Observations on the Present Low Price of Oil

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Abstract:

This paper makes a number of observations on the present low price of oil. First it contrasts the present price (below $40/bbl for Brent) with the higher (and often considerably higher) price expectations implicit in current forecasts for global oil supply. The preponderance of such forecasts foresee either global oil supply as increasing only slowly (and that by increases in the production of the relatively expensive non-conventional oils, with production of conventional oil as flat out to the end of the forecast time horizons), or foresee global production of conventional oil (or indeed of 'all-oil', including non-conventional) as reaching a peak in the relatively near or medium term, and then declining. On the basis of such forecasts the current low price of oil looks unlikely to continue for long. The paper then speculates on the reasons for the present low price, and suggests that none of the explanations proposed so far seems fully satisfactory, and that the truth is possibly not yet fully known. Finally, the paper looks at some of the important implications of the present low price in terms of society's understanding of future oil price risk.

1. Contrasting the Present Low Price of Oil with Current Oil Forecasts

Only a little over a decade ago, oil forecasts could be divided into two very distinct camps: those which saw global oil production as continuing to rise in a more-or-less business-as-usual manner, with consequently the oil price expected to remain low; and those which saw a near or medium-term peak in the global production of at least

conventional oil, and hence which expected the price of oil to be high (on average), corresponding to the cost of producing the marginal barrels of non-conventional oil.

In recent times this dichotomy in forecasts has narrowed considerably, with today the first group now seeing global production of *conventional* oil not as increasing, but as remaining flat (out to the forecast horizon), with the extra oil needed to meet demand as coming from the expensive non-conventional oils. Forecasts in this group are mostly from the 'mainstream' forecasting organisations, including, for example, the IEA, BP and ExxonMobil (see Charts 4, 5 and 6 in *The Oil Age*, vol.1 no.2).

The second group of forecasts still maintain their earlier predictions of a peak in the global production of conventional oil (and indeed, often, also of 'all-oil') being expected in the near or medium-term. Forecasts in this second group are mainly from the 'independents', both consultancies and individuals; for example: Campbell (2015), Globalshift Ltd. (Smith, 2015), Laherrère (2015), Miller (2015) and Rystad Energy (Wold, 2015).

Note that these two groups of forecasts do not cover all views. Some analysts still have a more 'cornucopian' view of future oil supply: for example, BP's current Chief Economist, Spencer Dale (Dale, 2015), or Aguilera and Radetzki (2016). The latter authors, for example, point to the significant technological gains that have recently unlocked US shale ('light-tight') oil production; and speculatively predict that these gains will yield globally, in their reference case, up to perhaps 20 Mb/d of shale oil by 2035, and a similar additional amount from the application of the technology to more conventional oil reservoirs.

But on the basis of the forecasts from all three groups it is difficult to see the oil price as staying low for long. This is because if the global production of conventional oil (or, indeed, 'all-oil') peaks fairly soon, as many of the 'independents' predict (including one of us: Campbell), then simple competition for oil (*absent* extreme climate-change driven reductions in demand) will push up the price of oil, likely to very uncomfortable levels. (And see Wold, 2015, for a specific asset-based forecast of possible levels of future global oil production as a function of oil price.)

If instead the view of the more 'mainstream' forecasters is correct, and production of conventional oil stays flat, then necessarily the price

of oil will rise as the more expensive non-conventional oils need to be produced, at costs up to over $150/bbl (see the IHS-CERA cost data in Figure 16 of Miller and Sorrell, 2014).

And finally even the 'cornucopian' views of Dale, or Aguilera and Radetzki, do not guarantee a low oil price. The later authors (and almost certainly Dale also) overlook the decline in conventional oil production that most 'independents' predict, such that the 'extra' oil suggested by Aguilera and Radetzki out to 2035 only roughly compensates for conventional oil's expected decline over this period.

The upshot is that we should expect the price of oil to return fairly soon to at least that (on-average) of the non-conventional oil marginal barrel, perhaps $100/bbl or so; and potentially quite a bit higher if indeed the 'all-oil' peak is not too distant. (Note that in the latter case, the upper limit to price is probably largely set by demand-destruction resulting from the damage that a high oil price does to global economies.)

2. Explanations Proposed for the Present Low Price of Oil

Now we turn from what price trend to expect to asking the question: Why has the oil price fallen so low?

A wide variety of explanations has been offered for this by various pundits, often with the claim (or implication) of superior knowledge. In our view, none of the explanations offered so far seems, by itself, to be fully convincing. We are rather reluctant to enter into this area of speculation (even if as here, in an 'opinion piece') in what is intended as a fairly rigorous academic journal, but we do so as the underlying explanation for the present low oil price probably has fairly serious implications for the general understanding of the future price of oil.

First we note however, in agreement with analysts such as Paul Stevens of Chatham House, that oil has now become something of a commodity in its pricing, where - for commodities in general - a slight under-supply can send the price (at least in the short-term) very high; and correspondingly very low in the case of a small over-supply.

In oil's case it seems currently that supply swings as small as perhaps 1% (equivalent to ~1 Mb/d) can bring about large changes in price. In this context we understand that much oil is now increasingly traded on short-term contracts, which exacerbates this trend. Note

that this current situation, of 'oil as now a simple commodity', contrasts with the long period, of perhaps nearly a century, where oil producers tried (and generally succeeded) in controlling the price of oil, at least in terms of preventing it from dropping disastrously low (see Bentley and Bentley, 2015a, b).

Now we turn to some of the explanations variously offered for the current price of oil (and there are indeed others). These have included:

1. Saudi Arabia (perhaps in coordination with Kuwait) has maintained production to hold market share against competition from rapidly rising US shale (light-tight') oil production.
2. Change of regime of the Saudi royal household. Whereas King Abdullah said he wished to restrict production from the kingdom '*to hold as much oil as possible in the ground for his grandsons*', maybe now the new king, or possibly his son, have taken a more commercial attitude.
3. Some Middle East suppliers (perhaps led by Saudi Arabia) have sought to use a low oil price to damage the economies of political rivals, such as Iran, or perhaps Russia; or those of cash-strapped OPEC rivals, perhaps Venezuela. (A more extreme view sees the hand of the US in this; willing to take pain at home with its shale producers in order to collaborate with Saudi Arabia and others in leaning on Iran or Russia.)
4. Others have suggested that the big producers are now financially well informed, and can trade to make significant gains on both a falling as well as a rising market.
5. More benign explanations exist: One is that some Middle East suppliers (again perhaps led by Saudi Arabia) have realised the damage that the high oil price was doing to political friends, such as the US, Europe and Japan, so decided to maintain production to lower the price.
6. A more self-centred view, but along similar lines, is that the producer countries realised that a high oil price was harming the economies of countries in which they in turn now have large investments, and were thus hurting themselves.
7. Another explanation is that there is a realisation among all oil exporters that their oil is at risk of becoming a 'stranded asset' due to impending action on climate change, and that they would

be wise to pump as fast as is reasonable now while there is still a market.

Which of these very different explanations is correct?

The explanation we understand that Saudi Arabia has most generally given is that of maintaining market share; and this we are inclined to judge - on admittedly relatively little data - as possibly the most likely. The potential flaws in this explanation are: (a) at a low price (under perhaps $80/bbl) the kingdom's finances are difficult, see below; and (b), once US shale producers are knocked out, the price will go back up and encourage them back in (albeit with a delay, as funders are likely to be more cautious the second time around).

In terms of adopting such a 'not lose market share' strategy, it may be that officials within the country remember all too well the production cuts of the 1980s. These were intended to hold the price up near 1978 levels, but where Saudi Arabia took the bulk of such cuts compared to most other OPEC members, and as a result saw a very significant falls in its income.

(In this context, it is perhaps worth mentioning the OPEC 'quota wars' reserves manoeuvring at that time, as this still has important repercussions to this day. OPEC quotas were based in part on reserves, and Kuwait had reported reserves of 67 Gb in 1970, which had fallen to 64 Gb by 1984 in the absence of any major new finds. Then, in 1985, the country massively increased its reported reserves, to 90 Gb, although nothing significant had changed in its oilfields. Then in 1987 it announced a further small increase, this time possibly genuine, to 92 Gb. But it seems that this last increase may have proved too much for the other OPEC members, and in 1988 Abu Dhabi matched Kuwait's reserves, at 92 Gb (up from 31 Gb); Iran went one better at 93 Gb (up from 49 Gb); Iraq went to 100 Gb (up from 47 Gb) and Venezuela increased its reserves from 25 to 56 Gb (by including its heavy oil that it had not previously counted for the OPEC quota). The level of Kuwait's new declared reserves may suggest that the country was now reporting *original*, rather than *remaining*, reserves, by not deducting past production - as indeed is industry practice when determining the shares of a field which crosses a lease boundary, as was effectively the case with the disputed Iraq/Kuwait Rumaila field. This uncertainty on OPEC's true reserves has been a difficulty for many analysts ever since.)

Returning to today and the low oil price, the question is: How long can this remain low?

Some have speculated that Saudi Arabia could maintain oil prices in the ~$30/bbl region for perhaps up to five years, by more aggressively doing what the country is currently doing: drawing down sovereign wealth funds; borrowing on the local, and in time international, markets; reducing government expenditure; decreasing energy subsidies; and considering an initial public offering (IPO) of parts of its oil infrastructure. But such a long period of financial pain seems extremely unlikely to us, even if geopolitics (vs. Iran and others) is in play; and almost certainly an oil price rise up to the $50 to $60/bbl region by later this year (2016) - as many experts closer to the market than us suggest - looks the more realistic.

3. Implications of the Present Low Oil price in Terms of Society's Understanding of Future Oil Price Risk

To conclude this short paper, we turn to an important topic: the implications of the present low oil price in terms of society's understanding of future oil price risk.

Today, despite the various forecasts mentioned above, and in particular the recent evolution of the 'mainstream' forecasts towards a significantly more conservative position, few energy analysts, let alone people in the street, or in energy-using companies, in government, or in academia, are aware of these relatively near-term expectations of significant difficulties in oil supply.

And there is no question that the current year or more of oil prices at $50/bbl and below has pushed any concerns there might have been well into the distance. Two examples will suffice here: BP's recent *Technology Outlook* (November, 2015); and remarks by senior UK and EU people with responsibilities for energy that we have listened to at recent conferences, where the current zeitgeist is: 'We used to worry about peak oil, but now those fears are behind us.'

The oil price will go back up, whether this is by supply curtailment by Saudi Arabia and one or two others; by other OPEC producers agreeing cuts between themselves; by US producers reverting to Texas Railroad style pro-rationing (as one letter to *The Economist* suggested); or by proximity to the global production peak of conventional oil biting

ever more deeply. But there is also little doubt that the price rise will be generally attributed to producers' decisions on supply, and also to lack of investment leading naturally to a commodity price cycle, with the expectation that sufficient new investment will bring the price down again.

We are thus concerned that the underlying supply constraints, long recognised in the forecasts from the 'independents', and increasingly recognised in forecasts from the 'mainstream' organisations, will remain unknown, and catch society out badly, as happened with the oil price rise post-2004. We need to understand the future.

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