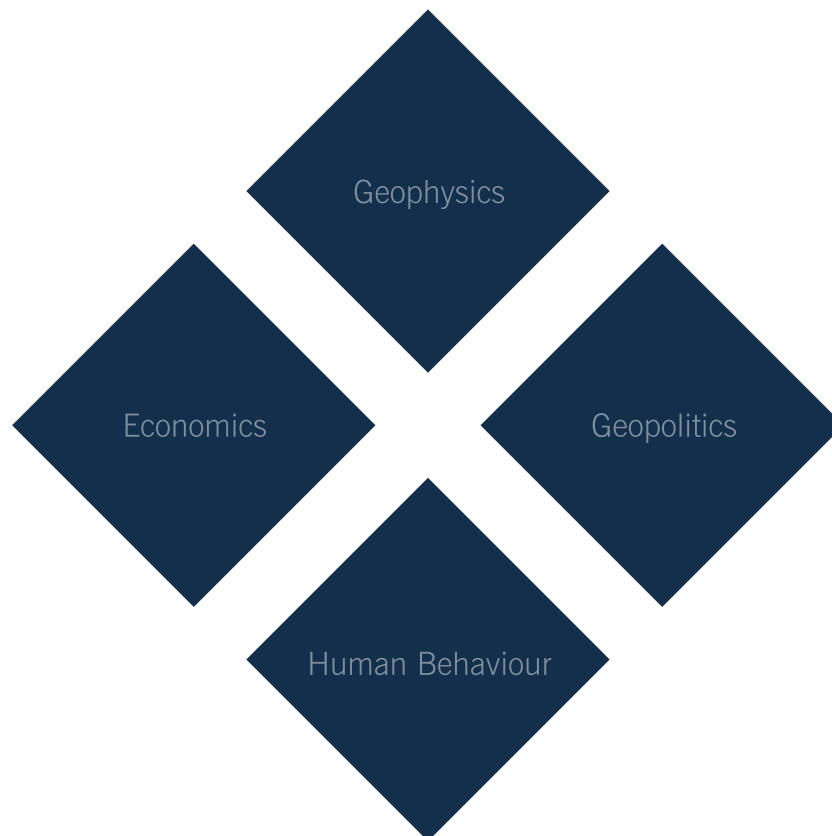


Issue Price - £50  
Series Price - £195



# NBR Oil Prices in 2016: Groping for Logic



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## PART FIVE: A JUNCTION IN THE ROAD

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*Last week we looked at some of the reasons as to why Saudi Arabia might be continuing its attack on global oil prices. In the final part of our assessment of Saudi's logic, we continue to look into why the attack might be happening and ask what might happen next.*

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### Re-doubled attack on US Tight Oil?

*Thesis: The initial attack reduced output growth, but also promoted radical cost cutting, and its effect has therefore dissipated. Hence a second dose is required.*

**Has US Tight simply become more efficient?**

The US Tight industry has surprised us all with its resilience. Commentariat chat talks about cost cuts of 30% and flow rate increases, both prompted by Saudi's price attack. Has Saudi simply spent a sheikh's ransom to make US Tight more efficient?

Detailed analysis suggests not. US Tight production has indeed fallen less than we, and presumably Saudi, expected, but not simply because of efficiency gains and cost cuts. It is true that some services sectors have had their costs brutally driven down, by a third or more, but these sectors account for only part of the costs of exploiting US Tight Liquids. Our analysis suggests that US Tight's production resilience is in part a function of High Grading (a retreat from fringe plays to fairway plays), and in part a function of longer and more aggressive frack jobs creating slightly larger average EURs, which drive higher immediate well flow rates, and so support Tight production as a whole in spite of falling well numbers.

**Fairway plays remain profitable at very low prices...**

The numbers clearly show that fairway plays deliver good IRRs at painfully low prices. These plays are simply not vulnerable to price attack unless that attack takes prices below US\$20 for a sustained period. A sustained attack at this level would delay production, but the reserves will be there ready to flow as soon as prices recover. Hence a strategy to restrict fairway flows has to be an endless one, but Saudi does not have endless financial resources.

If the target is fringe plays, which need US\$40-50 to deliver respectable IRRs then the job is done at a price below US\$40 – so why keep spending US\$12bn per month to drive prices below US\$30, or below US\$20?

**...but the fringe needs \$40-50.**

If the target is (as we originally and still think) to deter hot/portfolio money from flowing into US Tight Capex, by driving a substantial risk premium into the NPV/IRR calculation, then again the job has been done. Hot money flows have dried up. So why extend the strategy at great cost?

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One potential reason is that the declines we have seen in US tight oil supply are only partly a result of the drilling slowdown and efficiency economics. They have been artificially exaggerated because many wells have been drilled but left uncompleted – meaning that US Tight production could rebound very quickly when prices rise. In order to ensure that the capex cuts have more than offset the very strong ‘efficiency’ gains made by shale producers over the last 18 months, Saudi could be waiting for the backlog of some 3,000-4,000 DUCs to be significantly eroded. This would be consistent with a thesis that Saudi had initially miscalculated the resilience of Tight Oil producers, and realised that it would need to continue the price attack for longer to offset capex per barrel gains which were not fully reflected in the apparent supply slowdown.

**Saudi may be waiting for the DUC backlog to fall significantly.**

To be sure, Saudi does not want to kill tight oil – just to change its momentum and vector and therefore its forward production profile. Saudi still needs US Tight to be there, just not quite so much for the next five years. Our forecast for the state of the Liquids Equilibrium ten years hence suggests that US Tight is an important component of global supply, which must necessarily still exist at significant flow rates to ensure global supply is able to keep pace with demand, and so allow Saudi to continue managing the Equilibrium into a gentle sustained upward price trend without major short-term price spikes (with all the negative effects on structural demand growth that they bring).

**Saudi does not want to kill US Tight.**

A common Commentariat theme at this precise moment is the risk to US Tight from debt repayment – having binged on debt to feed its capex flow in the past few years, the sector is now in negative cash flow, facing production collapse. We do not accept this theme as correct. Lenders to US Tight are in effect unsecured – the underlying assets only have value when producing Liquids. Contrast this with lenders to, say, the retail sector, who can take security over a bankrupt property and obtain value by redeploying it to another use. So a lender to US Tight that takes security is very likely to ensure that the asset secured is brought into production sooner or later – how else will the lender get their money back? To be sure, beneficial ownership of the asset will shift from A to B, but the asset will produce in spite of that.

**Debt repayments will not trigger a production collapse.**

Our conclusion is that Saudi’s continuation of the price attack is partly aimed at US Tight, but probably in error. The resilience of shale production, combined with industry fat-cutting and its stock of DUCs, suggests that efficiency gains may have offset the psychological win registered against hot money investors. The psychology job on investors has been effectively done, but Saudi is now aiming at the industry itself to win a little more flattening of Tight’s growth vector. We believe that this battle, too, has now been won, but Saudi appears to disagree with that conclusion.

**If Saudi is still targeting US Tight, it is in error.**

### **An attack on the muscle of expensive new conventional production?**

*Thesis: Saudi has correctly assessed the limits of its ability to impact US Tight, and is now trying to influence the future Equilibrium state by deferring flows of conventional Liquids as well.*

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Our Equilibrium Analysis in 2014 suggested that Saudi only needed to take the top 1 mbpd out of US Tight growth to maintain its role as Equilibrium Manager during 2017-2022. US Tight reacted in an unexpected way, suggesting that only half of that growth might be constrained. That, combined with apprehension over the vector of China's demand growth, might have led Saudi to conclude that the attack's target should be expanded to include expensive conventional projects, as well as US Tight.

2016	2017	2018	2019	2020
150 kbpd	300 kbpd	600 kbpd	1 mbpd	1.5 mbpd

The logic appears sound, if one agrees that global demand's future growth vector is soft. We don't, but many others do, and Saudi might be using more pessimistic demand projections to found its strategy.

If this is indeed Saudi's aim, the strategy is working well. The price attack has knocked a combined US\$500bn off the market capitalisation value of the five supermajors alone. It has also caused the industry to cancel or defer some US\$380bn worth of pre-FID projects, with about half of that deferred from the next four years. We estimate that, so far, future production flows will be abated by the following amounts over the next five years: At present, the price attack's effects reach about ten years out. If a Positive Disequilibrium returned it would take some time before capex allocators felt safe to open the capex tap again. We believe that capex taps on major projects will remain tightened for at least two years after a turn in the price vector. If this is correct then we should see future capex deferrals for the next two years at least – perhaps another US\$200bn of capex deferred each year – even if the price vector reversed today.

It therefore appears to us that Saudi is at risk – if it continues the price attack for much longer – of so damaging the future Equilibrium that even SaudiMax (somewhere around 12.5 mbpd) will be insufficient to maintain an Equilibrium. If that happened then Saudi would lose its Equilibrium influence completely for several years, or longer, leading to a sustained strong Positive Disequilibrium, a high price increase vector, and a lurch towards Substitution.

The longer-term consequences of that lurch would include destabilisation of the global demand vector, leading in turn to a sustained Negative Disequilibrium too large for Saudi to influence, the destruction of Saudi margins and the end of Saudi's oil-led budget strategy, along with those of the rest of OPEC. In short, Saudi's play has had the desired effect, but its continuation puts the budget strategies of itself and all of its OPEC "partners" at serious risk.

**US Tight resilience may have forced Saudi to target conventional production.**

**If this is the aim, Saudi's strategy is working well.**

**Capex will not flow back to major projects for at least two years after prices start to recover...**

**...so Saudi risks losing control of prices on the upside...**

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It is possible that, given the resilience and flexibility of US tight, Saudi believes that the risks of losing market influence on the upside are less serious than those of losing it on the downside. Tight oil could potentially respond quickly to high prices, essentially capping them from rising too far too fast and for too long a period.

**...but Tight oil could bail Saudi out.**

With these scenarios in mind it is very tempting to draw the conclusion that an attack on expensive conventional production was the objective that drove Saudi to continue its price attack beyond the summer of 2015.

However, recent communications coming out of Saudi and Saudi Aramco are very much at odds with that tentative conclusion.

### **Has Aramco lost touch with rationality?**

*Thesis: the price attack began rationally, but has morphed into a contest of status and pride, possibly an internal one.*

Saudi messaging over the past few months has been bizarre, presenting Saudi's production strategy as if it were a breath-holding contest between toddlers. Senior Saudis have repeatedly claimed that Saudi will not act as the Equilibrium Manager (clearly at odds with reality), that Saudi will not cut production until others cut production, that Saudi does not see why it should sacrifice production flows to make room for other production flows, and that "We can take whatever the market serves us".

**Recent Saudi messaging has been bizarre...**

This last quote, from the president of Aramco, seems to miss the point that Saudi is taking what Saudi, not the market, is serving to itself. Our problem with this thesis is that it demands a founding belief that the world's largest oil company does not know about Equilibrium Theory. However, as Saudi moves from "strategy" into "self-harm" we begin to wonder if that founding belief is wrong. In the words of Sherlock Holmes, "when all possible rational explanations of a set of events have been discarded as incorrect, what remains, however improbable, is the truth". Have we reached a Holmesian moment?

**...but could be a cover strategy**

Perhaps, but also perhaps not: it is possible that Saudi and Aramco have taken lessons from Donald Trump, and are using the shock effect of wild irrational statements to cover rational acts. If this were correct we would see Saudi braggadocio up to, and beyond, the moment that Saudi quietly begins to reduce Liquids flows into the market. By this route Saudi would obtain the most possible bang for its twelve billion bucks per month.

Another escape from irrationality is the possibility that Saudi's internal decision-making process is at war. Under this scenario some individuals, ignorant of Equilibrium Theory and NPV maximisation, would be pressing for a breath-holding strategy, while other quieter calmer heads argue for a cut.

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This thesis fits with the recent change in leadership – is Saudi's Prince Mohammad simply inexperienced in the Equilibrium and mistakenly wielding a harmful power without understanding? Or is he trying, and failing, to get a grip on the Aramco principality?

One symptom that fits this thesis is the bizarre announcement last month that Saudi is considering the sale of a small shareholding in Aramco.

Setting apart the wisdom of tying the state's most important company up with compliance rules, disclosure and exposure, it would be beyond insane to sell shares in a company at a moment when its gross margins have fallen by 75%, when its potential investors are nursing large losses from its only product sector, when the global investment market is on the verge of a slump, if not a crash, when regulators are just getting into gear to regulate its environmental impact, and when the Commentariat are beginning to mutter about life after oil.

So, it is tempting to read the announcement of a minority sale as a threat to Aramco's management, to comply with some plan or course of action unwelcome to them or to suffer the consequences.

Our challenge in reading this situation is that Aramco's decision-making process is opaque. We do not know who actually holds the taps. However, the longer that the Negative Disequilibrium persists, the more we are forced to this particular conclusion. People do often behave irrationally for long periods, and equally often perform considerable self-harm in doing so. ❖

**Is Aramco's  
internal  
decision-making  
process at war?**

**An IPO would  
be senseless at  
this point.**

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# WHAT NEXT?

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The honest answer to this is “we don’t know”. If Saudi was thinking rationally it would end the attack, restore a gentle Positive Disequilibrium, and be prepared to administer a second attack later if time showed that this one was insufficient. Why would a rational actor pay a US\$12bn per month premium for a strategy that has no additional benefit? The wins have already been won.

**If Saudi were rational, it would end the attack...**

This can be seen through a simplified analysis of the Equilibrium over the next ten years, if the price attack were to end today, which we present below:

**...and save its SWF.**

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Exports (mbpd)	7.7	6.7	6.2	5.9	6.0	6.2	6.8	7.5	7.8	7.9
Brent Price (\$ avg)	56	84	110	115	121	127	133	140	147	154
Export Margin (\$bn)	123	171	209	209	223	242	278	319	349	373
SWF change (bn)	-89	-42	-4	-2	-2	+4	+27	+54	+70	+79
End Year SWF (bn)	548	505	502	499	498	502	529	583	653	732

So, we stand at a junction in the road: either Saudi will show itself to be rational, and end the attack soon, or it will show itself to be non-rational, and continue the attack until the rational party succeeds in taking control. That might happen at any time, but will become more likely as Saudi’s SWF melts away under the heat.

If rationality is to prevail there remains the question of Face. A sudden end to the attack would represent a major loss of Saudi Face. Interestingly, we can already see signs of face-saving steps: Saudi is making noises about co-operating with Russia (in reality a laughable prospect in light of Syria, but something could probably be cobbled together for the press conference). OPEC’s members are transmitting acute pain at Saudi, which might graciously come to their rescue with a collective production cut, observed in practice only by Saudi and its junior swingers in UAE and Kuwait. Seasonal demand upticks in Q3 and Q4 may make the Negative Disequilibrium less acute. We might even see some physical damage to Saudi production infrastructure inflicted by a “terrorist attack”. Any one or more of these would serve to veil Saudi blushes.

**Saudi will want to save face.**

One thing is painfully clear – a Positive Disequilibrium will only return in the short term if Saudi wishes it to do so. ❖

**But a Positive DE will not return soon unless Saudi acts.**



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