



This is a time when markets are normally undersupplied and global inventories typically draw down, however, so a 'balanced' second half may still be regarded as bearish. Last year, OECD inventories rose over the second half, defying the typical profile, and they are on pace to do the same this year.

While we believe any excursion of prices below the 2015 low would be short-lived, some uncertainty arises from the fact that producer support in the form of shut-ins would be unlikely, in our view. First, operating expenses per barrel of oil produced are quite low. We estimate that 1.92 mmb/d of global production becomes cash negative at a Brent price of USD30/bbl including 660 kb/d of low-volume stripper wells in the US. Second, producer shut-ins are unlikely to occur in this volume as there are myriad reasons to avoid the expenses of shutdown and eventual restart, such as the need to decommission older fields and the possibility of reservoir damage. The only scenario in which we could more reliably expect such closures is if producers become convinced that long-term real oil prices will remain below USD30/bbl, which is unlikely in our view.

The US adjustment still has much further to go

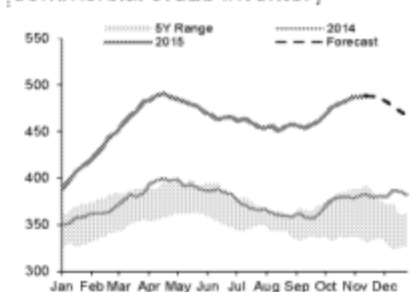
The focus of expectations for supply contraction in 2016 continues to be centered on the US, although other non-OPEC producers and some OPEC producers such as Iraq may also begin to suffer declines at existing investment levels. The susceptibility of US supply to contract is partly a result of a relatively short lag time between drilling and production, and also the responsiveness of the industry in which drilling contracts are relatively short, lasting from six to twelve months. Thus far, drilling activity in the US has contracted by -66% from the peak, versus 26% in the remainder of non-OPEC and -14% among OPEC producers.

The decline so far of 440 kb/d will be extended over the coming months. A key assumption is that rig productivity growth will remain subdued in the major basins of the Bakken, Permian and Eagle Ford as the rate of contraction in drilling activity also slows. This is explained by the notion that a sharper rise in productivity is only possible as activity falls materially. In this phase, producers can selectively drill the most economic assets and exclude marginal plays, thereby raising the initial production rate from the average well. However, as the decline in drilling activity flattens, this process of winnowing out the losers is no longer possible to the same extent. We can observe the resulting slowdown in productivity gains beginning around August in the Permian, October in the Bakken, and in forecast figures for the Eagle Ford in December.

A second and more neutral assumption is that the level drilling activity remains constant going forward, despite an average decline of nine oil-directed rigs per week since September. We can think of the risks to our model as offsetting to some degree – if rigs do continue to decline, the production outlook would certainly deteriorate but would be helped by higher gains to rig productivity.

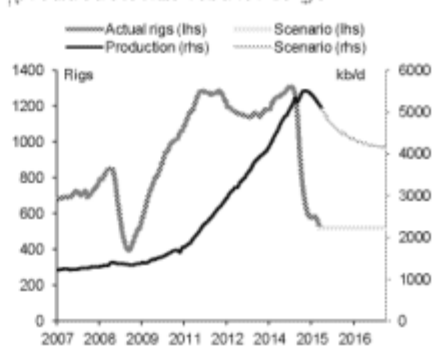
On these expectations then we find that a continued decline of US production in 2017 contributes to a more normal profile of first-half surplus followed by second-half deficit and the possibility of the first meaningful inventory draws. With OPEC potential production in 2017 of 32.4 mmb/d matching the modelled "Call on OPEC", this suggests that the market will recognise a need to stabilise and eventually raise the level of investment in supply both in the US and globally.

Figure 3: An extended surplus in US commercial crude inventory



Sources: Bloomberg Finance LP, Deutsche Bank Research

Figure 4: Decline in US oil production has further to go



Sources: Bloomberg Finance LP, Deutsche Bank Research

Figure 5: DB Oil price deck

	WTI (USD/bbl)	Brent (USD/bbl)
2015F	49.2	53.5
Q1 2016F	48.0	52.0
Q2 2016F	50.0	55.0
Q3 2016F	54.0	59.0
Q4 2016F	54.0	59.0
2016F	51.5	56.3
2017F	58.0	63.0
2018F	65.0	70.0

Figures are period averages  
 Source: Deutsche Bank Research