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Rude health

EDITORIAL: China's renewed assertiveness aims to win over domestic audiences, with worries voiced overseas less of a concern

China is, by many measures, roaring back to life after lockdown. But Beijing appears increasingly worried about the political costs of Covid-19.

Chinese electricity consumption — a fairly good proxy for manufacturing activity — rose by nearly 6pc on the year in the first half of May. National transport fuel sales are up by around 10pc on a like-for-like basis, refiners say. Meanwhile, the US languishes, with crude production down by perhaps as much as 2mn-3mn b/d and a drop in investment potentially delaying a full recovery until late 2021. And Washington has expanded its list of grievances as the US coronavirus death toll soars, and as President Donald Trump's mishandling of the crisis appears to have cost him a poll lead ahead of presidential elections in November.

That list now includes China's record on emissions, its trade practices and its role within the World Health Organisation. Most damningly, Beijing seeks to make political and territorial gains by "exploiting the world's focus on [the] crisis", US secretary of state Mike Pompeo says — by attempting to impose stringent anti-dissent laws on Hong Kong and staking claims to vast swathes of the South China Sea, including waters being explored by Malaysian state-owned oil firm Petronas, while the rest of the world focuses on disease mitigation. Other demonstrations of China's renewed assertiveness fit this narrative. Beijing slapped swingeing tariffs on Australian barley imports after Canberra joined calls for an independent investigation into the origins of the coronavirus outbreak.

But President Xi Jinping's desire to bring — from China's perspective — the wayward province of Hong Kong under control predates this year's pandemic. Had the pandemic not delayed this year's National People's Congress, Beijing would have forced the new Hong Kong laws through in March.

Domestic politics, rather than global politicking, explain much of what Beijing is doing. Only an absolute ruler can guarantee social order, according to legalist philosopher Han Fei — one of Xi's favourite thinkers. But it is likely that this year's disaster shook the myth of competence that Xi so assiduously cultivates, eroding his standing within the ruling party. While many of China's economic signals look remarkably healthy, warning signs abound.

The country has abandoned an annual GDP growth target, for the first time in many decades. It would have missed its target, usually set at 6-7pc in order to generate sufficient employment, by a mile. As many as 70mn people may have lost their jobs. Xi's government may boost spending by 2 trillion yuan this year to mitigate damage done by the virus, having vowed to rein in credit growth.

Leviathan rules the waves

Emphasising strategic goals now appears tone-deaf, but helps Xi to draw a line under the crisis and kick-start the "national rejuvenation". Projecting power and dispensing largesse helps to dampen domestic fires, even if it risks fanning flames overseas. Xi, unlike Trump, has no electorate to face in November, but economic disruption on this scale is a threat to the social contract of even China's body politic. And, as with Trump, the domestic audience is what counts for Xi. "If those who benefit from a lord's death are many, the ruler will be imperilled," Han Fei said during China's Warring era. "Less than half of all rulers die of illness."

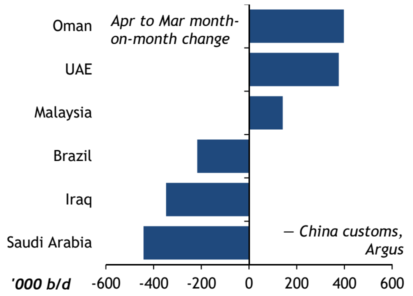
CONTENTS

DEMAND

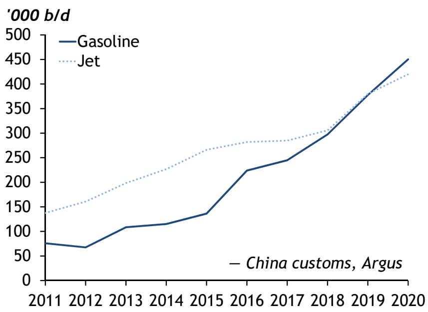
Purchasers turned to non-Saudi Mideast Gulf crude in April, but Saudi imports are expected to rebound strongly in May

Chinese apparent demand				mn b/d
	Apr	Mar	Jan-Apr 20	±% 20/19
Net imports	9.76	9.29	10.06	-2.4
– Crude	9.93	9.75	10.17	1.3
– Products	-0.17	-0.46	-0.11	-141.0
Production	3.81	3.85	3.83	2.0
Appt. demand	**13.57**	**13.14**	**13.90**	**-1.3**
Refinery runs	13.10	11.78	12.30	-2.6

China change in crude supply



China fuel exports



Chinese oil demand bounces back in April

Chinese oil demand grew in April as the country started to emerge from lockdown. But the latest figures also underline the huge scale of fuel destocking.

China's economy began to cautiously reopen in March, and the authorities lifted the lockdown in the city of Wuhan on 8 April. Refinery runs rose by a massive 1.3mn b/d on the month to 13.1mn b/d as Beijing sought to kick-start the economy. But product exports, typically booked a month earlier — in this case during peak lockdown — ballooned in April as refiners shipped fuel overseas in response to collapsing domestic sales. Net exports of gasoline, diesel and jet rose to 1.6mn b/d, up by 350,000 b/d on the year and by 70,000 b/d from March. Jet fuel apparent demand shrank to just 180,000 b/d in April, its lowest in at least 14 years.

Air travel is still recovering more slowly than other modes of transport. Gasoline net exports hit all-time highs. Private vehicle road travel remained at just 41pc of year-earlier levels in April, transport ministry data show. In contrast, road freight volumes rose to 80pc of year-earlier levels in April, from a low of 50pc in February, and overseas diesel sales retreated although they remained extremely high, at 600,000 b/d. Chinese diesel demand remained relatively robust throughout the crisis but is now weakening. Strong local prices — which remained above $60/bl — and weak jet demand encouraged a rise in output of cheaper, blended gasoil. This, produced from jet and light cycle oil (LCO), is commonly used in agriculture and fishing. LCO imports rose to a record 320,000 b/d in April.

Forthcoming data are likely to show exports of gasoline, diesel and jet falling sharply in May. Sinopec plans to halve exports. Export margins for gasoline turned deeply negative in March as Covid-19 started to sweep through southeast Asia and exports of gasoline, diesel and jet may be just a third of April levels, data from oil analytics firm Vortexa indicate. Crude throughputs are also growing more slowly this month, as the rebound in global crude prices has halved Chinese refining margins to around $9/bl, and product stocks are growing once more.

On the up

China's apparent oil demand, the sum of domestic crude production and net oil trade, rose by 430,000 b/d in April from March to 13.6mn b/d. Product net exports shrank overall by 290,000 b/d in April — partly in response to the jump in LCO imports, but also because strong petrochemical margins are supporting demand for feedstock LPG. Production of personal protective medical equipment is supporting demand for propylene.

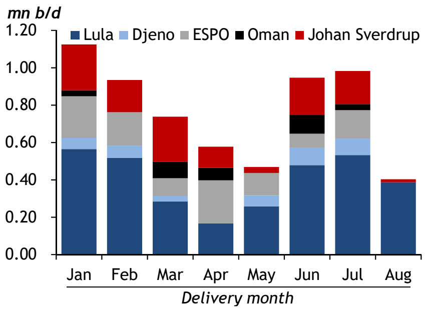
Net crude imports grew by 180,000 b/d on the month in April to 9.93mn b/d. Refiners had started to cut purchases of Saudi crude early this year in favour of more competitively priced spot market alternatives — primarily Abu Dhabi Murban and Upper Zakum, and Omani crude (*see graph*). The virus outbreak exacerbated this trend, prompting term buyers of Saudi crude to slash or defer some April deliveries. April receipts of Saudi crude fell to 1.26mn b/d, the lowest since May 2019. Deliveries of Brazilian crude also fell sharply. The trade cycle for April-arriving Brazilian medium sweet Lula began in late January, just as the country went into lockdown, causing purchases to fall.

Imports of Saudi crude may rebound to more than 2mn b/d in May, following deep cuts to formula prices. That move priced many competitor grades out of the Chinese market. But the subsequent agreement by Opec+ producer countries to reduce output to help rebalance the market has forced refiners to once again look elsewhere for supply. Many state-controlled refiners have switched to buying gasoil-rich Brazilian and west African grades. Crude imports will continue rising in June-July, following a surge in purchases as crude prices crashed.

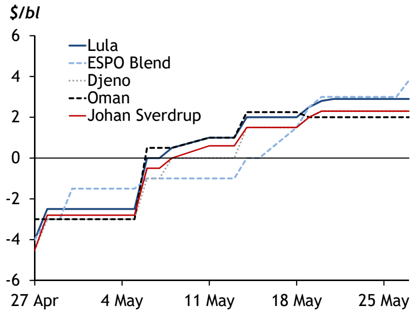
CRUDE MARKETS

Purchases have risen as refiners look to offset the effects of Opec+ output cuts amid rising demand as lockdowns are eased

Des Shandong core grade transactions



Des Shandong vs Ice Brent



China boosts Brazilian crude purchases

Chinese spot crude demand increased again in May, as many refiners sought to forestall a shortfall in June-July receipts.

The Chinese market began focusing on August cargoes in mid-May. The fourth month forward Ice Brent crude futures contract, used as the pricing basis for cargoes arriving in China in August, rose by $1.13/bl in May to an average $34.09/bl. Front-month Ice Brent has risen far more sharply, by $5.33/bl to nearly $32/bl, in response to output cuts this month by the Opec+ producer group, and following signs of resurgent demand after the end of Covid-19 lockdowns in many markets.

Ice October Brent may have risen only modestly, but spot differentials have gone up by around $6/bl from levels in late April (*see graph*). This has caused a marked slowdown in demand from independent refiners in Shandong province. But total traded volumes continued to rise, breaking April's previous record, as state-controlled refiners snapped up spot cargoes to offset an expected 20-30pc loss in term supply from Opec+ producer countries.

The expected loss of 6.6mn b/d of mainly medium sour crude threatens to leave refiners that usually purchase crude on a fob basis short of feedstock in July-August — especially as they are in the process of ramping up crude through-puts. They have turned to alternative high distillate cut grades, chiefly from Angola and Brazil, accounting for 400,000 b/d of May's pre-salt crude purchases.

A total of 2.82mn b/d traded on the Chinese spot market this month for delivery in July-August, up from 2.75mn b/d of June-July trade captured by *Argus* surveys in April. This includes more than 500,000 b/d of distillate-rich Brazilian pre-salt crude, primarily medium sweet Lula but also comparable quality Iracema, Sapinhoa and Buzios, for delivery in July-August.

Chinese diesel margins are still attractive, although they have halved from a month ago, to around $13/bl. And Brazil's state-controlled Petrobras is confident that China's appetite for Brazilian crude remains strong. It is sticking to its 2020 domestic crude output target of 2.7mn b/d, plus or minus 2.5pc, up from 2.3mn b/d in the first quarter, upstream director Carlos Alberto Pereira de Oliveira says.

Taking the grade

Petrobras appears to be sending grades formerly marketed in Europe, such as Sapinhoa, to China. But Chinese purchases of Norway's Johan Sverdrup crude fell in May as Russian production cuts led to higher demand for the grade in Europe, including from Belarus. The latter's refineries are usually heavily dependent on medium sour Urals crude supplied by pipeline from Russia.

Independents have cut purchases of Lula in response to rising demand from larger competitors. But premiums for light sweet ESPO Blend have risen even more steeply than Lula premiums in May. The Russian grade, the only one of the core grades *Argus* assesses on a delivered ex-ship (des) Shandong basis still trading for July delivery, has risen by $6.90/bl over the past month.

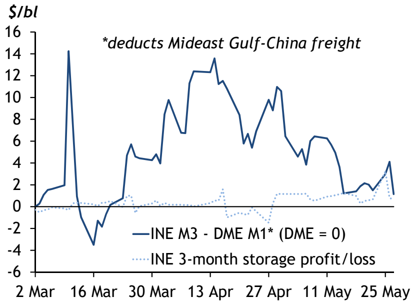
China's huge increase in crude purchases, following the government's decision to halt pump price cuts in mid-March, is starting to cause severe bottlenecks in port and pipeline infrastructure around Shandong's Qingdao port. A move by the Shanghai INE crude futures exchange to rent much of independent refiner Hongrun's crude storage capacity next month is exacerbating the logjam.

Congestion at Qingdao is encouraging independent refiners to seek ESPO Blend, at a time when loadings are falling. July loadings of the Russian grade will fall by nearly 7pc from June, to 632,000 b/d in July — the lowest since November. But ESPO Blend, which ships on smaller vessels, can be delivered to ports in the province other than Qingdao, such as Longkou and Laizhou.

MIDSTREAM

The Shandong market faces serious pipeline capacity constraints in June

Shanghai INE crude futures



Shandong oil infrastructure

Shandong pipelines face overload

The hunt for spare storage tanks by Shanghai's INE crude futures exchange risks clogging up Shandong's oil infrastructure next month, slowing spot crude buying.

The INE has arranged to rent a total of 18.8mn bl of crude tank capacity at Weifang in Shandong from independent refiner Hongrun. The exchange is seeking to alleviate a shortage of storage capacity that has caused futures prices on the physically settled exchange to diverge from those of established benchmarks.

And the exchange's deal with Hongrun — effective from 15 June — appears to have gone a long way towards reassuring the market that there will be tanks available into which sellers can deliver crude. The premium of the INE's third month forward contract to the corresponding DME Oman front-month contract has fallen to under $3/bl, from over $14/bl in March (*see graph*). Previous storage agreements with state-run firms — which the government has also encouraged to trade the futures contract — had little impact on prices.

But the deal also risks exacerbating bottlenecks in Shandong's overloaded pipeline system, because low crude prices have caused a spike in purchases by independent refiners. Around 10-15 very large crude carriers (VLCCs) were due to discharge crude at Huangdao in the last week of May. Total crude deliveries to Shandong province in May may hit a record 4.5mn b/d, data from oil analytics firm Vortexa indicate. And June deliveries may be even higher, *Argus* surveys suggest.

Most independents are clustered around Dongying in the north of the province. They tend to buy long-haul crude in 2mn bl VLCCs on a delivered ex-ship (des) basis at Qingdao's Huangdao and Dongjiakou ports, because Dongying's shallow port can only receive small Aframax vessels. From Qingdao, crude is pumped to Weifang through a 390,000 b/d pipeline because this is far cheaper and quicker than using rail (*see map*). The rail line to Weifang can only handle around 30,000 b/d of crude.

Space jam

Huangdao port authorities only allow crude buyers to unload cargoes if they have space on the pipeline to Weifang. Hongrun may use up to 120,000 b/d of pipeline capacity for its June crude purchases. It is likely to have leased much of the remaining line space to INE sellers, which pay extremely high fees to store crude at Weifang. The INE allows providers of exchange storage space to charge nearly $1.70/bl/month — far more than the around 40¢/bl/month usual cost of onshore storage.

But competition for line space risks jamming up Huangdao port, leading to delays of as much as 15 days for vessels hoping to discharge in early June, and perhaps even lengthier demurrage for the rest of the month. Many buyers will seek to divert cargoes to neighbouring Dongjiakou port and send crude to Weifang that way. But the 370,000 b/d Dong-Wei pipeline also has little spare capacity and there are already delays of 7-10 days at the port.

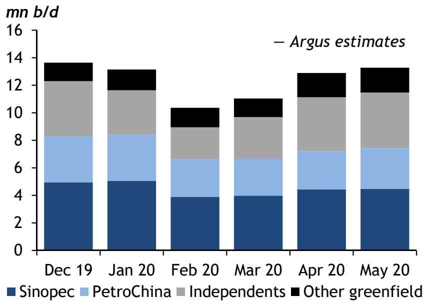
Chinese refining margins are falling, slowing the rate at which refiners will work through their crude stocks. This, and the prospect of paying demurrage on vessels waiting at Huangdao, is likely to encourage them to reduce spot market crude purchases in June. But the challenges of importing crude through Qingdao are encouraging refiners to favour Russian ESPO Blend, which ships on smaller Aframaxes and can be delivered to Longkou and Laizhou ports.

Independent refiners are unlikely to buy crude from INE sellers, as they favour sweet grades over the sour grades accepted for INE delivery. For now, it remains attractive for financial trading firms to keep rolling their positions forward on the INE, despite the high storage cost. But forward contract prices are likely to fall if the INE secures yet more storage space.

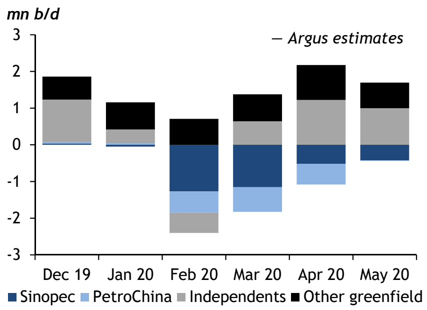
DOWNSTREAM

Run rates have continued to rise, but may be pressured by lower diesel demand and turnarounds going forward, writes Karen Teo

China: Crude runs by company



China: Crude runs YoY± by company



China crude runs nudge higher

Chinese refinery runs have risen again in May, *Argus* surveys indicate, in response to strong margins. But refining margins are weakening as crude prices rise.

China's crude runs are on course to rise by around 170,000 b/d in May from April, to 13.3mn b/d (*see graph*). State-controlled refiners hope to raise runs again in June, but slowing diesel demand, and slipping margins, may force a rethink.

PetroChina is raising utilisation rates at some refineries to as high as 80-85pc this month, from 70pc in April. But turnarounds at some major plants mean its overall fleet-wide utilisation rate is around 67pc, up by only 3 percentage points from April. In particular, crude unit closures at its flagship Dalian refinery in Liaoning province will lower its overall throughput rate in northeast China.

The amount of capacity off line nationally has risen in May compared with April, to around 1mn b/d — and state-controlled PetroChina and Sinopec account for most of this. Sinopec began a full turnaround at its 170,000 b/d Wuhan refinery in late April and the plant will not reopen until July. Its Tianjin refinery south of Beijing is shutting 250,000 b/d of crude unit capacity until July. PetroChina, in addition to the turnaround at its Dalian refinery, is shutting its 100,000 b/d Dagang plant this month and its 130,000 b/d Jinxi refinery next month.

Many of Sinopec's refineries are running at higher rates on average this month. Sinopec's Yangtze Delta plants are running a combined 150,000 b/d more crude this month compared with April. Several of its coastal refineries, such as Guangzhou in southern Guangdong, are operating at near-nameplate capacity.

CNOOC's flagship Huizhou refinery in Guangdong will process 380,000 b/d of crude this month, while Sinochem's Quanzhou plant in Fujian will run at a nameplate 240,000 b/d. Major private-sector refiners Hengli and Rongsheng will operate their 400,000 b/d plants, at Dalian and Zhoushan respectively, at slightly above nameplate capacity this month. And smaller, independent refiners in Shandong province are maintaining very high utilisation rates to capitalise on refining margins that, while falling, are still high at around $4-5/bl. The 13 independents surveyed by *Argus* continue to operate at 85pc in May.

Slash and turn

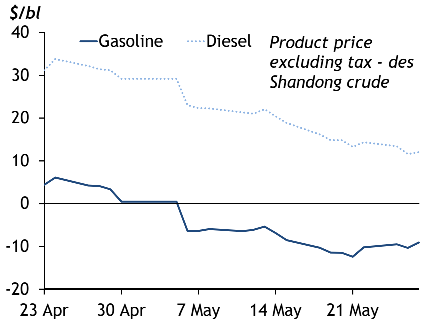
Domestic gasoline and diesel sales are rising but Sinopec plans to slash exports in May-June in response to weak overseas demand. For PetroChina, cutting throughputs at coastal northeast refineries alleviates the need to find export customers at a time when export margins are negative — while raising runs in the landlocked northwest allows it to capitalise on relatively strong internal demand. But the domestic demand outlook is not uniformly rosy. Diesel margins remain relatively strong for now, but the market is entering a seasonal lull. "Diesel inventories are building and our gasoline sales are still well below those of diesel this month," a Sinopec refinery official says.

Jet fuel demand has yet to fully recover, despite the end of the lockdown in China last month. Gasoline margins remain negative, something that has encouraged refiners to divert vacuum gasoil (VGO) into very-low sulphur bunker fuel production. Sinopec shut a 37,000 b/d (2mn t/yr) fluid catalytic cracking (FCC) unit at its Beijing Yanshan refinery for maintenance in March-April, cutting gasoline output. Its Qingdao refinery started exporting very-low sulphur fuel oil (VLSFO) this month. But gasoline demand is starting to grow more strongly than demand for other products, as car use picks up and vehicle air conditioning use increases fuel consumption. Refiners are starting to adjust refinery yields to trim diesel output and boost gasoline supply. They are also boosting output of petrochemical feedstocks such as naphtha and LPG, used in the production of surgical masks.

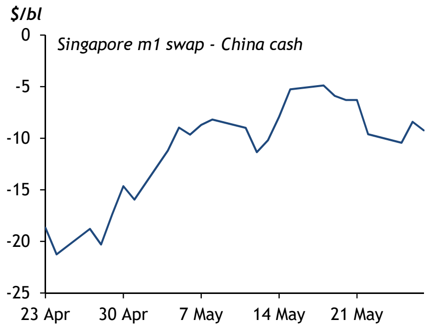
PRODUCTS MARKETS

Demand for gasoline is picking up as China emerges from lock-down, but domestic products inventories are under pressure as exports remain weak

Shandong crack spreads



China-Singapore gasoline (92 Ron)



Gasoline green shoots emerge

Chinese diesel demand is faltering, but signs of a resurgence in local gasoline demand are starting to emerge.

The price of 92 Ron gasoline in Shandong rose to $40/bl at the end of May, up by $4.71/bl from prices at the end of April, as increasing car use and fuel consumption rates boost demand for the fuel. State-controlled PetroChina has raised run rates at some of its refineries to as high as 80-85pc in May, but also plans to purchase 1.1mn bl of gasoline from independent refineries in Shandong to meet increased demand. Many Shandong independent refineries, including Dongming, Zhenghe, Wonfull, Tianhong and Zhonghaiwai, are now running their fluid catalytic cracker (FCC) units at full capacity to maximise gasoline production.

Gasoline and diesel crack spreads fell in May as crude prices rose, but overall gross product worth refining margins remain around $9/bl. Spot gasoline prices are now at their highest since mid-April, while diesel's strength appears to be petering out.

Diesel's new-found weakness follows a sharp increase in April fuel supply as refinery run rates rose, with 257,000 b/d more gasoline and 350,000 b/d more diesel produced nationwide than in March, government data show. Many refineries have been converting jet into diesel, in response to weak jet fuel demand. Strong diesel prices also attracted a major inflow of light cycle oil (LCO) in April, which is blended with jet to produce cheaper, off-specification gasoil for the farming and fishing sectors — something not captured by official statistics. Demand from both industries is weakening following the end of the spring planting season and the start of a summer ban on fishing in coastal waters. The government reintroduced highway tolls at the end of April, curbing inter-provincial freight traffic.

Several Shandong independent refineries reported a 20-30pc increase in diesel stockpiles in May compared with a month earlier. Shandong diesel prices edged lower at the end of May, to around $60/bl, their lowest level in several years. Gasoline inventory pressure is less acute, with traffic rising as commercial activity resumes. Rising temperatures and the use of vehicle air conditioning are boosting fuel consumption. The reopening of schools across the country from early May also helped to push up gasoline demand, as many parents prefer to drive children to school, avoiding public transport. Retail sales are up by around 10pc compared with May last year, a state-owned refiner says.

The recovery in domestic demand, and weak international prices, have encouraged state-run firms to slash transport fuel exports this month. International jet fuel sales are hardest hit, data from oil analytics firm Vortexa indicate, potentially plunging to 70,000 b/d in May from record highs in April. Gasoline exports look likely to plummet from record exports in April.

Singapore swing

Gasoline that China continues to ship overseas is weighing on a fragile price recovery in Singapore. PetroChina has sold four 92 Ron gasoline cargoes to Thailand's PTT, two 92 Ron cargoes to Trafigura and two 92 Ron cargoes to Vitol for June loading. CNOOC has offered its fourth June-loading cargo at discounts to Singapore spot assessments. But Sinopec plans to cut its planned exports of gasoline, diesel and jet by 50pc in May compared with April, officials say. And it may cut exports by half again in June, exacerbating China's domestic inventory build. A decision by China's annual parliamentary meeting, the National People's Congress, not to set an annual GDP growth target for the first time since the early 1990s potentially signals that the government has no major stimulus package up its sleeve, slowing the recovery in fuel demand.

DOWNSTREAM

Crude rally may spell end of windfall tax

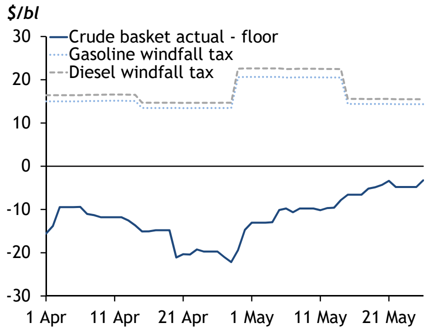
Independents have yet to receive tax demands, despite crude purchases rising as refiners look to benefit from strong margins

Rising crude futures prices may prompt the Chinese government to halt the collection of a tax on windfall refining profits. But the tax may not have raised as much money as the government hoped.

Crude prices remain under pressure from high Atlantic basin product stocks, and the prospect of a rise in exports from Libya. But the basket price Beijing uses to set retail price caps for gasoline and diesel — an average of front-month Ice Brent, Nymex WTI and DME Oman crude futures — has doubled in the past month to $35/bl. This brings it close to the $40/bl threshold at which top planning body the NDRC may restart pump price adjustments and halt the windfall tax.

The central government suspended pump price adjustments when crude prices fell below $40/bl in mid-March. And it imposed a succession of tax demands at varying rates on refiners in April and May, to recoup some of their assumed windfall profits (*see graph*). The levy adjusts for the difference between the actual basket of crude prices and its $40/bl "floor price".

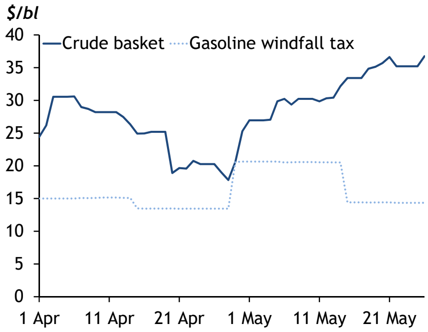
China: NDRC windfall taxes



The windfall tax is calculated as a fixed rate yuan per tonne payment on sales. The NDRC recalculates the tax rate every 10 working days, based on changes in the basket of crude futures prices. In late May, the tax on gasoline sales averaged $14.36/bl and the tax on diesel averaged $15.52/bl — equivalent to about $12.61/bl on every barrel of crude refined. The tax rose in May even as crude prices rose, because the adjustment reflects changes in prices over the 10 preceding days (*see graph*).

The NDRC announced that it would collect windfall tax payments from refiners when it updated its domestic pricing mechanism in 2016, the last time crude prices crashed to this level. The tax is paid into a special reserve fund to be used for emissions reductions, improving oil products quality and oil sector safety measures. The NDRC will continue to impose a windfall tax as long as its crude basket remains below $40/bl and while pump price caps remain frozen.

Windfall tax vs crude price



But the government has not been applying the tax to sales of fuel between refineries. And nor does the tax apply to imports or exports of fuel. This will potentially encourage exports of gasoline, as prices of 92 Ron gasoline in south China are around $7.50/bl higher than Singapore prices. But diesel prices remain $25/bl higher than in Singapore, suggesting that domestic sales remain more profitable even after the windfall tax is collected.

Financial shield

Only state-run refiners have received tax demands from the government so far. Independent and private-sector refiners have not been hit with windfall tax demands. This may be designed to shield them from the adverse financial impact of Covid-19, or — more probably — because of the practical difficulty in collecting the levy, which depends on self-declaration of sales volumes. The recent strength of diesel has led to a rise in unreported output of off-specification gasoil.

The windfall tax has spurred an increase in fuel trade between refineries, as these are not liable for the tax. Some refineries have taken to selling diesel as fuel oil. In south China, several refineries have increased sales prices to offset the higher cost of tax. Domestic fuel sales still rose by 10pc on the year in May, a Sinopec official says.

The NDRC's decision to halt pump price cuts prompted a huge increase in crude purchases by refiners, which were attracted by the potential for strong profit margins. Upstream-focused CNPC research institute ETRI argues that proceeds from the windfall tax should be used to subsidise upstream development and crude production.

PRODUCTS

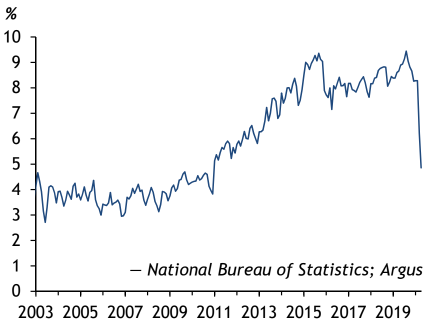
Refiners' jet woes continue unabated

Gasoline and diesel demand has bounced back after the easing of Covid-19 lockdown measures, but jet fuel is lagging behind, writes Karen Teo

China is striving to bring its economic activities back to normal this month. But a slower-than-expected recovery in global jet fuel demand amid the Covid-19 pandemic is forcing refiners to tweak yields and cut exports.

Domestic jet fuel demand has yet to rebound and exports are falling, forcing refiners to pare jet yields to the lowest levels in a decade (*see graph*). Chinese jet fuel monopoly importer, CAO, issued a tender for three 245,000 bl cargoes for arrival in June-July in late May — potentially signalling expectations that demand will recover over the summer. But for now, Chinese refiners remain desperate to get rid of excess jet fuel. "Our jet fuel sales are around 60pc of normal, compared with nearly 90pc for gasoline and diesel," a Sinopec official says.

China: Refinery jet yield



China mounted a nationwide campaign to resume industrial activity from late March as coronavirus infection rates dropped. Demand for diesel rebounded swiftly, partly because of seasonal factors such as the spring planting season. Sales are up by 10pc on the year this month, one state-owned company official says. The reopening of schools and the advent of warmer weather is starting to boost gasoline consumption as more people drive. But jet fuel demand is responding more slowly.

Chinese airports operated 10,262 flights a day in mid-May, rebounding from a low of 3,931 registered on 13 February during the height of the Covid-19 outbreak in China. But the country's airports are still operating at just 60pc of capacity compared with levels prior to the outbreak of the pandemic, Chinese civil aviation authority CAAC says.

Chinese authorities began heavily promoting domestic tourism in May, including to Wuhan — the origin of the virus outbreak. Shanghai's Disneyland theme park reopened on 11 May, and more international airlines are expected to resume or increase flights to China in June. But Chinese domestic carriers, including Air China, have continued to operate only one route per country per week this month, in line with CAAC rules introduced in March to limit the spread of the coronavirus.

Playing monopoly

The CAAC, which caps domestic airlines' jet fuel procurement costs, reduced the amount carriers are allowed to pay domestic jet fuel monopoly marketing firm CNAF to Yn1,349/t ($24.15/bl) this month from Yn1,680/t in April. This has squeezed CNAF's own margins, forcing it to slash purchases from domestic refiners. Top economic planning body the NDRC is involved in setting the wholesale prices at which refiners sell to CNAF, CAO's parent firm.

State-controlled refiners with export quotas prefer to sell jet abroad at deregulated prices, rather than to CNAF. Sinopec's southern refineries typically export jet to neighbouring countries in Asia-Pacific, but also ship fuel to Australia, Europe and Latin America. They increased sales as domestic demand collapsed, with Sinopec's 280,000 b/d southern Fujian refinery sending jet fuel to Rotterdam. But export demand appears to have dried up this month, with just 70,000 b/d heading overseas in May, data from oil analytics firm Vortexa indicate. Exports averaged 370,000 b/d in the first quarter, official data show.

Thailand, a top tourist destination for China, extended its coronavirus emergency measures until the end of May amid fears of a second wave of infections. And its civil aviation authority extended a ban on all incoming international passenger flights until 30 June. Key market Vietnam's jet fuel imports hit a new three-year low in April. It imported just 9,000 b/d of jet fuel, down from the previous low of 28,000 b/d in March, according to preliminary customs data.

REGULATIONS

Beijing vows greater opening up of energy sector

Beijing is planning reforms that will allow private firms to be more active in the energy sector, writes Karen Teo

China will "further open key industry markets", top economic planning body the NDRC said in a work report ahead of the annual National People's Congress (NPC) this month.

China should "further open" petroleum, chemical, electricity and natural gas industries to "create a fair and open market environment", the NDRC says — citing President Xi Jinping's speech "on creating a better development environment to support private enterprises". The private sector is a major employer and Beijing's latest expressions of support for it come amid mounting concerns about the impact of Covid-19 on China's jobs market. The official unemployment rate was 5.9pc in March, lower than in February, the National Bureau of Statistics says. But the true rate is far higher, economists say, with one brokerage estimating in April that 70mn people are without work. The government work report pledges to add only 9mn new urban jobs, compared with plans to add 11mn new urban jobs last year.

The NDRC does not identify the sectors in which it would like to see greater liberalisation. But price deregulation should allow private energy firms to become more competitive with their state-controlled counterparts, and lower prices and stimulate consumer spending.

The recent oil price crash, and China's regulatory response to it — halting pump price cuts as long as crude remains below $40/bl — may be rethought. The government uses a basket of crude futures prices to determine its cap on pump prices, but this leaves a time lag between crude prices and fuel price adjustments. Since March, the system has inflated refiners' margins, artificially stimulating crude buying despite weak demand for fuel.

The NDRC is recouping some refining profits through a windfall tax. But delegates to the Chinese People's Political Consultative Conference, held alongside the NPC, have criticised the windfall tax, arguing that the public does not benefit from it. Upstream-focused CNPC's research arm ETRI argues that proceeds should subsidise domestic oil and gas production.

Beijing has already taken tentative steps towards allowing private-sector firms to export refined products, formerly the prerogative of state-owned giants, but it is unclear how far export rights will be expanded. The government has previously suggested listing gasoline and diesel futures contracts on domestic exchanges or deriving fuel price caps from the Shanghai INE crude futures price, to provide a closer link between domestic prices and domestic demand.

Drill, comrade, drill

The Covid-19 pandemic has raised concerns about China's energy self-sufficiency. Chinese leaders want state-controlled firms to reaffirm national oil and gas production targets. But boosting oil and gas output is likely to prove a major challenge, amid expectations of prolonged low oil prices and the cost of subsidising downstream gas users. Attempts to woo private-sector investors into China's upstream have failed to arrest the decline in the country's crude production.

Beijing has called for more gas storage construction as current capacity is equal to only around 5pc of demand. But firms currently lack incentives to build storage capacity and Beijing has not announced any plans to subsidise gas storage construction. The government aims to push ahead with plans for deregulation in the natural gas market, where state-run firms presently own almost all trunk pipeline capacity. The government believes this is inhibiting the development of a private-sector natural gas industry. It aims to strip PetroChina and Sinopec of two-thirds of their pipeline assets and put them in a new government-owned entity that will award line space on a competitive basis.

TRADE

Hong Kong's autonomy is another issue that has been added to the increasingly long list of concerns Washington has with China, writes Haik Gugarats

US, China step up war of words over Hong Kong

Beijing's decision to implement laws restricting Hong Kong's judicial independence is opening a new fissure in relations with Washington, further complicating prospects for multilateral action to tackle the global recession.

This month's annual parliamentary meeting of the National People's Congress has approved measures expanding Beijing's security control over Hong Kong and allowing Chinese security services to operate in Hong Kong — in a move that bypasses the city's own legislature. China's president Xi Jinping installed a hardline ally, Xia Baolong, as director of the Hong Kong and Macau Affairs Office in February. He will oversee Hong Kong chief executive Carrie Lam, whose attempts to move the change through the island's legislature last year sparked massive demonstrations against the erosion of judicial autonomy.

"No reasonable person can assert today that Hong Kong maintains a high degree of autonomy from China," US secretary of state Mike Pompeo says. The determination, in a notice to Congress, is the first step toward removing Hong Kong's special treatment under US trade laws. A separate customs status, which has been in effect since Beijing took over the former British colony in 1997, means Hong Kong is not subject to high tariffs and extensive restrictions on exchange in technology and scrutiny on economic activity and investment that companies in mainland China face following the trade war with the US.

A threat of higher tariffs on US imports from Hong Kong may be ineffective given the large US trade surplus with the territory, but revoking Hong Kong's treatment under US laws could have a major impact on investment and financial services. "It is hard to see how Hong Kong can remain a financial hub if China takes over," the White House says. Companies in mainland China, including state-owned Unipec and ChinaOil, frequently rely on their Hong Kong-based affiliates for trade financing and have relied on its stock exchange for floating stock.

Pompeo's determination is required under a law the US Congress passed last year, requiring US president Donald Trump's administration to certify whether the territory remains sufficiently autonomous to continue accessing US markets under preferential terms. US lawmakers hope the threat of economic fallout and a mandate to the White House to impose sanctions on Chinese officials will dissuade Beijing from moving forward with plans to reduce Hong Kong's autonomy.

But Beijing will not want to be seen to be giving in to US pressure. Trump is already piling trade and investment restrictions on China and dialling up confrontation on other fronts. Bills circulating in Congress with backing from the White House will make it difficult for Chinese firms to be listed on US stock exchanges. But reducing Hong Kong's access to US markets may strengthen Beijing's economic control over the territory, contrary to US policy makers' aim.

Status symbol

The stated purpose of the US reaction is to uphold Hong Kong's democratic institutions — a cause that Trump only half-heartedly endorsed last year amid the escalating trade war with China. The US president has preferred to focus on ending the US trade deficit with China and tackling unfair trade practices. An interim trade deal the two countries signed in January was supposed to address those concerns. The deal remains in effect, even though China's compliance is falling short of its targets. "We have seen some rays of hope, but we are not quite clear they are going to fulfil the promises they have made," oil industry group API president Mike Sommers says. The deal committed China to buying $69bn of US crude, LNG and other energy commodities in 2020-21, even before Covid-19 resulted in severe economic dislocations in both countries.

DEMAND

Sinopec forecasts bleak oil demand outlook

China's economy is starting to pick up after Covid-19 lockdown measures were lifted, but a full recovery appears a long way off, writes Karen Teo

A shift in consumer patterns caused by Covid-19 lockdowns may weigh on global oil demand well beyond the current pandemic, according to state-controlled Sinopec's research arm.

The Sinopec Economics and Development Research Institute (EDRI) expects changing workplace, lifestyle, education and consumption patterns to slow global oil demand growth in the future as a direct result of lockdowns imposed during the coronavirus outbreak, which was first reported in Wuhan in China's central Hubei province in December 2019.

Wuhan lifted its lockdown in early April as the number of Covid-19 infections in China fell. Domestic economic activity in the country has now recovered to around 90pc of normal levels, but it is unclear when it will resume fully because of the continuing spread of the virus globally, EDRI says. Combined exports of Chinese jet fuel, diesel and gasoline hit all-time highs in April. But they are likely to decline by 10pc on the year in 2020 from about 1.2mn b/d in 2019, contrasting with 23pc/yr average growth over the past five years, it says.

Global traffic movements and economic activity may only start to recover in the second half of this year at the earliest, EDRI says — limiting the need for key trading partners to import Chinese oil products. China's commerce ministry issued a second batch of product export quotas earlier this month, but Chinese product exports have declined as a result of deteriorating economics.

Domestic oil demand is starting to recover despite the impact of the outbreak overseas on Chinese manufacturing activity and persistent uncertainty over air travel demand, EDRI says. But it still expects oil products demand to decline by 5pc on the year in 2020, following a 13pc year-on-year fall in the first quarter. Coal-to-liquid projects, which require a breakeven Brent crude price of $60/bl, are likely to see demand for end-products fall by 5-6pc on the year in 2020, EDRI says.

The decline in oil products demand will lead to a reduction in overall refinery throughputs of 1.05mn b/d this year compared with 2019, based on a 55pc average transport fuel yield and a drop in domestic demand and exports of 580,000 b/d for the three fuels combined, EDRI forecasts. But private-sector refiners such as Hengli and Rongsheng will not be as badly affected. Both plants are geared to produce textile feedstocks and their fuel yields average less than 44pc. Both have maintained high run rates this year — operating at around 110pc of capacity in May. They cut throughputs only marginally in February, during the peak of the Covid-19 outbreak in China.

Recovery time

EDRI expects China's refining sector to face challenges post-2020, when crude prices are expected to recover and the country may deregulate its oil sector further. It forecasts the Brent crude price will remain low, but volatile, in a $10-40/bl range in the short term. Prices will rebound in the medium to long term, supported by crude supply costs — although demand will remain under pressure.

Unless there is a huge breakthrough in technology, EDRI expects incremental global crude supply costs to fluctuate in a $40-60/bl range, making it difficult for many countries to sustain upstream profitability. China's upstream breakeven cost was around $50/bl last year, it says.

Chinese upstream losses will hit Yn50bn ($7bn) in a scenario where the oil price remains at $45/bl, based on the 3.8mn b/d of crude that China produces. Upstream losses double to Yn100bn if the price falls to $40/bl, EDRI says. This is likely to result in declining output at older oil fields and delays in building production capacity at new discoveries.

CORPORATE

Lenders are now introducing tougher financial checks, raising costs for small and medium-size trading firms looking for credit

Price collapse reveals trading risks

The Covid-19 pandemic has lifted the lid on financial problems at a number of commodity trading firms in Singapore, heralding a potential shake-up that could work to the advantage of larger national and international oil firms.

At least four Singapore-based trading firms have collapsed in the past three months. Hin Leong — one of Singapore's biggest physical oil trading firms — filed for bankruptcy protection in April, while smaller oil trading firm Zenrock was placed under independent management by the courts in mid-May as part of efforts by banks to recover debts of around $165mn. The local arm of Chinese independent oil trading company Hontop, and Singapore palm oil and coal trading firm Agritrade, collapsed in February.

Problems have emerged as falling oil prices leave some trading firms holding higher-priced cargoes they are unable to sell because of the coronavirus-linked drop in demand, just as banks step up margin calls as inventory values slump. But the market collapse has also led to allegations of fraud. Hin Leong, which owes banks almost $4bn, has admitted hiding around $800mn of futures losses. Zenrock has been accused by UK bank HSBC of dishonestly obtaining multiple sources of financing for crude cargoes. HSBC has the single biggest exposure to Hin Leong at $600mn and is owed around $50mn by Zenrock. Dutch bank ABN Amro on 13 May booked a €225mn ($243mn) impairment charge on its exposure to Hin Leong and warned it is likely to take a significant loss on its $300mn exposure to the firm.

Trading firms are finding it much more difficult to obtain structured credit lines since the problems at Hin Leong emerged. Structured credit, in which financing is linked to a specific cargo or other collateral, is typically extended to smaller companies to limit the risk of default. Bigger firms are more likely to get unstructured credit based on their overall balance sheet.

Securing structured credit lines will now require more documentation and involve tougher checks, market participants say. This will raise costs for small to medium-size trading firms and could force some companies to add a risk premium to cargo offers. Banks are also increasingly requiring cargoes to be pre-sold before they will issue letters of credit. "If you are using a structured credit line, you now have to prove a cargo has been sold," a trade finance official says. "In the past, banks would allow you to take a speculative position."

Universal targets

This may benefit companies such as Asia-Pacific's state-run oil firms, which have a direct link to consumer markets, at the expense of trading companies of all sizes. Oil giants such as Sinopec and PetroChina have little trouble securing credit lines. Sinopec would like to acquire Hin Leong's 41pc stake in the 14.7mn bl Universal Terminal storage facility on Singapore's Jurong island, in which PetroChina already owns a 25pc stake. It is unclear if this deal will be allowed to go ahead, as allowing state-run Chinese firms to take control of Singapore's largest storage site is likely to raise security concerns there.

International lenders usually provide only indirect financing to independent refiners, with the refiners' key crude suppliers — large trading firms or majors — guaranteeing loans. The oil majors or large trading firms secure crude sales with the refiners against product offtake agreements. The crude supplier usually passes on credit costs to the refiner through the premium at which the crude cargo prices relative to Ice Brent futures. But suppliers are also concerned about their risks in Shandong, and many are now inserting additional safeguards into sales agreements, such as asking for a deposit on cargoes when helping to trigger them on Ice Brent futures rather than waiting for delivery to collect full payment.

PRODUCTS

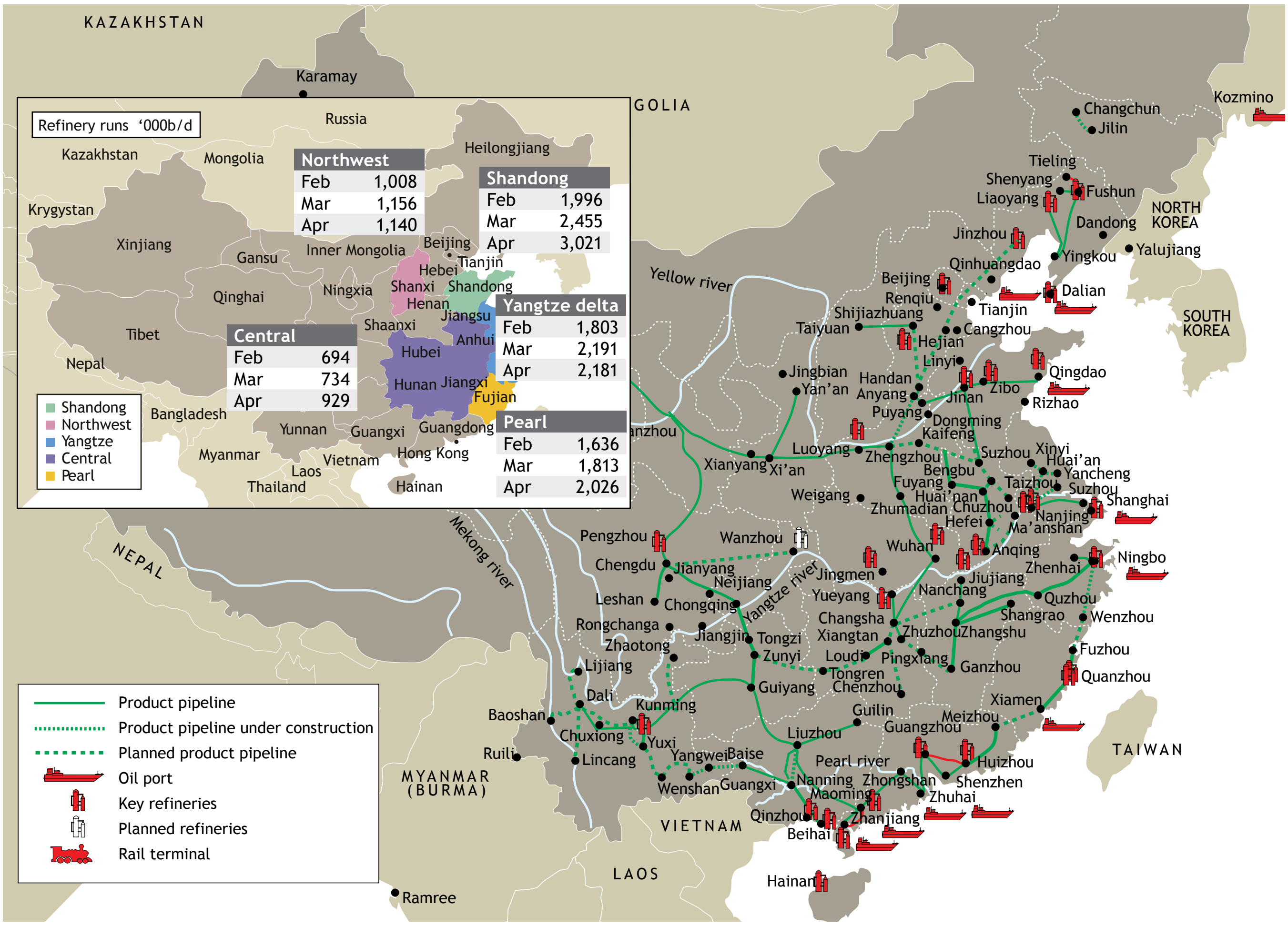
Diesel spot prices				$/bl
	27 Apr	4 May	11 May	18 May
Shandong independent	64.63	63.95	62.15	62.04
Yangtze river delta	70.67	69.83	69.85	70.50
Pearl river delta	72.77	71.47	73.28	74.39
Northwest China	73.00	73.21	72.90	72.73
Central China	73.23	71.32	71.01	71.25

Gasoline spot prices				$/bl
	27 Apr	4 May	11 May	18 May
Shandong independent	35.61	34.10	33.64	35.05
Yangtze river delta	44.18	44.08	42.30	44.01
Pearl river delta	43.91	43.29	45.09	47.61
Northwest China	59.13	57.38	57.31	57.87
Central China	50.61	48.70	47.27	47.06

Prices are given in $/bl net of consumption tax and VAT and reflect deals done at selected refineries. For regions, see map below. Diesel assessments track China 6 (Max 10ppm sulphur/min. 46 cetane exc Northwest, which reflects China 5 prices (max. 50ppm sulphur/min. 43 cetane). Gasoline assessments track China 6 (max. 10ppm sulphur / min. 92 Ron / max. 1pc benzene) with the exception of Northwest, which reflect China 5 (max. 50ppm sulphur/min. 93 Ron/max. 2.5pc benzene) deals done in Shaanxi province. Consumption tax = Yn2,110/t (Gasoline); Yn1,411/t (Diesel)

Refinery production						’000 b/d
	Refinery runs	Gasoline	Jet-kerosine	Diesel	Fuel oil	LPG
May	12,221	3,184	1,087	3,172	384	1,225
Jun	13,066	3,147	1,168	3,234	513	1,290
Jul	12,386	3,108	1,131	3,263	390	1,238
Aug	12,221	3,184	1,087	3,172	384	1,225
Sep	13,745	3,371	1,244	3,593	459	1,386
Oct	13,619	3,412	1,200	3,548	440	1,310
Nov	13,646	3,340	1,182	3,582	515	1,354
Dec	13,778	3,331	1,138	3,536	613	1,376
Jan 20	13,548	3,232	1,122	3,292	560	1,351
Feb	10,487	2,502	868	2,548	434	1,045
Mar	11,783	2,570	732	2,979	504	1,296
Apr	13,104	2,828	636	3,329	663	1,460

China downstream infrastructure



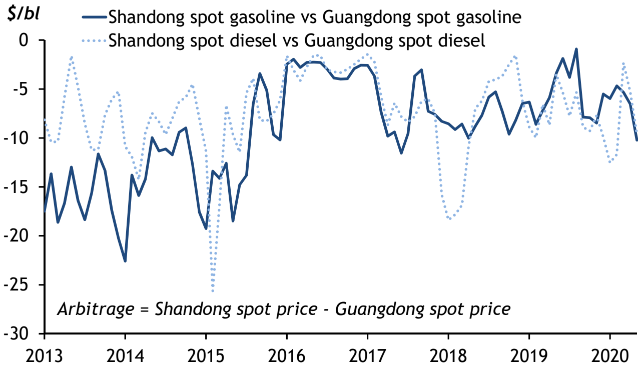
PRODUCT PRICES

Djeno vs Lula: Shandong refining netbacks

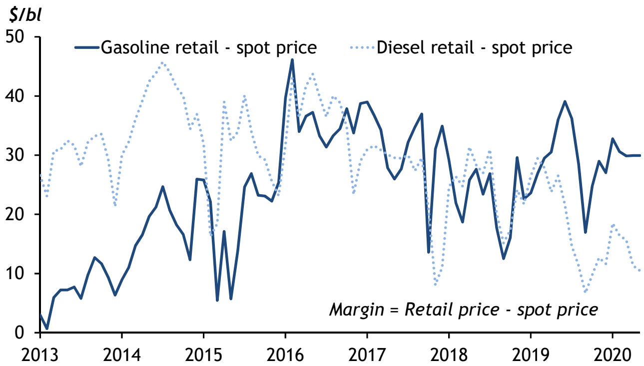
Date	Djeno-Lula (import cost)	Lula refining margin	Switching opportunity
Sep 19	-0.54	9.21	0.11
Oct 19	-0.37	4.32	0.66
Nov 19	-0.23	1.15	1.30
Dec 19	-0.45	3.14	1.09
Jan 20	-0.15	-0.47	1.18
Feb 20	-0.69	3.46	0.26
Mar 20	-0.85	15.82	0.10
Apr 20	-0.52	19.92	0.78
May 20	-0.74	9.77	-0.07

Calculation compares the delivered ex-ship cost of Djeno and Lula; their respective GPW refining margins based on gasoline, diesel and fuel oil prices/yields; and the profit/loss to be made from switching from the first-named crude to the second-named crude.

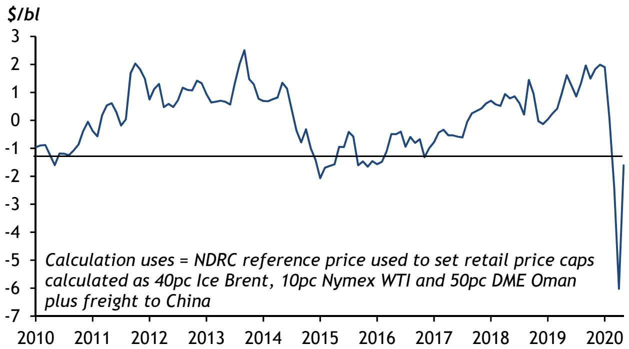
Shandong-Guangdong arbitrage



Gasoline and diesel retail margins



Contango/backwardation (M1-M2)



Chinese retail price caps — Yn/t

	92 Ron gasoline^		10ppm diesel^	
	22 May	22 Apr	22 May	22 Apr
Northeast: Heilongjiang	6,820	6,820	5,895	5,895
Jilin	6,820	6,820	5,895	5,895
Liaoning	6,820	6,820	5,895	5,895
North: Beijing‡	6,855	6,855	5,930	5,930
Tianjin	6,820	6,820	5,895	5,895
Hebei	6,820	6,820	5,895	5,895
Shanxi	6,890	6,890	5,950	5,950
Hohhot	6,835	6,835	5,910	5,910
East: Shanghai	6,835	6,835	5,900	5,900
Jiangsu	6,875	6,875	5,935	5,935
Zhejiang	6,875	6,875	5,950	5,950
Shandong	6,830	6,830	5,905	5,905
Central: Hubei	6,845	6,845	5,920	5,920
Hunan	6,885	6,885	5,980	5,980
Henan	6,840	6,840	5,915	5,915
Anhui	6,870	6,870	5,945	5,945
Jiangxi	6,875	6,875	5,955	5,955
South: Guangdong	6,900	6,900	5,965	5,965
Fujian	6,895	6,895	5,960	5,960
Hainan	6,965	6,965	6,030	6,030
Guangxi	6,965	6,965	6,030	6,030
Southwest: Chongqing	7,035	7,035	6,105	6,105
Chengdu, Sichuan*	7,040	7,040	6,130	6,130
Chongqing, Sichuan*	7,035	7,035	6,105	6,105
Guiyang, Guizhou*	7,000	7,000	6,055	6,055
Kunming, Yunnan*	7,030	7,030	6,085	6,085
Northwest: Xinjiang	6,600	6,600	5,790	5,790
Xi'an, Shaanxi*	6,805	6,805	5,905	5,905
Xining, Qinghai*	6,785	6,785	5,940	5,940
Gansu	6,805	6,805	5,915	5,915
Ningxia	6,825	6,825	5,895	5,895

**Prices are for the listed city, not the province. NDRC guidelines stipulate that the highest wholesale prices must be at least Yn400/t below maximum retail prices. ‡Beijing has stricter vehicle emissions standards. Prices listed are for China 4. ^Prices apply to fuel compatible with China 4 vehicle emissions standards.* — *NDRC*

Shandong independent/official price comparison — $/bl

		24 Apr	1 May	8 May	15 May	22 May
Gasoline, 90 Ron						
Lijin*	Ex-refinery prices	72.39	71.16	68.59	69.16	71.49
	± NDRC wholesale cap	-28.96	-30.81	-32.06	-32.33	-29.76
	% of wholesale cap	71.43	69.79	68.14	68.14	70.61
Dongming†	Ex-refinery prices	82.21	80.87	76.52	77.49	79.31
	± NDRC wholesale cap	-19.14	-21.10	-24.13	-24.00	-21.95
	% of wholesale cap	81.12	79.31	76.03	76.35	78.33
Diesel, 500ppm						
Lijin*	Ex-refinery prices	92.74	91.98	88.92	88.72	89.08
	± NDRC wholesale cap	-4.62	-5.97	-7.77	-8.78	-8.19
	% of wholesale cap	95.26	93.90	91.97	91.00	91.58
Dongming†	Ex-refinery prices	96.89	98.62	95.66	94.76	96.80
	± NDRC wholesale cap	-0.47	0.66	-1.03	-2.74	-0.47
	% of wholesale cap	99.52	100.68	98.94	97.19	99.52
Crude price						
Shengli**	Ex-field prices	na	na	na	na	na

*Independent differential to NDRC price caps assumes a Yn400/t wholesale discount to retail cap. *The 70,000 b/d Lijin refinery runs a blend of imported straight-run fuel oil and domestic crude, producing China 6 standard gasoline and diesel since January 2018. †The 160,000 b/d Dongming refinery produces China 5 and 6 standard gasoline, but mainly China 5 road diesel. **Sinopec produces 540,000 b/d of heavy, sour Shengli crude in Shandong. Since November 2015, it has set prices retrospectively.*

PRODUCT MARKETS

Independent refiner crude import quotas			*'000 b/d*
Refinery	**Quota to refine**	**Licence to import**	**CDU cap.**
Huajin Chemical	160	83	120
Panjin Northern Asphalt			40
Shenyang Wax Chemical	16	185	28
Zhenghe²	216		100
Huaxing²			140
Changyi²			130
Qingdao Anbang²			28
Daqing Zhonglan²			30
Tianjin Bluestar²			26
Jinan Changcheng²			6
Jinan 2nd Petrochemical²			6
Fuhaichuang (Dragon Aromatics)	92	28	127
Heze Dongming	150	105	150
Panjin North Asphalt Fuel	140	98	140
Shandong Kenli	50	35	60
Shandong Lijin	70	49	70
Hongrun	106	53	114
Shandong Yatong	55	28	70
Ningxia Baota	43	13	150
Shandong Wonfull (Huifeng)	83	58	116
Shandong Tianhong Chemical	88	44	100
Shouguang Luqing	52	41	60
Shandong Chambroad	66	46	70
Dongying Qirun Chemical	44	44	44
Shaanxi Yanchang Petroleum	72	36	348
Shandong Haiyou	64	19	70
Shandong Hengyuan Petrochemical	70	49	70
Shandong Wudi Xinyue	48	22	48
Shandong Qingyuan Petrochemical	81	40	104
Henan Fengli Petrochemical	44	22	52
Shandong Jincheng Petrochemical	44	42	118
Hebei Xinhai Chemical	74	52	120
Landbridge Petrochemical	36	18	70
Hubei Jin'ao Science & Technology Chemical	46	23	100
Shenchi Petrochemical	50	25	52
Zhonghai Fine Chemical	37	19	46
Shandong Haike Ruilin Chemical	42	29	46
Shandong Dongfang Hualong Industry & Trade#	60	42	60
Shandong Shengxing Chemical	44	31	44
Shandong Qicheng Petrochemical	32	22	70
Dalian Jinyuan Petrochemical	16	8	44
Shandong Yuhuang Shengshi Chemical	29	14	60
Zibo Xintai Petrochemical	40	28	44
Shandong Qingyishan Petchem Science & Tec.	60	36	60
Shandong Fuyu Chemical	33	12	44
Hualian Petrochemical	34	26	80
Shandong Haike Chemical	19	12	44
Jiangsu Xinhai Petrochemical	46	46	60
Hengli Petrochemical	400	80	400
Guangrao Kelida Petrochem Science & Tec.	30	9	44
Shan'g Chengda New Energy Science & Tec.	42	8	60
Shandong Wantong Petrochemical	39	10	130
Dongying Lianhe Petrochemical	56	42	84
Zhejiang Petroleum and Chemical	-	80	400
Total³	**3,121**	**1,813**	**4,897**

Notes

†Net, after closure

²These refineries can import crude via shareholder Sinochem, but share a single quota/licence

³Assumes quota spread over full year

#Fuhaichuang: 1t = 8.4bl

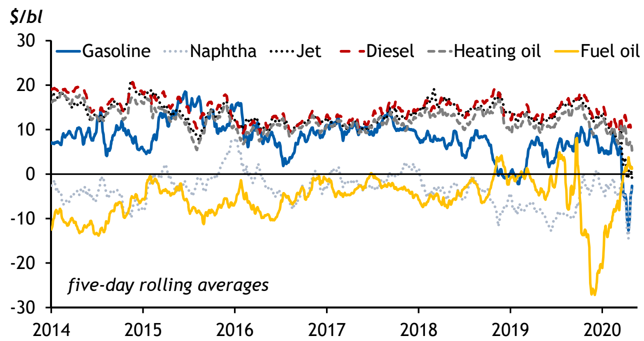
Product prices* (week ending)				
	1 May	**8 May**	**15 May**	**22 May**
China		*Yuan/t*		
HSFO (cracked) fob south China barges (STS)	2,945	3,283	3,244	3,442
		$/t (premium to Mops HSFO 180)		
M-100 (straight-run) c+f south China	37.00	37.00	37.00	37.00
M-100 (straight-run) c+f east China	36.00	36.00	36.00	36.00
		$/t		
HSFO 180 c+f south China (month 1)	130.46	152.03	164.31	203.47
HSFO 180 c+f south China (month 2)	142.84	165.84	175.21	208.47
HSFO 180 c+f south China (month 3)	153.15	174.46	183.31	211.67
South Korea/Japan		*$/t*		
HSFO 180 fob South Korea	130.44	152.06	164.35	203.50
Naphtha c+f Japan	196.13	235.44	240.13	291.43
Singapore		*$/bl*		
Gasoil 0.5%	23.36	28.76	30.37	36.33
Gasoil 0.005%	26.30	31.45	33.14	38.93
Gasoil 0.005% diff to MOPS	-2.10	-1.68	-1.47	-1.05
Gasoil 0.001%	26.55	31.70	33.39	39.18
Gasoil 0.001% diff to MOPS	-1.85	-1.43	-1.22	-0.80
Gasoline 92R	19.44	25.35	29.20	34.39
Naphtha	16.48	20.83	22.91	30.30
Jet-kerosine	16.03	19.46	26.32	33.62
HSFO 180 ($/t)	119.44	141.06	153.35	192.50

*$1 = Yn 7.1091 22 May *Average weekly prices*

Product prices						*$/bl*
	Dec 19	**Jan 20**	**Feb**	**Mar**	**Apr**	**May***
Singapore						
Gasoil 0.005%	78.88	76.30	65.67	45.22	31.16	35.17
Gasoil 0.005% diff to MOPS	+0.35	+0.10	+0.23	-0.39	-2.37	-1.34
Gasoil 0.001%	79.22	76.48	65.96	45.45	31.41	35.42
Gasoil 0.001% diff to MOPS	+0.69	+0.28	+0.53	-0.16	-2.12	-1.09
Gasoline 92R	71.34	69.08	62.62	35.08	19.42	30.27

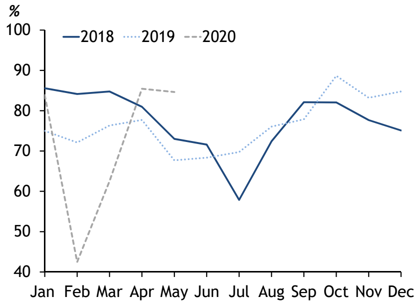
** month to date*

Singapore refining margins



PRODUCTS

Shandong utilisation rates



Independents keep run rates high

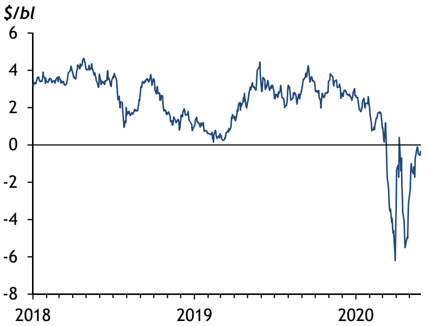
Independent refiners have continued running at high rates to take advantage of positive refining margins. The weighted average utilisation rate at 13 independents surveyed by *Argus* was 85pc in May — unchanged from April and equivalent to over 1mn b/d. But runs could fall in June amid weakening refining margins.

China's main economic planning body the NDRC refrained from adjusting gasoline and diesel price caps for a sixth time this year as crude stayed below $40/bl. The combined decreases for gasoline and diesel so far this year have reached Yn1,850/t and Yn1,780/t respectively, with prices cut three times. Independent refiners kept utilisation rates high to boost profits amid low crude costs. Oil products inventories remained high, with demand for gasoline improving but diesel demand faltering. Slow demand from end-users is preventing destocking.

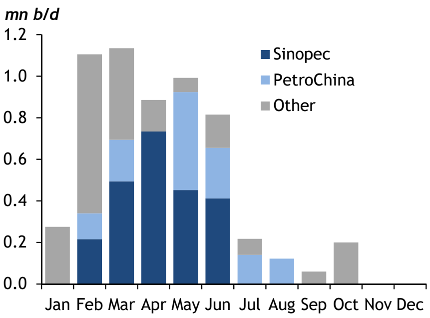
Haike has kept runs at its 46,000 b/d and 44,000 b/d units at around 100pc. Jincheng Petroleum's 72,000 b/d and 46,000 b/d plants are running at around 70pc, while two Wonfull Petroleum units with a combined 116,000 b/d are operating at 85pc. Fuhai Group subsidiary Shandong Hualian Petroleum completed maintenance work in early May and is running its 80,000 b/d unit at around 80pc. Fuhai lowered the run rate at its 118,000 b/d Shandong Lianhe Petroleum plant to 80pc from 100pc amid narrowing margins. Yongxin Petroleum completed maintenance at its 60,000 b/d unit in late May, after starting works in early May. Maintenance at its 12,000 b/d coking unit that started in early May is scheduled to end in early June. Dongying Wanda Petroleum raised runs to around 85pc in May from 60pc in April. Luqing and Hongrun continued to run at full capacity in May. ChemChina's 100,000 b/d Zhenghe Petroleum refinery plans to carry out maintenance in October.

CRUDE

Dubai-Brent EFS



China CDU shutdowns



Crude prices rise as Covid-19 restrictions ease

Prices rose as more countries eased Covid-19 restrictions, raising expectations of a potential recovery in oil demand. Atlantic basin benchmark North Sea Dated rose by $19.45/bl to $33.20/bl between 27 April and 26 May. Mideast Gulf medium sour benchmark Dubai rose by $16.81/bl to $34.68/bl.

Nigerian exports to China rose to around 130,000 b/d in April, and tanker tracking suggests they could near 160,000 b/d in May, compared with 34,000 b/d in February. Beijing's easing of restrictions means China has been the sole Asia-Pacific outlet for west African crude. Low values and China's early release of a second batch of crude import quotas for non-state firms in April may have prompted refiners to target Nigerian crude. They appear to have targeted a much wider spectrum of regional crude than their usual slate of Angolan and Congolese heavy and medium sweet crudes, including very light sweet Amenam, light and medium sweet Bonny Light and Egina, and highly acidic Usan. Nigerian exports to China look likely to be steady in June, with at least 2mn bl of Bonny Light already booked by Unipec.

Latin American crude is also moving to China. Unipec placed on subjects the VLCC *Agios Sostis I* from Aruba and Guyana to Asia-Pacific starting on 12 June. The vessel is likely to be loading medium sweet Liza crude from Guyana and co-loading it with crude stored in Aruba. And US Alaskan North Slope (ANS) crude is going to China. The Suezmax *Sofia* is expected to arrive in Qingdao in early June with a cargo of around 1mn bl of ANS after loading at the Valdez Marine Terminal at the southern tip of the Trans-Alaska Pipeline System, according to preliminary vessel-tracking data.

Volumes of medium sour Oman flowing to China have remained high. Oman's April oil exports averaged around 894,100 b/d, 89.9pc of which went to China.

CRUDE MARKETS

Crude prices* (week ending)				$/bl
	1 May	8 May	15 May	22 May
Mideast Gulf (Singapore close)				
Dubai (month 1)	18.43	26.80	28.77	33.95
Dubai (month 2)	23.49	29.15	31.10	35.22
Dubai (month 3)	26.00	29.88	31.47	35.48
Oman (month 1)	20.76	30.23	32.79	36.18
Murban (Abu Dhabi)	18.18	23.65	27.39	31.64
Qatar Marine	15.42	23.32	26.87	32.08
Brent-Dubai EFS	-4.24	-1.54	-1.29	-0.25
Asia-Pacific (Singapore close)				
Minas (Indonesia)	19.10	26.90	28.06	32.51
Duri (Indonesia)	15.60	23.40	24.56	29.01
Tapis (Malaysia)	10.76	17.12	22.46	31.58
NW Shelf (Australia)	1.91	8.52	15.26	22.44
West Africa (London close)				
Cabinda Blend (Angola)	12.08	21.00	26.96	34.30
Girassol (Angola)	11.98	19.88	26.96	35.52
Hungo (Angola)	11.48	19.38	26.36	34.44
Bonny Light (Nigeria)	8.78	16.95	24.91	33.07
Russia/Mediterranean (London close)				
Urals (Russia, cif northwest Europe)	17.36	23.90	28.49	34.27
ESPO Blend (fob Kozmino)	22.36	28.71	29.98	37.04
Saharan Blend (Algeria)	14.24	21.32	28.05	33.90
North Sea Dated (Brent)	16.78	22.88	27.86	33.44
Ice Brent month 1	22.25	29.17	30.26	34.71
Nymex WTI (month 1)	15.63	23.11	26.09	32.93

**average weekly price*

Crude prices						$/bl
Contract month	**Feb 20**	**Mar**	**Apr**	**May**	**Jun**	**Jul***
Ice Brent	65.13	63.77	55.48	33.73	26.63	31.47
Dubai	64.86	64.19	54.25	33.78	21.33	30.41
Murban (Abu Dhabi)	66.66	66.19	57.06	35.60	23.94	28.20
	Jan 20	**Feb**	**Mar**	**Apr**	**May**	**Jun***
Nymex WTI futures	58.69	60.31	52.15	38.50	19.09	21.99
WCS Houston cfr China	59.87	na	na	na	na	na
WTI Houston cfr China	68.20	na	na	na	na	na
Calendar month	**Dec 19**	**Jan 20**	**Feb**	**Mar**	**Apr**	**May***
Forties (fob)	68.28	63.83	55.81	31.08	15.12	26.35
Djeno (fob Congo)	65.97	63.19	54.32	28.99	11.50	na

** month to date*

Formula pricing					$/bl
	Feb 20	Mar	Apr	May	Jun
Saudi Arabia fob Ras Tanura to Asia-Pacific: average Oman/Dubai					
Arab Super Light	+7.85	+5.85	+1.85	-3.65	-5.65
Arab Light	+3.70	+2.90	-3.10	-7.30	-5.90
Arab Medium	+2.45	+1.95	-4.05	-7.40	-5.70
Arab Heavy	+0.55	+0.55	-4.45	-7.40	-5.70
Iran: fob Kharg Island: average Oman/Dubai					
Iranian Light	+3.35	+2.55	-3.10	-7.20	-4.90
Iranian Heavy	+0.90	+0.45	-4.15	-7.50	-4.70
Iraq to Asia-Pacific: average Oman/Dubai					
Basrah Light (Basrah oil terminal)	+2.55	+1.80	-3.20	-6.55	-4.55
Kuwait: average Oman/Dubai					
Kuwait	+1.95	+1.35	-4.65	-7.80	-6.00
Yemen: North Sea Dated					
Masila	na	na	na	na	na
Nigeria: North Sea Dated					
Bonny Light	+2.32	+1.70	-3.29	-3.95	na

Official selling prices						$/bl
	Nov 19	Dec	Jan 20	Feb	Mar	Apr
Middle East						
Abu Dhabi						
Murban	66.60	69.25	67.80	56.10	35.58	na
Oman						
Oman MOG	61.81	60.26	62.81	65.49	64.89	54.61
Asia-Pacific						
Indonesia						
Minas	63.64	67.61	65.77	57.18	35.78	22.07
Duri	70.70	75.38	78.61	68.83	43.10	30.90
Malaysia						
Tapis	68.92	73.92	70.50	63.24	39.73	22.85
Opec basket	**62.94**	**66.48**	**65.10**	**55.49**	**33.92**	**17.64**
Japanese Crude Cocktail	64.94	67.12	70.33	70.63	na	na

Spot crude: Des Shandong				$/bl
Date	**Grade**	**Delivery**	**± Ice Brent**	**Outright**
29 Apr	Djeno	Jul 20	-3.00	24.00
6 May	Djeno	Jul 20	-1.00	32.23
13 May	Djeno	Jul 20	0.00	30.88
20 May	Djeno	Jul 20	2.30	37.74
29 Apr	ESPO Blend	Jun 20	-3.00	22.20
6 May	ESPO Blend	Jun 20	-1.00	31.38
13 May	ESPO Blend	Jun 20	-1.00	29.07
20 May	ESPO Blend	Jul 20	3.00	38.44
29 Apr	Lula	Jul 20	-2.50	24.50
6 May	Lula	Jul 20	0.00	33.23
13 May	Lula	Jul 20	1.00	31.88
20 May	Lula	Aug 20	2.80	38.71
29 Apr	Johan Sverdrup	Jul 20	-2.80	24.20
6 May	Johan Sverdrup	Jul 20	-0.50	32.73
13 May	Johan Sverdrup	Jul 20	0.60	31.48
20 May	Johan Sverdrup	Aug 20	2.30	38.21
29 Apr	Oman	Jul 20	-3.00	24.00
6 May	Oman	Jul 20	0.50	33.73
13 May	Oman	Jul 20	1.00	31.88
20 May	Oman	Aug 20	2.00	37.91

REFINERY THROUGHPUTS

Refinery throughputs, May (plan)	Province	Owner	Capacity†		Crude sources	Shut-downs	Apr (plan)			± Apr
			mn t/yr	*'000 b/d*		*'000 b/d*	*'000t*	*'000 b/d*	*% util.*	*'000 b/d*
Northeast*			**102.7**	**2,050**	**Local, some Russian rail**	**371**	**5,502**	**1,292**	**63**	**-119**
Dalian (PetroChina)	Liaoning	PC	20.5	410	Daqing, Russian rail, West Africa	371	200	47	12	-196
Daqing petrochemical	Heilongjiang	PC	9.5	190	Local (Daqing), some Russian rail	0	510	120	63	+10
Daqing refining & chemical	Heilongjiang	PC	5.5	110	Local (Daqing), some Russian rail	0	430	101	92	+6
Fushun	Liaoning	PC	11.5	230	Local (Daqing 85%, Fushun 15%)	0	733	173	75	+25
Harbin	Heilongjiang	PC	5.0	100	Daqing, Russian rail 20%	0	297	70	70	+4
Jilin petrochemical	Jilin	PC	10.0	200	Local (Daqing, Jilin), Russian rail 20%	0	679	160	80	-5
Jinxi	Liaoning	PC	6.5	130	Domestic, Imports 10%	0	442	104	80	+2
Jinzhou	Liaoning	PC	9.0	180	Domestic, Imports 30% (Chad, Russia etc)	0	596	140	78	+35
Liaohe, Panjin	Liaoning	PC	5.2	100	Local (Liaohe)	0	320	72	72	-15
Liaoyang	Liaoning	PC	10.0	200	Local (Liaohe, Daqing) Russian rail 20%	0	700	165	83	+21
Wepec Dalian	Liaoning	W	10.0	200	Mideast sour imports only	0	595	140	70	-6
Northwest*			**60.8**	**1,224**	**Xinjiang, local, Kazakh rail/pipeline**	**10**	**3,634**	**863**	**71**	**+152**
Changqing, Xianyang	Shaanxi	PC	5.0	100	Local (Changqing)	0	420	99	99	+19
Dushanzi	Xinjiang	PC	15.8	320	Xinjiang, Kazakh (40pc)	0	660	158	49	+8
Karamay	Xinjiang	PC	5.0	100	Xinjiang	0	420	100	100	+26
Lanzhou	Gansu	PC	15.9	320	Xinjiang, local	0	1,000	237	74	+48
Tahe	Xinjiang	S	4.7	94	Local (Tahe)	10	319	75	80	+19
Urumqi	Xinjiang	PC	9.4	190	Xinjiang, Kazakh	0	565	135	71	+12
Xian	Shaanxi	S	2.5	50	Local (Yanchang)	0	0	0	-	+0
Yumen	Gansu	PC	2.5	50	Xinjiang, local	0	250	59	118	+20
North*			**55.7**	**1,099**	**50:50 seaborne imports:domestic**	**364**	**2,420**	**563**	**51**	**-119**
Beijing Yanshan	Beijing	S	13.5	270	Daqing, some imports	14	630	148	55	+24
Cangzhou	Hebei	S	3.6	71	Domestic 50%, Imports (Oman etc) 50%	0	200	46	65	-7
Dagang	Tianjin	PC	5.1	98	Local (Dagang)	100	0	0	-	-71
Huabei, Renqiu	Hebei	PC	10.2	200	Local (Huabei)	0	680	157	79	+26
Shijiazhuang	Hebei	S	8.1	160	Local (Huabei), Russian rail 30%	0	680	159	99	+38
Tianjin	Tianjin	S	15.2	300	Local (Dagang) 50%, Imports (sweet) 50%	250	230	53	18	-129
East*			**127.6**	**2,528**	**2/3 imports**	**0**	**8,560**	**2,001**	**79**	**+95**
Jinan	Shandong	S	8.3	160	Local (Shengli)	0	200	45	28	-41
Qilu, Zibo	Shandong	S	18.8	370	Local 50%, Imports (ME, Waf) 50%	0	950	221	60	-21
Qingdao	Shandong	S	10.0	200	Imports only (Mideast sour crude)	0	1,000	236	118	+22
Qingdao Petrochemical	Shandong	S	5.0	100	Imports only (Mideast sour crude)	0	220	52	52	-11
Yangtze River Delta			85.5	1,698	2/3 imports	0	6,190	1,447	85	+146
Gaoqiao, Shanghai	Shanghai	S	13.1	260	Imports (sweets) 50%, local	0	860	201	77	+12
Jinling, Nanjing	Jiangsu	S	19.0	378	Imports 50%	0	1,420	332	88	+6
Shanghai (Jinshan)	Shanghai	S	16.1	320	Imports (light & medium) 75%	0	1,250	292	91	+4
Yangzi, Nanjing	Jiangsu	S	14.1	280	Imports (sours) 60%, Shengli	0	1,100	257	92	+59
Zhenhai, Ningbo	Zhejiang	S	23.2	460	Imports; over 2/3 sour	0	1,560	365	79	+65
Central*			**55.2**	**1,092**	**40-50% imports (Angola etc)**	**170**	**2,980**	**694**	**64**	**-73**
Anqing	Anhui	S	9.1	180	Imported sours, Shengli, Daqing	0	630	146	81	-5
Changling, Yueyang	Hunan	S	11.7	230	Shengli 60-70%, imports	0	640	149	65	+5
Jingmen	Hubei	S	5.7	112	Domestic 50%, imports 50%	0	500	116	104	+8
Jiujiang	Jiangxi	S	10.0	200	Shengli (60-70%), imports	0	560	132	66	+20
Luoyang	Henan	S	8.1	160	Imports (Oman/Russia) 50%+, domestic	0	520	121	76	-4
Wuhan	Hubei	S	8.6	170	Domestic, imports	170	0	0	-	-96
Yueyang Petchem (Baling)	Hunan	S	2.0	40	Shengli, Daqing, imports	0	130	30	75	-1
South*			**77.7**	**1,564**	**100% imports**	**0**	**5,673**	**1344.0**	**86**	**+247**
Fujian, Quanzhou	Fujian	S	14.0	280	Imports (Yemen, Oman etc)	0	950	224	80	+53
Hainan	Hainan	S	8.0	160	Imports (Mideast, Angola)	0	600	141	88	-42
Qinzhou	Guangxi	PC	11.5	240	Imports (Light, sweet Angolan/Australian)	0	720	177	74	+126
Pearl River Delta			44.2	884	100% imports	0	3,403	802	91	+110
Guangzhou	Guangdong	S	15.7	314	Imports (Angola, Oman etc)	0	1,333	314	100	+61
Maoming	Guangdong	S	23.5	470	Imports (Mideast sour crude)	0	1,650	389	83	+23
Zhanjiang Dongxing	Guangdong	S	5.0	100	Imports (Libya, Angola etc)	0	420	99	99	+26
Southwest			**23**	**460**			**1,720**	**405**	**88**	**+93**
Anning	Yunnan	PC	13.0	260	Imports (Mideast Guilf)	0	930	219	84	+36
Pengzhou	Sichuan	PC	9.7	200	Imports /Light, sweet Kazakhstan)	0	790	186	93	+57
Total Sinopec*			**308.2**	**6,121**		**443**	**19,145**	**4,482**	**73**	**49**
Total PetroChina*			**220.4**	**4,408**		**471**	**11,387**	**3,095**	**70**	**319**
Total above 47 refineries			**479.7**	**10,017**		**915**	**28,769**	**6,757**	**68**	**183**
Total China*†◊			**726.7**	**14,534**		**983**	**56,362**	**13,272**	**91**	**169**
PetroChina + S'pec % of total China				**72**				**57**		
Above 47 refineries % of total China				**69**				**51**		

**China total and company totals include plants not listed. Regional totals are for listed plants only. PC total includes refineries under CNPC and Wepec. †China total refinery capacity includes 46 major PC/S-owned plants identified as well as 730,000 b/d of, smaller plants operated by the two oil giants. ◊ Additionally, it includes CNOOC's Huizhou refinery in Guangdong and 10 of the country's largest teakettle refineries totalling 1.36mn b/d.*
PC=PetroChina W=Wepec S=Sinopec

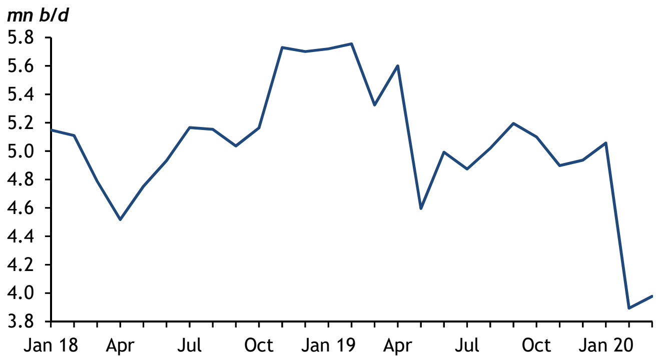
REFINERY THROUGHPUTS

Refinery throughputs, Mar 20	Mar 20			Feb 20			Jan-Mar			± 2019	
	'000t	'000 b/d	%util.	'000t	'000 b/d	%util.	'000t	'000 b/d	%util.	'000 b/d	%
Northeast*	**6,190**	**1,454**	**71**	**5,765**	**1,449**	**71**	**19,085**	**1,528**	**50**	**-178**	**-12**
Dalian (PetroChina)	1,270	299	73	1,190	300	73	3,880	311	51	-23	-7
Daqing petrochemical	455	107	56	425	107	56	1,370	110	39	-9	-8
Daqing refining & chemical	410	97	88	380	96	87	1,220	98	59	-5	-5
Fushun	550	130	57	500	126	55	1,790	144	43	-32	-22
Harbin	265	62	62	290	73	73	880	71	50	-27	-38
Jilin petrochemical	660	155	78	600	151	76	2,030	163	55	-21	-13
Jinxi	450	106	82	380	96	74	1,340	107	55	-14	-13
Jinzhou	460	108	60	390	98	54	1,365	110	40	-9	-8
Liaohe, Panjin	340	77	77	360	87	87	1,090	84	58	-6	-7
Liaoyang	660	155	78	620	156	78	2,070	166	57	-24	-15
Wepec Dalian	670	158	79	630	159	80	2,050	165	56	-7	-4
Northwest*	**2,810**	**666**	**54**	**2,720**	**690**	**56**	**8,980**	**726**	**41**	**-99**	**-14**
Changqing, Xianyang	280	66	66	280	71	71	970	78	56	-20	-26
Dushanzi	620	148	46	550	140	44	1,830	149	31	-9	-6
Karamay	300	71	71	350	89	89	1,070	86	62	-25	-29
Lanzhou	710	168	53	670	170	53	2,240	181	39	-25	-14
Tahe	240	56	60	260	65	69	870	69	54	-16	-23
Urumqi	500	119	63	440	112	59	1,490	121	42	-5	-4
Yumen	160	38	76	170	43	86	510	41	57	+1	+2
North*	**2,725**	**634**	**58**	**2,670**	**663**	**60**	**9,015**	**714**	**45**	**-64**	**-9**
Beijing Yanshan	465	110	41	570	143	53	1,795	144	40	-42	-29
Cangzhou	200	46	65	190	47	66	600	47	45	-5	-11
Dagang	300	68	69	280	68	69	970	75	53	-9	-12
Huabei, Renqiu	570	132	66	570	141	71	1,800	142	49	+66	+47
Shijiazhuang	460	108	68	380	95	59	1,440	115	49	-30	-26
Tianjin	730	170	57	680	169	56	2,410	191	44	-45	-24
East*	**7,170**	**1,673**	**66**	**6,340**	**1,584**	**63**	**22,750**	**1,810**	**49**	**-352**	**-19**
Jinan	320	72	45	310	75	47	1,070	82	36	-14	-17
Qilu, Zibo	750	174	47	700	174	47	2,440	193	36	-38	-20
Qingdao	760	179	90	700	176	88	2,460	198	68	-34	-17
Qingdao Petrochemical	230	54	54	160	40	40	610	49	31	-4	-8
Yangtze River Delta	**5,110**	**1,194**	**70**	**4,470**	**1,119**	**66**	**16,170**	**1,288**	**52**	**-262**	**-20**
Gaoqiao, Shanghai	780	182	70	630	158	61	2,320	185	47	-33	-18
Jinling, Nanjing	1,000	234	62	1,100	275	73	3,600	287	55	-79	-28
Shanghai (Jinshan)	1,130	264	83	850	213	67	3,230	257	52	-42	-16
Yangzi, Nanjing	740	173	62	660	165	59	2,450	195	49	-40	-21
Zhenhai, Ningbo	1,460	341	74	1,230	308	67	4,570	364	54	-68	-19
Central*	**2,620**	**610**	**56**	**2,390**	**594**	**54**	**8,790**	**697**	**45**	**-199**	**-29**
Anqing	420	98	54	350	5	3	1,390	110	43	-37	-34
Changling, Yueyang	500	116	50	400	5	2	1,530	121	35	-26	-22
Jingmen	285	66	59	300	74	66	1,025	81	52	-26	-32
Jiujiang	400	94	47	360	91	46	1,410	113	41	-39	-35
Luoyang	475	110	69	450	112	70	1,525	121	52	-31	-26
Wuhan	400	93	55	400	99	58	1,500	119	51	-39	-33
Yueyang Petchem (Baling)	140	33	83	130	32	80	410	32	54	-1	-3
South*	**4,330**	**1,022**	**65**	**3,900**	**985**	**63**	**13,790**	**1,111**	**49**	**-430**	**-39**
Fujian, Quanzhou	750	177	63	700	176	63	2,380	191	47	-24	-13
Hainan	700	165	103	520	131	82	1,970	158	64	-27	-17
Qinzhou	0	0	0	240	63	26	1,020	86	36	-122	-143
Pengzhou	570	134	67	530	134	67	1,800	150	50	-26	-17
Pearl River Delta	**2,880**	**680**	**77**	**2,440**	**615**	**70**	**8,420**	**676**	**50**	**-81**	**-12**
Guangzhou	1,000	236	75	850	214	68	2,850	229	47	-39	-17
Maoming	1,580	373	79	1,290	325	69	4,560	366	51	-24	-7
Zhanjiang Dongxing	300	71	71	300	76	76	1,010	81	57	-18	-22
Southwest	**1,320**	**311**	**68**	**1,260**	**318**	**69**	**4,200**	**342**	**50**	**-46**	**-13**
Anning	750	177	68	730	184	71	2,400	193	51	-20	-10
Pengzhou	570	134	67	530	134	67	1,800	150	50	-26	-17
Total Sinopec*	**17,010**	**3,978**	**65**	**15,575**	**3,894**	**64**	**54,209**	**4,319**	**48**	**-759**	**-18**
Total PetroChina*	**11,322**	**2,666**	**61**	**10,900**	**2,744**	**62**	**36,422**	**2,922**	**46**	**-362**	**-12**
Total above 47 refineries	**25,845**	**6,059**	**61**	**23,785**	**5,965**	**60**	**82,410**	**6,586**	**45**	**-1322**	**-20**
Total China*†◊	**46,865**	**11,036**	**76**	**41,661**	**10,363**	**71**	**99,193**	**7,957**	**54**	**-4747**	**-60**
PetroChina + S'pec % of total China		**60**			**64**			**91**			
Above 47 refineries % of total China		**55**			**58**			**83**			

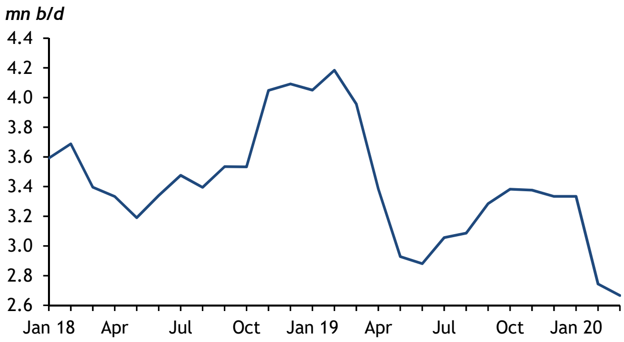
**China total and company totals include plants not listed. Regional totals are for listed plants only. PetroChina total includes refineries under CNPC and Wepec. †China total refinery capacity includes 46 major PetroChina/Sinopec-owned plants identified as well as 730,000 b/d of, smaller plants operated by the two oil giants. ◊ Additionally, it includes CNOOC's Huizhou refinery in Guangdong and 10 of the country's largest teakettle refineries totalling 1.36mn b/d.*

REFINERY THROUGHPUTS

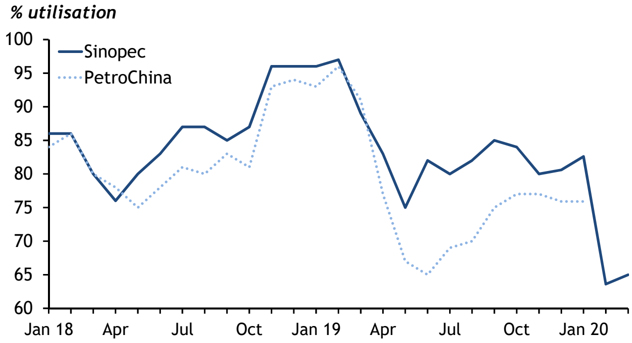
Sinopec total runs



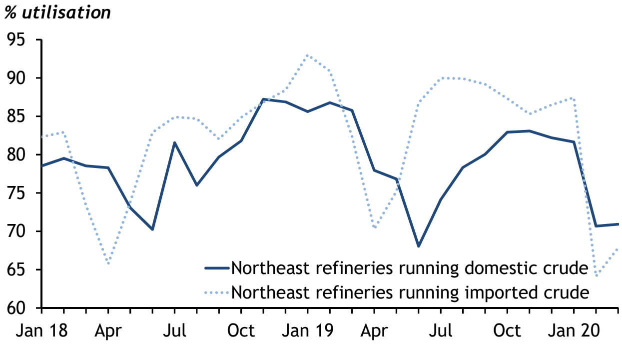
PetroChina total runs



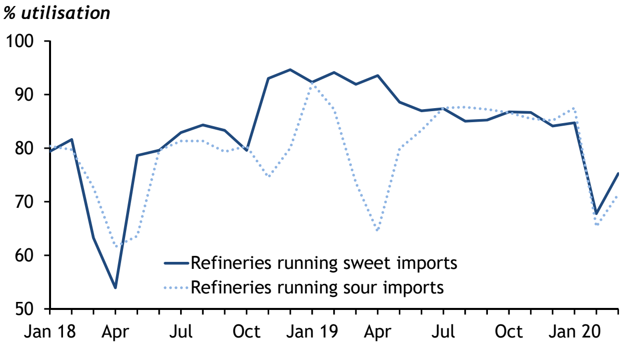
Sinopec vs PetroChina runs



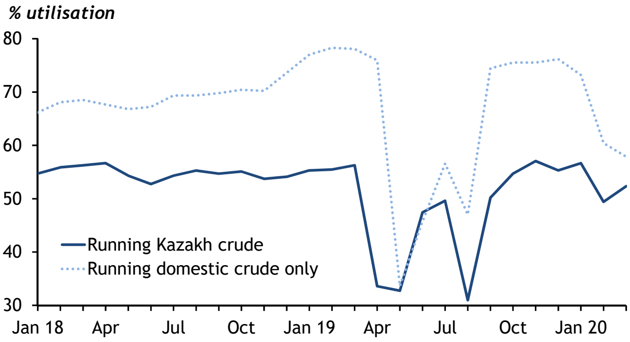
Domestic vs import economics



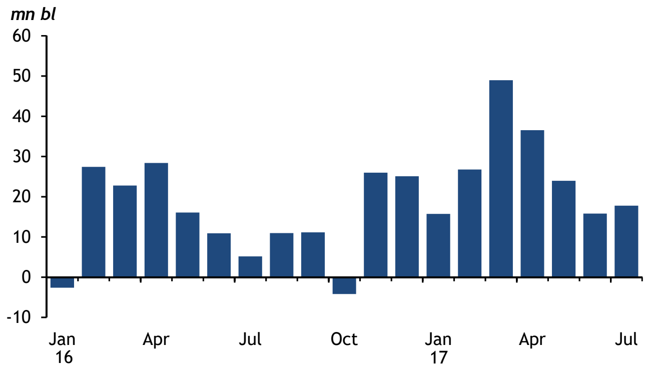
Sweet vs sour imports



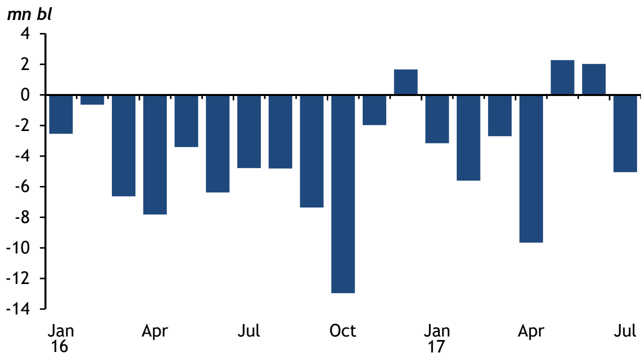
NW China refinery runs



Shandong imports and runs



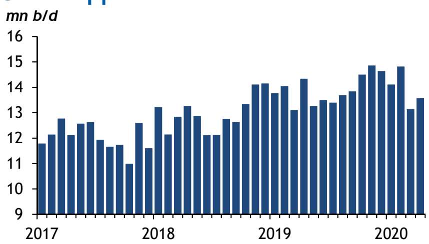
Guangdong imports and runs



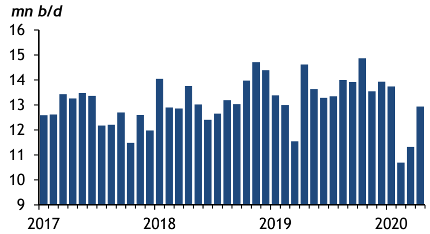
MAP AND GRAPHS

China crude infrastructure

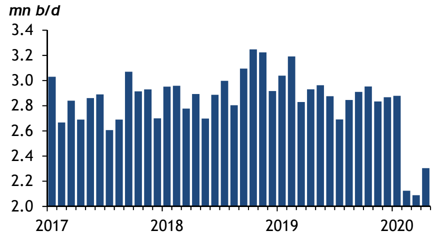
Crude apparent demand



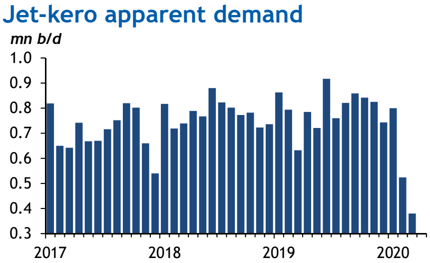
Petroleum apparent demand



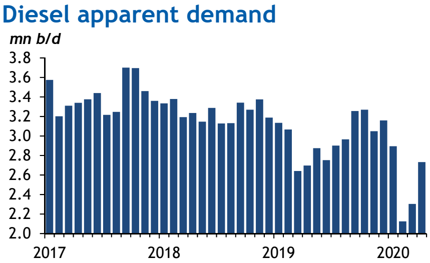
Gasoline apparent demand



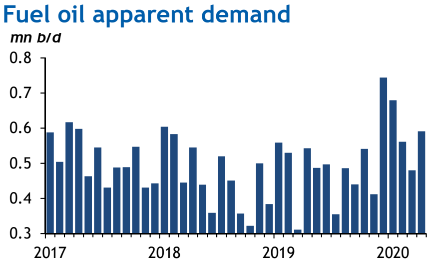
Jet-kero apparent demand



Diesel apparent demand



Fuel oil apparent demand



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