Houston, We Need a Contract
Crude exports prompt flurry of new instruments.

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Data Sources for This Publication
U.S. Energy Information Administration
CME Group
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Pricing Pendulum Swings Away From Cushing

Since U.S. crude exports took off in 2017, the midstream sector has been building out infrastructure to get new production to the Gulf Coast, as well as storage capacity and dock terminals to load crude onto tankers. Meanwhile, industry scorekeepers and risk managers have been grappling with how best to set prices for export crude and hedge forward exposure. Reporting services and futures exchanges are responding with a flurry of new price assessments and contracts. These new instruments will determine the future of North American crude trading and potentially topple the dominant CME NYMEX futures contract as the pricing pendulum swings away from Cushing, Oklahoma, toward Houston on the Texas Gulf Coast. This note deciphers which contracts are likely to stand the test of time.

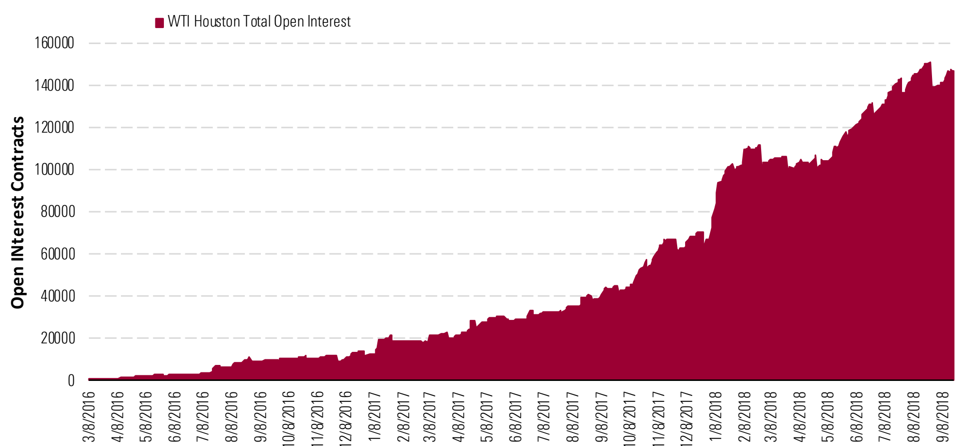
According to the Energy Information Administration, weekly U.S. crude exports in 2018 through Sept. 21 averaged 1.8 million barrels/day. Buyers and sellers price export crude using averages of published assessments from price-reporting agencies, or PRAs, or futures exchange settlements during the delivery period. The underlying basis is then typically adjusted by fixed premiums or discounts related to crude quality and delivery location. The basis details determine the final invoice but also expose buyers and sellers to price risk before the delivery, as underlying prices can change. That price risk can be managed using private over-the-counter or public exchange-traded hedge instruments. As new markets like U.S. crude exports develop, traders experiment with different underlying basis and hedge instruments until they coalesce around dominant benchmarks. The use of benchmarks provides liquidity and price transparency to the market and standardizes transactions. Right now, Gulf Coast crude oil brokers and traders are experimenting as PRAs and futures exchanges pitch new assessments and contracts in hopes of winning the coveted benchmark status. Potentially decades of transactions will be made using these benchmarks—bringing their owners lucrative data subscriptions (in the case of PRAs) or transaction fees (in the case of exchanges).

Free on Board

Most exports are shipped from Gulf Coast ports, according to U.S. Census data, so traders would prefer to price these transactions based on crude delivered free on board, or FOB, onto tankers provided by the buyer at a given location. That's how most major equity producers and national oil companies transact their international sales. Until recently, there was no liquid waterborne Gulf Coast FOB crude price, and traders had to use U.S. domestic crude pipeline prices instead. Pipeline trades have the advantage of liquidity and transparency, but their delivery mechanism of X thousand barrels/day over a month differs significantly from an FOB export, where 600 thousand barrels or more are delivered onto a tanker in three days or less. Pipeline pricing is dominated by domestic market considerations such as capacity and tariff rates. Waterborne prices are more heavily influenced by international supply/demand fundamentals.

Once an export trade is arranged—usually in advance—the parties may seek to manage their exposure to price risk in forward markets. Forward over-the-counter and futures exchange contract terms need to match the underlying physical contract to manage risk effectively. Thus, once FOB export pricing has developed, futures contracts need to match those terms to be useful. When a futures contract becomes liquid, it also provides longer-term risk-management services to the U.S. producer community, as well as international buyers. Current Gulf Coast crude export hedging is dominated by the over-the-counter Argus WTI Houston contract cleared by CME Clearport as a spread versus benchmark WTI Cushing futures. The Argus WTI Houston contract has grown in popularity since its launch in March 2016, mirroring growing crude pipeline shipments to Houston and exports. It allows traders to manage the location risk between prices at Houston and Cushing. Total open interest on the contract (all months traded) on Clearport was 147 thousand contracts on Sept. 21, 2018 (Exhibit 1). However, the Argus contract is a pipeline quote for WTI delivered to Magellan's East Houston terminal, so it doesn't meet waterborne export requirements, and despite its rapid growth in the past two years, its open interest is only about 7% of Cushing WTI futures.

Exhibit 1 Argus WTI Houston Open Interest



Source: CME Group, Morningstar

Price-Reporting Agencies

Several offerings have been launched by PRAs to assess Gulf Coast FOB export trades. These assessments are based on market feedback and designed to provide a viable alternative to existing pipeline pricing. As with all such instruments, there is an element of "chicken and egg" about them since they need critical mass to take off and aren't necessarily trusted by traders until they succeed. The first such assessments were launched by Platts in February 2016, right after the December 2015 lifting of Federal restrictions opened the export market. Platts launched FOB quotes at Corpus Christi and Houston for Eagle Ford crude and condensate, as well as an FOB Houston WTI quote. These initial assessments didn't gain traction and were replaced by Platts in August of this year by more general FOB assessments for WTI, Eagle Ford, Eagle Ford condensate, and Bakken crude delivered at any Gulf Coast port. On September 4, 2018 Argus Media launched a WTI FOB Houston assessment to reflect export cargoes and compliment their pipeline Houston quote. The spot price choice for traders is therefore between a specific Argus WTI quote for Houston delivery of Permian-quality crude and more general Platts quotes for delivery at one of many Gulf Coast ports.

Futures Turf War

Within the past three months, and with an eye on the pendulum of crude trade moving from Cushing to Houston, the world's largest commodity futures exchanges have joined the competition for Gulf Coast export trade. As mentioned earlier, the dominant incumbent is the CME futures exchange that hosts the domestic benchmark WTI Cushing crude contract. The CME risks losing out if the benchmark shifts to Houston. London-based ICE futures own the North Sea Brent crude futures contract preeminent outside North America and see an opportunity to muscle in on CME turf. To that end, in July 2018 the ICE launched a Permian WTI futures contract based on physical delivery into the Magellan terminal in East Houston. The contract is set to start trading on Oct. 22, according to the ICE website, presumably for the January 2019 contract. In response to the ICE move and the developing export trade, on Sept. 24 CME launched its own Houston futures contract that will trade from January 2019 onward. The CME contract is for delivery at one of three terminals in the Enterprise Houston system, including their ECHO, Ship Channel, and Genoa Junction, Texas, terminals.

Elephant in the Room

On paper, these new contracts are stand-alone Houston-delivered futures instruments that traders can use to manage their exposure to export price risk. In practice, however, users will find it impossible to ignore the CME Cushing “elephant in the room” until the latter loses its dominance. These two markets trade quite differently based on their focus on domestic and export markets. Exhibit 2 shows Houston Argus WTI premiums over Cushing CME WTI during the past year. Values ranged between $2 and $8/barrel, depending on factors such as refinery demand in the Midwest, pipeline congestion, and international crude demand, aside from the roughly $3/barrel tariff cost to move crude from Cushing to Houston by pipeline. Assuming you can't ignore Cushing, CME's new Houston contract should have the edge because it is traded on the same exchange, making it cheaper and easier to hedge the spread as required.

Exhibit 2 WTI Houston Premium Over Cushing

Source: CME Group, Morningstar

Tighter Quality Specification

In addition to location and supply/demand differences, both the ICE and CME new futures contracts attempt to address crude quality. The Houston trade for WTI has coalesced around a field-grade-quality barrel delivered direct from the Permian to the Magellan East Houston terminal because both local refiners and export buyers prefer to purchase consistent-quality crude. Over time, the CME Cushing futures contract developed a bad reputation for permitting delivery of lower-quality crude blended to meet rather loose exchange specifications. Refiners and export buyers don't want that crude because it damages their equipment and lowers their margins. After years of discussion, the CME has moved to tighten Cushing crude specs from January 2019 to improve quality. However, there is still a difference between the Cushing specification and Houston “field-quality” WTI crude. The new ICE contract seeks to take advantage of buyer concern by firmly linking its new Houston contract to Permian-quality WTI. The CME has come up with a new “halfway house” specification between field-grade and Cushing WTI, but it may not be enough to satisfy refiners.

Delivery

Other differences between the exchange offerings are related to delivery, with ICE choosing the Magellan terminal and CME the Enterprise system. The former offers greater quality assurance but is not yet linked directly to export docks, while the latter is linked to many docks and incoming pipelines, but that makes quality segregation more challenging. Both contracts have chosen delivery into named terminal storage, rather than FOB a specific dock or the Gulf Coast region, suggesting they are anxious not to lose onshore business even as they solicit the export market.

CME Is Best — With Quality Reservations

Export market pricing will take time to evolve. PRAs find it easier to experiment with new assessments since there is little cost to adding new quotes, so there will likely be further adjustments to the Platts and Argus quotes. Futures exchanges invest more time and money in new contracts, but they are still just as prone to failure. We believe the best futures contract will be one offered by CME, because it is

U.S.-based and the market incumbent, but we remain wary that the Houston WTI quality specification and delivery terms won't meet trade requirements. However, if a CME Houston contract gains traction, then we expect the PRAs to evolve their spot price assessments to closely match the futures market, as is the case in the current Cushing cash market.

Further development of export market pricing continues, and we'll return to the topic soon to discuss the price relationship between export WTI and North Sea Brent.

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