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MACROCOSM

Oil's Bullish Bottlenecks

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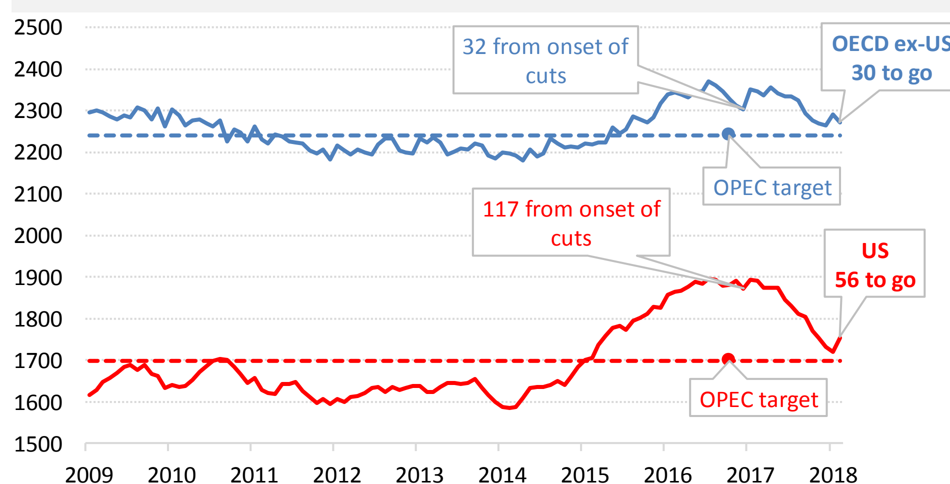
The upside case for crude isn't OPEC cuts, but America's infrastructure capacity limits.

Crude oil hit new recovery highs last week. This is consistent with our expectations in January, after it hit our long-standing $65 target, when we raised our forecasted 2018 trading range to $60-$70 and said we anticipated "overshoots" (see "150 Million Barrels To Go" January 22, 2018).

- *Now we are going to raise our expected trading range again, to $65-$75, because we can see on the horizon the once-glutted petroleum market coming into balance, and these are the prices that seem like they are making it happen.*
- *Overshoots are still possible. But so are undershoots, because it's the silly-season again. The oil markets are once again gripped by over-heated narratives and downright fake news – from all the usual suspects (Goldman's Currie is wildly bullish now, having been bearish at lower price in January) – in this case all promising sharply higher prices, but right or wrong, surely leading to volatility.*
- *In the meantime, oil's new highs are driving higher inflation expectations, which in turn are driving, as we expected, higher 10-year yields* (see "On the June FOMC" June 14, 2017). More on that in a report later this week.

Global stocks: crude oil and petroleum products Million bbl, as of Feb '18



Source: JODI, TrendMacro calculations

Update to strategic view

OIL, US BONDS: The "overshoot" we expected for oil is here. We are raising our expected trading range for to $65-$75, and expect further overshoot – and volatility. This is driving inflation expectations, which are driving Treasury yields – and will continue to do so. Oil is caught up in over-heated bull narratives, built in part on the fallacy that the rebalancing of inventories is complete, but that OPEC will nevertheless keep its production cuts in place in order to artificially raise prices. The cuts will stay through year-end, but it will take about that long for the rebalancing to truly complete. The strongest bull case is that surging US production is being bottlenecked by pipeline and port capacity constraints. A geopolitical risk premium has been built into prices finally, but the risks now are greater than ever.

[Strategy dashboard]

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- The biggest fake news is from the Paris-based International Energy Agency, which declared in its April *Oil Market Review* "mission accomplished" for the OPEC production cuts – which implies, if the cuts stay in place much longer, that oil markets are about to become excessively tight. *This is just wrong.*
- OPEC's stated *tactical* goal for the production cuts was to reduce global inventories of crude and products to their 5-year average (see "While the World Cuts, the US Pumps" December 12, 2016). Based on the average as of that decision, OECD inventories must fall another 86 million barrels from February's levels, the most recent data (56 million in the US, and 30 million in OECD ex-US), having already fallen 149 million from the onset of the cuts (117 million in the US, and 32 million in OECD ex-US – please see the chart on the previous page).
- That's not "mission accomplished." It's only about two-thirds done. Based on the rate of inventory-draw since the cuts began, the target will be reached at the end of October.
- The IEA's "mission accomplished" declaration is based on the error of using the current 5-year *moving* average as the benchmark. That's a higher level of inventories, and a much easier target to hit, because as each month goes by it drops out the low inventory levels of five years ago, and builds in today's higher levels (and the even higher levels of the hoarding-driven surge in early 2017 right after the cuts were announced). Surely that's not what OPEC could have had in mind.
- If markets believe the EIA's version, then when OPEC announces at its upcoming June meeting that it will keep the cuts in place through year-end – which we fully expect, and which would be fully consistent with intentions announced at last November's meeting (see "Oil: From Priced to Perfection, to Perfect Storm" November 27, 2017) – *the mistaken conclusion could be drawn that OPEC is deliberately engineering a scarcity that would throw a putatively already rebalanced market into excessive tightness.*
- We knew the cuts would be made in the first place, and then extended a year later, because OPEC's *strategic* goal is to maximize price-times-quantity for its oil production (see "Oil: From Priced to Perfection, to Perfect Storm" November 27, 2017). The cuts have been successful in this, with OPEC earning half-a-billion per day *more* – by pumping 1.13 million barrels per day *less* – than before the cuts were put in place. *But it doesn't follow that the cartel could do even better by engineering a scarcity.*
- To be sure, all else equal, Saudi Arabia in particular would love higher prices to help its Saudi Aramco initial public offering eventually get out the door at a decent price. But the temporarily higher prices that would result from an artificial shortage would be reversed soon enough by non-cartel competition. Remember, in equilibrium, in a competitive commodity market, the price has to be the cost of production for the least-efficient producer at a given level of demand. And there are political constraints on OPEC, too, as President Donald J. Trump reminded OPEC on Twitter last Friday.

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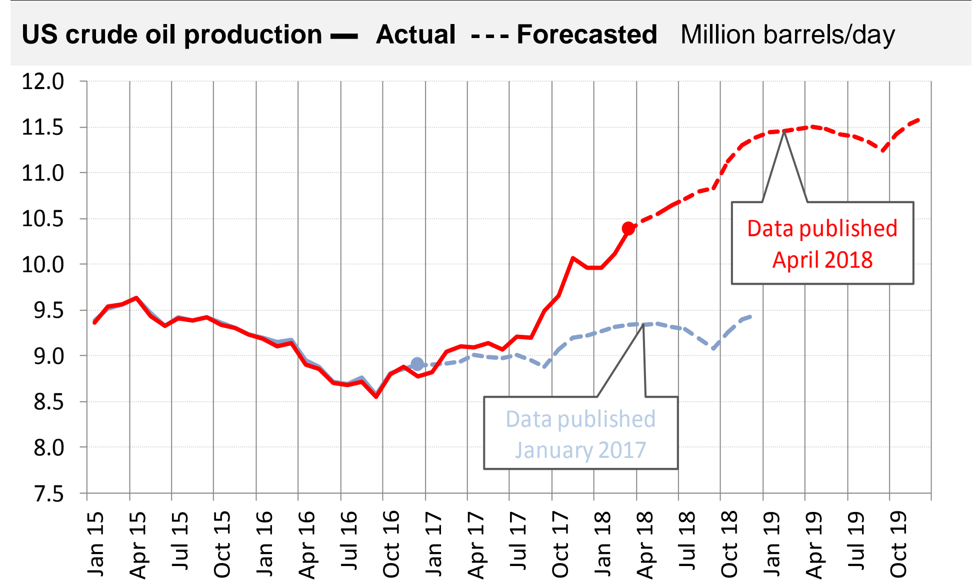
[About us]

- So we take the cartel at its word when it says it only seeks "balance" – and we agree with OPEC that the best way to tell if the markets are in balance is if inventories are at normal levels.

All that said, when the cuts are removed – again, presumably at year-end – Saudi is the only OPEC member in a position to ramp-up production quickly. Indeed, Saudi is the only OPEC member to have purposely produced below quota. Russia, a non-member participating in the production cuts, and a bit of a quota-cheater, could possibly do so as well. *But US production is presently hitting bottlenecks that are starting to limit the production surge off the September 2016 lows – so when the OPEC cuts end, at the same time US production may be slowing down and then topping out for a while* (please see the chart below).

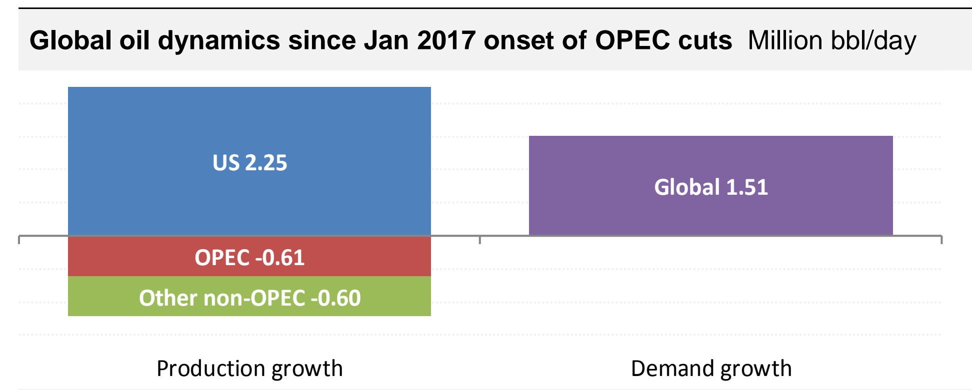
US crude oil production — Actual - - - Forecasted Million barrels/day



Source: DOE IEA, TrendMacro calculations

- *The revival of US production has flourished in the higher-price environment of the production cuts. Since their onset, US crude and liquids production growth of 2.25 million barrels per day would have been more than enough to satisfy the entire world's demand growth of 1.41 million* (please see the chart below). But OPEC and

Global oil dynamics since Jan 2017 onset of OPEC cuts Million bbl/day

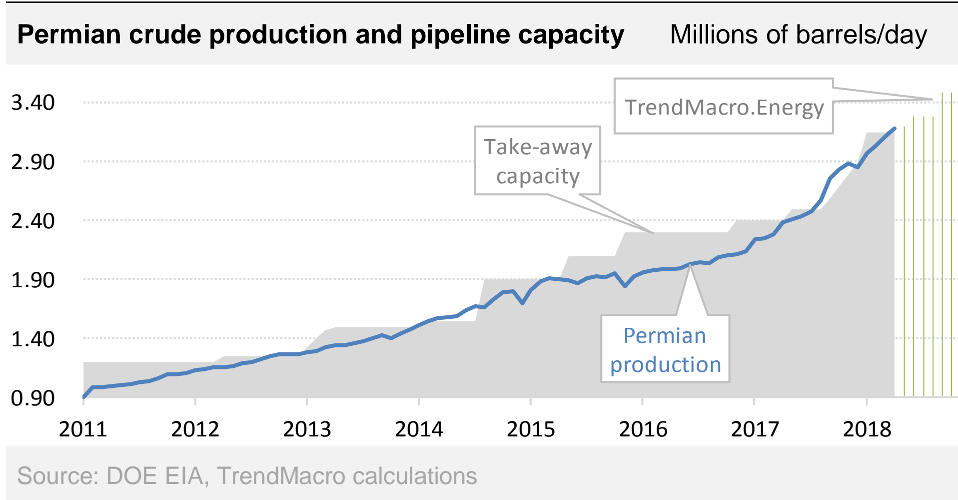


Source: DOE EIA, TrendMacro calculations

non-member cuts have been enough to offset US growth and throw *global* production into deficit, which is precisely what has caused global inventories to be drawn as much as they have.

- The surge in crude production in the Permian – the only shale play to have significantly recovered since the post-2014 crash – has been strictly limited by the takeaway pipeline capacity that can move crude to the Gulf Coast for export (please see the chart on below). Domestic refiners are already sated in their demand for West Texas's light-tight oil – most still prefer heavy sour crude – so the only market for incremental volumes is overseas, particularly emerging economies.

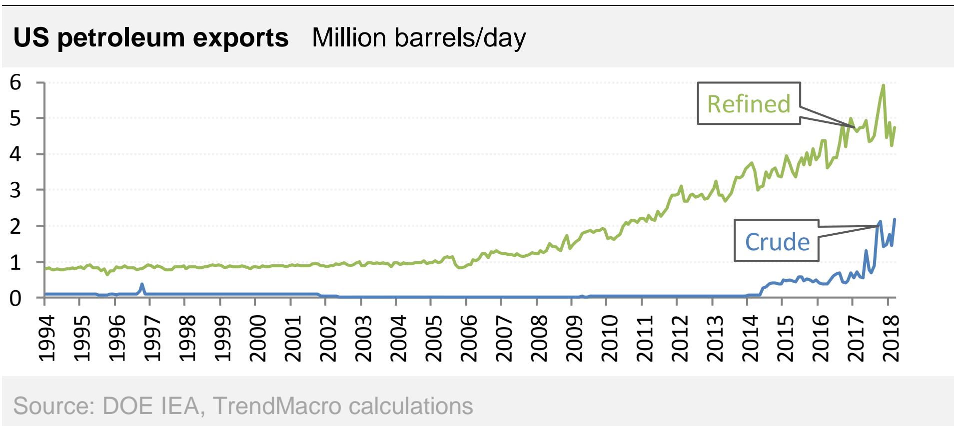
Permian crude production and pipeline capacity Millions of barrels/day



Source: DOE EIA, TrendMacro calculations

- Takeaway capacity has increased sharply this year (again, please see the chart above) – more sharply than we expected, which is why Permian production has been greater than we expected. But every cubic inch of that capacity is getting used as soon as it becomes available. With about 1,700 drilled-but-uncompleted wells added just last year, potential production capacity is still vastly greater than takeaway capacity.
- That takeaway capacity is expected to keep growing (again, please see the chart above), but [additional constraints are emerging at the Gulf Coast ports](), which don't have enough shipping through-put to accommodate America's emergence as a major exporter of crude – which only became fully legal in 2016 (please see the chart below).

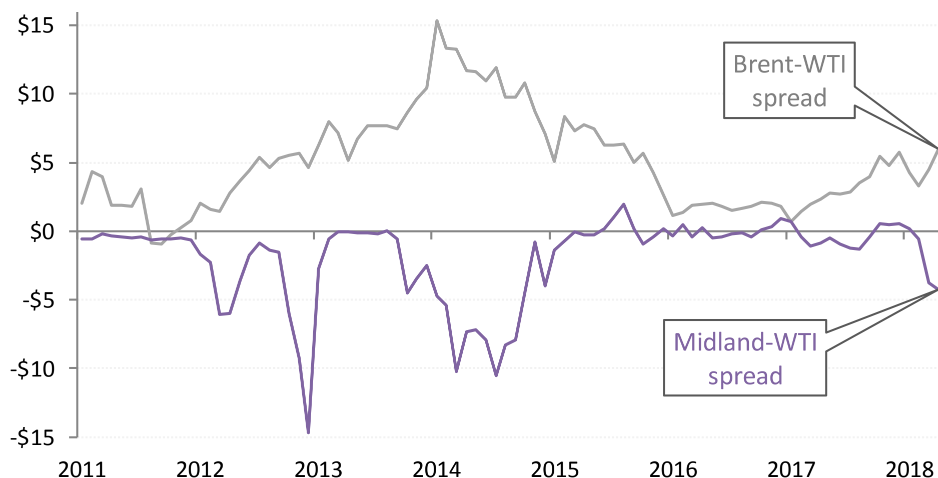
US petroleum exports Million barrels/day



Source: DOE IEA, TrendMacro calculations

- Light-tight crude *exports* compete with heavy crude *imports* – and refined product *exports* – for dock space and transportation clearance on the Houston Ship Channel, while Corpus Christi export infrastructure slowly gets built out. Due to difficulties with dredging in Houston and Corpus Christi, US crude exports cannot utilize 2-million barrel Very Large Crude Carriers (VLCC), and instead have to ship on smaller vessels that carry less than half the cargo, raising transportation costs on a per-barrel basis. For example, last year Occidental Petroleum attempted to load a VLCC at its Ingleside port facility in Corpus Christi, but only partially filled it due to insufficient harbor depth. Texas port authorities have already asked for funds from the state legislature to dredge and relieve congestion. And the Louisiana Offshore Oil Port only just tweaked its crude loading infrastructure to handle VLCC's in February. So, the US still needs time to add and upgrade infrastructure that will enable a transition, over the next five years, to status as the world's top producer.
- But for now, these are the reasons why, in the US, inventories have been building all year after nine months of decline (again, see the chart on the first page).
- The bottlenecks are showing up in spreads, too. With an excess of light-tight oil in the US mix, the Midland-WTI spread has gone sharply negative, and with shipping constraints on US exports forcing emerging economies to bid for OPEC oil despite the production cuts, the Brent-WTI spread has gone sharply positive (please see the chart below).

Crude oil: spreads between benchmarks



Source: Bloomberg, TrendMacro calculations

Meanwhile, geopolitical risks hover over the global markets. About a year ago, when oil was in the process of undershooting last year's lower trading range, we argued that it was "priced to perfection" in the sense that there was no premium being baked in for geopolitical risks (see "Is Oil Priced to Perfection Again?" May 9, 2017). With prices far higher now, we can't argue there is no risk premium any more. Indeed, geopolitical risks are often cited in the over-heated bull-cases we're seeing everywhere now.

- But the risks really are probably greater now than they were a year ago.
- US sanctions against Russian commodities producers – and other potential disciplinary actions against Russia by other Western nations – could drive retaliatory disruptions of Russian oil or gas volumes.
- Venezuela was expected to see declining production, but it's currently pumping a half-million barrels per day below quota. That's worse than anybody envisioned, and there is likely more downside to come.
- The recent US surgical strike on Syria didn't have any immediate consequences, but it's a potential quagmire that could draw in Russia and Turkey, and disrupt oil flows out of Ceyhan, from which Iraqi and Kurdish Regional Government oil is exported.
- The Iran nuclear accord didn't seem to be in danger last year when Trump gave Iran a pass. The new White House national security team is much more hawkish, and scuttling the US's participation in the deal could result in banking and insurance sanctions that would make the global movement of Iranian oil more difficult.
- Oh, we almost forgot. Now we can add Trump's initiative to reform trade with China – yes, we know, everyone else calls it his "trade-war" – as a wild-card.

Bottom line

The "overshoot" we expected for oil is here. We are raising our expected trading range for to $65-$75, and expect further overshoot – and volatility. This is driving inflation expectations, which are driving Treasury yields – and will continue to do so. Oil is caught up in over-heated bull narratives, built in part on the fallacy that the rebalancing of inventories is complete, but that OPEC will nevertheless keep its production cuts in place in order to artificially raise prices. The cuts will stay through year-end, but it will take about that long for the rebalancing to truly complete. The strongest bull case is that surging US production is being bottlenecked by pipeline and port capacity constraints. A geopolitical risk premium has been built into prices finally, but the risks now are greater than ever.