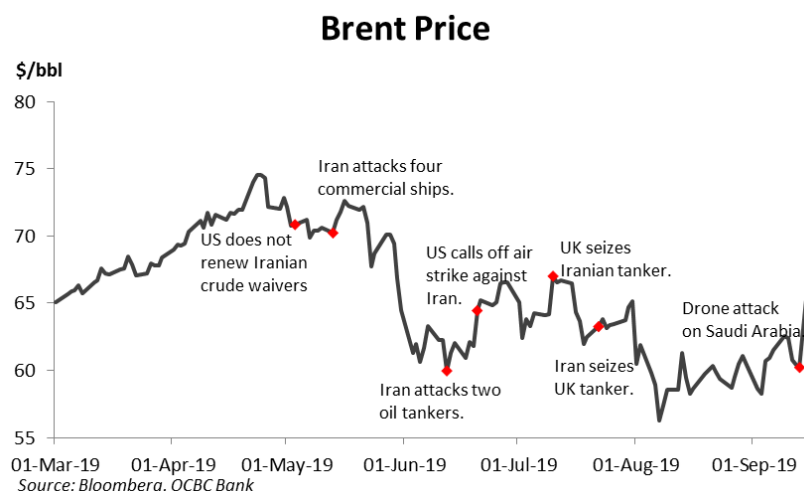


Lessons learnt from the attacks on Saudi Arabia's oil facilities

- The sharp increase in crude oil prices showed how severely mispriced and complacent the energy market was to the US-Iran tensions.
- The record outage in Saudi Arabia's oil production draws similar parallels to the 1970's Iranian Revolution.
- We think some kind of retaliation from the US may be possible, but a full-blown military intervention in Iran is probably unlikely.
- Only about 60% of the US SPR would probably be deemed as a suitable substitute for Saudi Arabia's crude oil.
- At present, we see no other sources where Saudi's lost production can be replaced in the interim, either due to quality incompatibility or limited refining capacity

1. The energy market was severely mispriced going into the weekend drone attacks

Prior to the drone attacks, prices of Brent went into the weekend trading below its YTD average of \$64.80/bbl, closing at \$60.22/bbl on Friday. In fact, the last time it traded above \$65/bbl was in mid-July, despite more than two months of altercations between the US and Iran. Instead, the market was heavily fixated with the demand side of the equation – the re-escalation of the US-China trade tensions on 1 August sent Brent prices south, averaging a monthly YTD low of \$59.50/bbl in that month. Nearly zero risk premia was attached to the highly visible tit-for-tat spat between the US and Iran, such as the two incidents of bunker sabotage by (allegedly) Iran and President Trump cancelling an air strike at the eleventh hour.



Crude Oil

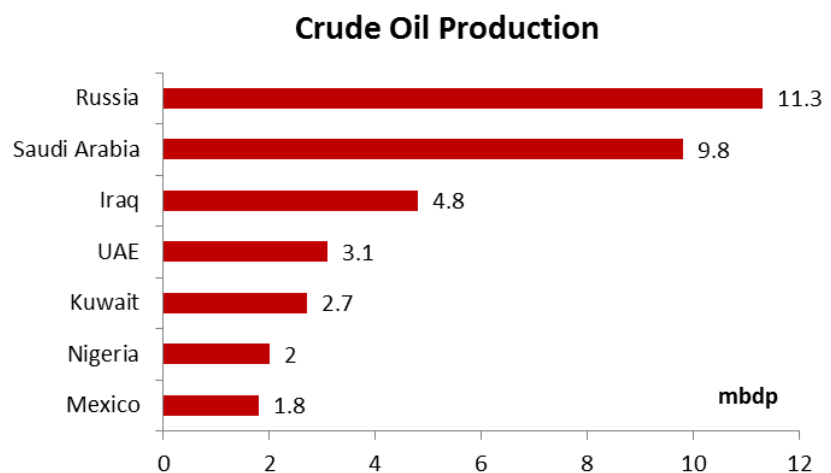
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On hindsight, the writing was on the wall – except that the market chose to be complacent about it, with every subsequent altercation between Iran and the US resulting in a smaller price reaction. Prices trading near the \$70/bbl handle at present seem to be a fairer reflection of the US-Iran geopolitical tension, compared to the low \$60s that the market has been trading since August.

2. Only 60% of the US SPR can suitably substitute Saudi Arabia's crude oil

Despite President Trump's declaration that he would release a portion of the US' Strategic Petroleum Reserves (SPR) to stabilise the market in the near-term, not the entire SPR will prove to be a suitable substitute for the distillates that Saudi Arabia normally produces. Saudi Arabia typically produces heavy sour crude oil – the distillates derived from the Middle Eastern variety tend to be used more for industrial and bunkering purposes. Data from the US Energy Department states that the SPR contain 395 million barrels of heavy sour crude and 250 million barrels of light sweet crude, which means only about 60% of the reserves are complementary to Saudi Arabia's crude oil.

The other suitable alternatives will be the Russian urals and other Middle Eastern varieties. There are several constraints. Russia produced 11.3 mbpd of crude oil in March, near its peak production of 11.45 mbpd. It remains to be seen if there is sufficient spare capacity in Russia to produce more in such a short time. Separately, other OPEC members' production pales far in comparison to Saudi Arabia's output. Iraq, the second largest OPEC crude oil producer, produced 4.8 mbpd in August; Saudi Arabia produced 9.8 mbpd in the same month. It would be a tall ask for the other OPEC members to cover Saudi Arabia's shortfall in the interim.



Source: OPEC, Bloomberg, OCBC Bank

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3. The US is expected to retaliate, but US 2020 Presidential Elections limits armed options

Saudi Arabia has confirmed that the weapons used in damaging its oil facilities were from Iran, but stopped short of saying that Iran was responsible for the attack. President Trump has made considerable efforts at attempting to defuse the tensions between the US and Iran – he called off an airstrike in June and removed the hawkish John Bolton from office to pave the way for negotiations. The more appropriate reality is perhaps Trump cannot afford fuel prices to skyrocket ahead of the 2020 US Presidential Elections, given his somewhat average rating at present.

If the drone attacks were traced to have begun from within Iran, we think that limits the chances of armed conflict, given Brent prices are already nearing the \$70/bbl handle after the weekend. It is also worth noting that no lives were lost during this attack, which has lessened the pressure for a full-scale military intervention into Iran. What is more plausible, however, would be the US sending a navy fleet to patrol the waters along the Strait of Hormuz, while simultaneously calling on allies to send their navy patrols to aid in an international effort against further Iranian sabotage.

Trump Approval Ratings

Source: Real Clear Politics Trump Job Approval Poll Average; Bloomberg

4. Situation looks strikingly similar to the 1970's Iranian Revolution

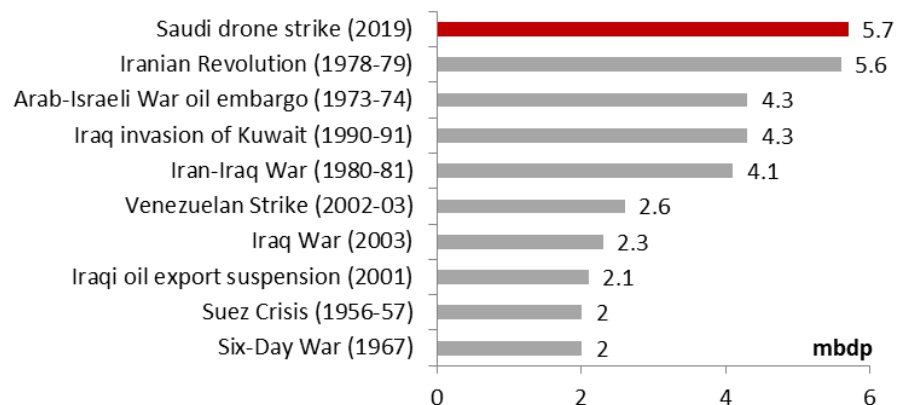
Until last weekend's drone attack, the supply loss from the 1979 Iranian Revolution has topped the chart in terms of unplanned production loss. The 1979 Iranian Revolution famously resulted in the US inflation rate surging to 15%, followed by the US Federal Reserve raising the benchmark interest rate to 20% to combat runaway prices. The result from the extraordinarily high interest rates was a double-dip recession in the US – once in 1981, and then shortly after in 1983.

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The situation is somewhat different today, although similarities remain. Firstly, the US is now the world's top oil producer at 12.2 mbpd, and is no longer as beholden to the dominance of OPEC's supply decisions compared to a decade ago. Secondly, the current US economic climate continues to show very mild inflationary pressures despite close to a decade of loose monetary policy – it is unlikely prices will spiral out of control like in the late 1970's. What remains vulnerable, however, is that the world is entering a period of slow growth, with the odds of a US recession within the next 12 months the highest in more than ten years. Unwarranted high inflation rates will limit the amount of rate cuts global central banks can perform.

Unplanned Supply Outage



Source: IEA, Bloomberg, OCBC bank

5. Conclusion: low risk of military intervention but be wary of unwanted high inflation

With Brent prices near the \$70/bbl handle, any armed conflict in Iran will result in excessive inflationary pressures via runaway crude oil prices, which we think President Trump is keen to avoid ahead of the 2020 Presidential Elections. Only about 60% of the US' SPR is a suitable substitute for Saudi Arabia's crude oil. With Russia appearing to be near peak production and other OPEC members paling in production, the only plausible solution is for Saudi Arabia to quickly fix its facilities to avoid prolonged high crude oil prices. Lessons from the 1979 Iranian Revolution and the resulting US double-dip recession serve as a timely reminder on the impacts that runaway inflation rates can bring to the global economy.

Meanwhile, we expect prices to remain near the \$70/bbl handle until there is further clarity on when Saudi Arabia can resume full operational functionality. Private estimates suggest that the Kingdom has about 33 days before its stocks are exhausted. The longer these repairs drag on, the stronger upward pressure crude oil prices are likely to feel, with \$80/bbl a realistic possibility.

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