Trend Macrolytics, LLC
Donald Luskin, Chief Investment Officer
Thomas Demas, Managing Director
Michael Warren, Energy Strategist

MACROCOSM

Oil's Hard Road Forward

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Michael Warren

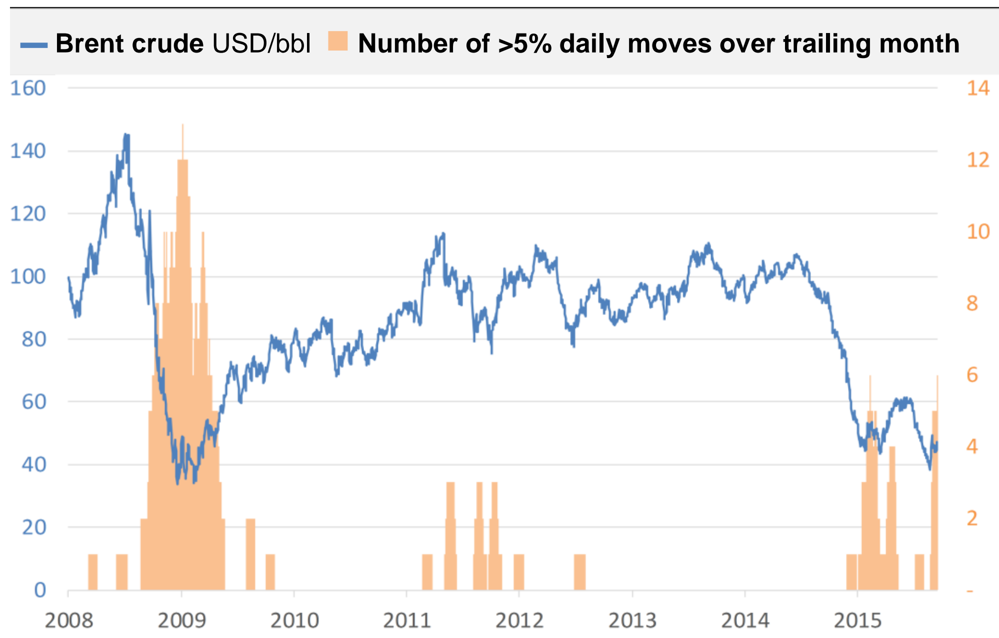
Prices have seen the lows, but CAPEX hasn't -- production will decline through mid-2016.

We've been saying since January, and we reiterated as recently as late July, that global crude prices would "remain in a range between $50 and $65 in 2015, with some allowance for speculative overshoot" (see, most recently, "US and OPEC: The New New World Oil Order, Volume II" July 27, 2015). *With WTI having traded below $40 for four days in August, we should just admit we were wrong -- that was more than just "overshoot," though the sheer random noise in the crude market hasn't been louder since the Great Recession (please see the chart below).*

- *But we think the $37.75 print for WTI on August 24 marked the bottom for the year.*
- *For the rest of 2015, and into mid-2016, we are forecasting a range for global crude from $45 to $60, with the usual allowances for speculative overshoot.*
- *We think US production will continue to fall for about three quarters, finally turning up again in Q4-2016.*

First a brief overview of our reasoning, and then detailed explanations:

Brent crude USD/bbl **Number of >5% daily moves over trailing month**



Source: Bloomberg, TrendMacro calculations

Update to strategic view

OIL: We are lowering our expected price-range for crude to $45 to $60. But we think we've seen the bottom already, and expect prices to move up through the range through mid-year 2016. But near-term prices will be held down by the US refinery maintenance season, and continued fears of a flood of new Iranian oil. Statistical revisions have distracted markets from the massive US supply destruction that has already occurred. More is coming as CAPEX continues to dry up. Iran won't live up to its extravagant production claims. At the same time, with Russia intervening in Syria, the chances of a regional geopolitical event become greater. Prices will rise as these realities emerge, and production will rebound in H2-2016.

[Strategy Dashboard home]

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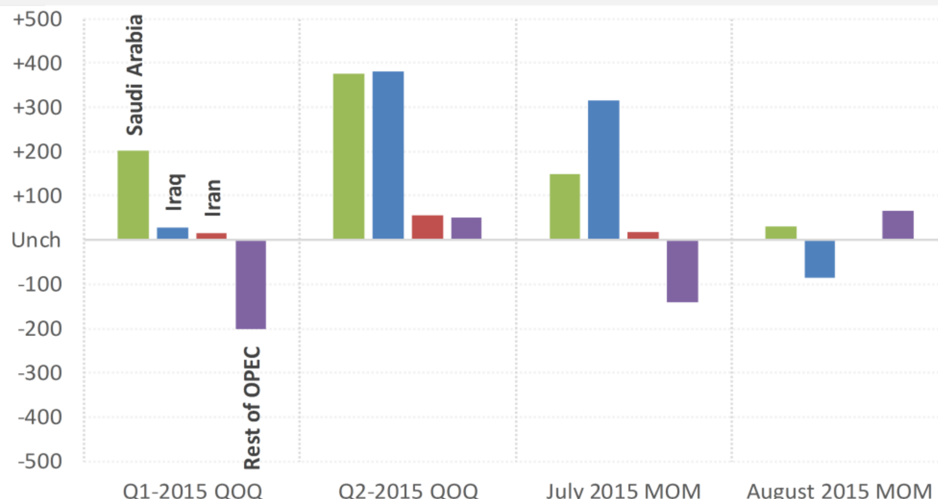
- We think the surge in OPEC production is over, and that it will only plateau from here. The arrival next spring of new production from Iran is likely to be less than the flood the market fears.
- We think US production will continue to roll over. Indeed the market has only begun to appreciate the extent to which it *already has* rolled over, thanks to confusion arising from heavily revised data.
- Domestic CAPEX will continue to slow, taking future production off the table.
- In the short term, the domestic refinery maintenance season will take some demand off the table, too.
- Even at the upper end of our expected price range -- and even if we are entering, as we expect, a mild recession -- crude prices remain very low by modern standards, so we wouldn't expect much demand destruction.
- But as prices recover, some domestic producers will pump as much as possible in order to continue to stave off financial collapse.

Let's start with our outlook for OPEC. Last November, OPEC effectively ended a multi-decade regime of attempted management of global prices, in favor of a new regime designed to restore the cartel's flagging market share. Within months, key OPEC members raised production and offered barrels below regional benchmark prices (see "Market Share for Cannibals" June 8, 2015).

- A cannibalistic grab for market share may heat up again when previously embargoed Iranian barrels start to hit the market, we believe in the first quarter of next year (see "Iran: The New New World Oil Order, Volume I" July 20, 2015).
- But for the remainder of this year we think our call that Saudi crude production would not exceed 10.5 million barrels/day -- that it has topped, because increased internal demand from two new refineries has been satisfied -- remains dead-on (see "US and

Change in crude production Thousands barrels/day



Source: OPEC, TrendMacro calculations

Contact TrendMacro

On the web at
trendmacro.com

Follow us on Twitter at
twitter.com/TweetMacro

Donald Luskin
Chicago IL
312 273 6766
don@trendmacro.com

Thomas Demas
Charlotte NC
704 552 3625
tdemas@trendmacro.com

Michael Warren
Houston TX
713 893 1377
mike@trendmacro.energy

[About us]

OPEC: The New New World Oil Order, Volume II" July 27, 2015). According to OPEC's own latest published data, Saudi month-over-month production growth has fallen to only 30,000 barrels/day in August, to total production of 10.362 million (please see the chart on the previous page).

- At the same time, Iraqi production and exports, which surged in the second quarter and July, fell back in August (again, please see the chart on the next page). The surge was due to new infrastructure in the south, but now Iraq has lost access to the Kurdish pipeline in the north due to non-payment of funds to the regional government.
- *We think an underappreciated reality is that potential disruption of supplies from the Middle East ought to be a growing concern in the market.*
- Russia has now intervened directly in Syria, supposedly to defeat Islamic State forces. But airstrikes are reportedly geared more to keeping the dictator Bashar Al-Assad in power. With US Special Forces still operating within Syria, the chances of an accidental super-power confrontation cannot be ruled out.
- *For that matter, we can't rule out the possibility that Russia's ultimate motive here is to trigger, accidentally or on purpose, an event that would destabilize the region and drive global crude prices higher.* After all, the Russian economy, and the ability of the Russian government to fund itself by taxing its domestic oil industry, have been sharply compromised by today's low oil prices.
- At the same time, the Turkish military is marshalling more men and equipment on the border to deal with the Kurds. And the Saudi/Iranian cold war in Yemen continues.
- And bubbling in the background now is heightened risk of populist uprisings in the region. In response to the "Arab Spring" of 2010, the monarchies maintained control of their peoples with generous hand-outs -- which was possible due to high oil prices. Surely political unrest is more likely now and in the coming years when the monarchs do not have a full treasure chest from which to bestow gifts to their large and growing populations.

With OPEC production set to -- at most -- plateau at least until Iran comes into play next year, let us turn to the United States, which we believe is now the global swing producer.

- We have been warning most of this year of a "reflexive" vicious cycle, in which domestic producers, desperate to produce cash-flow to meet debt obligations amidst falling prices and profitability, will over-supply an already over-supplied market, pushing prices lower still (see, recently, "Is This the Oil Shock Tipping Point?" August 20, 2015).
- Though capital was expensive in H1-2015 -- thanks to sharply wider credit spreads and lower equity prices -- operators were nevertheless able to finance their scramble for cash-flow with stock and bond issuance, if not bank loans. And non-core acreage and midstream assets were sold off.
- At the same time, they kept production up despite low prices and little CAPEX. That is, many operators have been completing more

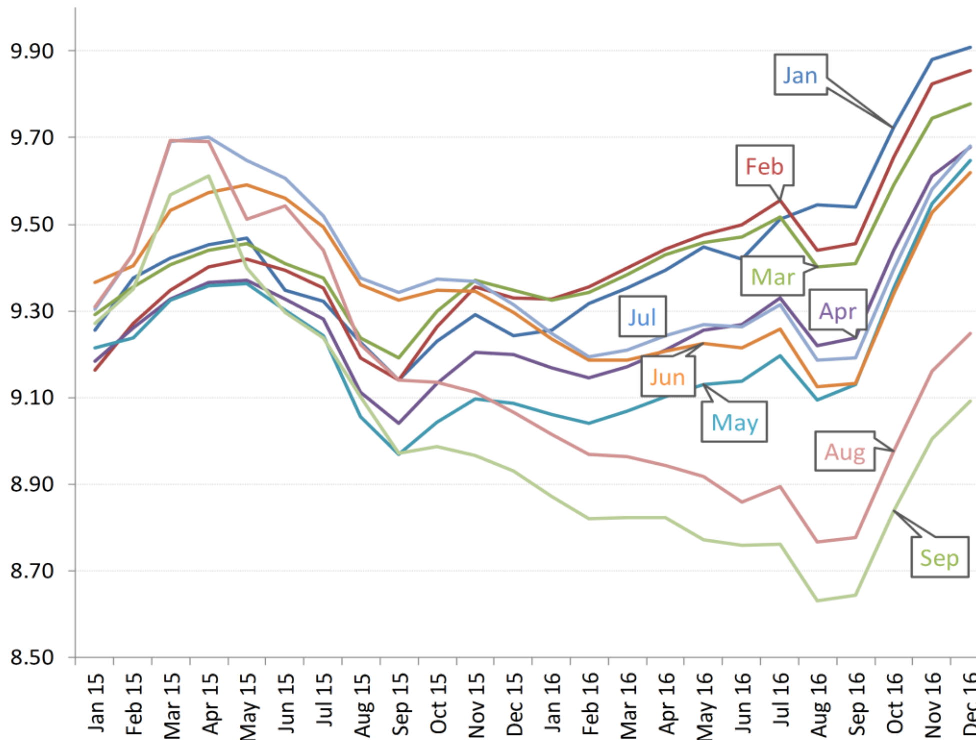
wells than they are drilling, lowering their historical "fracklog" in US shale and light tight oil plays. But at some point such operators run out of wells to complete, and with no CAPEX, they can't drill new ones.

- Now capital is even more expensive, with credit spreads higher and equity prices lower than in H1-2015.
- And many operators will have to reduce their reserve estimates in a lower price environment when banks are re-determining lending lines. We could see some lending lines cut back, with operators unable to come up with the money to repay their banks, forcing reclassification of existing loans as non-performing -- tightening credit conditions even further.
- These highly non-linear credit dynamics may have had a lot to do with the quickly-reversed speculative spike in WTI to as low as $37.75 on August's "Black Monday." That was the day when global equity markets experienced the worst of their sharp correction that had begun the prior week just after oil's initial break to new lows for the year (see "Correction, Recession, or Crisis?" August 24, 2015). *There's no objective way to know when such moves have burned themselves out, but for us that day in oil markets sure felt like a selling climax.*
- Even if prices stabilize here, the US CAPEX outlook going forward is only getting more bearish. A couple of anecdotes:
- Marathon Oil (MRO) will cut H2-2015 CAPEX and has found at least $600 million in savings that it can trim from 2016 CAPEX, according to CEO Lee Tillman. He also said Marathon will spend only $100 million on its conventional exploration program next year, compared to $167 million and $500 million in 2015 and 2014, respectively.
- Continental Resources (CLR) is further trimming already reduced 2015 CAPEX, which it now expects will be $300 to $350 million below what had been budgeted. No specific guidance was given for 2016 CAPEX.
- A recent Wall Street survey reports that, on average, global E&P companies would cut their 2016 CAPEX if WTI crude is below $47, while a majority would increase CAPEX if it is above $65. *Such spending decisions are on the table in Q4-2015. If prices for the quarter stay where they are now, then CAPEX will be cut further -- and CAPEX will only increase if prices make it all the way above the top of our forecasted range.*
- The production impact of the CAPEX drought is finally beginning to be seen in the official statistics -- while for much of this year those statistics have shown relatively little production rollover.
- *According to the most recent DOE EIA figures, US production is now believed to have peaked in April at 9.61 million barrels/day. So through September's forecast, production has fallen 640,000 barrels to 8.97 million, an astonishing 6.7% drop in just five months.*
- *There is simply no question that, at today's lower prices and with today's lower CAPEX, we are seeing significant supply destruction.*
- One thing that has kept the market from fulling appreciating this simple fact has been the constant large and confusing revisions to both past data and forecasts coming from EIA, arising in part from

methodological changes.

- For example, the most recent monthly data shows July production at 9.24 million barrels/day, revised downward by 280,000 -- *an enormous 3% downgrade!* -- from where it had been reported just two months ago (please see the chart below).

Short Term Energy Outlook **forecasts and actuals, by month of publication**
Millions barrels/day

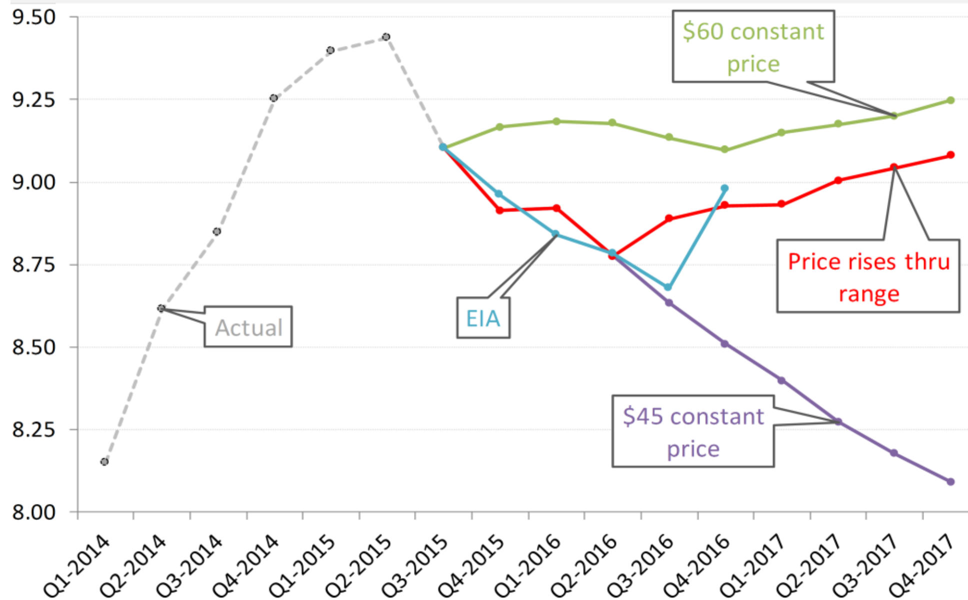


Source: DOE EIA TrendMacro calculations

- September production, at 9.24 million, is now reported 370,000 below where it had been forecasted just two months ago, a 4% downgrade.
- Forecasts, too, are being dramatically revised. At the beginning of the year, EIA was calling for a floor in production for this very month at 9.14 million barrels/day. With the latest forecast putting September at 8.97 million, that's 170,000 or about 2% lower.
- And now EIA is forecasting the bottom in August 2016 at 8.63 million, a drop from present production of 340,000 or almost 4%. In January, EIA had been saying production in August 2016 would be almost a million barrels/day higher than that.

Our production forecast is a bit more optimistic, with the bottom in Q2-2016 at 8.77 million barrels/day (please see the chart on the following page).

- Though EIA is presently only forecasting through 2016, we are now modeling out to 2017. We are working with three scenarios -- the first two with crude priced at a constant $45 and $60, respectively, and a third with crude following a price path starting at $45 and



gradually moving upward to $60 (again, please see the chart on the following page).

- The tightened CAPEX environment will bite. Unless prices move immediately to the top of our expected range at $60, US production will continue to contract.
- Our low-price scenario shows 600,000 barrels/day could be lost by the end of 2016, bringing production to 8.5 million barrels/day, a level not seen since the Q2-2014.
- Our more-likely scenario, in which prices move up through our expected range, puts production 420,000 higher, but that still would leave year-end 2016 production 180,000 lower than present.
- Note the very large jump in EIA's forecast, between Q3-2016 and Q4-2016 (again, please see the chart above). The agency may be relying on a belief in a massive backlog of wells that can be completed at the higher prices that may obtain then.
- To be sure, some operators -- such as technology leader EOG Resources (EOG), which has kept its powder dry and actually added to its completion backlog -- could quickly complete hundreds of wells to respond to higher prices (see "I Have Seen the Future, and It Fracks" February 24, 2015).
- Other leading operators -- such as Hess (HES), which has already reduced its fracklog -- won't be in the same kind of position to bring online wells that have been spudded but not completed.
- Ultimately, across the industry, when higher prices arrive new wells will have to be drilled. That will take CAPEX, which the most efficient operators will be able to obtain and deploy.
- We have an alternative narrative to explain why prices should be higher in the H2-2016, and therefore why a production rebound should be in the cards.
- We don't believe the oft-repeated bold claims by Iran's oil minister

Bijan Zanganeh that shortly "after lifting sanctions, Iran will take back the market share of more than 1 million barrels a day that it lost." We think it more likely that Iran will struggle to increase production by even half that within a year from the nuclear deal's Implementation Day, a starter's pistol that is unlikely to be fired until Q2-2016 (again, see "Iran: The New New World Oil Order, Volume I").

- Once the markets witness the less auspicious reality of Iran's re-entry into global crude markets -- at the same time as US production continues to fall throughout 2015 and into 2016 -- then the crude price outlook will be revised higher.
- Remember, we are forecasting another 330,000 barrels/day in US crude production decline by the end of Q2-2016 from where we are now. If Iran hasn't increased production by that much or more by then, markets will take notice.
- While prices may indeed start to rise in midyear 2016, the new era of "just-in-time" production from North American light tight oil producers will ultimately put a lid on how high prices can go (see "The Shale Boom Shifts Into Higher Gear" June 1, 2015).

What about the downside? We think most of those risks are near-term.

- With the autumn maintenance season around the corner, US refineries are switching from spring- to winter-grade gasoline and more distillate production. We expect a repeat of the tired arguments about overflowing storage tanks to come from the likes of Citi and Goldman. Those arguments weren't valid when they made them in the spring (see "Grant Me $20 Oil, But Not Yet" February 17, 2015), and they won't be valid now. But the constant harangue could keep prices lower than they ought to be given the supply destruction we're expecting -- which is why we've lowered the bottom of our price range from $50 to $45.
- Another downside risk is that while the "just-in-time" model, on paper, allows for producers to cut back in fine-tuned response to lower prices -- thus putting a floor under those prices -- it does not take into account the "reflexive" non-linearities that can erupt when debt-distress is involved. We can't rule out a production frenzy well below break-even prices just to obtain cash flow to meet debt payments.
- So let's call that "reflexive" potential here a wild-card, but likely one that has already been played. If it is indeed out of the deck, then all the regular realities of supply and demand point to higher and range-bound prices for the rest of the year, and heading into next. Given the utterly dismal sentiment we sense all around us, we'd have to say the surprises will be on the upside.

Bottom line

We are lowering our expected price-range for crude to $45 to $60. But we think we've seen the bottom already, and expect prices to move up through the range through mid-year 2016. But near-term prices will be held

down by the US refinery maintenance season, and continued fears of a flood of new Iranian oil. Statistical revisions have distracted markets from the massive US supply destruction that has already occurred. More is coming as CAPEX continues to dry up. Iran won't live up to its extravagant production claims. At the same time, with Russia intervening in Syria, the chances of a regional geopolitical event become greater. Prices will rise as these realities emerge, and production will rebound in H2-2016.