to 10–25 days ahead. Finally, in 2015, it was extended yet again, to 10-30 days or one calendar month forward ‘window’. Each of these changes added to the volume of oil included in the assessment³¹.

What is left of Brent blend crude oil, loading at Sullom Voe terminal³², is now just a brand name. Today, the assessment of the key, Dated Brent is a complex process, involving not only trades, bids and offers for the physical commodity, but the assessment of the derivatives values of the benchmark itself.

The four pillars of Dated Brent assessment and the new proposal

The current methodology for the assessment of Dated Brent is based on four ‘pillars’:³³

1. Physical assessment of BFOET grades.
2. A forward curve based on the Dated swaps³⁴ market.
3. The fixed price of the forward or futures ‘Brent’ contract.
4. Quality differentials on crudes other than Brent or Forties³⁵.

²⁴ A product ‘crack’ is simply a differential between product and crude prices related to the same volume.

²⁵ It worked by building partials up to a full cargo or reversing the partial positions down to zero.

²⁶ ‘Free on Board’ means that oil was delivered to the ship at the loading port. Shipping and insurance are not included in the price.

²⁷ It was a financially settled contract but a simple EFP transaction would ensure a physical delivery at S. Voe.

²⁸ Forward Brent is simply a physical cargo sold ‘forward’ or in advance of the issue of the loading programme for that month, indicating loading dates.

²⁹ Originally, it was 5% in buyer’s option.

³⁰ The industry commonly refers to the basket as BFOET, but Platts officially left it at BFOE for brevity and convenience. In this paper, we shall stick to the industry practice of calling it BFOET.

³¹ For a detailed account of the evolution of the Brent benchmark, see Adi Imsirovic, ‘Trading and Price Discovery for Crude Oils, Growth and Development of International Oil Markets’, Chapters 10 and 11, Palgrave Macmillan, 2021 (forthcoming).

³² In January and February 2021, there were only three cargoes of Brent per month.

³³ Adi Imsirovic: ‘Changes to the ‘Dated Brent’ Benchmark: More to come’, OIES Energy Comment, March 2019.

³⁴ Since the financial crises of 2008, virtually all OTC swaps are cleared on one of the exchanges or simply traded as futures (swap futures). Such futures have different legal status from OTC swaps.

³⁵ This refers to quality premium or QP. There is also a Forties sulphur de-escalator, see:

<https://www.spglobal.com/platts/plattscontent/assets/files/en/our-methodology/methodology-specifications/northseadeescalator.pdf>



The newly proposed changes are likely to impact all four pillars³⁶.

By moving the cash Brent assessment to CIF basis, the most important impact will be on the forward Brent contract which is at the roots of the Brent complex. Currently, all five of the 'Brent' deliverable grades of oil have loading programmes issued prior to the expiry of the cash contract, enabling the traders of the forward cargoes to pass the nomination dates for these grades down the 'forward Brent chains'³⁷. WTI Midland does not have such a programme, although it is not impossible that such schedules may be created by the industry³⁸. The existing Shell UK 1990 (SUKO 90) terms and conditions used for such trades would have to be completely re-written. For companies with both production and refining in the UK, there may be also tax implications³⁹.

The players with a strong position and storage in Texas (Houston and Corpus Christi) would certainly have an advantage in such circumstances. More importantly, any seller or buyer of the forward contract would have to anticipate forward freight costs in their offer. While the so called 'TD7' route for Hound Point to Rotterdam is relatively stable and is assessed as far as 2024⁴⁰, such trades in oil plus freight could pose risk as buyers and sellers may have different policies in terms of ship acceptability. This additional risk may discourage the equity producers from selling in the forward market. CIF Rotterdam is location-specific, diminishing the value of such forward sales, further discouraging equity producers from participating in the cash market.

Currently, the operational tolerance on the BFOET cargoes is 1% in buyers option. The proposed changes would shift the volume tolerance to the seller. Most WTI Midland cargoes are loaded up to 700,000 barrels, while the cash Brent is traded in 600,000 parcels⁴¹. While it is possible to imagine why a trader would sell such a contract, it is not clear why would anyone buy it, giving up not only volume but also grade optionality. This would seriously undermine trading in the forward Brent contract⁴². In fact, trading in forward Brent could possibly seize up completely.

Given the futures Brent converges with cash Brent at the expiry, the new Platts proposal would seriously undermine the futures contracts traded on the exchange⁴³. Currently, these contracts are linked to the physical oil through an exchange for physical derivatives (EFP) contract. With little incentive to hold cash Brent due to the loss of optionality, EFP values would turn negative. With the forward Brent contract seriously weakened or even disappearing, the lack of convergence of the futures into cash and therefore physical Brent contract would probably make the existing ICE and CME Brent futures contracts untenable. As a result, a significant volume of open positions beyond the proposed date of the implementation of the change would have to be revaluated. The impact of such changes would be not just on the long-term oil refinery and exploration and production (E&P) projects but also on long-term gas supply contracts (both pipeline gas and liquefied natural gas or LNG) which depend on the Brent price signals many years into the future.

³⁶ It is important to note that many of the details of the new Platts proposal are not yet clear and are still subject to further discussion and clarifications. One of them is the quality differential (quality premium of QP) for WTI Midland crude, which is likely to be set at later stage.

³⁷ See Horsnell P. and Mabro R. (1993), *Oil Markets and Prices*, Oxford: Oxford University Press.

³⁸ The so called 'Trafigura proposal' includes such an idea: 'The midland export market partnered with the Corpus Christi Terminal is in a unique position to be able to issue a reliable and consistent FOB Midland programme. Corpus Christi has an export capacity of 600,000 b/d and is geographically better positioned than other Houston Terminals to not suffer from weather delays. It is part of a larger Corpus Christi terminal network consisting of Nustar, Buckeye and Moda that has approximately 2mbd of export capacity and supplied by Cactus 1 & 2, Epic and Grey Oak pipelines that carry up to 3mbd. We would suggest that the largest shippers across the Corpus terminal are invited to participate in a 15 cargo programme (can be adjusted).' Page 1. Of the proposal.

³⁹ '... tax authorities both in the North Sea, in the UK, and Norway, as well as in other parts of the world, Russia, Nigeria, just to name two, using Dated Brent when they're coming up with tax formulas for the oil sector. All of those will be open to challenge and legal question.' See: <https://www.argusmedia.com/en/blog/2021/march/3/podcast-the-crude-report-dated-brent-proposal>

⁴⁰ See: <https://www.cmegroup.com/trading/energy/freight/tanker-route-td7-north-sea-to-continent-80k-metric-tons-freight-swap-futures.html>

⁴¹ The difference could be bridged by trading 100,000 b/d top-ups.

⁴² Urals crude is traded forward on CIF basis, but the grade typically does not involve large 'chains'.

⁴³ This impact could happen well before the actual change as the market participants do not like uncertainty with regards to the instruments they trade.

Brent derivatives

Brent forward, futures and Dated market are closely interlinked.⁴⁴ The new Platts proposal is focused on strengthening the Dated Brent assessment, probably at the expense of the rest of the Brent complex as it exists today.

A number of Brent derivatives are using futures settlements, such as Brent swaps and 'dated to front line' (DFL) swaps and these would consequently be undermined as well. DFL market in particular, offers a liquid instrument for hedging crude (as well as many LNG contracts based on Dated Brent).

Since the contracts for difference (CFDs) in Dated Brent are based on assessments for cash as well as Dated Brent, the new proposal would undermine this derivatives market. Of course, the new proposal by Platts could create an entirely new market in Dated Brent, based on fixed price assessments for the contract. The PRA could force the participants⁴⁵ in the new dated Brent market to bid and offer the deliverable grades on fixed price basis, thus creating a forward Dated curve. Currently, most bids and offers in the Platts window are based on Dated Brent basis. Then, the fixed price values of such bids and offers are assessed using the derivative, CFD market. In some ways, this is perverse⁴⁶ as the derivative market sets the price for physical crude. In the 1990s, it was common for Brent to trade on fixed price basis, with the buyer and seller simply exchanging the hedges in form of a forward cash cargo⁴⁷. However, if the futures market was undermined by the new proposal, it is not clear what hedge would be used instead. Some form of futures Dated Brent may evolve instead⁴⁸. So, rather than trade the existing CFD 'rolls' (buying one CFD and selling another) against cash Brent, such rolls could trade on an outright basis (outright Dated Brent in one week against outright Dated Brent in another⁴⁹).

The value of Dated Brent is highly influenced by the arbitrage to destinations such as China and South Korea (see Figure 2). An arbitrageur who has an opportunity to sell oil to such a destination would have to cover the sale by buying FOB barrels. Bidding for such FOB barrels would not qualify for Platts Dated Brent assessment, excluding a very important part of the Brent trade from setting the price of the benchmark.

On the positive side, the inclusion of delivered WTI Midland into a Dated Brent contract would create a seamless arbitrage link with Dated Brent, subject to trans-Atlantic freight. WTI Midland trades at a relatively predictable discount of about \$0.90 a barrel to WTI Cushing and pipeline cost to Houston is fairly stable. Of course, the freight element in CIF Brent would change the WTI-Brent spread by an equivalent amount.

The Platts proposal would have a knock on effect and require adjustments of all the values of all the other grades and official selling prices (OSPs) based on Dated Brent. However, this would be a one-off affair and manageable in the long run.

⁴⁴ For details, see: Fattouh B. and Imsirovic A. (2019), 'Contracts for Difference and the Evolution of the Brent Complex', OIES Energy Comment, June 2019.

⁴⁵ PRA could force them in theory. It is not clear if it is feasible in practice.

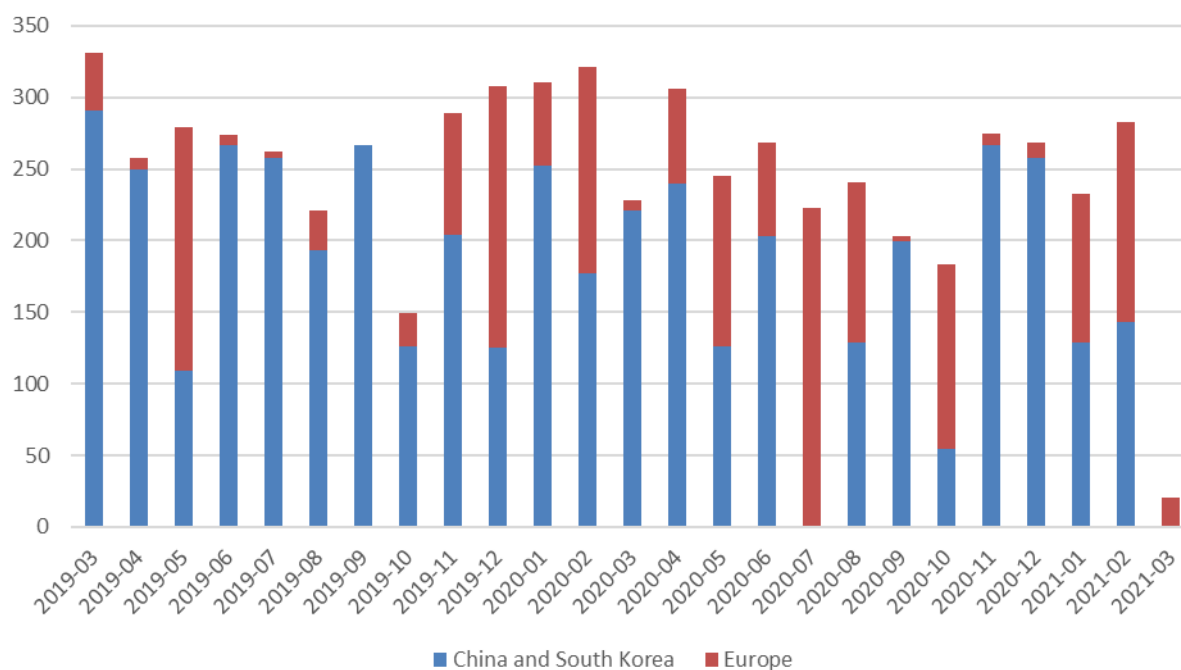
⁴⁶ It is mathematically sound. However, it appears that the tail is wagging the dog.

⁴⁷ For example, a seller would offer Dated Brent at January forward plus \$0.10 a barrel. Buyer would buy it and, in return, sell a January cash back at an agreed, market price. Futures settlement could be used as well for those reluctant to participate in the forward market.

⁴⁸ This is highly speculative, but the issue had to be addressed. Some new futures contract based on Dated Brent could not be excluded. It would force the exchanges to use Platts Dated settlements for the expiry of the futures contract. Alternatively, even WTI futures could be used!

⁴⁹ For example, currently a buyer would buy 15-19 March CFD at May-30 and sell the following, 22-26 week at May-30, therefore buying the CFD roll at 'flat' or zero cost. Instead, she could buy 15-19 CFD at \$65 and sell the 22-26 week at \$60, achieving the same end result. These contracts have traded in the past, but do not constitute a majority of CFD trades.

Figure 2: Monthly export destinations for Forties crude oil, kb/d



Source: Kpler, OIES.

Alternatives

In recent months, few alternatives have been proposed. They all include a number of adjustments to make them work. The two leading contenders are:

Platts and the industry could work on bolstering the BFOET contract by involving a number of US Gulf Coast Midland export terminals to create a viable loading programmes in line with the current cash Brent ones. However, the issue of operational tolerance (say 700,000 barrels of WTI Midland versus 600,000 of BFOET) would remain to be resolved⁵⁰.

Platts could incorporate WTI Midland delivered to Rotterdam into the existing Dated Brent using freight (and possibly a quality) adjustment. All the assessments would be netted back to the usual FOB basis. This proposal is simple and would leave most of the existing futures and derivative contracts intact.

Of course, the industry could also abandon Platts assessments altogether and move on to an alternative such as Argus North Sea Dated Brent⁵¹, retaining the FOB structure and keeping the futures and derivatives markets intact. Another alternative for the exchanges could be to make the Brent contract physically deliverable⁵².

⁵⁰ This is difficult, but not impossible. For example, the buyer of the cash contract could receive an FOB Midland cargo at a price net of the cash purchase price after a freight adjustment. Also, there could be a market in 100 kb partials, helping adjust the difference in volume. Expected voyage times could be used to keep the cargoes that qualify for the assessment as exporters of US crude would accept increased transparency and oversight. The export scene in the US is constantly evolving, and the emergence of new terminal proposals would make it difficult.

⁵¹ '... we are the challenger in benchmarking, and we are the backstop, if you like... We will continue to publish Argus North Sea Dated based on FOB market assessments, just as we have since the 1980s. That's not going to change, we can make that guarantee.' Interview with James Gooder, Argus vice president at: <https://www.argusmedia.com/en/blog/2021/march/3/podcast-the-crude-report-dated-brent-proposal>

⁵² The ICE is moving in that direction with the forthcoming Murban contract. However, the recent experience with WTI in April 2020 may not make a physically deliverable contract attractive for some investors.

A gamble

The new Platts proposal for Brent Dated and cash (BFOE) assessment is nothing short of revolutionary. It is not surprising that it caused such an uproar in the market. The proposal would undermine all four 'pillars' of the current Brent market and replace them with something entirely new.

The key problem with the proposal is it would likely undermine and possibly destroy the forward Brent market. In the process, it would undermine all the existing Brent futures and derivatives contracts as well. The whole plethora of derivatives contracts such as CFDs, EFPs, DFLs, Brent swaps would probably change or disappear. The exchanges and brokers would have to accept such new contracts and eventually discontinue the old ones. With a heavy regulatory oversight, the exchanges may find it very hard to adapt to changes in such a short time frame⁵³.

It is also a gamble for Platts. If implemented, the industry may reject the proposal and look for an alternative. The exchanges may follow, leaving the Platts CIF Brent assessment to be marginalised.

If accepted, it would put the Brent contract onto entirely new footing, potentially to last for a very long time. New grades could seamlessly be added to such CIF contract, making the Brent 'brand' viable and future-proof. Even in this, optimistic scenario, many hurdles would have to be overcome (new Brent general terms and conditions or GT&Cs, new derivatives, and futures contracts etc.) along the way.

The lesson from history is ominous. The very first Brent futures contract in 1983 was a CIF contract and ended up in failure as industry could not see a point in trading it. It took another five years for another, FOB contract, emulating the existing cash Brent one, to emerge and succeed.

However, the volumes of the FOB deliverable crudes are diminishing and some change, bolstering the contract is certainly needed. The most likely compromise is to retain the existing FOB Brent with an inclusion of CIF WTI Midland assessment, netted back to an FOB equivalent North Sea value⁵⁴.

⁵³ For example, CME gave the market over a year's notice for the implementation of additional metals testing of WTI, which did not have a value change.

⁵⁴ Elaborated in Adi Imsirovic, 'Changes to the 'Dated Brent' Benchmark: More to come', OIES Energy Comment, March 2019.