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Four misconceptions about China's oil demand in 2019

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In 2019, markets were bracing for a slowdown in China's oil product demand growth, but were grappling to quantify it given the uncertainty surrounding the US–China trade negotiations. At the same time, with the start of two new mega-refineries, markets were expecting strong crude demand, alongside a deluge of product output and exports. In this comment, we explore some of the market misconceptions this year, and assess what they tell us about 2020.

Misconception no 1: It's all about the trade war

Market sentiment has been extremely sensitive to the ups and downs of trade talks, on a recurring loop of hope and disappointment which has overall resulted in additional tariffs and a steady deterioration in the broader bilateral relationship.[1] But while markets have been expecting sharp changes in China's economic trajectory, and therefore in its oil demand, based on the outcome of talks, trade negotiations arguably matter less than the market thinks[2]. For example, even though Chinese exports to the US have fallen by 13 per cent or about $30 billion since tariffs were first imposed in mid-2018, its exports to the rest of the world have expanded by more than enough to offset the loss of sales to the US. Measured in yuan, China's global exports in the first six months of 2019 were up by 6.1 per cent y/y. So, even though trade tensions have likely weighed on the economy (see Figures 1, 2), a number of domestic factors, including the government's ongoing deleveraging efforts, and the weakness in the auto market (related to an earlier than expected tightening of car emission standards) have also weighed (Figure 3). Falling demand for New Energy Vehicles (NEVs) is another case in point (Figure 4). Despite the challenges associated with the trade war, the government has stuck to its decision to phase out subsidies, suggesting that Beijing will continue to pursue structural economic changes even as trade tariffs complicate the external environment. Assuming, then, that the trade war is not the root cause of China's economic deceleration, a limited trade deal is unlikely to suddenly reverse the slowdown. While both the US and China continue to work toward a deal, markets should not assume that an agreement between the two sides is now guaranteed, or that it will lead to a sudden uptick in Chinese economic activity. Finally, beyond the trade deal, US–China structural tensions are unlikely to be resolved any time soon. As such, the Chinese economy is set to continue slowing in 2020, with a 'phase 1' deal and government support measures (see below) likely boosting sentiment and activity at the margins.

Figure 1: China GDP growth, y/y, %

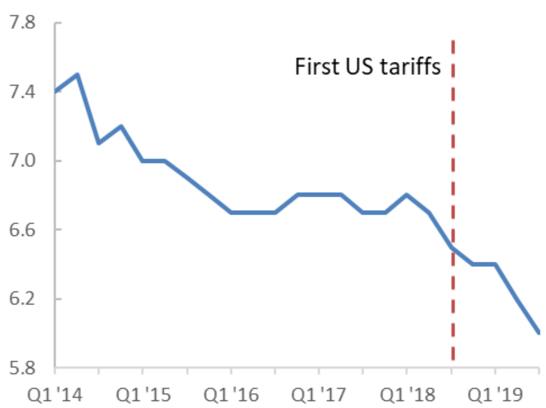
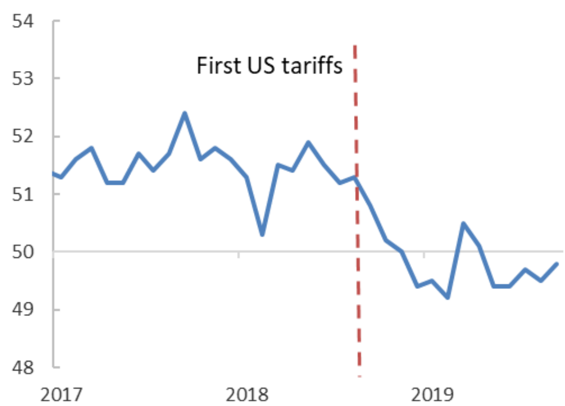


Figure 2: China PMI



Source: NBS

[1] On the trajectory for US–China relations, see Michal Meidan, 'US-China: The Great Decoupling', OIES Energy Insight 53, July 2019, https://www.oxfordenergy.org/publications/us-china-the-great-decoupling/?v=79cba1185463.

[2] Nicholas R. Lardy, 'China's Growth Is Slowing, but not Because of the Trade War', Peterson Institute for International Economics, 21 August 2019, https://www.piie.com/blogs/china-economic-watch/chinas-growth-slowing-not-because-trade-war.

Figure 3: China car sales, y/y, %

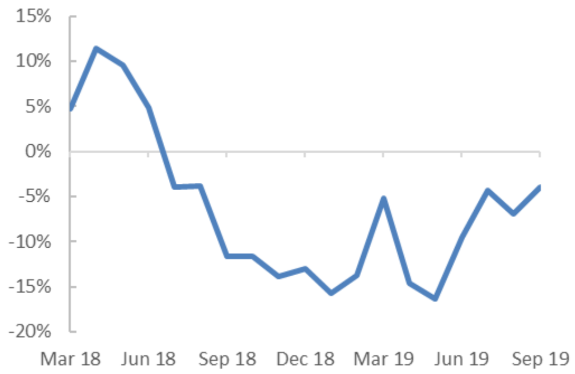


Figure 4: NEV sales, y/y, %

Source: CAAM

Misconception no 2: The infrastructure stimulus is coming, supporting diesel demand

The Chinese government's targeted and limited support measures have, at best, prevented a sharper deceleration. Yet the fact that Beijing is avoiding a massive credit stimulus also points to higher tolerance for slowing growth, at least for now. This has also led to oil demand growth roughly halving from year-ago levels. More importantly, when looking at the economic indicators and at oil product demand, it would seem that the much-anticipated infrastructure stimulus has not materialized, despite the strong uptick in 'special purpose bond' issuance this year. Indeed, during the first eight months of the year, the Chinese government issued 2.4 trillion yuan ($340 billion) worth of bonds – aimed at financing local infrastructure projects – more than doubling the entire 2018 allocation. Nonetheless, infrastructure investment in the year-to-October 2019 rose by 4.2 per cent y/y, slowing from a 4.5 per cent gain between January and September 2019. Steel output fell to a seven-month low in October, while cement production contracted for the first time in more than a year. The lag in infrastructure investment is likely related to a lack of viable projects, and to the fact that local governments are using their new sources of financing to pay off debt rather than to launch new projects. Put simply, local governments are still concerned about credit growth and are therefore being more selective in pursuing infrastructure projects. Instead, it has likely been growth in the real estate sector that has supported economic activity (Figure 6) and offset some of the weakness in the manufacturing sector. But whereas an infrastructure stimulus was widely expected to boost demand for industrial fuels (diesel, bitumen, petcoke) and especially diesel (traditionally the fuel of mining equipment and coal transport), demand in China contracted in the year-to-September by 1.4 per cent y/y. At the same time, petcoke consumption has been muted, while only bitumen demand has surged y/y by 16 per cent (Figure 5). Strong bitumen demand has likely been bolstered by road construction and maintenance, as well as by demand for roofing from the real estate sector. But government policies to substitute diesel in freight, for example, are likely weighing on demand growth. Moreover, while demand for LPG and naphtha has been strong, albeit growing less rapidly than over the same period in 2018, black oil product growth (diesel, gasoline, jet fuel, and fuel oil) has been muted. The question of infrastructure development and how it impacts oil product demand, especially diesel, merits more careful study, especially given the changing feedstocks for freight of both industrial materials and consumer goods. But while the growth rate of the Chinese economy is set to continue slowing next year, the nature of government support measures and the fate of the trade deal will impact product demand growth. Assuming a limited trade deal and ongoing support from the real estate sector, alongside a marginal recovery in the auto sector, demand for black oil more broadly should improve. So, despite an ongoing softening in the Chinese economy, product demand growth could remain flat or even rise slightly.

Figure 5: Industrial fuel demand, y/y change, mb/d

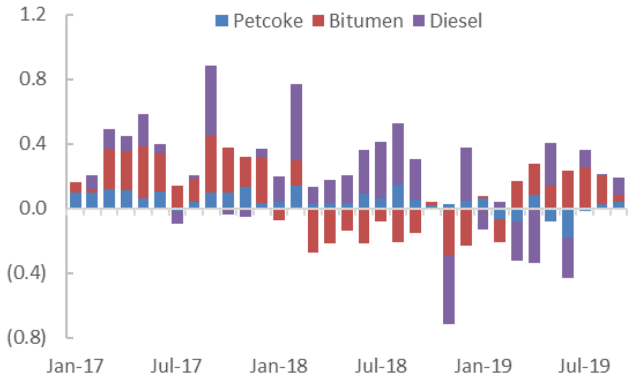
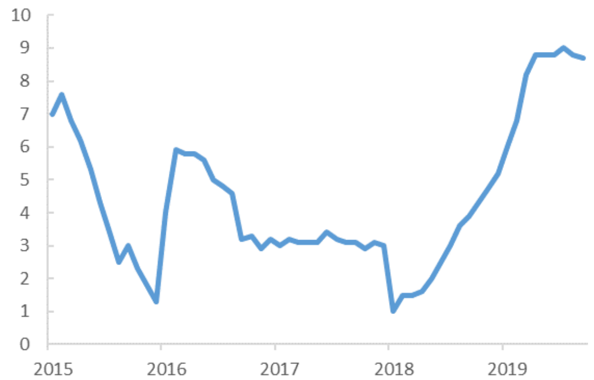


Figure 6: Floor space under construction, y/y, %



Source: China Customs, NBS

Misconception no 3: New mega-refineries lead runs growth in 2019, leading also to a surge of gasoline production and exports.

The rise of new mega-refineries was in the talking point of both crude and product markets in 2019: as the 0.40 mb/d Hengli started up in Liaoning province, and the 0.40 mb/d Zhejiang Petrochemical (Rongsheng) began operations in Zhejiang province. With both scheduled to start up in 2019, incremental runs were widely expected to come from these two plants, in addition to a slight increase in state-owned refiners' throughputs, mainly from CNPC due to the expansion of the 0.10 mb/d Huabei refinery. And given their bias toward light ends, with an estimated combined gasoline output of close to 0.20 mb/d, China's gasoline supply was expected to surge, squeezing the Shandong independent refiners' margins at home and leading to a deluge of exports, weighing on Asia.

Closer scrutiny of regional data, however, suggests that while Hengli has indeed ramped up, especially over the past few months, and the 0.10 mb/d Huabei expansion in Hebei province has led to higher runs, Rongsheng has had a more muted impact on incremental throughputs in Zhejiang province (Figure 7). As a result, between June and September 2019, runs in Liaoning province rose by 0.42 mb/d y/y, bringing the year-to-September increment to 0.20 mb/d but throughputs in the province rose y/y by 0.15 mb/d between June and September, likely due to the fact that the plant started one 0.20 mb/d crude oil distillation unit (CDU) in May and was planning its second for Q4 19. So, the new mega-refineries in the year-to-September likely contributed to around 0.30–0.40 mb/d or so of an 0.80 mb/d increase in runs. The state-owned majors' earning reports (Figure 8) highlight that they overwhelmingly accounted for the rest of the increment.

This leads to a number of conclusions:

- First, that the mega-refineries will continue to support runs growth next year, and could account for an additional 0.30–0.40 mb/d of additional throughputs. And with other planned starts, including Sinopec's 0.20 mb/d Zhongke, Chinese runs are likely to see strong growth next year.
- Second, the Shandong independents seem to have indeed been squeezed this year, with limited runs growth. But whether this is a structural change in the Chinese market due to the start of the new mega-refineries, or a function of tighter credit, remains unclear. Moreover, while the independents may not have accounted for a large share of China's runs growth, they still accounted for roughly one-sixth of total throughputs in China and have continued to support incremental crude imports.

- Finally, the discrepancy between higher crude buying (+0.90 mb/d y/y), runs growth (+0.80 mb/d y/y), and implied product demand growth (0.35 mb/d y/y) suggests that refiners have increased their petrochemicals output quite significantly. This, in turn, suggests that the domestic product oversupply may not be as bad as the market fears.

Figure 7: Runs growth, select provinces, y/y, mb/d

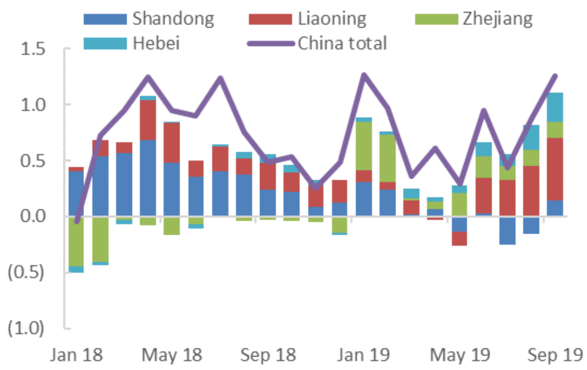
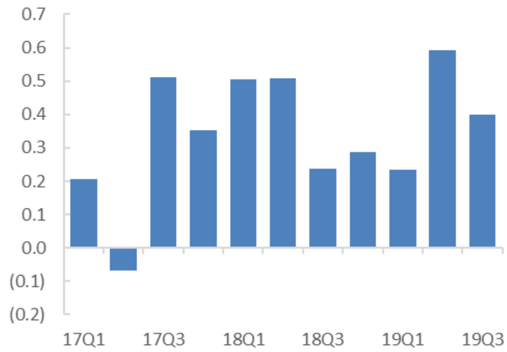


Figure 8: Sinopec, PetroChina combined runs growth, y/y, mb/d



Source: NBS, Company reports, OIES

Provincial data also offer some interesting insights: Liaoning provincial data (Figure 9) show a 0.45 mb/d increase in runs in Q3 19 (vs a 0.20 mb/d rise in throughputs in Q3 18), with only a 60 kb/d rise in gasoline output over that period (as compared to a 45 kb/d increase in Q3 18). It may be that some of the plants' secondary units are not fully up and running, and so gasoline production will indeed rise when they do start, but it could also suggest that Hengli is focusing on petrochemicals. In Zhejiang province (Figure 10), Q3 19 runs grew by 0.14 mb/d, but gasoline production was essentially flat y/y. As a result, while gasoline exports between January and September did indeed rise to 0.34 mb/d, this was a 20 kb/d increment y/y (6.8 per cent), compared to a more significant 55 kb/d y/y increase in diesel outflows (14 per cent).

Figure 9: Liaoning product output, y/y change, mb/d

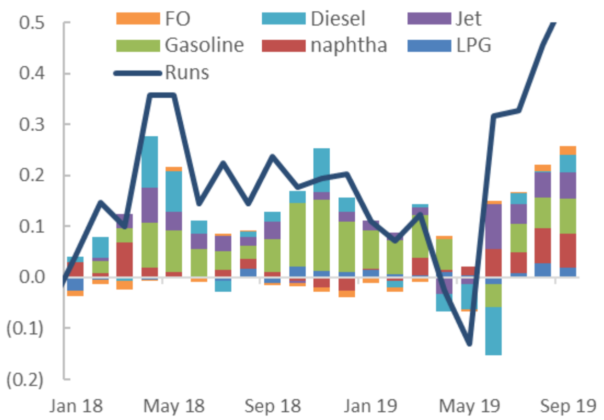
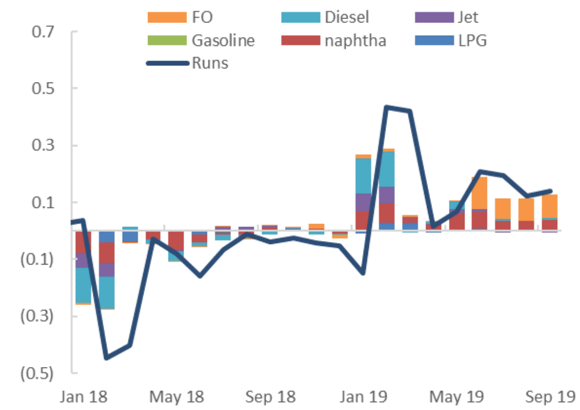


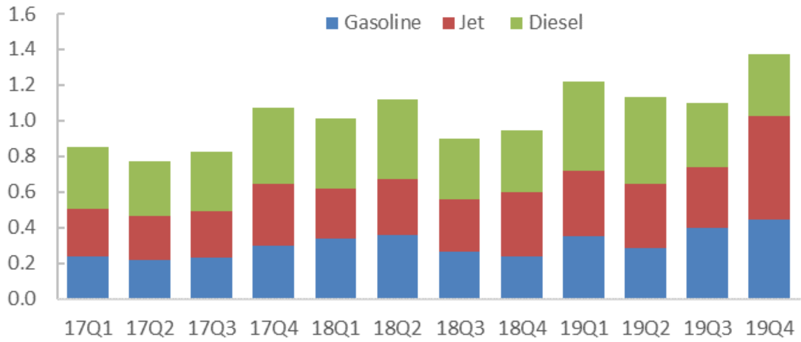
Figure 10: Zhejiang product output, y/y change, mb/d



Source: NBS, OIES

All eyes are now on Q4 19, as refiners have ample product export quotas left and could export a whopping 0.45 mb/d of gasoline – a massive y/y surge given that it comes off a low base in Q4 18 and a strong q/q rise from 0.40 mb/d (Figure 11). Given expectations that next year's quota allocation will be even higher, refiners have a strong incentive to export and exhaust this year's allowance, regardless of economics. But if the new mega-refineries do not produce as much as gasoline as previously expected, the outflow may not be as bad as the market expects.

Figure 11: Product exports, mb/d



Note: Q4 19 exports assume refiners exhaust their quotas
Source: China customs, MOFCOM

Misconception no 4: China will double down on the Middle East.

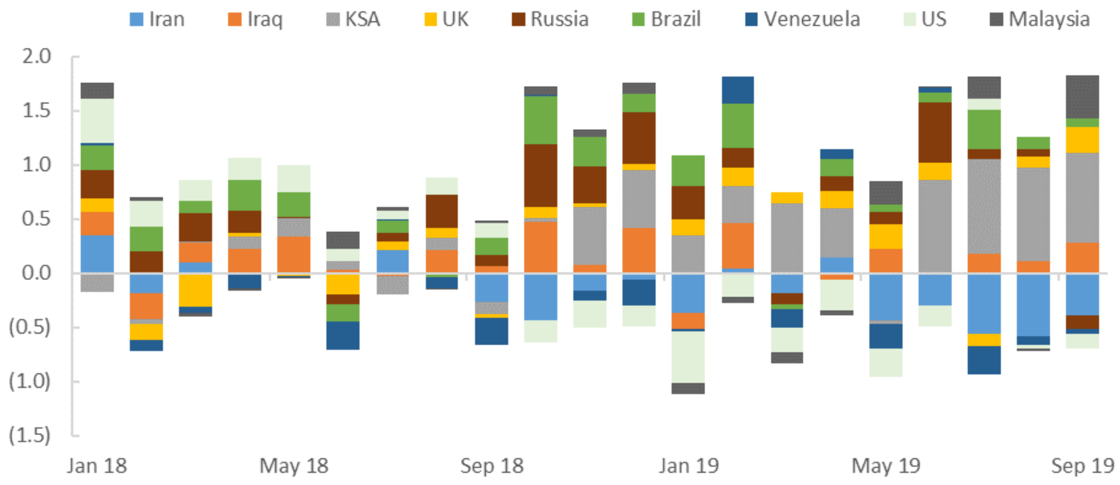
With another strong year of high runs growth in 2020, potentially as much as 0.60–0.70 mb/d, China's appetite for crude is also set to remain strong. The new mega-refineries have received crude import licences, and the Ministry of Commerce has already announced that it will award as much as 202 Mt (4 mb/d) of crude import licences to non-state refiners next year. While the ceiling is similar to the 2019 volume, MOFCOM only awarded 166 Mt of licences this year, suggesting that it could award the additional licences next year. While the Shandong independents' runs growth may not have been stellar this year, their appetite for crude has remained strong. And if the government continues to liberalize the domestic market, which it is likely to do, reforms such as the launch of the much-awaited midstream company or new opportunities to expand downstream will give the Shandong independents access to more pipeline infrastructure and allow them to expand their retail presence. They too have lobbied for export quotas but remain cautious about their chances of being awarded export rights, as they did not exhaust their allocation back in 2017. Rongsheng and Hengli are, however, largely expected to receive export quotas. Still, the Shandong independents could export via Sinochem as has already been the case over the past few months, or continue their focus on petchems.

Despite efforts by the government and the majors to step up domestic crude production, China remains exposed to the international oil markets (Figure 12). Yet US sanctions on Iran and Venezuela have complicated China's efforts to maintain some diversity in its import sources,[3] while the tariffs have stemmed US flows to China. Indeed, this year in particular, imports from Saudi Arabia have increased dramatically, up by 0.58 mb/d y/y, compared to a smaller 0.14 mb/d y/y increase in Russian arrivals. But the large uptick in Saudi arrivals is in large part due to the start of Rongsheng and Hengli, which rely on Saudi crudes for baseload. While they will continue to ramp up runs next year, the increment from Saudi will likely be more muted. Moreover, Beijing will still maintain its efforts to diversify supply sources and has sought to effectively limit imports from the Middle East at around 50 per cent of total imports. The surge in freight rates over the past few months has also led to a focus on regional grades[4] and to North Sea volumes, prompting some traders to prioritize Brent-linked crudes. Should the US and China agree on a 'phase 1' deal, US crude could flow once more to China, but in the Americas, Brazil is likely to be a bigger focal point for Chinese buyers going forward.

[3] See Michal Meidan, 'China's Energy Security at 70', Oxford Energy Comment, October 2019, https://www.oxfordenergy.org/publications/chinas-energy-security-at-70/?v=79cba1185463.
[4] Adi Imsirovic, Michal Meidan, 'Sanctions, Shipping, and Oil Markets', Oxford Energy Comment, October 2019, https://www.oxfordenergy.org/publications/sanctions-shipping-and-oil-markets/?v=79cba1185463.

In 2020, therefore, China will likely remain a key source of crude demand for global markets, and while the share of Middle Eastern oil in its import mix could rise, buyers will continue their efforts to find new import sources.

Figure 12: Crude imports, select countries, y/y growth, mb/d



Source: China customs