



OPEC Discipline Waning?

Summary

- Oil prices declined by 8 percent quarter-on-quarter in Q2 2017, the first such decline since Q1 2016. Higher OPEC oil production, mainly from Nigeria and Libya, plus continued rises in US oil production, were the primary triggers for the slump in prices.
- Brent oil prices dropped to \$44 per barrel (pb) at one point in June, but have recently stabilized at around \$49 pb. Market sentiment has improved in recent weeks, if only mildly, with higher seasonal demand expected to lend some support to prices in the near term.
- Latest OPEC data forecasts Q3 2017 global oil demand rising by 3.3 percent year-on-year, compared to just 0.8 percent year-on-year in H1 2017. Full year 2017 demand will, nevertheless, remain marginally lower than recent annual rises, at 1.26 million barrels per day (mbpd) year-on-year.
- That said, any sizable rises in oil supply are likely to be more sharply felt than the potential upside of demand. In particular, doubts remain over OPEC's ability to, firstly, maintain discipline amongst members and, secondly, prevent sizable increases in supply from Libya and Nigeria.
- In addition, as the recovery in US oil production continues, with US shale oil supply expected to achieve an all-time record high in the next few months, the risk to oil prices remains firmly skewed to the downside.

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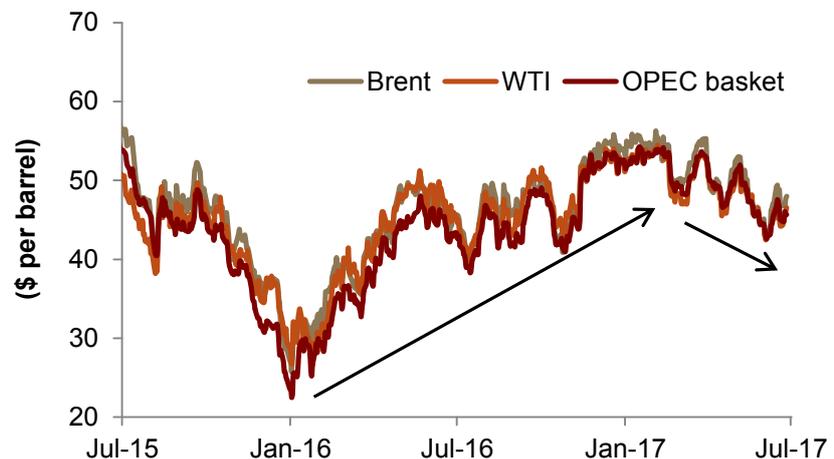
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Figure 1: Quarter-on-quarter oil prices down in Q2 2017 for the first time since Q1 2016





Overview

Oil prices declined by 8 percent quarter-on-quarter in Q2 2017...

...the first such decline since Q1 2016.

US commercial oil stocks reached record levels during Q2 2017...

...but strong growth in US light truck sales should help gasoline demand pick up in Q4 2017 and 2018.

A rise in auto sales helped push up demand in Europe, but only slightly...

Oil prices declined by 8 percent quarter-on-quarter in Q2 2017, the first such decline since Q1 2016 (Figure 1). Higher OPEC oil production in Q2 2017, mainly as a result of rising Nigerian and Libyan production, plus rising US oil production, leading to a growth in US commercial oil stocks, were the primary triggers for the slump in prices. Brent oil prices dropped to \$44 per barrel (pb) at one point in June, but have recently stabilized at around \$49 pb. Market sentiment seems to be improving, if only mildly, as the pace of demand growth is expected to pick up. Latest OPEC data forecasts Q3 2017 global oil demand rising by 3.3 percent year-on-year, compared to just 0.8 percent rise, year-on-year, in H1 2017. Full year 2017 demand will, nevertheless, remains marginally lower than recent annual rises, at 1.26 million barrels per day (mbpd), year-on-year, with OPEC data showing similar yearly growth for 2018 (Figure 2).

Mild Optimism in Oil Demand Growth

In the **US** (21 percent of global oil demand), data shows that US commercial oil stocks reached record levels during Q2 2017. The build up of oil stocks during Q2 2017 was one of the reasons for the slump in prices seen during the quarter. Since then, both oil and gasoline stocks have declined but, due to abnormally high consumption during last year when pump and oil prices dropped to multi-year lows, gasoline demand growth was virtually flat year-on-year in Q2 2017. According to US Energy Information Administration's (EIA) forecasts, Q3 2017 year-on-year gasoline demand will pick up marginally (at 0.5 percent), but accelerate significantly in the final quarter of 2017, at 1.2 percent. Looking further out into 2018, gasoline demand should rise by 1.8 percent year-on-year, helped in part by stronger growth in US light truck sales, which consume more gasoline per kilometer compared to regular cars. According to the US Bureau of Economic Analysis, light truck sales currently make up around 60 percent of total US vehicle sales, compared to 50 percent two years earlier.

European oil demand (15 percent of global oil demand) was up by 0.5 percent in Q2 2017 year-on-year. Part of this increase was due to better auto sales, with year-to-date auto sales up 5 percent amongst the big four European economies, except the UK.

Figure 2: Global oil demand growth in 2017 and 2018 slightly below recent historical average

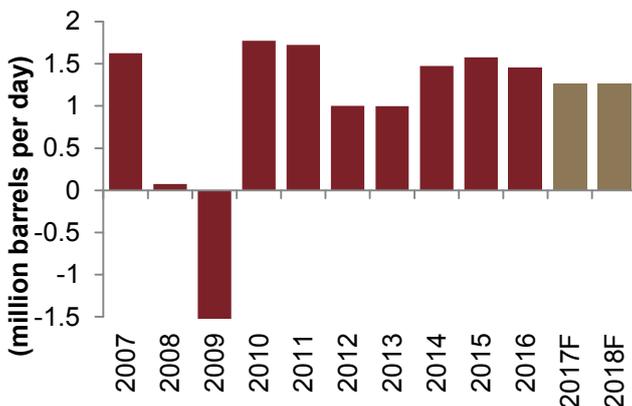
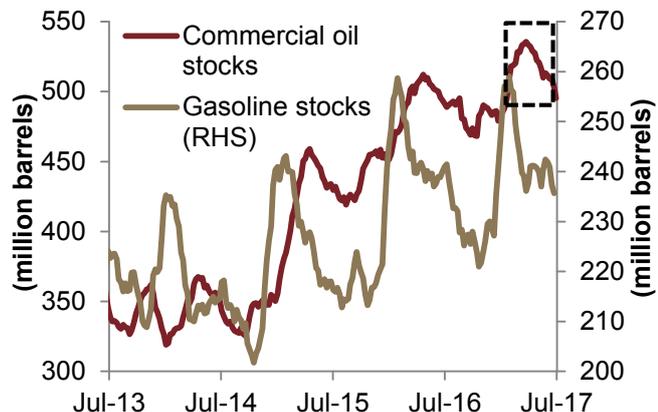


Figure 3: US commercial oil stocks reached record levels in Q2 2017





...political factors combined with structural trends are likely to keep demand low during the rest of 2017.

Chinese crude imports were up 13 percent year-on-year in Q2 2017...

...at record highs of 8.4 mbpd.

Imports have been partially supported by declining domestic oil production.

Indian oil imports were up 7 percent year-on-year...

Improving economic growth in combination with a mildly strengthening euro, as the European Central Bank looks to slow down the pace of quantitative easing, should help oil demand growth. However, continued structural factors, such as fuel substitution, will mean growth is minimal. In addition, there are still some downside risks associated to the UK's formal exit from the European Union, especially if political developments have knock-on effects on the economy, and therefore oil demand. Accordingly, Q3 and Q4 2017 oil demand will remain at current levels, but the above factors are likely to lead to zero growth in oil demand in 2018.

China (12 percent of global oil demand) continues to import record levels of crude oil. Provisional Q2 2017 data shows that Chinese oil imports averaged 8.4 mbpd, up 13 percent year-on-year. The rise in imports was, in part, driven by independent oil refiners' purchases of oil after receiving fresh import quotas in January. Additionally, improved Chinese economic activity, with better than expected Q2 2017 GDP figures, at 6.9 percent, also helped push up demand. Aside from the above factors, Chinese crude imports have also been supported by a decline in domestic crude oil production in the last two years. In Q2 2015, Chinese crude oil production averaged 4.3 mbpd, but has dropped by 9 percent since then, to 3.9 mbpd in Q2 2017 (Figure 4). The declines have come about due to China's large state-owned national oil companies (NOCs) struggling with low oil prices, putting them under financial pressure and forcing cost cuts, particularly in new oil projects. Looking ahead, according to OPEC forecasts, Chinese oil demand is expected to stay robust, as the combination of the above factors, and longer term plans to boost strategic oil stocks, results in 3 percent growth in the H2 2017 and similar levels of growth in 2018.

Indian oil imports (5 percent of global oil demand) in Q2 2017 were up 7.2 percent year-on-year (Figure 5). This growth has, in part, been due to a sizable rise in vehicle sales recently. Latest data from the Indian Oil Ministry's planning and analysis cell shows a 11.9 percent rise in two wheel vehicles, and a 8.6 percent rise in passenger vehicles year-on-year, which, in turn, is leading to growth in demand for both gasoline and diesel oil products. Looking ahead, India is expected to see continued strong growth in oil demand in both Q3 and Q4 2017, with slightly higher growth of 4 percent in 2018. One major downside risk in the next few months relates to

Figure 4: China's crude oil imports and domestic production

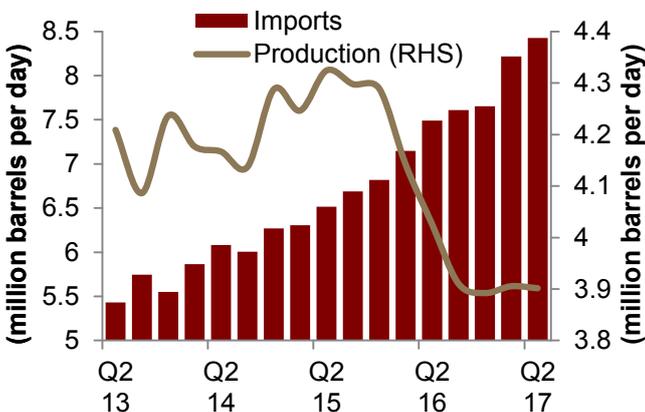
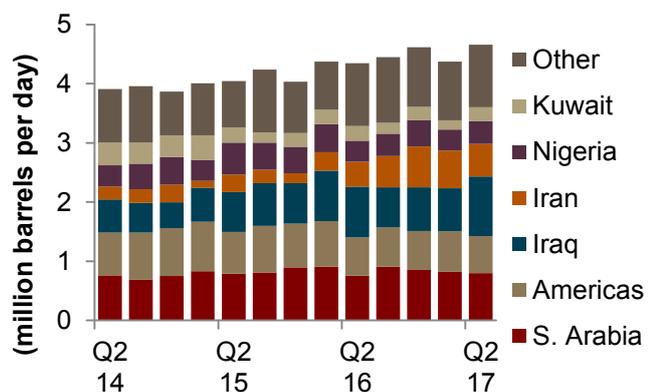


Figure 5: Indian crude oil imports by country





...but a recent tax change could disrupt the economy, and effect oil demand.

Japanese oil demand growth will remain in the negative territory for the rest of 2017 and year-on-year in 2018.

Saudi Arabia's domestic consumption was down by 3 percent year-to-May...

...with diesel and other oil products (including crude oil) seeing the largest drops.

An upside risk to demand exists as the government delayed linking household electricity prices to reference prices.

India's recent imposition of a Goods and Services Tax, which aggregates state level taxes into a single centralized tax. The disruption of switching to a new and untested tax system could affect the economy in the short term, and dent oil demand growth, similar to how the government's ban on high denomination currency bills at the end of 2016 resulted in a drop in demand in Q1 2017.

Japanese (3 percent of global oil demand) crude oil imports have been declining consistently, year-on-year, in the last two years due to slower economic growth, rising fuel efficiency, and cuts in refining capacity. Accordingly, Q2 2017 oil imports were down by 5 percent, year-on-year. The Japanese economy is not expected to improve massively and further closure of refinery capacity will keep crude oil demand in the negative territory in both Q3 2017, 2017 as a whole, and in 2018 as well, with further downward pressure on demand if more nuclear reactors are restarted.

Latest data available, for May 2017, shows **Saudi Arabia's** domestic demand (3 percent of global oil demand) being down by 3 percent year-to-May, compared to same period in 2016. A notable fall in consumption was seen in two products, diesel and other oil products (including crude oil), which together make up 44 percent of total oil product demand. Diesel consumption declined by 14 percent year-on-year, perhaps reflecting a substitution effect and/or subdued activity in the transportation and construction sectors. Other oil products (including crude oil) dropped by 11 percent, due to a combination of improved energy efficiency and higher gas usage in electricity generation. Higher year-to-date consumption was recorded for a number of refined products, including liquid petroleum gas (LPG), gasoline and, more notably, fuel oil, with its use rising as it is increasingly used as a substitute for more expensive products, such as diesel or crude oil (Figure 6). Going forward, slower growth in the economy (see our [Macroeconomic update](#) published in June 2017) and the continued effects of higher year-on-year gas output should keep domestic consumption rises to a minimum. A number of power plants are still scheduled to come on-line during the year, and both Sadara and Petro Rabigh II petrochemical complexes will reach full capacity, which should push Saudi consumption to 2.9 mbpd in 2017, versus 2.8 mbpd in 2016. That said, an upside risk to demand exists as the government delayed linking household electricity prices to a higher reference price, as was expected in mid-2017, although prices could still be hiked later in the year.

Figure 6: Year-on-year change in Saudi oil products demand

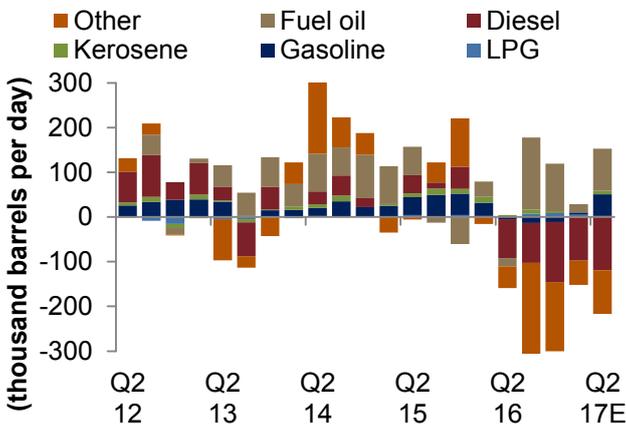
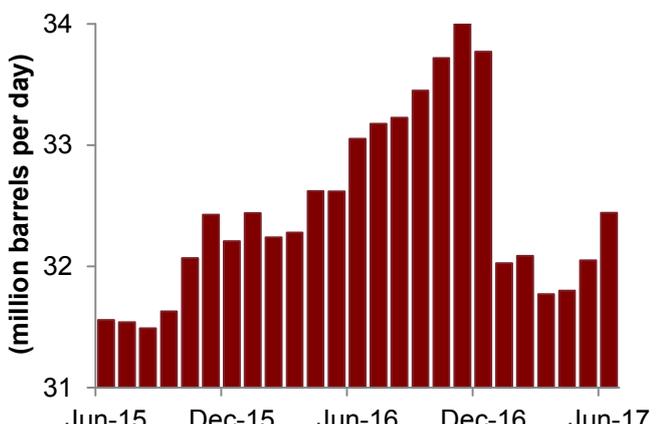


Figure 7: OPEC output was flat quarter-on-quarter but saw a sizable rise in June*...



*Secondary sources output



Latest OPEC data shows that crude oil production from OPEC members averaged 32 mbpd in Q2 2017...

...but June saw a sizable rise in oil output...

...mainly as a result of a rise in output from Nigeria and Libya.

OPEC is facing a number of challenges...

Challenging Times for OPEC

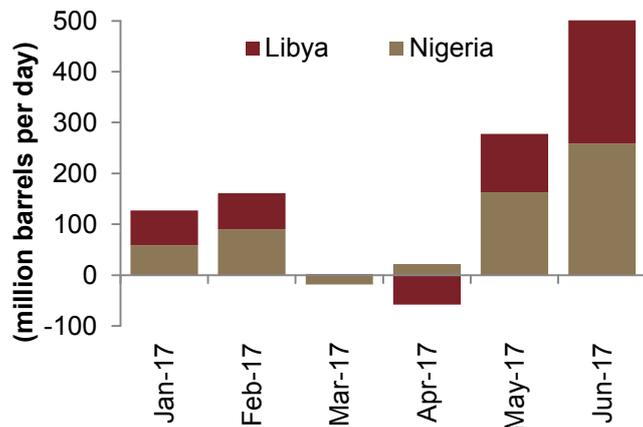
OPEC data shows that crude oil production from its members averaged 32 mbpd in Q2 2017, broadly flat quarter-on-quarter and down 1 percent year-on-year. Overall, Q2 2017 total output still equates to 1.6 mbpd less than the organization's October 2016 output, the reference point for agreed cuts, therefore exhibiting strong compliance. It does, however, mask a sizable rise in oil output seen in June. The rise was directly as result of higher output from Nigeria and Libya, both of which are exempt from cuts, but also from Iraq, which has consistently exceeded its reference production level since the beginning of the year. There is a risk that continued output rises from Nigeria and, more importantly, Libya could put further downward pressure on oil prices. Added to this, there seems to be less discipline amongst some OPEC members, such as Iraq, and more recently Ecuador, in adhering to cuts, which could call into question the agreement between OPEC and non-OPEC members, such as Russia (Box 1).

Box 1: OPEC Agreement in Trouble?

OPEC production saw a sizable rise in June, the largest month-on-month rise since the current OPEC cut came into effective, since the beginning of the year (Figure 7). We can see that June's rise was mainly a result of rise in output from Nigeria and Libya, with both countries producing 500 tbpd more in June when compared to start of the year (Figure 8). Going forward, if Nigeria and, more notably, Libya raise production to full capacity, this could add almost 800 tbpd to OPEC's output, taking the organization's total over 33 mbpd.

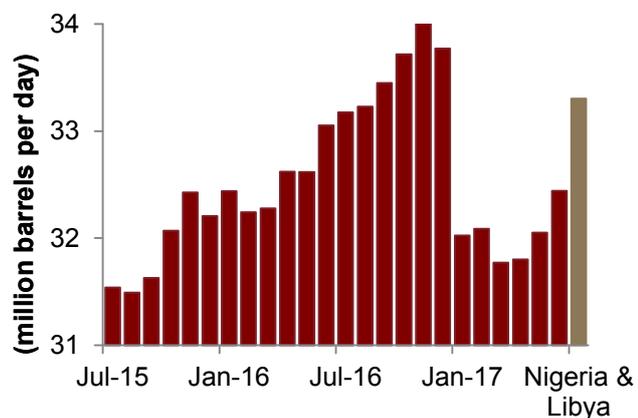
Both Nigeria and Libya have seen a number of civil and political issues that have hampered production levels, and allowed them to be exempt from OPEC cuts. Nigeria's troubles have been more recent and relatively less disruptive. Almost a year ago, Nigeria experienced a number of militant attacks on crude oil and gas pipelines which resulted in pushing down oil production by around 500 tbpd to 1.4 mbpd. Nigeria's June 2017 oil production totaled 1.7 mbpd, leaving an additional 100 tbpd possible, after a cap on production at 1.8 mbpd was imposed in a recent OPEC meeting. Libya, on the other hand, has been facing civil unrest for a number of years which has taken a massive toll on its oil production. At its

Figure 8: ...as Libyan and Nigerian crude oil production rose significantly*



*Compared to December 2016 secondary sources output

Figure 9: Additional Nigerian & Libyan oil would push OPEC output above 33 mbpd*



*Using June 2017 OPEC secondary sources data and adding 648 tbpd from Libya and 100 tbpd from Nigeria



...firstly, from rising output from both Libya and Nigeria...

...secondly, from indiscipline of certain members;...

...such as Iraq, which has been producing at 150 tbpd above reference levels...

...whilst Ecuador recently announced that it intends to abandon its commitment to reduce output.

peak, Libya produced 1.5 mbpd, but June 2017 data shows output was 852 tbpd. Libyan's NOC recently stated that it is aiming to reach 1.25 mbpd by the end of the year and 1.5 mbpd by the end of 2018, resulting in a possible 400-600 tbpd additional OPEC output. Whilst this would be an immense turnaround for Libya, significant downside risk remains in production due to a relapse in fighting between various political factions. Nevertheless, the possible return of both Libyan and Nigerian oil supply poses serious questions for OPEC's agreement, going forward.

Figure 9 shows that taking OPEC's June 2017 output and adding maximum possible Nigerian and Libyan crude oil to the total, at around 800 tbpd, would push OPEC output up to 33.2 mbpd, close to October 2016 levels, when no agreement was in place. In order to avoid this ramp up in output, there would need to be some sort of agreement amongst OPEC to limit Libyan and, perhaps to a lesser extent Nigeria output too, or for OPEC members to cut deeper in order to compensate for the rise. Neither option is likely to be easy, and is further complicated by developments with other OPEC members, specifically Iraq and Ecuador.

Libya's NOC has stated that its country's political, humanitarian and economic problems must be considered in any discussion about limiting the country's output. Nevertheless, no action by OPEC to limit Libyan output is likely to displease Iraq's NOC, which, no doubt will highlight that its own country is facing similar problems to Libya and therefore should not be subject to caps on production as well. Iraq has been the least compliant of OPEC members to its reference output level. When comparing monthly OPEC output of individual countries in 2017, to their respective reference level agreed by OPEC, we can see that Iraq has had the largest margin of non-compliance, at 150 tbpd above reference levels (Table 1). Saudi Arabia, on the other hand, has had the best compliance level, at 108 tbpd below its reference output level, and reiterated its commitment to cuts in a recent OPEC meeting, by stating that the Kingdom's oil exports would be down by 1 mbpd year-on-year in August.

Another issue for OPEC has been presented by Ecuador. The county recently announced that, due to economic difficulties, it intends to abandon its commitment to reduce output and instead commit to only 60 percent of agreed cuts. Although Ecuador's cut contribution is very small, at 26 tbpd, and does not risk pressuring global oil markets, the bigger issue is that it sets a precedent for other OPEC members to renege on their own respective cut agreements for similar reasons.

Table 1: OPEC members' secondary sources output in 2017 relative to agreed reference output levels (tbpd)

Reference output level (mbpd)	Jan	Feb	Mar	Apr	May	Jun
Iraq	124	63	74	30	90	151
UAE	84	59	35	32	25	24
Algeria	14	18	12	17	22	21
Ecuador	8	7	3	4	7	5
Gabon	10	5	9	12	12	4
Kuwait	14	4	(6)	(3)	1	1
Qatar	2	(26)	(6)	(5)	1	-
Angola	(15)	(34)	(74)	(6)	(71)	(5)
Iran	(17)	22	(5)	(5)	(23)	(7)
V'zuela	35	26	10	(5)	(21)	(34)
S.Arabia	(249)	(106)	(153)	(124)	(160)	(108)



Separate developments in Venezuela could lead to disrupting oil markets in the near future...

...especially if the US bans 795 tbpd of oil imports from the country.

Russian oil output averaged 11 mbpd in Q2 2017...

...which is less than the agreed 300 tbpd cut.

Recent comments by senior officials have suggested Russia is opposed to deeper cuts to support prices.

Meanwhile, separate developments in Venezuela could lead to disrupting oil markets in the near future. The drop in oil prices since mid-2014 have deeply affected the south American country, with economic conditions progressively worsening. As a result, for the last two years, government oil revenue has been diverted to social spending, which has left Petroleos de Venezuela (PDVSA), the NOC, with limited options to finance investment and therefore prevent declines in output. In 2012, Venezuelan oil production averaged 2.8 mbpd, but this dropped to 2.2 mbpd in H2 2017, despite the country holding the world's largest crude oil reserves. To compound matters, the political climate in Venezuela has deteriorated rapidly in recent weeks, and, as a result, has pushed the US into looking at the possibility of sanctions against the country, including the banning of oil imports. Venezuela is the third-largest supplier of crude oil to the US, at around 795 tbpd of mainly heavy crude oil, and a ban would make it difficult for US refiners to find alternative suppliers within a short space of time, which is likely to drive up global oil prices.

Russian oil output averaged 11 mbpd in Q2 2017, which equates to a 240 tbpd reduction to October 2016 levels, slightly less than the agreed 300 tbpd cut, which the Russian government stated it would reach by April 2017 (Figure 10). Russia was the largest non-OPEC producer to agree to extension in cuts to March 2018, but the slower and less disciplined adherence to cuts highlights a key difference within the Russian oil industry. Unlike many OPEC members, who control production from a single oil company (NOC), a number of privately owned Russian oil companies exist, making cuts harder to implement. Whilst larger oil producers have met their production cuts, the problem lies with getting smaller operators to comply. The higher proportional impact of cuts on smaller companies is the main reason why they have been reluctant to comply. As a result, when looking ahead, it seems unlikely that Russia will be able to implement further cuts. In addition, recent comments by senior Russian officials have suggested that the country is opposed to deeper cuts in order to support prices. It is therefore likely that Russian oil production will remain around current levels in 2017 and early 2018, when the current agreement with OPEC expires.

Meanwhile, the latest EIA Short-Term Energy Outlook report confirms that US oil production is in resurgence, with forecasts showing that year-on-year total US oil production will rise by 11.5

Figure 10: Russian crude oil production is around 11 mbpd

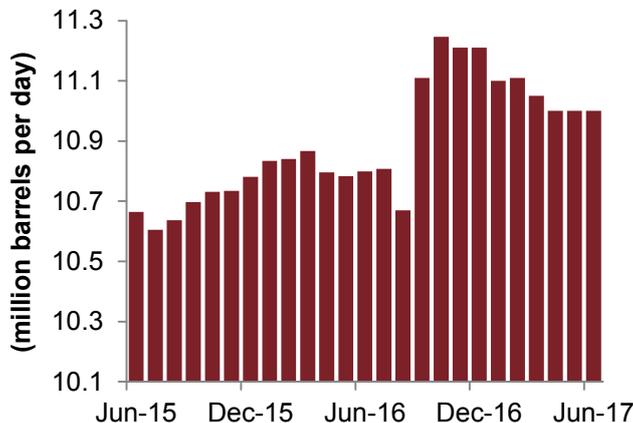
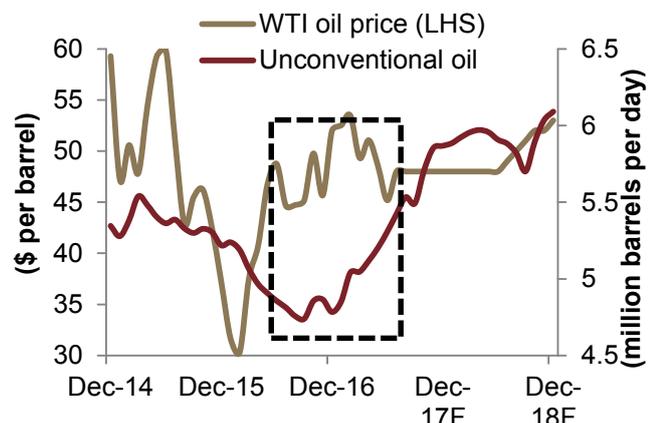


Figure 11: Based on current forecasts, US shale oil could hit record output at the end of 2018*



*Assuming flat US conventional oil growth. WTI price forecasts from the EIA



US oil production will rise by 11.5 percent in 2017 and a further 3.5 percent in 2018...

...with US shale oil expected to reach all-time record high of 6 mbpd at the end of 2018.

The number of DUCs has also rebounded in recent months...

...adding further pressure on oil prices.

The current year-to-date Brent oil price average is \$51pb...

...with the outlook for the rest of the year being mixed...

percent in 2017 and a further 3.5 percent in 2018. The primary reason for the rise in production will of course be the unconventional oil (shale) component of US supply, with conventional oil output effectively flat, as has been the case for at least the last four years. After hitting peak production back in February 2015, US shale oil began to decline, as persistent global over supply, helped by record OPEC output, pushed prices downwards. After OPEC cuts, and a subsequent oil price increase, from November 2016 onwards, there seems to have been an influx of renewed investment among US shale producers. As a result, US shale oil is expected to reach previous highs within the next few months and is set to achieve an all-time record high of 6 mbpd at the end of 2018 (Figure 11).

In addition, the number of drilled but uncompleted wells (DUCs) has also rebounded in recent months. This adds more pressure on prices since DUCs can produce oil within a two to three week period, it gives shale producers the option of leaving oil inventory underground until more favorable prices transpire. Figure 12 shows that following an upward movement in oil prices, the number of DUCs either decline or flatten, but, as oil prices drop, the number of DUCs increase. Going forward, therefore, US shale oil supply will become increasingly elastic (see our report [Recovery in Oil Prices: Rebound in US Shale Oil?](#) published June 2016) with any sustained upward change in the price of oil being met with a swift change in US oil supply.

Oil Price Outlook

Brent oil price average \$51pb year-to-date, with the outlook for the rest of the year being mixed. Higher seasonal demand should help prices in the near term. Accordingly, the market is exhibiting improved sentiment. After a record number of short position contracts being taken out in Q1 2017, showing investor's expectations of a price decline, the trend has now reversed (Figure 13). Although short positions still remain high, if demand performs better than expected after the summer months, some modest price gains could be possible, and short positions may decline further. That said, the supply side is less predictable at the moment, especially as doubts remain over OPEC's ability to maintain discipline as well as prevent increases from Libya and Nigeria. Any sizable rises in oil supply are likely to be more sharply felt than the

Figure 12: A rise in oil prices results in the number of DUCs either declining or flattening

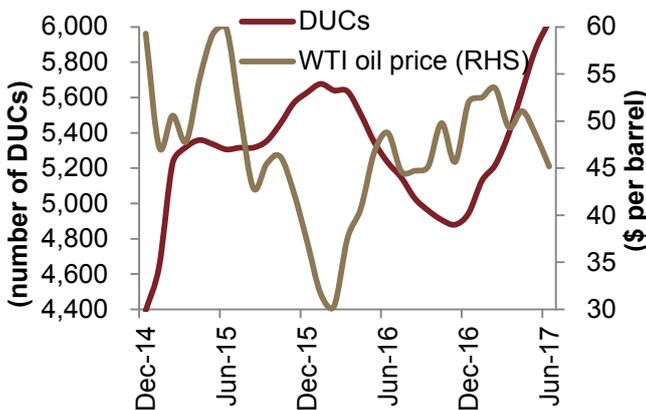
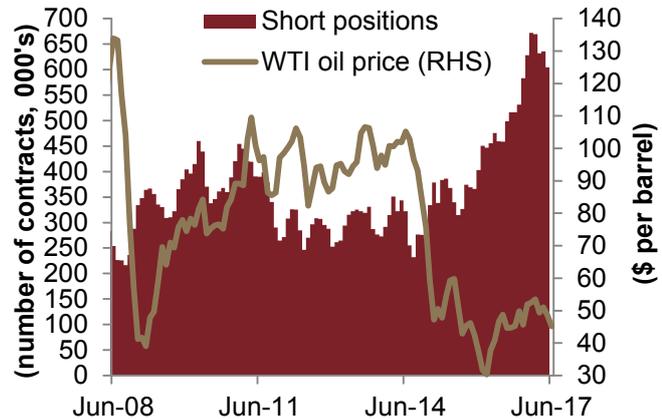


Figure 13: Short position future market contracts declined from record highs in Q1 2017





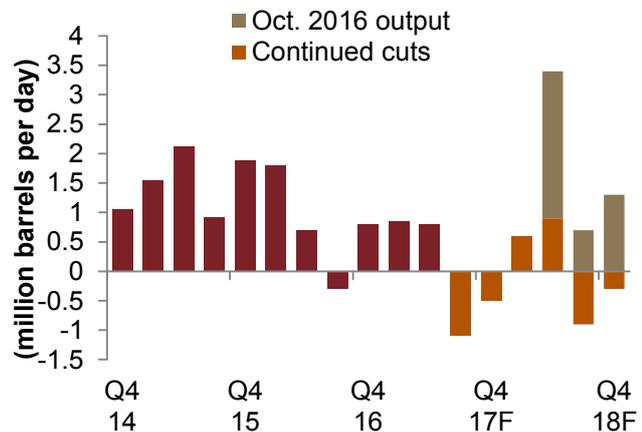
...although the risk to oil prices remain firmly skewed to the downside.

In 2018, the oil price outlook depends on OPEC and non-OPEC action after the agreement expires in March 2018.

potential upside of demand. In addition, as the recovery in US oil production continues, the risk for oil prices remains firmly skewed to the downside, especially so in relation to Jadwa's current Brent oil price forecast of \$55 pb for 2017.

Looking into 2018, the outlook for prices hinges on what OPEC and non-OPEC countries, engaged in production cuts, choose to do after the agreement to cut production expires in March 2018. There seems no real consensus as of yet, but the worst case scenario, where production levels are restored to levels prior to the cut agreement, would put global oil balances back into large surpluses and pressure oil prices. Holding all other factors constant, and assuming both OPEC and non-OPEC countries engaged in cuts revert to their October 2016 production levels after the deal expires, a global oil balance surplus of 1.3 mbpd would be expected for the whole of 2018. This compares to a small surplus of just 100 tbpd if current cuts were rolled over to the whole of 2018 (Figure 14).

Figure 14: Global oil balances could slip into a large surpluses in 2018





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