How Significant Is China for U.S. Crude Exports?

Tariff war overshadows important long-term opportunity.

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Sandy Fielden
Director, Oil and Products Research
+1 512 431-8044
sandy.fielden@morningstar.com

Data Sources for This Publication
U.S. Energy Information Administration
ClipperData
U.S. Census Bureau
CME Group
To discover more about the data sources used, click here.

Tenfold Growth in 2017

The latest batch of retaliatory Chinese tariffs against U.S. exports in the ongoing trade war was announced by China's Ministry of Commerce on Aug. 8, 2018. These included 25% tariffs on Chinese imports of U.S. refined products and natural gas liquids but didn't list either crude oil or liquefied natural gas despite earlier expectations to the contrary. Crude exports from the U.S. to China grew tenfold in 2017 and continued to increase in the first six months of 2018 but appear to have slowed in July and August. The threat of tariffs has had an impact on flows, with Chinese companies nervous of being stuck with overpriced cargoes, but other reasons like pricing and increased supplies from OPEC and Russia have also kept the lid on U.S. crude exports. Whatever the outcome of the current trade war, China represents an important growth opportunity for crude exports where U.S. producers need to compete for market share in coming years. This note reviews U.S. China crude exports as well as future opportunities and competition.

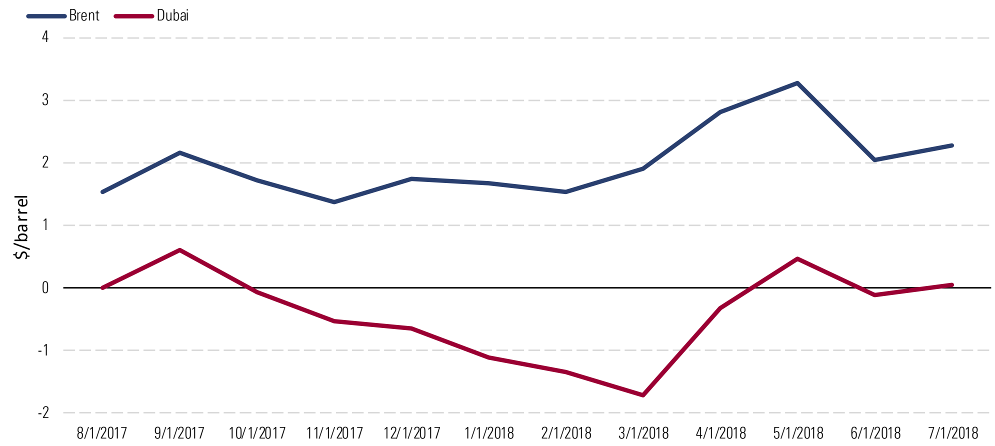
First Place

U.S. crude exports to China averaged 22 thousand barrels/day in 2016, the first year after federal restrictions were lifted and jumped tenfold to 224 mb/d in 2017, second only to Canada, according to the U.S. Energy Information Administration. During the first six months of 2018, crude exports to China increased to an average 377 mb/d, leapfrogging Canada into first place. With unfettered U.S. crude exports only 20 months old, China accounted for 20% of shipments in 2017 and maintained that pace in the first half of 2018. But in the past two months, U.S. crude shipments to China have rapidly declined, according to cargo tracking firm ClipperData, falling in July to 189 mb/d and set to fall again in August.

Recent Hiccup

There are a number of factors behind the recent hiccup in U.S. crude shipments to China, apart from the trade dispute. As detailed in our May outlook U.S. Crude Exports Take Off, the overall expansion in U.S. exports during the latter half of 2017 was driven by a wider price premium for international marker crude Brent over domestic benchmark West Texas Intermediate delivered to Houston. WTI also traded at a discount to Asian benchmark Dubai crude in the final quarter of 2017 and early 2018, making it competitive in Asia after freight costs were added. Since May 2018, the Brent premium to WTI has fallen and Dubai is now trading at par with WTI, removing the arbitrage window (Exhibit 1). In part, this narrowing of differentials has reflected the winding down of the production agreement between OPEC and other producers like Russia that has increased crude supplies in the Asian market.

Exhibit 1 Premiums Over WTI Houston



Source: CME Group, Morningstar

China's demand for crude also declined in the second quarter because of government changes to tax regulations that hindered sales by independent refiners. The Chinese independents—known as teapot refineries—are smaller than those run by state-owned entities but between them process as much as a million barrels/day of crude. They buy crude based on government import quotas that were raised for 2018 to encourage higher throughput. However, a change to downstream regulations in March left the teapots facing high sales taxes on transport fuels. As a result, throughput declined as they cut run rates to a low 53% of capacity in July, according to S&P Global, and are only expected to lift rates to 59% of capacity in August.

Added to these commercial factors, the more recent threat of crude tariffs appears to have put a nail in the coffin for Chinese imports of U.S. crude. In early August, Reuters reported that Chinese state-controlled refiner Sinopec has unilaterally halted U.S. crude purchases over concerns about possible tariffs.

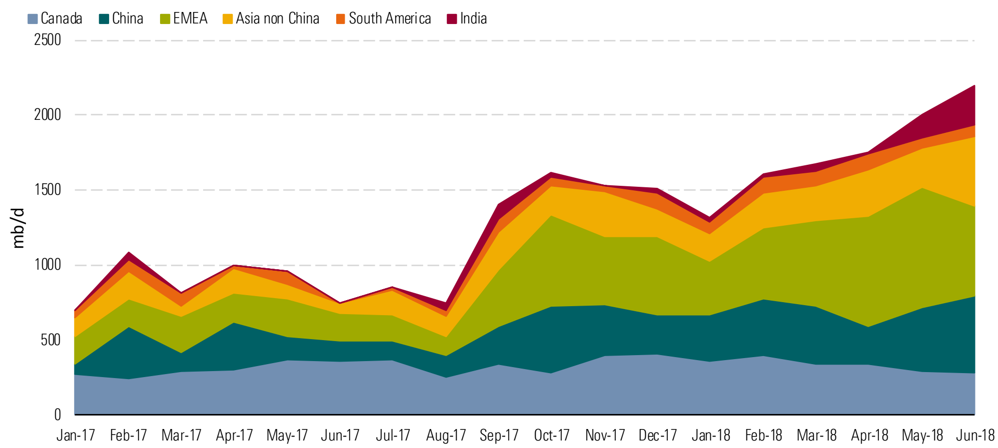
Latest Tariffs

It is ironic, therefore, that the latest round of tariffs on U.S. imports, announced by China on Aug. 8, were directed instead against U.S. refined product exports and NGLs. Refined product tariffs would appear to have next to no impact, with U.S. shipments to China averaging just a trickle in 2017, according to EIA data. NGL exports to China have grown in recent years, up from an average 7 mb/d in 2013 to 147 mb/d in 2017, representing 10.5% of the U.S. total. These are mostly propane shipments (86% in 2017) that are used as petrochemical plant feedstock but are not as significant as either crude or LNG exports. Yet crude tariffs were taken off China's list, and a threat to hit liquefied natural gas (see President López Obrador and Mexican Energy Reform) awaits the next round of tit-for-tat reprisals.

Alternatives

For the moment, though, until the current trade dispute is resolved, U.S. crude producers need to look for alternative markets to fill the gap left by Chinese buyers. Exhibit 2 shows U.S. crude exports by destination between January 2017 and June 2018 based on data from the EIA and U.S. Census Bureau. European buyers snapped up the largest share of the 1.8 mmb/d average U.S. crude exports in the first six months of 2018, with 34% split among France, Denmark, Italy, Spain, the Netherlands, Norway, and the U.K. Canada (19%) and China (21%) led the list of individual buyers. India accounted for 5% of exports, and other Asian countries aside from China took 16%.

Exhibit 2 U.S. Crude Exports by Destination



Source: EIA, U.S. Census, Morningstar

Of these markets, the most obvious replacement home for exports to China is Asia. Although Europe consumed the lion's share of U.S. exports in the first half of 2018, the narrowing Brent premium over WTI and increased OPEC and Russian supplies, suggest that market will be less attractive in the second half. Within the Asian market, India is the hot spot. Shipments there ballooned to 261 mb/d in June from just 17 mb/d in April, and Reuters Oil Research estimates that U.S. crude exports to India will be 319 mb/d in August. This buildup makes the country a prime destination for U.S. producers snubbed by Chinese refiners. The size of the opportunity will expand later this year when India will likely forgo significant imports from Iran because of the reimposition of U.S. sanctions in November.

Other U.S. buyers in Asia, such as Japan, South Korea, Taiwan, Singapore, and Thailand, will also be looking to replace Iranian barrels this year. However, most Iranian crude is heavy and sour compared with U.S. shale that is light and sweet, and the latter will have to be blended with heavier grades to be a useful replacement. With more OPEC crude available now, U.S. producers may have to discount prices to make headway in a competitive Asian market.

After the Trade War

Assuming their governments come to an agreement on trade differences that end the tariff war, U.S. crude producers need to return to the Chinese market sooner rather than later. That's because China has become the world's largest net importer of crude—overtaking the U.S. in 2017—and as such must be considered a critical market for growing U.S. production. China imported an average 8.4 mmb/d in 2017 and is estimated to need as much as 9 mmb/d on average in 2019. The growing thirst for imports is driven by a combination of declining domestic production and increasing demand from a developing middle-class economy. Three newbuild refineries are expected on line in China between now and 2020 with 1.1 mmb/d capacity between them.

But the rapid expansion of U.S. exports to China in 2017 occurred in a seller's market as the OPEC and friends production agreement held back competitors like Saudi Arabia and Russia. Future competition is likely to be more intense, with U.S. producers at a disadvantage unless they develop longer-term relationships with Chinese buyers. For example, Russia was the largest crude supplier to China in 2017, in large part due to the Mohe-Daqing pipeline that has delivered 300 mb/d of ESPO blend crude across the Russian Federation's southern border with China since 2011. The installation of a parallel loop completed at the end of 2017 doubled the pipeline's capacity this year to 600 mb/d. Saudi Arabian national oil company Aramco, China's second-largest supplier in 2017, has entered into several joint ventures with Chinese refiners, including one of the newbuild plants mentioned above: the 300 mb/d Norinco refinery and petrochemical complex in northeast China. U.S. producers aren't about to build refineries or pipelines to China, but they do need to up their game.

Crude Exports 2.0

So far, U.S. crude exports have sold on an ad-hoc basis primarily driven by price differentials. However, the growth in export volumes this year close to 2 mmb/d means that longer-term relationships with buyers can't be ignored for long. The industry is figuring out there is more to export markets than delivering crude to Houston or Corpus Christi docks by pipeline and waiting for passing tankers. A necessary first step is better shipping, hence the flurry of midstream projects announced this year to build out Gulf Coast export terminals to handle giant tankers, or very large crude carriers, that keep long-haul freight costs to a minimum. A Bloomberg report recently said that ExxonMobil is looking to secure term buyers in Asia for its Permian crude, which suggests that the next step is building long-term relationships with buyers.

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For More Information
+1 800 546-9646 North America
+44 20 3194 1455 Europe
commoditydata-sales@morningstar.com

MORNINGSTAR®

22 West Washington Street
Chicago, IL 60602 USA