OIL'S TROUBLED WATERS

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"When times get rough
And friends just can't be found,
Like a bridge over troubled water
I will lay me down".
"Bridge over Troubled Water", Simon & Garfunkle

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CONCLUSION AND OVERVIEW

Where will petroleum prices voyage over the next several months? Although it is a difficult call benchmark NYMEX and Brent/North Sea crude oil prices probably are establishing a broad range. For NYMEX crude oil (nearest futures continuation), the range is roughly between $40-$45 and $65-$75 per barrel. On balance, crude oil prices probably will venture more to the middle to lower section of that range.

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Petroleum's supply/demand scene appears especially unsettled and uncertain. Navigating through that territory is challenging. However, "by itself (all else equal)", the oil picture nowadays and for the near term looks bearish. Is OPEC's new policy of reducing high-cost (non-OPEC) production succeeding? Not much so far. Despite the dive in drilling rig counts, OECD days coverage levels and the worldwide supply/demand balance for 2015 reveal plentiful petroleum.

Worldwide petroleum inventories generally are lofty and likely to remain so for the next several months. Though global oil consumption will edge up alongside rather modest economic growth, supply probably will exceed demand. Suppose benchmark Brent/North Sea prices (spot; or nearest futures continuation) sustain levels over $50 (and perhaps even $45) per barrel. Suppose non-OPEC production remains relatively high. Then OPEC, led by Saudi Arabia, probably will not alter its current output policy aimed at capturing market share and reducing actual and planned high-cost production in the United States and elsewhere.

Within OPEC, and apart from the policies of Saudi Arabia and its Gulf States allies, production developments from several important nations remain conjectural. Consider Iran, Iraq, and Libya. For example, predicting the outcome of the Iranian nuclear negotiations is hazardous. But even if the talks drag out beyond the end of June 2015, they probably will have a relatively successful conclusion resulting in increased Iranian crude oil production. Iraqi output, despite its civil strife, probably will keep rising. Due to the Libyan civil war, production there currently has little room to fall further. Might it spout higher if a peace agreement is reached? Will Nigeria and Venezuela maintain their current production levels?

Noncommercial participants in petroleum playgrounds also influence oil price trends. Over the past several months, a substantial increase in the net noncommercial long position has helped to propel petroleum prices upward. However, given the oversupply situation in the petroleum battlefield, the net noncommercial length arguably is vulnerable. Its liquidation consequently will pressure oil prices lower.

Uncertainties for marketplace variables "outside" the oil patch of course intertwine with those inside it. These factors appear particularly tumultuous and complicated nowadays, making it

especially difficult to forecast petroleum price trends and levels. Petroleum supply/demand and prices are hostage not only to economic growth trends, but also to movements in interest rates, stocks, and foreign exchange. Policies of the Federal Reserve, European Central Bank (currently engaged in massive money printing) and other major central banks matter. Will the Fed ever raise interest rates? What if American stocks ever slump more than ten percent? US dollar weakness in the past few weeks probably has supported oil prices. What if the broad real trade-weighted dollar renews its bull move?

THE PETROLEUM FLOOD

The Venerable Bede (a monk who lived in the seventh and eighth centuries), describes in his "Ecclesiastical History of England" (Book III, Chapter 15) how Bishop Aidan foretold to seamen that a storm with strong winds would befall them. The Bishop gave them holy oil to pour upon the sea; he said doing so would calm the storm. As the Bishop predicted, a storm endangered the men on their boat. By casting the oil into the sea, the priest onboard the ship calmed the winds and the water.

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International Energy Agency, OPEC, and US (Energy Information Administration) statistics suggest high OECD inventories. For 1996-2013, end year OECD stocks (relative to forward quarter average daily petroleum product demand) average about 53.8 days of consumption (see the IEA's "Annual Statistical Supplement" and monthly "Oil Market Report"). Perhaps the desired stock holding level shifted upward in recent years. For 2008-2013, it was about 57.0 days coverage; it also was 57.0 days for 2011-13.

OPEC's "Monthly Oil Market Report" (5/12/15; Table 10.3) and the IEA estimated 4Q14 OECD stocks around 59.0 days. These were high. The 4Q14 stocks not only sailed 5.2 days over 1996-2013's average, but also exceeded the highest end year days coverage for 1996-2013, 2012's 58.3 days. They floated two days over the average of more recent time spans.

This oversupply situation continued into calendar 2015. OPEC estimates end 1Q15 OECD commercial onland stocks of 61 days coverage. The IEA's Oil Market Report (Highlights; 5/13/15) remarks OECD industry oil stocks rose counter-seasonally in March 2015, by over 38 million barrels. Its preliminary data show OECD stocks climbed nearly 36mm barrels in April; this boosts days coverage by around another .3 day.

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Let's focus on the United States petroleum marketplace in days coverage terms (this days coverage perspective is relative to demand for the given calendar month, not forward demand).

For the United States, for all petroleum inventories (crude and products combined; based on EIA data), end March 2015 days coverage was 63.5 days. This soared well over the 57.4 day 1973-2014 very long run average for that calendar month, as well as 1996-2014's 51.7 day average for end March. It leaps over the 59.9 day record high for end March over the 1996-2014 span. Moreover, that end March 2015 level also exceeds the prior record for any calendar month days coverage for the 1996-2014 period, May 2009's 60.9 days (January 2015 was 61.5 days, February 2015 59.8 days).

What about very recent inventory levels? Overall supplies remain bloated. Based on weekly statistics, days coverage for crude and products combined for the week ending 5/1/15 marched up

to 65.9 days, remaining a still-hefty 64.2 days as of 5/8/15. For 1996-2014, for crude and products combined, end April days coverage averages 52.7 days, end May 54.1 days, and end June 53.4 days. Looking forward into the calendar, end December averages 51.6 days.

In America, and probably in many other regions around the globe, the oil oversupply is concentrated in the crude oil sector. US crude oil stocks at end March 2015 were a titanic 30.8 days, far over the 23.0 day 1996-2014 average (and breaking over the prior record high for that period of 26.7 days). Substantially assisted by the ongoing deluge of US crude oil production, end March 2015 crude inventory also jumped above the record end month days coverage for any calendar month from 1996-2014, February 2013's 27.1 days. For 1996-2014, end April crude oil days coverage averages 22.8 days, end May 22.2 days, end June 21.5 days, with end December 21.6 days. As of 5/1/15 as well as 5/8/15, days coverage was 30.1 days.

Gasoline looks mildly oversupplied. US total gasoline stocks at end March 2015 were 25.7 days (close to end March 2013's 26.0 days, which was the high for March since 2007). This is modestly above the 24.6 day end March average for 1996-2014 and below March 1998's 27.0 day record for end March. End April and end May days coverage for gasoline average for 1996-2014 is 23.9 days, with June 23.7 days. US gasoline days coverage was 25.5 days on 5/1/15 and 25.1 days on 5/8/15. The end December average is 24.4 days of stocks.

For the history of the past few years, some may wish to account for ethanol stocks in the context of gasoline. So for the current and past several years, marketplace weathervanes probably should add a couple of days coverage based on ethanol inventories to a given total gasoline days coverage number.

End March 2015 US distillate inventories represented 32.6 days of demand, with 5/1/15 at 33.7 days and 5/8/15 at 31.6. The end March and more current supplies look close to normal. For the 1996-2014 vista, end March averaged 30.1 days (record high end March 2009's 38.8 days). Over 1996-2014, end April averaged 31.1 days (peak 43.4 days in 2009), with end May 33.4 days (45.6 days in May 2009), and end June 34.4 days. End December coverage is about 35.9 days.

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The non-OECD region of emerging and developing nations of course is relevant to assessing the inventory situation. However, what's happening in China (particularly regarding the extent to which it is building strategic stocks) and elsewhere is much murkier than in the OECD.

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In any case, overall global petroleum inventories appear likely to build over the past several months, thus weighing on petroleum prices "in general".

The IEA, OPEC, and EIA have slightly different demand estimates for calendar 2015. As an approximate average of their viewpoints, they collectively predict demand growth of about 1.2 million barrels per day (1.3 percent) in calendar 2015 relative to the prior year. The call on OPEC crude oil (based upon OPEC's "Monthly Oil Market Report") for calendar 2015 is about 29.3 million barrels per day. OPEC estimates its calendar 2014 production at 30.1mmbd, with 1Q15 at 30.3mmbd. The IEA states that calendar 2014 OPEC crude oil production was 30.3mmbd. Its May 2015 "Oil Market Report" emphasizes that OPEC crude supply rose by 160mbd to 31.2 million barrels/day in April, the highest since September 2012. According to the IEA, the call on OPEC crude for second half 2015 is only 30.0mmbd. The EIA's "Short-Term Energy Outlook" (5/12/15, Table 3a) estimates calendar 2015 OPEC crude oil production at almost 30.5mmbd; the

global crude oil waterfall makes calendar 2015 worldwide oil supply exceed demand by 1.3mmbd.

RIG COUNTS

The monumental crash in worldwide petroleum rig counts have excited many observers and helped to spark bull moves in recent months.

OPEC's recent monthly report (Table 10.7; citing Baker Hughes estimates) indicates the worldwide oil rig count attained its high in 3Q14 at 2851. It dipped to 2820 in 4Q14. It then plummeted to 1904 in March 2015 and 1699 in April 2015. April 2015 represents a 40.4 percent a collapse from the pinnacle.

The OPEC table combines oil and gas rigs in its breakdown between OPEC and non-OPEC rig counts. OPEC's rig count (oil and gas combined) fall from its 3Q14 top to April 2015 is shallow, only 26 (4.1 percent) in total. Thus, the big change occurred outside of OPEC. For the non-OPEC realm (oil and gas rigs combined), the rig count evaporated about 44.3 percent from the 4Q14 summit, with those in America tumbling 48.8pc.

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Yet judging from very elevated OECD days coverage levels and the probable worldwide oversupply for calendar 2015, the falling non-OPEC rig counts thus far have merely translated into relatively flat petroleum production or quite modest output drops in some regions rather than noteworthy global output falls. According to OPEC (Table 10.3), non-OPEC supply was 57.7mmbd in 4Q14 and 57.8mmbd in 1Q15. Though it slips about 1.6pc to 56.8mm in 3Q15, it climbs to 57.0mm in 4Q15. The IEA and EIA non-OPEC output trend estimates are essentially consistent with OPEC's.

Significantly, there has been much discussion, particularly in America, of gains in drilling rig efficiency and reductions in operating costs.

Headlines in recent months admittedly point to numerous cuts in exploration capital spending plans by large and small enterprises around the globe. Such announcements help to steady and rally prices to some extent. However, as the supply/demand and price consequences of these reductions in forward-looking projects are over the longer run, the implications for the current and near-term petroleum balance are relatively limited. The cutting of investment spending plans in not the same as slashing current production levels. In addition, it arguably will take sustained lower prices for many companies and nations to definitively postpone major investments, even those in expensive (high risk) domains. Assuming continued growth in worldwide petroleum consumption, why rush to foreclose potential supply avenues?

THE OCEAN OF US CRUDE OIL PRODUCTION

"Caught up in a whirlwind can't catch my breath
Knee deep in hot water broke out in a cold sweat
Can't catch a turtle in this rat race
Feels like I'm losin' time at a breakneck pace". "Tightrope", a song by Stevie Ray Vaughan and Double Trouble

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The EIA's Short-Term Energy Outlook ("STEO", 5/12/15; see also its "Drilling Productivity Report, 5/11/15) data suggests that thus far the dramatic petroleum price fall has not and probably will not substantially cut back US crude oil production. Again, keep in mind marketplace talk regarding improvements in rig efficiency and falling operating costs.

Led by the shale drilling revolution, America's crude oil production climbed from around 5.6 million barrels per day in June 2011 to crest at nearly 9.4mmbd in April 2015. The STEO (Table 4a) predicts May 2015 production will remain steady at almost 9.4mmbd. It slips about 4.2pc to just under 9.0mmbd in September 2015. However, the EIA does not predict further output falls. Production thereafter until September 2016 stays in a range from just over 9.0mmbd to about 9.2mmbd. In October 2016, output approaches 9.4mmbd. For the lower 48 states only, production peaks at just over 7.3mmbd in 2Q15; though it falls 5.7pc to about 6.9mmbd in 1Q16, it rebounds to 7.4mm in 4Q16. The STEO (Table 2) uses a spot West Texas Intermediate price of about $54.3 for calendar 2015 and $65.6 for calendar 2016.

Take NYMEX (WTI) nearest futures continuation as a price benchmark, but keep an eye on forward months. The STEO arguably implies that it will take sustained prices decisively beneath $60 per barrel (or maybe even below $50) for US crude oil production to fall even more substantially (than the EIA predicts) relative to its first half 2015 pinnacle.

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Some analysts and United States crude producers assert there is a backlog of shale oil (inventory in the ground, so to speak) which producers can rather quickly bring to market if the NYMEX price advances over $65 (or $70 or $75) per barrel. If so, this will help to slow price rallies.

According to EOG Resources, the nation's largest shale oil producer, there will be double digit output growth if West Texas Intermediate crude oil rises to $65 or higher (Financial Times, 5/6/15, p16). Continental Resources (FT, 5/15/15. p1) estimates around $70 WTI will stimulate increased activity and production growth for shale. If companies such as this boost production according to that scenario, in a sense they act as swing producers. According to a Financial Times article a month before last year's OPEC meeting (10/30/14, p22; citing Wood Mackenzie), most "new" US shale developments would be economic if US benchmark crude fell only to $70-$75/barrel.

OPEC (SAUDI ARABIAN) POLICY

The character Simms Reeves declares in the movie "Red River" (Howard Hawks, director): "Well, I don't like to see things goin' good or bad. I like 'em in between."

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Once upon a time, Saudi Arabia said it would act as a swing (incremental, marginal) producer if prices rose "too high". Recall Brent/North Sea prices over $125 per barrel at times during 2011 and 2012. According to the IEA, Saudi production rose from an average of around 7.9 million barrels per day for calendar 2010 to average 9.1mmbd in calendar 2011 and 9.5mmbd for calendar 2012. Its 2013 output was 9.4mmbd, with 2014's about 9.5mmbd.

But what if higher-cost crude oil production outside of OPEC in general and Saudi Arabia in particular began or threatened to capture "too great a share (total)" of the petroleum universe? First quarter 2015 Saudi Arabian production averaged about 9.7mmbd.

Saudi Arabia and its allies became dismayed by the massive growth in US shale production. In the Saudi Arabian Oil Minister's interview with MEES (12/12/14), he states that some US shale oil production is profitable between $20-$30/barrel, whereas other fields require $80-$90/barrel. The range midpoint is therefore $55, though the minister does not estimate output volumes for any given price.

Talk of legislation permitting US crude oil exports, and America's actual approval (June 2014) of condensate exports that had undergone processing troubled the Saudis. OPEC worries about further development of Canadian oil sands, deepwater drilling projects in Brazil and Mexico, and talk of Arctic exploration. At what point would such projects be uneconomic? Some captains conjecture that many such new (relatively difficult) schemes become uneconomical at prices beneath around $70/barrel. Of course breakeven levels vary.

Brent/North Sea crude oil established its final top on 6/23/14 around $115.7 (nearest futures continuation). Recall Brent/North Sea's high of $89.6 on 5/3/10 and 6/22/12's $88.5 bottom in the context of the timing of the final drop off point of just under $88 (10/29/14) a few weeks before the November 2014 OPEC meeting and the subsequent collapse.

With its November 2014 meeting (next one is 6/5/15), OPEC (particularly Saudi Arabia) embraced its role as the swing producer at much lower prices to maintain its key role in worldwide production. The Saudis will price their oil at levels to achieve their production targets, and OPEC as a whole will follow them. Thus Saudi Arabia and its allies aim to reduce actual and potential relatively high-cost production elsewhere. The Saudi decision thereby "marginalizes" high-cost non-OPEC output.

A review of recent important OPEC and Saudi Arabian statements in political and historical context reveals the determination of OPEC in general and Saudi Arabia in particular to accomplish their petroleum production policy goals. For quite some time, they probably will endure prices significantly beneath the early 2010 lows for Brent ($67.9 on 2/5/10/ $68.2 on 5/25/10; compare NYMEX's 5/25/10 low near $64.2).

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OPEC's 11/27/14 communique announced its desire for "stable oil prices", which "were vital for world economic wellbeing". It confessed "concern over the rapid decline in oil prices in recent months". However, OPEC nevertheless emphasized not only that such prices should be "at a level which did not affect global economic growth", "but which, at the same time, allowed producers to receive a decent income and to invest to meet future demand." So "in the interest of restoring market equilibrium", the Conference therefore concluded that it would maintain its 30.0mmbd production level (as agreed in December 2011) rather than cutting back. Thus OPEC much more decisively than previously binds its output levels and implicit market share goals to an unspecific stable price.

The OPEC Secretary General stated (3/8/15; Speech to the 19th Middle East Oil & Gas Conference) that since 2008 non-OPEC producers boosted supply by almost six million barrels a day. In contrast, OPEC's production has stayed steady at around 30 million barrels per day.

The Saudi Arabian Oil Minister held a crucial interview with MEES (12/12/14). He stressed: "It is also a defense of high efficiency producing countries, not only of market share. …high efficiency producing countries are the ones that deserve market share. That is the operative principle in all capitalist countries."

He says "as a policy for Opec- and I convinced Opec of this…it is not in the interest of Opec producers to cut their production, whatever the price is….Whether it goes down to $20/B, $40/B, $50/B, $60/B, it is irrelevant."

The Saudis probably can outwait most high cost crude oil producers, even if prices dive quite a bit under $50 Brent/North Sea. Ali Naimi added: "our production costs are low-$4/B or $5/B at most" [merely four or five dollars a barrel]. And: "Our marginal cost is $10/B."

The Financial Times (5/14/15, p3) estimates Saudi foreign exchange reserves, which peaked at around $800 billion in mid-2014, could fall to $500bb within two years. However, even with such a decline in financial reserves, Saudi Arabia appears armed with plenty of funds with which to endure depressed prices for quite a while.

In the past, the Saudis embarked upon determined efforts to regain market share. Recall almost thirty years ago and netback pricing. 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_

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In "The Global Energy Outlook", held at the Institute of International Finance, the Advisor to the Saudi Minister of Petroleum spoke (3/15/15). He said that on 11/25/14, one day before the OPEC meeting began, "Saudi Arabia, Venezuela, Mexico and Russia had a private meeting to discuss possible joint production cuts. Neither non-OPEC producer was prepared to cut. They have their own reasons. So OPEC took a bold decision.…It agreed to keep the same production level and to let the market balance itself."

OPEC eventually might reduce its production if substantial non-OPEC producers such as Russia and Mexico agreed to slash their output significantly. How much pain will such non-OPEC nations endure? As of late 2014, Mexico's oil price forecast for its 2015 budget was $79/barrel (Financial Times, 11/14/14, p24).

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Saudi Arabia does have a high fiscal break-even price for oil to balance its 2015 budget. Yet the OPEC November 2014 decision (and its price aftermath) and Saudi comments and financial reserve levels indicate the Saudis are not too worried about their budget situation now.

However, many others within OPEC need high oil prices to balance their budgets. And Saudi Arabia values OPEC and wants to retain sufficient harmony within it.

The Financial Times and International Monetary Fund estimate the fiscal break-even oil price in dollars per barrel necessary to balance the 2015 budget of various nations. See the graph in the FT's 5/14/15 article at p3, citing IMF, official data, and other sources; note "The IMF Blog", posted 12/22/14. The estimates do not detail specific crude oil streams. Saudi Arabia must receive about $105/barrel to balance its budget, about what Russia needs. Algeria and Iran need about $120 per barrel, with Nigeria slightly less than that. Kuwait and Abu Dhabi need to earn around $55 (compare Norway at about $40). Venezuela (for its 2014 budget) needed over $140/barrel. Iraq's 2015 budget is based upon $56 crude oil (Financial Times, 2/24/15, p2).

Nowadays, OPEC members are not complaining loudly about current prices.

However, in mid-February 2015, as crude oil prices remained within striking distance of their lows in the bloody bear move, the OPEC president (Nigerian oil minister), said that if the price fell any further, she very likely would have to call an extraordinary OPEC meeting in the next six weeks or so (Financial Times, 2/24/15, p1). The 2/23/15 Brent/North Sea low was $58.4, definitely moderately above 1/13/15's bottom at $45.2, but far beneath 6/23/14's $115.7 final top and still decisively beneath its $72.6 close on 11/27/14, the day the OPEC meeting ended. Therefore, despite rhetoric from Saudi Arabia and its allies hinting their willingness to endure even more dramatic price drops, a sustained move well under $45 for Brent/North Sea range might induce a Saudi Arabian production policy change. However, the Saudis probably would want to see signs of output cuts outside of OPEC before it did so.

COMMITMENTS OF TRADERS

"My riches can't buy everything", sing The Rolling Stones in "As Tears Go By".

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Net noncommercial buying during the past few months probably helped to rally prices in the worldwide petroleum complex. Looking forward, monitor the marketplace for signs of liquidation of net noncommercial length.

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European (Brent/North Sea) crude oil production has been declining for many years. All else equal, and despite assorted waves of up and down price trends, the free supply situation for Brent/North Sea arguably has tended to become increasingly tight. This ebbing production pattern of course contrasts with the past several years of output boosts in America.

The recent substantial noncommercial net long position in the ICE Brent contract probably exacerbated an already relatively tight free supply for Brent/North Sea oil, though marketplace admirals can debate how much.

In any case, scan some noncommercial history for the ICE Brent contract (futures and options combined). At the beginning of 2014, Brent had a net noncommercial long ("NCL") position of about 36,500 contracts, or 2.1pc of total open interest. Brent/North Sea's final top was 6/23/14 at about $115.7. Its net NCL position peaked at 180.3m contracts around that time, on 6/24/14. That represented nearly 8.8pc of total open interest (the percentage of open interest peaked the next week, on 7/1/14 at 9.0pc). As prices fell, the net NCL position eroded and eventually became a net noncommercial short ("NCS") position. The net NCS plateau was relatively modest, about 31.4m contracts (1.0pc of total open interest) on 11/4/14. By early December 2014, the net NCS position shifted to a modest net NCL one.

However, from 2/3/15's net NCL of 23.1m contracts, the net NCL position ballooned. This net NCL expansion roughly coincided with the sharp rally in Brent/North Sea (and other petroleum) benchmarks. What did the river of NCL accomplish? By 5/5/15, Brent's net NCL total was about 174.500 contracts (close to the net NCL high of late June 2014), or 6.5pc of total open interest. As of 5/12/15, the net NCL position remained lofty, at 167.6m contracts. However, that net NCL total represented 7.1pc of total open interest.

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Take a quick look at the overall noncommercial position at NYMEX for the benchmark crude oil, heating oil, and RBOB contracts combined (futures and options combined). The net noncommercial long position peaked on 6/24/14 at an enormous 548,900 contracts (about 18.4 percent of total open interest), close in time to the final summit in NYMEX crude (nearest futures continuation) at about $107.7 on 6/20/14. As prices fell, the net NCL position retreated quite a bit, though it remained large. By 10/28/14, the net NCL was about 311.4m contracts. At its 3/24.15 bottom, the net NCL was 275.8m contracts (8.1pc of total open interest; thus the NYMEX noncommercial position never came close to becoming net NCS). As petroleum prices rallied, the NYMEX net NCL position grew, reaching a recent high on 5/5/15 of about 439,700 contracts (12.7pc of total open interest; 5/12/15 net NCL position is 432.6m contracts).

SHORESIDE FOOTNOTES

In Alfred Hitchcock's film "Lifeboat", John Kovac tells Connie Porter: "Lady, you certainly don't look like somebody that's just been shipwrecked." She replies: "Man, I certainly feel like it."

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In predicting petroleum price trends, it often helps to interpret crude oil and refined product benchmarks together.

For example, the recent lows in important petroleum crude and refined products benchmarks all occurred at roughly the same time. Brent/North Sea (nearest futures continuation) made a crucial (and perhaps major) low at about $45.2 per barrel on 1/13/15, with as second key depth 3/16/15's $52.5. NYMEX crude oil's initial bottom occurred at $43.6 on 1/29/15, not long after Brent's January 2015 one. Its next (and lower) key trough was just over $42.0 on 3/18/15. United States Gulf Coast regular gasoline (spot; cash) achieved its bear marketplace low earlier, around 11450 on 12/22/14. However, its rally commenced from around the times of the January 2015 lows in Brent and NYMEX crude oil, 1/12/15's 11700. US Gulf Coast diesel's low occurred in mid-January, on 1/13/15 at 14350.

So on balance the petroleum complex "as a whole" established a low around mid-January 2015, with final lows (see NYMEX crude) in mid-March. This roughly parallels the calendar timing for the major lows in the petroleum complex at the bear market trend depths of end-2008/early 2009. NYMEX crude oil's major low was $32.4 on 12/19/08, with final lows 1/20/09 at $32.7 and about $33.6 on 2/12/09. Brent's major bottom was $36.2 on 12/24/08, with a subsequent interim low 2/18/09 at $39.4. The Gulf Coast regular gasoline bottomed 12/24/08 at about 7950; USGC diesel attained its major low somewhat later, with 3/11/09's 10580.

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The IMF predicts real GDP growth of 3.5 percent in 2015 and 3.8pc in 2016 (World Economic Outlook, April 2015, Table 1.1), up from 2014's 3.4pc. Rising worldwide consumption, even if it takes several years to become substantial, may help to satisfy OPEC's market share (and price) aspirations. Lower prices of course encourage demand.

In the US, cumulative daily averages for calendar 2015 (EIA, 5/8/15) show a four percent year-on-year gain in total products supplied. Finished motor gasoline demand is up 3.3 percent versus the 2014 period. The NYTimes discusses America's recent shift away from hybrids and electric

cars due to lower gasoline prices (5/15/15, ppB1, 6). US cumulate daily average jet fuel demand is up 8.6pc year-on-year, with distillate fuel consumption climbing 4.7pc.

All else equal, greater oversupply (and inventory) for crude oil than for key refined products tends to create very wide refining margins. However, such wide margins, assuming available refining capacity and robust product demand, can help support crude oil prices (especially if the crude excess starts to become less troubling to marketplace mariners).

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What if fracking became very popular outside of the US? For the world beyond America, the Financial Times (5/14/15, p3; citing an IHS study), says fracking could "unlock nearly 140bn barrels of global oil supplies- equivalent to Russia's known reserves".

Could environmental concerns linked to fracking eventually slow the search for and thus production gains for US oil and gas? The US Geological Survey assessed the link between US earthquakes and searches for oil and gas in recent years (NYTimes, 4/24/15, pA1).

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Note potential connections between the recent oil price slump and debt levels in the oil sector (Bank for International Settlements, "Quarterly Review"; 3/18/15). "The combination of falling oil prices and higher leverage can lead to financial strains for oil-related firms." Watch yield trends in high-yield energy bonds.

Did or will some highly leveraged producers maintain or increase production to remain liquid and meet interest payments and satisfy tighter credit conditions?

Suppose short hedges were in place for many oil producers prior to or during the early stages of the petroleum price collapse. To some extent these may be delaying production cuts by those companies.

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