PLAYING IN THE BAND: OPEC AND OIL PRICES

 October 25, 2016

Not long after July 2008's major peak in crude oil prices, the European Central Bank President, Jean-Claude Trichet, declared that "predictions of the future prices of commodities are probably the most difficult exercise you can imagine." ("Introductory Remarks with Q&A", 8/7/08)

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CONCLUSION

OPEC, finally fearful of sustained low petroleum prices and renewed price slumps, troubled by elevated oil production and lofty inventories, formally met 9/28/16 in Algiers. The ministers established a crude oil production target range of 32.5 to 33.0 million barrels per day, beneath estimated September 2016 production of around 33.5mmbd. This agreement reflects a Saudi Arabian policy shift. That nation and its allies apparently will no longer countenance (risk) benchmark Brent/North Sea crude oil prices under around $35 to $40 per barrel for an extended period. OPEC ministers have engaged in dialogue with non-OPEC oil producers regarding output schemes. OPEC gathers 11/30/16 in Vienna. Output apparently will not be cut prior to the November meeting (Financial Times, 9/30/16, p20).

OPEC's rhetoric and general policy approach likely will help support Brent/North Sea at prices around a $35-$40 range. However, for the near term, OPEC's actions thus far in the context of the global supply/demand picture probably make it challenging for petroleum prices to sustain elevations more than a few dollars above their mid-October 2016 levels (on a nearest futures continuation basis, Brent/North Sea crude oil around $54, NYMEX around $52). Why? First, OPEC has not adopted specific country-based output reductions. Moreover, given ongoing quarrels within the organization, whether it will do so in November 2016 or even implement them in practice is uncertain.

In addition, actual OPEC crude production of 32.5/33.0mmbd probably will begin cutting oil stockpiles only by sometime around mid-2017.

Ongoing serious dialogue with crucial non-OPEC producers such as Russia represents a victory for OPEC. Suppose production cuts by notable non-OPEC nations combined with genuine OPEC discipline; that probably would help to rally prices above recent highs. The Saudi Arabian oil minister claimed that many nations will join OPEC in cutting production (Bloomberg, 10/19/16). However, he did not name names. If non-OPEC countries support OPEC measures, it is not nearly as clear as the Saudi minister claims that non-OPEC lands will slash output. A production freeze by Russia (and perhaps Mexico and other emerging marketplaces) is more likely, but even that is not certain. Russia's President suggests his country is "ready to join the joint measures [freeze or production cut] to cap production" (Financial Times, 10/11/16, p20). Recall the 2/16/16 output freeze conversation between Saudi Arabia, Qatar, Venezuela, and Russia did not result in a production cut.

THE PETROLEUM PLAYGROUND

The Grateful Dead sing in "Playing in the Band": "Some folks look for answers Others look for fights".

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Worldwide OECD industry petroleum inventories are sky-high. For 1996-2014, end year OECD oil inventory (relative to forward quarter average daily petroleum product demand) averaged about 54.2 days of consumption (see the International Energy Agency's "Annual Statistical Supplement" and its monthly "Oil Market Report"). End 4Q15 OECD industry stocks were 65.0 days of forward demand (10/11/16; Table 5).

According to the IEA and OPEC's "Monthly Oil Market Report" (10/12/16, Table 10.5), petroleum inventories stood at about 66.0 days coverage. Petroleum inventories likely did not drop much, if at all, during 3Q16 (see also the US Energy Information Administration's "Short-Term Energy Outlook"/"STEO", Table 3a; 10/13/16). Thus current OECD industry petroleum inventories probably leap about ten days above normal. The OECD region of course is not the whole world, for it does not include emerging/developing countries.

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According to the IEA, OPEC crude oil production in September 2016 was 33.6 million barrels per day. According to OPEC, based on secondary sources, OPEC's crude oil production was about 33.4mmbd (Table 5.6). These levels relative to the anticipated 32.5-33.0mmbd target hint that OPEC faces modest but not insurmountable difficulties in agreeing on a specific production quota regime. However, many OPEC members state that secondary source estimates understate their output. Iran, Iraq, Venezuela, and even Saudi Arabia are in that camp (see Table 5.7). Based on such direct communications from members, OPEC's September 2016 output may have been close to 34.0mmbd.

In any case, the supply/demand theater, even if OPEC cuts production under 33.0mmbd for a sustained period, likely will not dramatically alter the inventory scene for quite some time. OPEC indicates the calendar year 2017 call on OPEC crude oil to balance supply/demand will be around 32.6mmbd (Table 10.3; the call is greater in second half 2017 than first half). The EIA's STEO implies a 2017 call on OPEC crude oil of about 32.7mmbd (Table 3a; also a larger call during second half 2017 than the first six months). The IEA predicts the call on OPEC crude oil during 2017 will exceed 33.0mmbd.

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Saudi Arabia and Iran have significant political and religious differences. Will Iran agree to cap its production at four million barrels per day (or less), if at all? Will Iran or Iraq be exempted from a quota program, at least for a while? Will they, Venezuela, or others restrain their production given their need for oil revenues? In the late November OPEC meeting, will discussions involve what output streams should be included within the crude oil definition? Will condensate output be part of the agenda? Will Nigeria manage to subdue social unrest and thereby increase supplies? If Libya's civil war ever ends, production there likely will climb gradually.

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With its November 2014 meeting, OPEC (particularly Saudi Arabia) embraced its role as the swing producer at much lower prices to maintain its key role in worldwide petroleum output. In late February 2016, the Saudi Arabian oil minister declared that inefficient producers will have to get out of the market. Saudi Arabia can produce profitably at $20 per barrel. "We don't want to, but if we have to, we will." (Financial Times, 2/25/16, p20).

In the past, the Saudis ventured upon resolute efforts to regain market share. Recall the netback pricing era of almost thirty years ago. See the EIA's "Petroleum Chronology of Events 1970-

2000, the "Crude Oil Price Collapse of 1986" (May 2002). In late 1985, Saudi Arabia "increased production, and aggressively moved to increase market share." "The collapse of crude oil prices in 1986 reversed the upward trend in U.S. production of the first half of the decade." http://www.eia.gov/pub/oil_gas/petroleum/analysis_publications/chronology/petroleumchronology2000.htm#T_10_

OPEC's September 2016 statements and the anticipated related output ceiling represent a noteworthy production and price policy shift from its post-November 2014 meeting viewpoints.

Saudi Arabia's decision to increase austerity (cut government salaries and perquisites; NYTimes, 9/27/16, pA6) coincided with OPEC's 9/28/16 commitment to change its crude output policy. Had the Saudis decided to arrest declining foreign exchange reserves? Note also that the US Congress enacted legislation permitting lawsuits against foreign governments for terrorist attacks on American soil, and on 9/28/16 overrode a Presidential veto. Potential defendants include Saudi Arabia (relating to the 9/11attacks; see NYTimes, 9/29/16, ppA1, 15). So that new law arguably motivates Saudi Arabia to be less inclined to support very low oil prices.

However, despite its September 2016 policy alteration, OPEC (including Saudi Arabia) probably remains determined to capture market share and induce further output cutbacks (or at least mitigate production boosts) by high-cost oil producers around the world (think of America's shale oil). The late year 2015 United States decision to lift the nearly complete ban on American oil exports surely displeased the Saudis and their comrades.

US domestic crude oil production (including lease condensate) peaked at about 9.6 million barrels per day in April 2015. It reached a low of 8.3mmbd in August 2014 (STEO, Table 4a). However, the EIA forecasts a gradual rise thereafter, with calendar 2017 averaging 8.6mmbd. The plateau for Lower 48 States crude oil output (excluding the Gulf of Mexico) occurred in March 2015 at nearly 7.7mmbd, subsiding to under 6.4mmbd by September 2016. The EIA predicts little change in subsequent months, with calendar 2017 averaging about 6.3mmbd.

Global investment in petroleum projects has fallen. According to OPEC, the worldwide oil rig count in 2014 was 2,795 (excluding China and FSU; "Monthly Oil Report", Table 10.7; citing Baker Hughes and the OPEC Secretariat). At end 2Q14, it was 1,043, down 62.7 percent. By September 2016, the total edged up to 1,177.

Perhaps pressure on America's oil industry has diminished due to the price bounce of recent months. Some oil producers (particularly in America) supposedly have become more efficient, and yields on US junk energy debt have fallen sharply (Financial Times, 10/14/16, p20). US oil rotary rig counts, after collapsing from 1,609 on 10/10/14 to 316 on 5/27/16, have ascended slightly, reaching 443 on 10/21/16 (Baker Hughes).

THE CHORUS LINE

In "Band of Brothers", a 2001 television mini-series depicting World War Two, a character comments: "These men have been through the toughest training the Army has to offer, under the worst possible circumstances, and they volunteered for it."

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Oil producers are not the only energy marketplace participants who promote stronger petroleum prices and pray that OPEC will reduce (or at least freeze) its output. Assorted energy-lending banks, owners of petroleum commodities, and holders of energy equities and interest rate securities melodiously cheer the rally in petroleum prices since their first quarter 2016 trough. US natural gas producers and inventory holders probably also applaud the petroleum price rally. The major low in NYMEX natural gas on 3/4/16 at 1.611 occurred close in time to bottoms in the petroleum complex.

Leaders of the global central banking ensemble, such as the Federal Reserve Board, European Central Bank, Bank of England, and Bank of Japan focus on and sing similar tunes regarding core inflation. Yet the noisy crash in oil prices nevertheless influenced these financial conductors to finally confess that “too low” (collapsing) oil prices can endanger their noble efforts to achieve their adored overall inflation targets and can injure the so-called real economy. According to Fed, ECB, and other central bank hymns, two percent inflation is good, too low inflation is bad, and deflation generally is very bad (or evil). These luminaries probably also admit that major commodity trends (especially in oil) often can closely intertwine not only with yield levels of debt securities, but also with foreign exchange patterns as well as emerging marketplace and advanced nation stock marketplace trends.

Central bankers consequently tolerate, and arguably even welcome, the notable bull move in petroleum prices that began in first quarter 2016. A further mild ascent in oil (and many other commodity) prices probably will not inspire them to depart from their ongoing highly accommodative monetary schemes.

MARKETPLACE HARMONIES

Several important stock, interest rate, currency, and commodity marketplaces generally have been “trading together” since spring/summer 2015. In its descent beginning in spring/summer 2015, the S+P 500 ceased diverging significantly from the ongoing patterns in emerging stock marketplaces and commodities in general. See “Ticking Clocks: US Financial Marketplaces” (8/8/16), “Adventures in Wonderland: Commodity Currencies” (9/26/16), “China: Behind the Great Wall” (6/7/16), and various earlier essays for details on fundamental considerations and price relationships and trends.

Focus on first quarter 2016 and thereafter. Highlight the similar first quarter 2016 timing of the high in the TWD, important lows in the S+P 500 and many other key stock marketplaces, the initial low yield in the US government 10 year note, and bottoms in the petroleum complex and the broad GSCI.

Central bankers sought to orchestrate a halt to further declines in key global stock benchmarks in the United States and overseas. They have fought to stop the broad real trade-weighted dollar (“TWD”) from ascending much (if at all) beyond its January 2016 highs.

The ongoing highly accommodative central bank policies of the Federal Reserve Board, European Central Bank, Bank of England, Bank of Japan, and China have played a key role in creating a commodities floor around January/February 2016 lows. A somewhat weaker dollar and stronger stocks (and very low interest rates, including negative yields on government debt in several key nations) encourage commodity marketplace bulls. To some weary yield-famished investors (and speculators), depressed commodity prices apparently offer satisfactory potential for a good (decent, reasonable) return.

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The NYMEX crude oil (nearest futures continuation) weathervane eventually collapsed following 6/20/14's eminent drop-off point at $107.73. Remember OPEC's crucial oil meeting of 11/27/14, during which oil ministers decided to maintain high production levels (capture market share). The GSCI's summit was 6/23/14 at 673. The S&P broad Goldman Sachs Commodity Index ("GSCI") crashed loudly after 11/26/14's close near 515.

Key petroleum complex members established major bottoms during first quarter 2016:

NYMEX crude oil (nearest futures continuation): $26.19 on 1/20/16, $26.05 on 2/11/16
ICE Brent/North Sea crude oil (nearest futures): $27.10 on 1/20/16, $29.92 on 2/11/16
OPEC crude oil daily basket: 1/20/16's $22.48
US Gulf Coast regular gasoline: 82.1 on 2/9/16
USGC diesel: 79.8 on 1/20/16
USGC 3.0pc residual fuel: $15.13 on 1/20/16.

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The MSCI Emerging Stock Marketplace Index (from Morgan Stanley; "MXEF") is a key yardstick for emerging marketplace stocks "in general". The broad real trade-weighted dollar ("TWD"; Federal Reserve Board, H.10) is a monthly average. Although the broad GSCI is heavily petroleum-weighted, it performs as a signpost for commodities in general.

	Broad GSCI	**S+P 500**	**Emerging Market Stocks MXEF**	**US Dollar ("TWD")**
1Q16 Low	268 (1/20/16)	1812 (1/20/16) 1810 (2/11/16)	687 (1/21/16) 708 (2/12/16)	101.2 (January 2016)
Recent High	392 (6/9/16)	2194 (8/15/16)	930 (9/7/16)	TWD decline 4.9pc since January 2016
Percent Rise From 1Q16 Low	46.2	21.2	35.4	

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January 2016's broad real TWD 101.2 top significantly surpassed the peak reached during the global economic crisis, March 2009's 96.8. The low since January 2016 is April 2016's 96.3.

The nominal broad TWD, unlike the broad real TWD, has daily data. Its 5/15/15 interim low at 112.8 shortly preceded the 5/20/15 S+P 500 summit at 2135. The nominal broad TWD's high occurred 1/20/16 at about 126.2. Note the coincidence of this nominal TWD date and the lows in commodities, the S+P 500, and emerging marketplace stocks.

Several commodity currencies have rallied off their cross rate lows versus the US dollar. Note several oil producers. Canada's low was 1/20/16 at about 1.47, with Russia's 1/21/16 at 86.0 (see also 2/11/16 at 80.6). Mexico made a minor low at 2/11/16 at 19.45. Although the peso slumped beneath this to reach 19.92 on 9/26/16 (partly due to growing dread of a Trump victory in the 11/8/16 US Presidential election), it has since strengthened to under 18.60. Not only has Trump's election chances slipped; note the coincidence of the 9/26/16 peso low and OPEC's late September 2016 agreement.

NYMEX natural gas made a major low during first quarter 2016, on 3/4/16 at 1.611.

The LMEX index (London Metal Exchange) is a standard for important elements of the base metals complex. Its low, 1/12/16's 2049, occurred slightly before those in the petroleum complex.

The Bloomberg Commodity Index established its bottom the same day as the GSCI, 1/20/16 at 72.3.

The US Treasury 10 year note yield made an interim high at 2.50 percent on 6/11/15, fairly close in time to the S+P 500's 5/20/15 elevation. The US Treasury 10 year note attained its initial low yield at 1.53 percent on 2/11/16, alongside the times of noteworthy marketplace depths in the S+P 500, MXEF, the petroleum domain, and commodities in general. Its yield staggered up to 2.00pc on 3/16/16 before tumbling to 1.32pc on 7/6/16.

The petroleum bull move assisted the climb in advanced nation and emerging marketplace stock arenas. Energy company earnings prospects brightened. The potential for crisis in various emerging/developing marketplaces seemed less likely.

THE PETROLEUM RALLY: IS AN INTERMISSION APPROACHING?

Key resistance for NYMEX crude oil (nearest futures continuation) is the $51 to $52 band. The recent high was 10/19/16's $51.93. This inched over 6/9/16's $51.67 and represents nearly a 100 percent rally from February 2016's $26.05 bottom. Brent/North Sea's (nearest futures) high was 10/10/16 at $53.73 (6/9/16 top $52.86). Although petroleum and American natural gas do not always travel in similar fashion ("move together"), this crude oil timing parallels 10/13/16's NYMEX natural gas top around 3.37. Although NYMEX crude oil prices have not fallen far from 10/19/16's elevation, a five percent drop gives about $49.35, a ten pc one around $6.75.

Remember that OPEC, despite its enthusiastic September 2016 wordplay, and despite its making progress in dialogue with some non-OPEC members, does not have a well-defined (specific) production agreement (with specific quotas) yet. Its current crude oil output remains high.

A weaker US dollar arguably assists petroleum price rallies. But although the broad real US TWD (monthly average, Federal Reserve, H.10) is moderately weaker than its January 2016 pinnacle, the TWD remains strong. At 97.9 in September 2016, it stands above March 2009's 96.8 major top (S+P 500 major low in March 2009).

The new record high in the S+P 500, 8/15/16's 2194, surpasses 5/20/15's noteworthy pinnacle at 2135, but not decisively (only by 2.8pc). The MXEF (emerging stock marketplaces) remains beneath its 4/27/15 top at 1069 (as well as previous highs in its downtrend: 1212 on 4/27/11 and 1104 on 9/4/14).

There are some signs of rising government interest rates, at least in the United States. The UST 10 year note is around 1.75 percent, up from 7/6/16's 1.32pc. See "Running for Cover: Foreign Official Holdings of US Treasury Securities" (10/13/16). Although the Fed probably will not raise the Federal Funds rate in its 11/1-2/16 meeting (prior to the 11/8/16 US election), it may elect to do so in its 12/13-14/16 gathering.

Global economic growth remains relatively sluggish. Significant sovereign or corporate debt problems exist in many important countries.

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Sometimes significant patterns and heights in net noncommercial petroleum positions can be in rhythm with important oil price trends. The current net noncommercial long position in petroleum is extremely substantial and probably is vulnerable to liquidation. A widespread run for the exits by such noncommercial longs likely would undermine petroleum prices.

Suppose marketplace participants generally are not terribly fearful of economic collapse. Then low interest rate yields (particularly negative ones) can spark and sustain hunts for "good (sufficient) returns" outside the realm of high-quality (especially government) debt securities. Some players may venture into the promised land of stocks (especially supposedly high-quality ones), or even high-yield corporate debt. Picture other financial pilgrims enduring this world of mediocre interest rate yields. Suppose their faith grows that prices in commodities are "low" and that owning them is "not too risky"; such audiences (especially if stocks are rallying too) may buy commodities.

Survey the CFTC's Commitments of Traders for the NYMEX petroleum complex (benchmark crude oil, heating oil (diesel), and RBOB (gasoline) combined, futures and options combined). The net noncommercial long position peaked at around 549,000 contracts (about 18.4 percent of total open interest) on 6/24/14, close in time to 6/20/14's crucial NYMEX crude oil high at $107.73. The net NC long position fluctuated but generally plummeted, reaching a trough of about 271,000 contracts (about 8.3pc of total open interest) on 1/12/16. Note the proximity of this NCL low in the NYMEX petroleum complex to the NYMEX crude oil (nearest futures continuation) initial low at $26.19 on 1/20/16 and its second bottom at $26.05 on 2/11/16.

On 10/11/16, the NYMEX net NCL position reached about 556,000 contracts, a new record (the gross NCL position was 811m contracts, also a record). The net NCL was about 15.3 percent of total open interest, a very large percentage by historical standards (though beneath 2/25/14's 18.8pc pinnacle). The 10/18/16 NYMEX net NCL of 549m contracts borders 10/11/16's elevation; 10/18/16's net NCL 15.8pc of total open interest is above 10/11/16's height.

ICE Brent/North Sea crude oil (nearest futures) made its bear low at $27.10 on 1/20/16, with a second one at $29.92 on 2/11/16. The Brent/North Sea noncommercial position (futures and options combined) shifted from net short about 6,000 contracts on 1/19/16 to net long 37m contracts on 1/26/16. By 10/11/16, the Brent net NC long position soared to about 257,000 contracts (8.9pc of open interest). It eroded only slightly to 249m (8.5pc) as of 10/18/16.

What about the combined net NC long position for the NYMEX petroleum complex and Brent/North Sea? The 10/11/16 net long position of about 813,000 contracts jumped over 6/24/14's 729m net NCL elevation. Though 10/11/16's net NCL position of 12.5pc of total open interest is beneath 6/24/14's 14.5pc, it is nevertheless high.

PETROLEUM PRICES: THE MARCHING BAND

In the movie "Band of Outsiders" (Jean-Luc Godard, director), a character remarks:
"All that is new is, by that fact, automatically traditional."

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What are significant resistance and support levels for NYMEX crude oil (nearest futures continuation)?

Important resistance exists around $51.00 to $52.00. A 100 percent move from $26.05 gives $52.10. In addition to 6/9/16's $51.67 interim top, see the earlier significant high at $50.92 on 10/9/15. The high to date in the rally commencing in first quarter 2016 is 10/19/16's $51.93. Increasing optimism about potential OPEC production cuts could boost prices above the $51-$52 price band. It nevertheless probably will be difficult to sustain moves much above $52 unless OPEC and non-OPEC production prospects show significant likelihood of eventual notable declines in current massive OECD industry inventories.

Above that price range lurks the spring 2015 highs: $62.58 (5/6/15) and $61.82 (6/10/15). A 133pc rally from $26.05 is about $60.77, a 150pc rally $65.12. Suppose that following a clear (specific) agreement in its November 2016 meeting, OPEC actually cuts production along the lines it proposed in late September 2016. Then these price heights represent targets. If key non-OPEC producers really freeze production as well, such prices are more likely to be attained.

Beyond that, watch 10/4/11's low at $74.95 (a fifty percent fall from the all-time high at $147.27 on 7/11/08 equals $73.64) as well as 6/28/12's $77.28 depth (three times the $26.05 bottom is $78.15).

Important signposts for the broad GSCI can intertwine with key levels in the petroleum complex. A 50 percent rally from 1/20/16's 268 is 402 (381 is half the 4/2/11 and 5/2/11 major tops at 762). The 6/9/16 high was 392.

What about higher GSCI levels? Not only was 5/6/15's top 459. So was 5/25/10's low. The 6/10/15 interim top was 450. Keep in mind the timing and levels for the NYMEX crude oil highs 5/6/15's $62.58 and $61.82 on 6/10/15. A 66pc bull move from the January 2016 low equals 446 (fairly close to 459; one-half of 7/3/08's major high around 894 is 447); a 100pc rally is 536 (556 was the 5/3/10 interim top; 573 on 10/4/11 and 556 on 6/22/12 were important interim lows).

If NYMEX crude oil prices retreat, monitor $37.80 (the 9/20/00 peak) to $41.15 (the 10/10/90 pinnacle). A fifty percent spike from $26.05 is $39.08. Recall 8/25/15's low at $38.16 and 8/3/16's trough at $39.19.

$32.40 (the 12/19/08 major low; $33.75 on 2/12/09 was the take-off point for the bull move) to $35.25 (a 33 percent rally from $26.05 is $34.72; $34.82 was the 1/28/16 high, $35.24 the 4/5/16 low).

Major support rests at the January and February 2016 bottoms around $26.00. A five percent move under $26.05 is $24.75.

Watch NYMEX crude oil front-to-back intramarket spreads to confirm significant changes in price trend. For example, examine the first less second month spread or the December 2017 less December 2018 relationship. Reduced contango (near month price less than distant month one) or increased backwardation often (but not always) fit a bull pattern. Nowadays, reduced contango (or increased backwardation) probably would suggest actual easing of the oil oversupply situation (or growing faith this stockpile burden eventually will disappear). In contrast, growing contango (or reduced backwardation) can suggest actual or potential bearishness in outright (spot) prices.

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