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Nigeria Strategy Report – H1 2018 Excerpts

Global Economy and Markets

Crude Oil: Sunny with a chance of Rain

We envisage the rebalancing process of the crude oil market would leave 2018 prices stable, albeit slightly lower in H218. Given the interpolation between changes in net supply and Brent crude, we update our crude oil forecast to \$55/bbl.-\$65/bbl. with a base case of \$60/bbl. for 2018

Contents

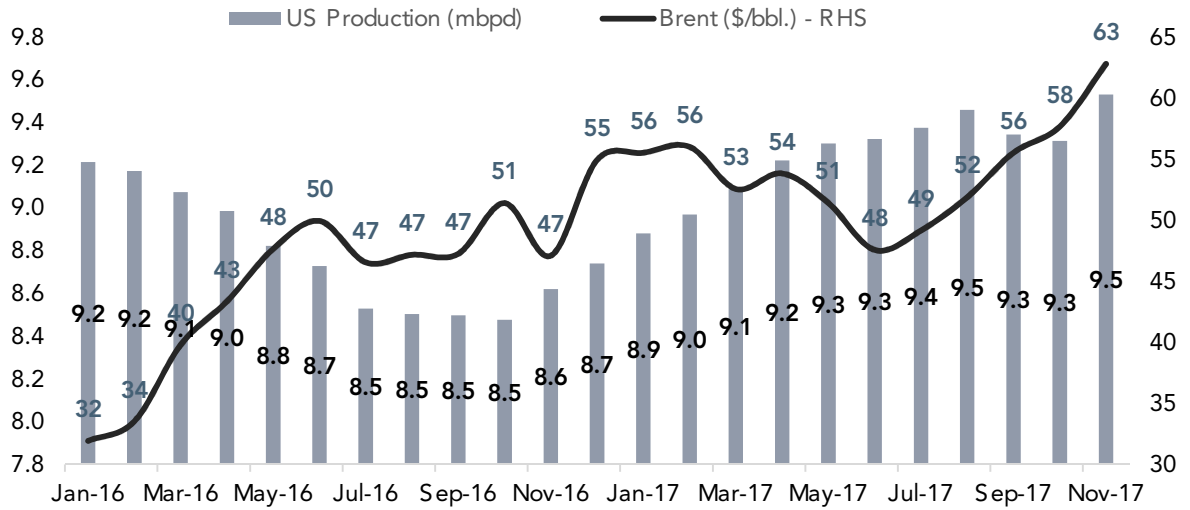
- Tight market spur higher crude oil prices
- OPEC extends its ‘Declaration of Cooperation’
- Will OPEC conformity level falter in 2018?
- US production set to rise through 2018
- Budding sanguinity over global demand
- Crude Oil prices will consolidate to \$60/bbl.

Tight market spurs higher crude oil prices

Crude oil market entered the second half of 2017 with the sun on its cheek. Disruption in production in the US, due to hurricane impact, as well as higher compliance by OPEC and its allies fast-tracked the rebalancing. To be clear, coming into the second half of 2017, we projected a drawdown in the surplus market to 100kbpd (H1 2017: 400kbpd surplus) and forecasted a rebalanced market in 2018, largely hinged on recovery in demand from India, Europe, China. While our demand picture was in sync with actual, the supply picture exceeded our expectation. First off, compliance by OPEC and non-OPEC to the production cut agreement has been much better than expected with compliance rate of 80% (120% if we take-out Nigeria and Libya). More importantly, the hurricane impact on US production moderated the increase in US supply to an average of 9.2mbpd (expectation: 9.5mbpd). Consequently, crude oil market switched to a deficit of ~200kbpd in the review period. The impact of this led to a positive momentum for crude oil prices, rising ~36% over H2 2017 (peak of \$65/bbl.) with average Brent at \$56.4/bbl. running slightly ahead of our forecast (\$55/bbl.). Also, in September, the Brent futures price curve

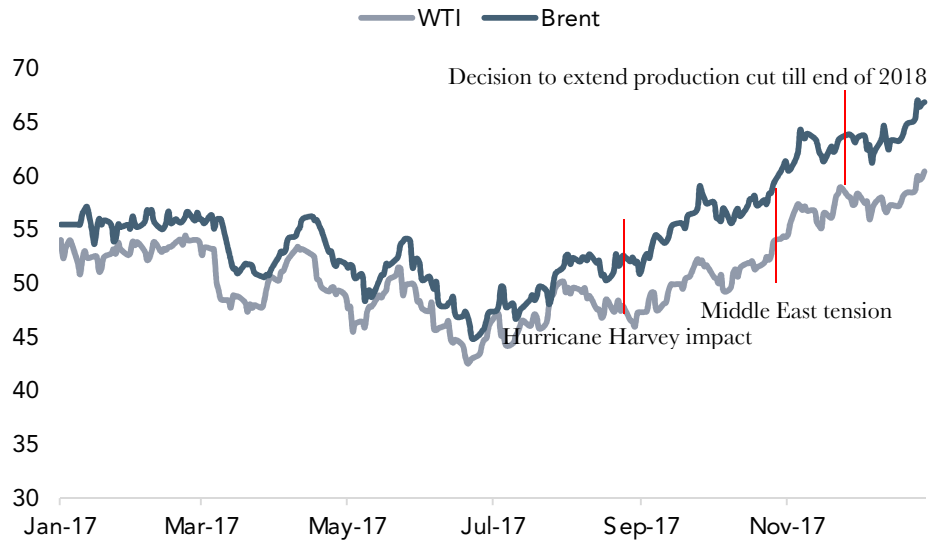
moved into backwardation (downward sloping) for the first time since June 2014, indicating a tight market.

Figure 1: Trend in US production and avg. crude oil price (\$/bbl)



Source: IEA, Bloomberg, ARM Research

Figure 2: Crude oil price activity trend (\$/bbl)

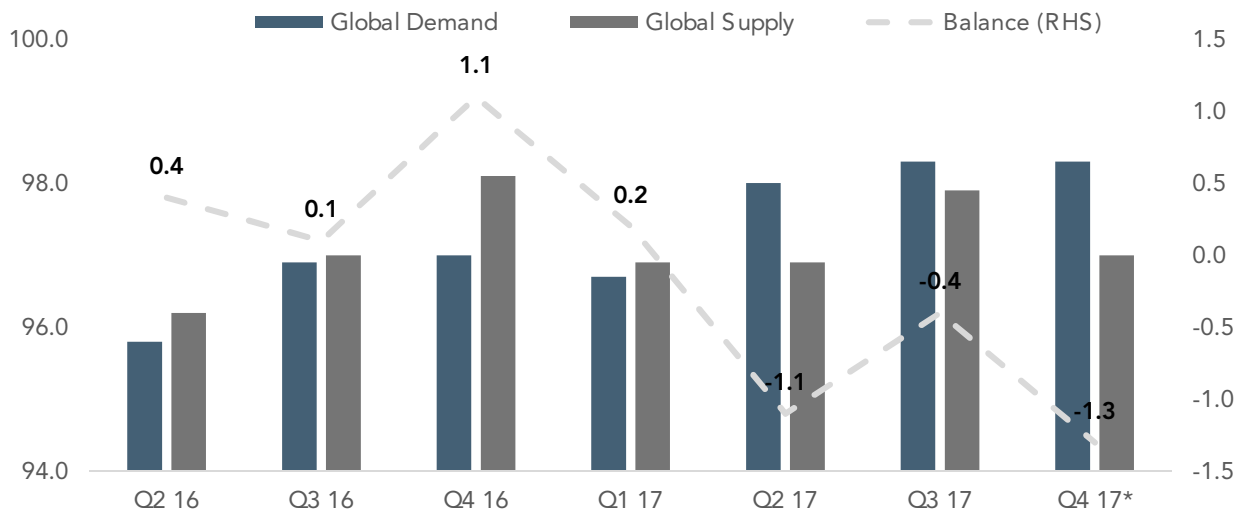


Source: IEA, Bloomberg, ARM Research

2017 was a strong year for oil demand, thanks to upbeat industrial and factory activity and a recovery in key economies. Over 2017, crude oil demand increased by 350kbpd to 98.7mbpd underpinned by a higher demand from China and India which offset lower demand in the OECD region (US and Europe). China's demand (+2.8% YoY to 12.8mbpd), which accounts for 13% of global demand, largely reflected bubbly services industry and consumer spending as well as the addition of a new refinery by China National Offshore Oil Corp's and higher demand from a fleet of independent refiners. Elsewhere, India's demand expanded by 4.5% YoY to 9.4mbpd underpinned by rise in refined product consumption, a reflection of robust private consumption - the largest demand side component of the economy, and higher fixed investment spending.

On the supply side, amidst higher production from the US, global crude oil production contracted by 650kbpd YoY to 98.5mbpd. The contraction largely reflected lower production from OPEC (-1.2mbpd) and Russia (-276kbpd) due to higher compliance to its production agreement amidst increasing supply from Libya and Nigeria. Consequently, higher production from US (+800kbpd to 9.5mbpd), though slower than expectation due to hurricane impact, was only able to fill ~53% of the supply cut by OPEC and its allies. Much of the rise in US has come entirely from unconventional (or shale) oil sources. For context, the two biggest shale oil fields (Eagle Ford and Permian) which accounts for 90% of total unconventional production recorded a 14% and 21% increase in production respectively. Supporting US oil production is the uptick in prices which has ushered more hedging activity at a floor of \$50/bbl. On balance, the combination of higher global demand, due to rising demand from China and India, as well as lower supply, a fall-out of lower production from OPEC and its allies, switched the crude oil market to a deficit of 210kbpd at the close of the year.

Figure 3: Crude oil demand and supply (mbpd)



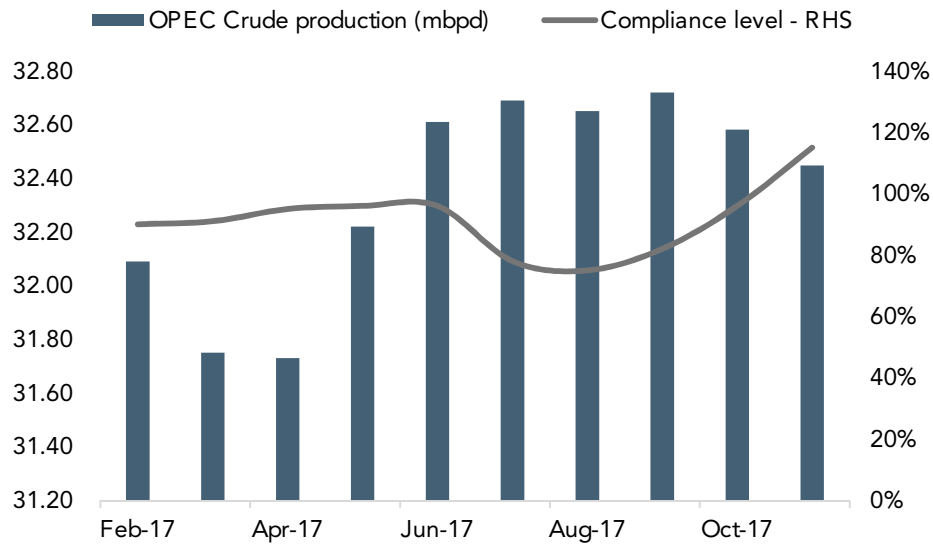
Source: IEA, ARM Research *Estimate

OPEC extends its 'Declaration of Cooperation'

At its November 2017 meeting, OPEC and participating non-OPEC producing countries agreed to extend its production agreement (***the Declaration of Cooperation***) for the whole of 2018, an additional nine-months to the previous agreement. Furthermore, the cartel and its allies have agreed to convene in June 2018 to review its action based on prevailing market conditions and the progress achieved towards re-balancing of the oil market. More importantly, Nigeria and Libya have now been included in the agreement. Both countries are expected to limit production to 2017 high which informed the cap on their collective output at 2.8mbpd (excluding condensate). Pertinently, Saudi Arabia and Russia, the key players, reinforced their alliance to comply with the agreement, as crude oil stability is in the best interest of both countries. According to the Joint OPEC-Non-OPEC Ministerial Monitoring Committee (JMMC)¹, OPEC and its allies have achieved compliance of 122% in November 2017. More remarkably is the strong compliance by Saudi and Russia of 112% and 98% respectively. Consequently, 2017 average compliance for OPEC and participating non-OPEC members prints at 87% and 80% accordingly.

¹ The committee overseeing the implementation, and closely reviewing the status of and conformity with the Declaration of Cooperation and report to the OPEC and non-OPEC Conference.

Figure 4: OPEC Crude Production



Source: IEA, OPEC, ARM Research

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 its convergence towards OPEC's explicit 5-year average objective, and is now at ~100mbbl more than the five-year average, down two-thirds from the start of 2017.

Figure 5: OECD Commercial Inventory Trend (million bbl)



Source: IEA, ARM Research

Will OPEC conformity level falter in 2018?

Going into 2018, the ability of OPEC and its allies to stick with its commitment will be one of the key factors for the direction of the crude oil market over the course of the year. Firstly, Saudi Arabia, the lynchpin in the cartel, has recorded rebound in oil revenues on the back of higher crude oil prices. In its 2018 budget, which is based on an oil price of ~\$63/bbl., the country expects to earn \$131 billion (492 billion riyals) relative to \$117 billion (440 billion riyals) in 2017. Furthermore, the initial public offering for 5% stake in Saudi Aramco, with a company value of ~\$2 trillion, is predicated on higher crude oil prices. Consequently, given the new younger leadership spearheaded by Crown Prince Mohammed bin Salman, who is advocating for economic reforms with the Aramco deal as a cornerstone of the Vision 2030 strategy to diversify the economy; it is in the best interest of Saudi Arabia to push for stability in the crude oil market and higher crude oil prices. For Russia, higher crude oil prices have also supported its fiscal picture with the economy returning to growth over 2017. To add, Russia's involvement, which was bolstered by high level political talks and the first ever visit of the Saudi monarch late 2017, has been positive. In our view, though Russia has hinted on discussing an exit strategy for the agreement later in 2018, we think the geopolitical benefits of supporting the deal are too great for Russia. Elsewhere, involuntary declines in production from Venezuela and Libya on the back of economic challenges and insecurity will likely persist over 2018. For Venezuela, belt tightening measures have stifled funding for oil exploration project even as current debt crisis portends further funding challenge. On Libya, political and security challenges in the country is expected to deter funding for exploration even as well documented challenges subsist. Consequently, we are likely to see production for Venezuela and Libya trend below 2017 high. On balance, stronger cooperation and aligned interest by OPEC and participating non-OPEC producers, as well as inclusion of Nigeria and Libya to the agreement, and subsisting challenges facing Venezuela guides to strong compliance over 2018. Consequently, we estimate compliance rate of 95% and 85% for OPEC and non-OPEC respectively.

US production set to rise through 2018

US crude oil production increased by +800kbpd to 9.5mbpd at the close of 2017. The rebound, seen since the start of 2017, has come entirely from unconventional (or shale) oil sources and has been encouraged by a recovery in oil prices. More so, the uptick in prices has ushered more hedging activity of a floor of \$50/bbl and supported higher US crude oil production. However, US crude oil production expanded at a slower pace than earlier projected on the back of hurricane Harvey with stifled production mainly from the Gulf coast producers. Going into 2018, our views on US production is largely hinged on hedging activity, investment spending, technological advancement even as dissipating hurricane impact suggest a pick-up in stifled production. On hedging, the US Commodity Futures Trading Commission (CFTC) reported in December that net-short position of swap dealers – an indicator of producer hedging activity – has increased in the last eight weeks to record levels, as 17 major E&P firms have hedged ~129mbbls. Pertinently, the volume of oil hedged for 2018 has increased by 29% with 90% of the incremental hedging occurring in the last 2 months of 2017, with an average hedging price of \$52/bbl. One of the biggest shale oil fields, the Permian region, has hedged ~70% of 2018 production. The same dynamic is playing out in other countries as well, such as Brazil and Canada, which account for the majority of the remainder of the supply increase. Elsewhere, over the nine-months of 2017, US drillers increased capital expenditure (CAPEX) by over 20% on the back of higher crude oil prices, lower break-even price as well as recent tax reforms which is positive for drillers². Thus, with oil above \$60/bbl., there is a tremendous incentive for shale producers to drill more in 2018. Consequently, we expect US production to average 9.8mbpd in 2018 (+600kbpd from 2017 average of 9.2mbpd) with possibility of crossing 10mbpd in Q4 2018.

On balance, with the US increasing production, the market will rely on high compliance by OPEC and its allies to keep the market tight. Based on our expectation of similar compliance level as with 2017, US increase in production equates to ~70% of production cut by OPEC and its allies. Consequently, we still expect a decline in global supply which we forecast at 99.6mbpd (+700kbpd YoY).

² An example is Chevron Corp, whom has informed markets that its CAPEX in shale production is expected to rise by 70% over the next 2 years.

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. For China, increasing refining intake, lower domestic crude oil production and additional crude oil for strategic storage purpose is expected to support demand. 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. Overall, we forecast an increase of 1.4mbpd in global oil demand to 100.5mbpd over 2018, albeit a slower momentum from 2017 growth.

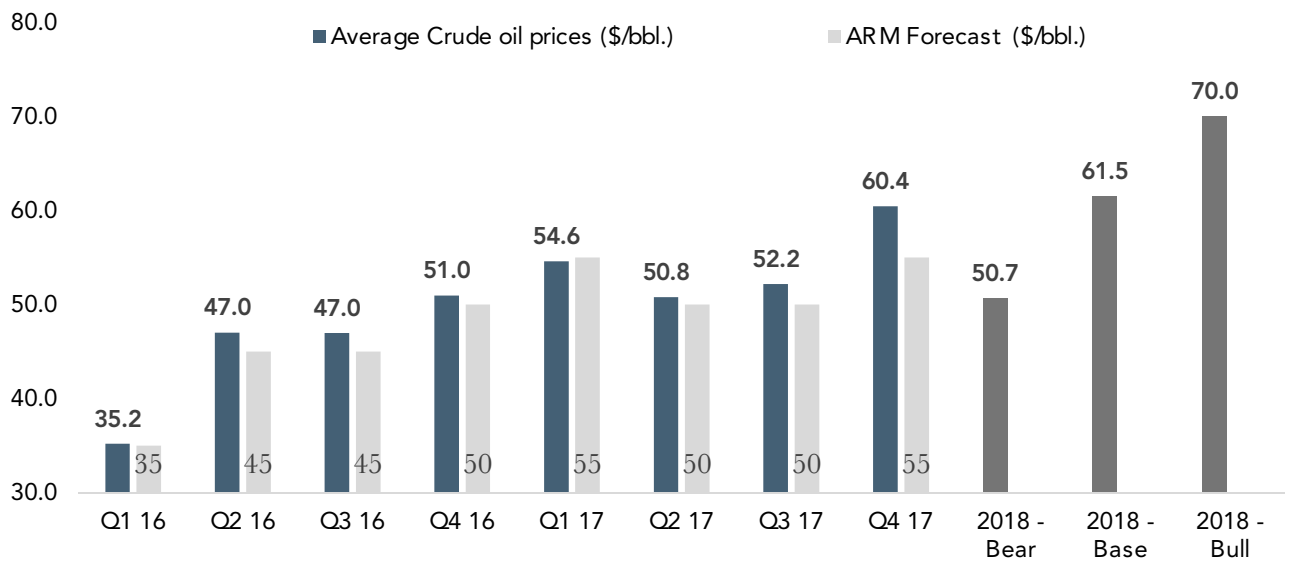
Crude Oil prices will consolidate to \$60/bbl.

On balance, we expect the market to remain in a deficit over 2018 at about ~400kbpd largely reflecting strong oil demand, falling stocks, and production restraint among OPEC and non-OPEC producers. Also, growing geopolitical risks are likely to prop up the market rebalancing process. First, the conflict between the Iraqis and the Kurds has impacted supply from Northern Iraq while concerns over the future of the Iranian nuclear deal continue to overshadow the market as Congress has 60 days to decide whether to re-impose sanctions. To add, there is an increased uncertainty around Saudi Arabia, following the recent crackdown in the kingdom. Thus, speculative position and sentiments will likely have a greater influence in the short-term than market fundamentals. Based on the foregoing dynamics, we envisage the rebalancing process of the crude markets would leave 2018 prices stable, albeit slightly lower in H218. Given the interpolation between changes in net supply and Brent crude, we update our crude oil forecast to \$55/bbl.-\$65/bbl. with a base case of \$60/bbl. for 2018.

However, upside risk to our forecast would stem from stronger demand and supply disruptions. Geopolitical risks raises concerns for exports from several producing countries (Libya, Nigeria, Venezuela), and from transit country disputes (e.g., pipeline exports from the Kurdish region in northern Iraq). Also, deeper cuts by OPEC and non-OPEC countries

could materially tighten markets. The foregoing could send oil prices to \$65 - \$70/bbl. On the downside, weaker compliance to the agreement, rising output from Libya and Nigeria, faster than expected production from US, as well as slower demand growth could disrupt the rebalancing process and send crude oil prices to \$45 - \$50/bbl.

Figure 6: Crude Oil Forecast



Source: Bloomberg, ARM Research

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