

July 16, 2018



Nigeria Strategy Report

H2 2018

Global Economy and Markets

Crude Oil: Stability gains ground in titans' Tug of War

Executive Summary

At the start of the year, we had forecasted that the rebalancing process of the crude oil market would leave prices stable over 2018, wherein we had a base case forecast of \$60/bbl. for 2018. However, we noted the upside risk to our forecast stemming from stronger demand and supply disruptions which could materially tighten markets and thus drive crude oil prices to \$65 - \$70/bbl. – our bull case scenario. In sync with our bull case thesis, crude oil prices soared with average Brent crude gaining ~25% over the period to \$71.16/bbl. due to supply shortfall and a pick-up in demand. In terms of drivers, rising optimism around global economic growth, continued OPEC compliance to output targets and rising geopolitical tensions all contributed to pushing Brent oil prices higher over the period.

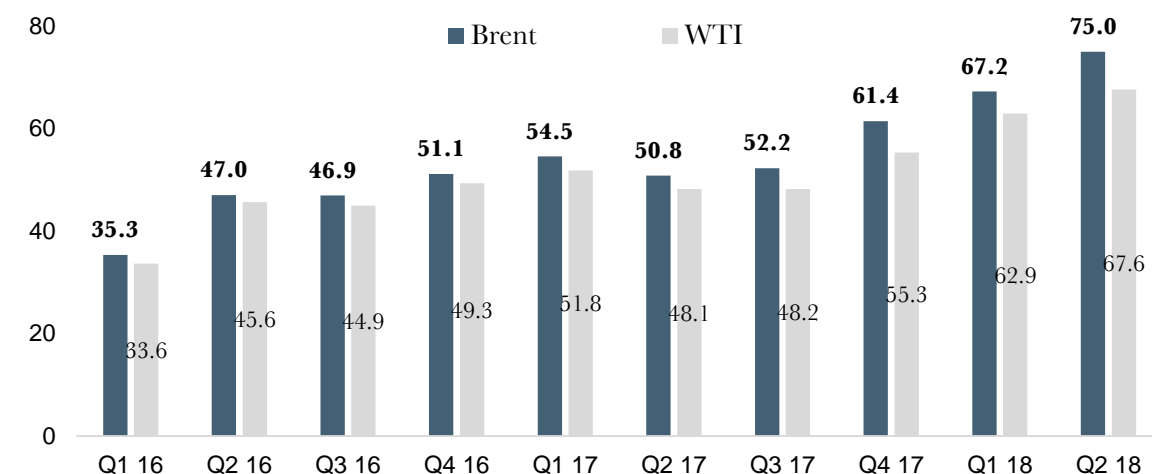
Over the rest of the year, we project a steady rebalancing in the oil market, with an expected deficit of 100kbpd, largely reflecting resilience in oil demand, falling crude oil inventory, and expected shortfall in OPEC production, largely from Iran and Venezuela. Also, growing geopolitical risks are likely to prop up the market rebalancing process. Based on the foregoing dynamics, we envisage the rebalancing process of the crude market would leave H2 2018 prices stable. Given the interpolation between changes in net supply and Brent crude, we update our crude oil forecast to \$70/bbl.-\$75/bbl. with a base case of \$72.5/bbl. for H2 18.

In this report, we look at the major themes that dominated the Crude Oil market in H1 2018 as well as our outlook for the market and crude oil prices for the rest of the year

Oil prices trended in line with our Bull case thesis

At the start of the year, we had forecasted that the rebalancing process of the crude oil market would leave prices stable over 2018, wherein we had a base case forecast of \$60/bbl. for 2018. However, we noted the upside risk to our forecast stemming from stronger demand and supply disruptions which could materially tighten markets and thus drive crude oil prices to \$65 - \$70/bbl. – our bull case scenario (**See report: Crude Oil: Sunny with a chance of Rain**). In sync with our bull case thesis, crude oil prices soared **with average Brent crude gaining ~25% over the period to \$71.16/bbl.** due to supply shortfall and a pick-up in demand. In terms of drivers, rising optimism around global economic growth, continued OPEC compliance to output targets and rising geopolitical tensions all contributed to pushing Brent oil prices higher over the period. On a quarterly basis, average Brent crude oil prices printed at \$67.18/bbl. over Q1 18 (9.4% QoQ) and \$74.96/bbl. over Q2 18 (11.6% QoQ).

Figure 1: Average crude oil prices (\$/bbl)



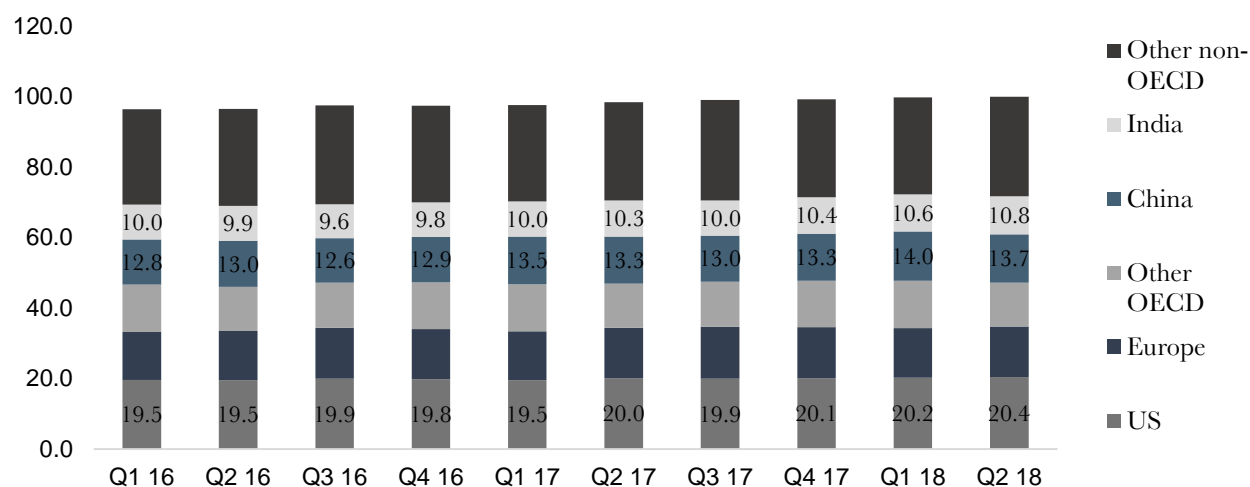
Source: Bloomberg, ARM Research

Unrelenting crude oil consumption lifted by Asian demand

Global crude oil demand increased by 670kbpd over H1 2018 to 99.85mbpd. The growth reflected strong demand from the trio of China, India, and US – accounting for 48% of crude oil demand (2017: 46.5%), which offset lower demand from OECD nations (excl US). For China, demand rose by 470kbpd over the review period to 13.74mbpd on the back of increasing refining intake, and lower domestic crude oil production. Elsewhere in India, demand growth of 350kbpd was driven by a rebound in the economy, reflecting robust consumer spending and industrial activity. Demand in the US (+330kbpd to 20.4mbpd) mirrored strong manufacturing and automobile demand, even as the cold weather boosted US heating oil demand.

Overall, combined demand growth across US, China and India was 1.2mbpd to 47.9mbpd. However, lower demand from Japan (-610kbpd), EU (-70kbpd), and Canada (-17kbpd) combined to moderate the robust demand and bring overall demand growth down 670kbpd to 99.85mbpd. On a quarterly basis, crude oil demand followed similar pattern in the first and second quarter, wherein overall demand increased in both periods by 500kbpd and 160kbpd in Q1 and Q2 2018 respectively, on the back of robust demand from non-OECD region which expanded by 570kbpd and 720kbpd in the two respective quarters. That said, the faster pace of decline by OECD in Q2 18 (-550kbpd) – particularly Japan and Canada, compared to Q1 18 (-70kbpd) muted the stronger demand from non-OECD, principally India and China, in the quarter.

Figure 2: Trend in global oil demand (mbpd)



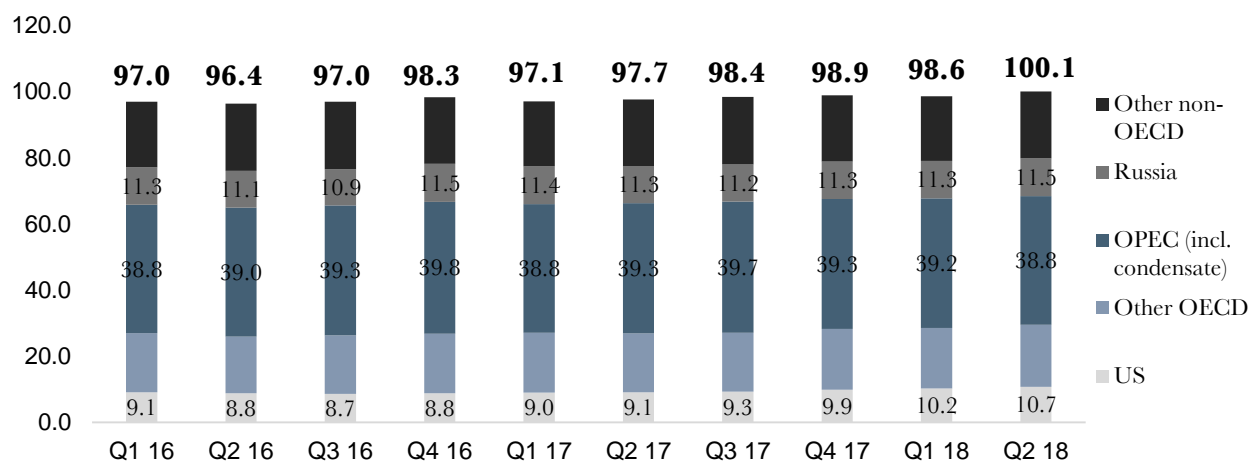
Source: EIA, ARM Research

‘NOPEC’ pumps more as OPEC slows it tap

On the supply side, driven by higher prices and stronger demand, oil producers pumped more over the period, expanding supply by 1.24mbpd over H1 18 to bring total production to 100.11mbpd. Interestingly, the growth in supply ensued despite higher compliance by the cartel (OPEC) to production quotas, with supply stemming from shale and other oil producers (NOPEC). Precisely, though OPEC production declined by 440kbpd, NOPEC pumped 1.26mbpd more oil over the period with shale producers booking ~92% of the increase (1.06mbpd). Particularly, US crude production reached a record high level of 10.81mbpd (+790kbpd) as oil producers leveraged on higher oil prices with major increase coming from the shale production, mainly the Permian region.

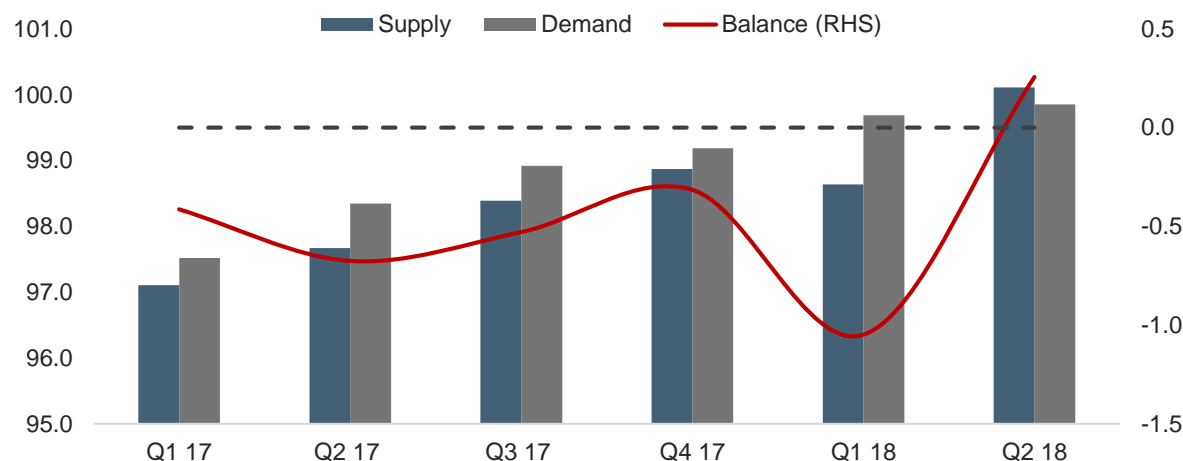
Parsing through the quarterly breakdown indicates that the increased supply occurred in the second quarter of 2018 wherein oil producers pumped 1.47mbpd more oil in the period, while production in Q1 18 declined by 230kbpd. On balance, the quicker growth in global oil production, relative to demand, drove the market back into a surplus of 600kbpd in Q2 18, from a deficit of 1mbpd (Q1 18) and 300kbpd (Q4 17).

Figure 3: Trend in global oil supply (mbpd)



Source: EIA, OPEC, ARM Research

Figure 4: Crude oil market balance (mbpd)



Source: EIA, OPEC, ARM Research

OPEC rattles market with discourse on supply increase

The run-up to the 174th meeting of OPEC+¹ was filled with tales and feelers that incited considerable market volatility. On one side of the fence was a push to increase supply, which was greeted by the heavyweights, Saudi Arabia, and Russia. On the other side was a plea to maintain current output, a plea mainly voiced by Iran and Venezuela, reflecting the anticipated supply outage. In justifying the need for an increase in supply, stability was the key consideration. Firstly, players considered the impact of higher oil prices on demand and thus called for the need to maintain stability, in view of the higher compliance of 152%. Also, potential supply outages in Iran over the coming months, due to sanctions, and its impact on market balance supported the need to increase supply.

Lastly, global crude oil inventories have declined at an accelerated pace in recent times and now hovers around the 5-year average of ~2.8billion barrels, the target estimate of OPEC for a balanced market. To add, key consumers – China and India, had urged Saudi Arabia to increase supply as prices have hit multi-year highs. President Trump had also put some pressure on Saudi Arabia to increase production and stabilize crude oil prices. In line with the call for stability and the confluence of factors earlier stated, OPEC+, at its June 22nd meeting, agreed to increase supply to a level that allows 100% compliance to its initial quota, from 152% in May 2018. Based on our analysis, this implies a combined increase of 1.2mbpd to current output. However, with only the gulf regions having excess capacity to raise production to its initial quota, expected increase in supply sits ~600kbpd.

Table 1: OPEC Crude Oil Production (excl. Condensates) in mbpd

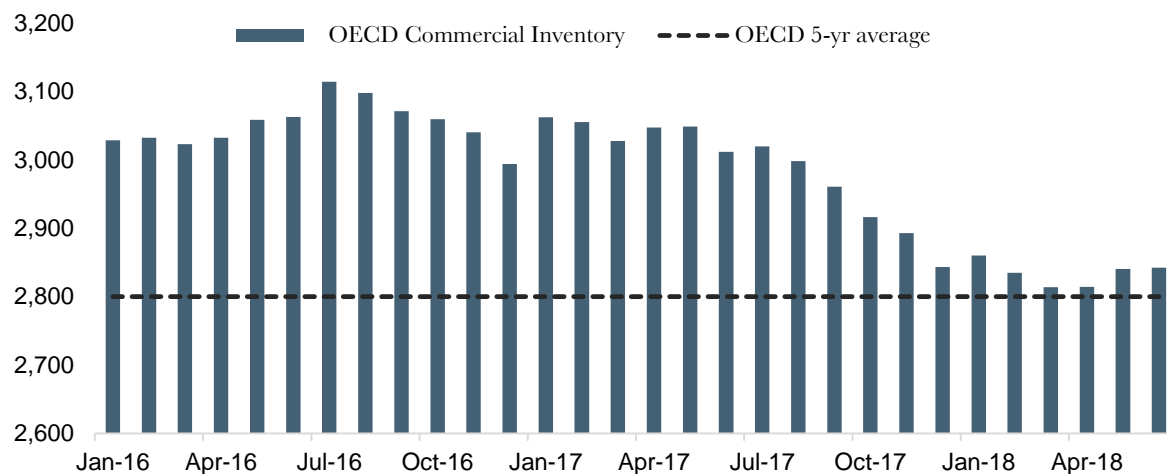
Country	Reference Production level	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18
Algeria	1.089	1.05	1.04	1.03	1.03	1.00	1.02	1.01
Angola	1.751	1.64	1.64	1.66	1.66	1.63	1.59	1.57
Ecuador	0.548	0.55	0.53	0.53	0.54	0.52	0.52	0.52
Gabon	0.202	0.21	0.19	0.20	0.20	0.20	0.20	0.20
Iran	3.975	3.73	3.80	3.81	3.83	3.84	3.83	3.82
Iraq	4.561	4.61	4.46	4.44	4.51	4.36	4.46	4.47
Kuwait	2.838	2.92	2.74	2.71	2.72	2.72	2.71	2.71
Libya	0.528	0.58	0.65	0.72	0.94	0.95	1.00	1.00
Nigeria	1.628	1.42	1.38	1.49	1.68	1.73	1.72	1.58
Qatar	0.648	0.66	0.62	0.61	0.61	0.60	0.61	0.61
Saudi Arabia	10.544	10.55	9.98	10.09	10.18	10.12	10.10	10.09
U.A. E	3.013	3.09	2.92	2.90	2.92	2.90	2.88	2.85
Venezuela	2.067	2.07	1.99	1.97	1.95	1.78	1.57	1.45
	33.39	33.25	31.94	32.18	32.76	32.35	32.21	31.86

Source: EIA, OPEC, ARM Research

¹ OPEC members and other producing countries led by Russia

In gauging the success of its production cut, OPEC reference indicator, the OECD commercial inventory has depleted at an accelerated pace in recent months supporting the rebalancing process. Crude inventories have sustained convergence towards OPEC's explicit 5-year average objective and is now ~40mbbl more than the five-year average of 2,800mbbl.

Figure 5: OECD Inventory vs. 5-year avg. (OPEC reference) – MBbls.



Source: EIA, OPEC, ARM Research

Lower Iranian export to ballast OPEC increase

As it stands today, a 600kbpd increase in crude oil supply from current levels will put some pressure on prices. However, the impending decline in Iranian shortage more than outweigh the expected rise from other OPEC members, to drive a decline in overall output. First off, as earlier stated, though OPEC agreement in June 2018 to take compliance back to 100% from 152% implies ~1.2mbpd additional crude output, our estimate of spare capacity by OPEC members of 1.94mbpd – wholly from the Middle East region, implies an all-out expected increase of 600kbpd over 2018, under 100% compliance to quotas. In terms of estimating the expected decline in Iranian production, we track back to pre-2016 when sanctions were still in place. From data provided, Iranian's production output averaged 2.8mbpd during the earlier imposed sanctions. Subsequent to the lifting of sanctions in 2015, Iranian's supply has increased by ~1mbpd to average 3.8mbpd. Thus, we estimate that the newly imposed sanctions by US will at most take 1mbpd of Iran's production off the market, a worst-case scenario. In another scenario, 2.2mbpd of Iranian's production (3.8mbpd) is exported, with export to Europe ~500kbpd. Considering that the EU has vowed to maintain the Iran nuclear deal despite the U.S. decision to exit, and Brussels has pushed back against Washington's attempts to penalize European companies from doing business with Iran, export to Europe may be shielded from the expected cut.

However, due to financial constraints from US sanctions, it is hard to see how export to Europe would not be impacted². The foregoing, alongside free-fall in Venezuela – as financial situation of the state-owned Petróleos de Venezuela and the government becomes more precarious – is expected to drive overall OPEC production down by ~400kbpd.

US production increase nearing its peak

As earlier stated, US crude production reached a record high level of 10.81mbpd (+790kbpd) as oil producers leveraged on higher oil prices with major increase coming from the shale production, mainly the Permian region. However, some concerns exist on the growth in US production in the near term. First, the Permian region, the key shale oil area, is experiencing pipeline capacity constraints, and is expected to lower wellhead prices for the region's oil producers as well as have a dulling consequence on Permian's full production potential. Furthermore, the widening spread between WTI-Cushing and WTI-Midland crude oil prices signals the expectation for reduced drilling activity growth through the forecast period, which in turn is expected to slow the rate of crude oil production growth. Therefore, the main difference lies in the growth projections of the Bakken and Eagle Ford basins, wherein production growth hit a high in H1 18. This implies that production in these regions may have peaked or even start to decline in the coming period.

Furthermore, we believe US shale players will manage their rig count going forward in anticipation of Saudi Arabia pumping more oil, which may lead to a decline in supply. On balance, in line with EIA, we forecast US crude oil production to average ~10.8mbpd in 2018 (+1.4mbpd YoY) leveraging on higher crude oil prices. In 2019 however, EIA forecast US crude oil production to average 11.8mbpd, driving concern on impending supply glut. Overall, global crude oil supply is forecast to average 100.4mbpd (+250kbpd) from current output of 100.11mbpd.

Budding sanguinity over global demand

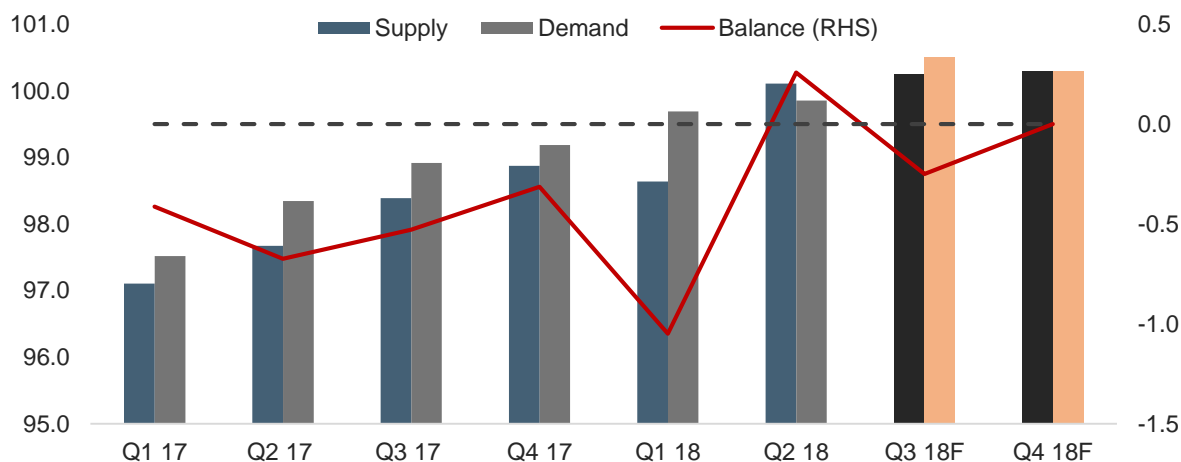
On the demand side, growth is expected to come largely from the non-OECD region, particularly China and India, as structural changes, and restrained growth in the OECD region (particularly Europe) will keep demand subdued. IEA predicts that the fastest-growing source of global oil demand growth will be petrochemicals, particularly in the US and China.

² According to the EIA, even though no U.S. companies are directly involved with Iranian companies, many European and Asian banks, insurers, and oil companies announced they might reduce commercial activity with Iran in light of potential U.S. sanctions. Sanctions will likely have a direct effect on the Iranian oil sector, which would limit crude oil exports and production from the country by the end of 2018.

For China, increasing refining intake, lower domestic crude oil production and additional crude oil for strategic storage purpose is expected to support demand, even as Chinese government raised refined products export quotas to its four state oil majors by 30% for the rest of 2018. More so, the EIA noted that China is set to add several propane consuming petrochemical plants, with the consumption boost from the sector assumed to add 55kbpd in 2018 and an additional 75kbpd in 2019. Elsewhere in India, rebound in the economy with robust consumer spending and industrial activity will bolster the demand picture. Given that India currently imports 80% of its crude oil, the country is expected to be a key market for crude oil in 2018 and beyond.

Consequently, we forecast a growth of 840kbpd and 350kbpd for China and India to 13.6mbpd and 9.8mbpd respectively, which implies an overall increase of 650kbpd in global oil demand to 100.5mbpd over H2 18.

Figure 6: Crude oil balance (Historical & Forecast) in mbpd



Source: EIA, OPEC, ARM Research

Crude Oil prices will remain stable at ~\$70/bbl.

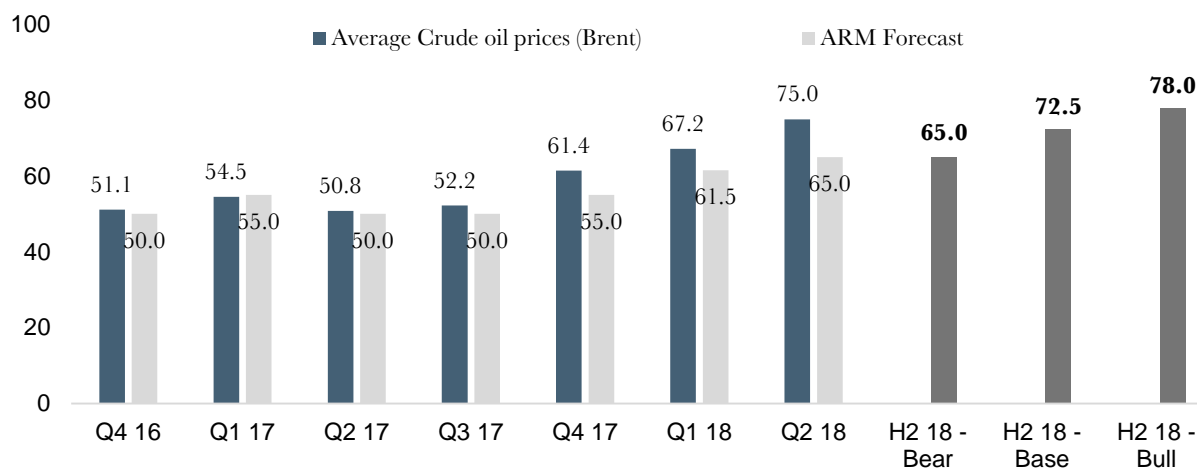
On balance, coalescing the demand and supply picture guides to a steady rebalancing in the oil market over H2 18, with an expected deficit of 100kbpd, largely reflecting resilience in oil demand, falling crude oil inventory, and expected shortfall in OPEC production, largely from Iran and Venezuela. Also, growing geopolitical risks are likely to prop up the market rebalancing process. Based on the foregoing dynamics, we envisage the rebalancing process of the crude market would leave H2 2018 prices stable. Given the interpolation between changes in net supply and Brent crude, we update our crude oil forecast to \$70/bbl.-\$75/bbl. with a base case of \$72.5/bbl. for H2 18.

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RESEARCH

Is \$80/bbl. a line in the sand?

As stated, we expect the market to be mainly driven by the uncertainties related to supply. That said, considering the lag to supply shortages, we are of the view that upside potential for oil prices is limited. In fact, we think market has priced in the expected shortages and thus reduces the scope for further upside. However, a deepened geopolitical tension in the Middle East may put further pressure on supply. The foregoing could send oil prices to \$75 - \$80/bbl. In fact, the combination of low crude oil inventory and spare capacity level heightens the possibility of higher crude oil prices in the event of a supply shortage or a lower than expected forecast in supply. On the downside, weaker compliance to the agreement, faster than expected production from US, as well as slower demand growth could disrupt the rebalancing and send crude oil prices to \$65 - \$70/bbl. To add, the forward curve is in backwardation, suggesting lower prices in the future.

Figure 7: Crude oil forecast (\$/bbl.)

Source: Bloomberg, ARM Research

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