

INSIDE THE PETROLEUM JUNGLE (“DESPERATE HOUSEWIVES”, EPISODE 10)

© Leo Haviland, 646-295-8385

April 5, 2011

In Rudyard Kipling’s story “The Jungle Book”, the wise bear Baloo repeats the wisdom of Hathi the wild elephant: “To each [species of jungle creature] his own fear [of another animal type].”

CONCLUSION

Very- or even fairly- specific predictions of petroleum price moves, especially in the current marketplace jungle, represents a climb that’s pretty far out on a limb. Opinions on marketplace probabilities always are subject to modification or transformation. An experienced economic advisor once declared that it’s important to forecast frequently, since this practice sometimes may enable the adventurous clairvoyant to save or at least repair its credibility. Enough warnings!

Petroleum prices in general probably will keep rising for at least several weeks longer. Using nearby Brent/North Sea crude oil as a benchmark, prices will climb to the low \$130s, about ten percent from summer 2008’s all-time high price summit around \$147 per barrel. Selecting a calendar period for a noteworthy top likewise is treacherous. Watch for sometime between July and October 2011 as a target, especially around July.

Not only does recent Middle East political turmoil flood the news. Actual supply interruptions, as well as conjectural ones, of course influence petroleum and other trading and hedging behavior. Increasing petroleum consumption in non-OECD (developing) nations, though it is challenging to measure, is a bullish factor. There’s probably been a shift within the petroleum industry from a rather confident “just-in-time” orientation to a more fearful “just-in case” bias regarding preferred levels of inventory holding. Moreover, keep in mind the continued bullish effects of the weak United States dollar, low policy interest rates in America and many other OECD nations, noteworthy quantitative easing (money printing), and the global economic recovery story in general and associated rallies in stock marketplaces. Moreover, to many soothsayers on Wall Street and beyond, commodities (particularly petroleum) are a new asset class. This faith inspires “alternative investment” (buy and hold for the long run) in that universe, thus tightening petroleum free supply and pushing prices higher.

The Libyan civil war and the substantial slashing of its supplies likely will persist for the next few months. Suppose petroleum output from Saudi Arabia or other key producers genuinely seems threatened. Then prices may assault the 2008 peak.

Let’s focus on a few fascinating branches of the petroleum jungle.

GOVERNMENT PETROLEUM STOCKPILES

The ancient Greeks and scientists such as the American politician Benjamin Franklin discovered that pouring oil on water waves could calm them. Thus an idiom developed which says that pouring oil on some troubled waters (whether political, economic, personal, or otherwise) may calm that dangerous, difficult, problematic, or worrisome situation.

As always, people may conserve more on the petroleum side. Falling demand may help to solve deadly high price problems. Even if some demand destruction in the petroleum sector has started due to very high nominal prices, statistics do not yet significantly evidence it.

In the current environment as well as in many past eras, there's been bundles of talk from politicians and pundits regarding the wisdom of reducing industrial and consumer reliance on petroleum. Take the time horizon of the current marketplace and peer out on the horizon of the next several months. Fuel diversification doctrines (rely on natural gas or agricultural sources or even nuclear instead of oil) and engineering innovations probably will accomplish relatively little regarding current high prices.

What other antidotes exist that can reduce prices?

A sale from the US Strategic Petroleum Reserve (SPR) or via the International Energy Agency emergency release program is a possible cure for "too high" prices. At what anticipated (or actual) inventory or price level will there be political intervention via strategic stockpile releases?

Price levels and trends obviously intertwine with other supply/demand variables, including actual and potential inventory coverage. **However, petroleum supply shortages and their practical overall economic consequences are crucial considerations for deciding upon a sale (or other significant release) from government controlled hoards. Industry inventories in the United States and the OECD currently do not appear too low.**

The current United States industry holdings (crude and products combined) as of 3/25/11 (Energy Information Administration/"EIA" weekly statistics; primary storage) are about 54.3 days of coverage versus current (recent four weeks) consumption. These admittedly have plummeted from March 2009's 58.2 days of supply (and May 2009's 60.9 days). However, present level hover comfortably above the 1996-2010 end March average of about 50.1 days. They soar above the end-March record low of 44.4 days in 2003.

The International Energy Agency's statistics ("Oil Market Report"; 3/15/11) also manifest sufficient inventories (at least in the OECD). Inventories have nosedived from the stratospheric heights in the dark depths of the worldwide economic crisis. Recall the 62 days of forward demand cover at end 1Q09, around the time of bottoms in major equity playgrounds such as the S+P 500. Yet the IEA says January 2011 OECD industry inventories equaled forward demand cover of 58.2 days, up from about 57.0 days at end 4Q10. Average or reasonable is always a matter of perspective. Still, 58 days is probably about two to three days or so above typical levels. Anyway, contrast this OECD coverage with 53 days at end 4Q07 (before the final stages of the big price run up) and the 56 days of 2Q08 (not long before the major petroleum complex plateau that year). The OECD believes February 2011 inventories fell, but that thinning probably still leaves current inventories somewhat above average levels.

Note too that OPEC probably retains a guideline target for OECD industry stocks of 53 to 55 days coverage. Some of their officials have blamed noncommercial breeds (whether branded as "speculators" or "investors") for playing key supporting roles in producing high prices. And the worldwide economy seems to be growing. Consequently, current inventory levels will not spark much if any incremental OPEC crude oil output.

OECD inventory stocks probably would have to fall at least to average levels (1996-2010 average), and probably beneath them by a couple of days, to induce talk of a sale from government strategic stocks.

Indeed, many consumers and firms around the globe (even in advanced nations) suffer from current elevated petroleum prices. Most financial lions roar that the worldwide recovery- even though it faces risks, headwinds, and the like- will continue. In addition, equity prices such as the S+P 500 still are strong. Thus present levels for worldwide petroleum price benchmarks such as North Sea crude oil, West Texas Intermediate crude oil, US Gulf Coast gasoline, European diesel fuel, and so on at this moment may worry some politicians and regulators, but they do not look sufficiently dangerous yet.

If a substantial “surprising event” occurs, this may trigger a stockpile release to avoid industry inventories falling to “too low”, or to stop petroleum prices from mounting “too high”. Think of political disruption inducing further notable production cuts in key Middle Eastern nations. Or, ponder a very damaging US Gulf Coast hurricane.

SPR “sales” have been rare. A review of SPR information in that context indicates that inventories would have to be at (or seriously threaten touching) very risky levels or that prices would have to attain at extremely troubling territory to prompt government action. The same is true of a release coordinated by the International Energy Agency.

See “Strategic Petroleum Reserve- Quick Facts and Frequently Asked Questions” and “Profile”.
<http://www.fossil.energy.gov/programs/reserves/spr/spr-facts.html>
<http://www.fossil.energy.gov/programs/reserves/spr/index.html>
See also the “IEA Response System for Oil Supply Emergencies 2011”.
http://www.iea.org/textbase/nppdf/free/2011/response_system.pdf

SPR and IEA sales include those induced by the damaging US Gulf Coast hurricane of 2005 and the 1990/91 First Gulf War sales. The SPR also had 1996-97 “non-emergency sales”. Quite significantly, there were no SPR “sales” in 2008 at historically high prices (and no IEA release), and those 2008 prices (look at North Sea and NYMEX crude oil tops) far exceed current ones. Given the perception of at least fair current and future economic growth, the petroleum price perspective hints that the US and IEA probably are not inclined to release strategic stocks.

The SPR admittedly had an “exchange” in September/October 2008 following hurricanes Gustav and Ike. However, no such weather event has occurred in the current petroleum climate. Maybe further explosive political outcomes will constitute a noteworthy excuse for an exchange (or even a sale). If sweet crude supplies diminish due to Libyan or other problems, perhaps the SPR would exchange sweet for sour barrels or engage in some similar transaction.

Any release from these strategic holdings in all likelihood will be substantially reactive rather than proactive. Even if some professional observers are fearful, most watchers are not bellowing that supplies are dangerously low. Besides, US and other officials at present show no

signs of such dramatic action, though inventory developments and price circumstances may change their outlooks and behavior.

The bottom line: petroleum prices at current levels face no imminent threat from a government stockpile release.

JUST IN TIME OR JUST IN CASE: FRUITFUL INVENTORY MANAGEMENT

An outlaw leader in the movie Western “The Wild Bunch” snarls: “We’re not gonna get rid of anybody! We’re gonna stick together, just like it used to be! When you side with a man, you stay with him! And if you can’t do that, you’re like some animal, you’re finished!” (Sam Peckinpah, director; 1969)

Evolutions and revolutions in political viewpoints, actions, and institutions are not the only regions for cultural evolutions and revolutions. Economic territories also reveal changing ideologies and practices. In petroleum, as in many other economic realms, the tangled topic of days of inventory coverage relative to consumption displays this.

Inventory holdings by governments, businesses (private industry), and individuals vary for all sorts of reasons. **The notions of “just-in-time” and “just-in-case” offer helpful perspectives on motives for keeping or changing levels of inventory holding.**

Focus on the US petroleum industry stocks, not governmental ones. Think of oil refiners and product distributors. Firms always need some minimum level to stay in business. Yet in broad brush terms, suppose commercial marketplace dwellers in petroleum strive to keep a relatively “low” amount of supply around, just sufficient to meet customer needs in the so-called ordinary (or even somewhat unusual) course of business. They have enough to meet consumer needs just in time. Now suppose these inhabitants of petroleum land become fearful that they will not have enough supply around to readily satisfy a significant amount of their anticipated customer demands. Their world, for whatever causes, seems a riskier place. Since they are more fearful, they will battle furiously to grasp more inventory just in case an unfortunate or surprising event or situation occurs.

Let’s stalk into the United States industry inventory situation in days coverage terms on the basis of Energy Information Administration (EIA) data. Remember that current US industry holdings (crude and products combined; primary storage) as of 3/25/11 are about 54.3 days of coverage versus current (recent four weeks) consumption. This level decisively exceeds, by just over four days, the 1996-2010 end March average of about 50.1 days. They loom far above 2003’s end-March record low of 44.4 days.

Visit the dark and distant past decades of a key oil shock/supply interruption fear era, from 1973 to the early 1980s. US inventories at end March 1973 were around 51.5 days coverage. Over any time period, demand destruction can increase actual days coverage, whereas demand boosts can decrease it. In this epoch, coverage numbers often swung widely month-to-month (and over these years), but they nevertheless generally grew. By end March 1981, days coverage was 80.5 days. In various calendar months through calendar 1984, they often remained over seventy days.

With the passage of time, several factors have intertwined to encourage lower inventory holdings in days coverage terms by the American petroleum industry in general. Think of the creation and filling of the Strategic Petroleum Reserve. Now there's a supplier of last resort for emergencies. The information revolution played a key part in the push to lower inventories. Don't forget petroleum industry consolidation via mergers and acquisitions. Hedging tools such as futures and over-the-counter derivatives inspired some to reduce their physical inventory in hand. Fears of supply interruption due to actual war or trade embargoes tended to ebb. Despite the First Gulf War of 1990-91, over the long run the US industry generally continued to hold less and less inventory. Just in time inventory means less capital (cost) for holding inventory, so (all else equal) greater profit margins.

By around calendar 1996, US petroleum statistics suggest a move to lower inventory holdings in days coverage terms, probably at least due to widespread faith in the appropriateness of just-in-time inventory management.

So the longer that US (and OECD) holdings such as those of March 2011 remain high relative to the 1996-10 period, the more it seems that there has been a partial shift (by at least some industry members) to a just-in-case approach. Given what may happen in the oil world, why not hold a bit more around "than usual". Players may grab an three or four days extra now relative to just-in-time needs, as versus say 10 or more days in the distant past.

Now recall US industry inventories in March 2007 (48.2 days) and March 2008 (48.1 days) during the explosive petroleum bull move that ended in summer 2008. These were below the 1996-2010 average of just over fifty days, and thus were arguably slightly low. **As prices have risen dramatically despite still having rather high physical inventories from the 1996-2010 perspective, a shift to a just-in-case inventory management practice (even before the recent Middle East turmoil) by at least some industry participants partly accounts for the recent bull move in the petroleum complex.**

Not everyone acts alike in their inventory patterns or trading and hedging actions, even in America. But maybe nations outside of the OECD such as China are boosting their level of desired coverage too.

So depending on circumstances and perspectives, opinions will vary as to whether the same level of days coverage may seem normal, too high, or too low. **Suppose focusing on the just-in-time viewpoint encourages key oil producers such as Saudi Arabia to label current inventories around the world as sufficient. They will (all else equal) be less inclined to boost production.**

Suppose governments such as that of the US do not recognize this commercial shift to a more just-in-case inventory attitude. Might this reduce to some extent their inclination to release strategic stocks?

Is 54 days of industry coverage enough, too low, or too high? It depends, and long run historical analysis helps to create a useful perspective on current marketplace phenomena. Travel back to the ancient history of 1987. As that year unfolded, a time of rising oil prices (and increasing US interest rate yields and a wilting dollar), equities eventually fell sharply (2745 on 8/25/87 was the Dow Jones Industrial top). In July 1987, US petroleum inventories were 60.1 days. This was the lowest for end July since 14 years earlier (60.2 days). Compare

July 1987's with the 71.9 days at end December 1984, or July 1981's 80.7 days and July 1982's 76.0 days.

WELCOME TO THE JUNGLE: A LURKING DEBATE ON CONSUMPTION?

“Like a true nature child
We were born
Born to be wild.” Steppenwolf's rock anthem, “Born to Be Wild”

Experts (both inside and outside the petroleum field) debate the current strength and future duration of the worldwide economic recovery. Often gurus agree in their outlooks. OPEC estimates the calendar 2011 call on its oil at 29.8 million barrels per day (“Monthly Oil Market Report”; March 2011). The IEA predicts that call as 29.9mmbd.

However, cutting through statistical thickets reveals a noteworthy difference in International Energy Agency and OPEC petroleum demand viewpoints. For 2010 and 2011, these sentinels display notably different worldwide consumption estimates- around 1.5 million barrels per day.

Scan total world demand. From 2007 through 2009, IEA and OPEC numbers are close (OPEC statistics in parentheses). The IEA has demand at 86.7mmbd in 2007 (OPEC has 86.5mmbd), 86.1mmbd in 2008 (86.0mmbd), and 85.0mmbd in 2009 (84.5mmbd). However, IEA wizards estimate world oil demand was 87.9mmbd in 2010, whereas OPEC believes it was 86.4mmbd. For calendar 2011, the IEA oracle says 89.4mmbd is the worldwide consumption number, whereas OPEC clairvoyants indicate 87.8mmbd.

In regard to OECD consumption, the worldwide consumption estimates over the 2007-2011 years for the IEA and OPEC are about the same. For 2007, the IEA estimates demand at 49.3 million barrels per day, as does OPEC. In 2008, the IEA believes it was 47.6mmbd. OPEC agrees. In 2009, the IEA's estimate at 45.4mmbd is merely .1mmbd beneath OPEC's. OPEC and the IEA have 2010 OECD demand at 46.1mmbd. For calendar 2011, the IEA estimates OECD demand at 46.0mmbd, with OPEC analysis at 46.3mmbd.

In comparison with the OECD (so-called advanced economies) much in the non-OECD region's economic landscape, including petroleum consumption levels and patterns and inventory levels, arguably is harder to ascertain. **In any event, as their OECD petroleum consumption estimates are similar, the bottom line is that the IEA has at least a 1.5mmbd higher non-OECD petroleum demand estimate than OPEC for both 2010 and 2011.**

Although the two organizations closely match in their 2011 worldwide call on OPEC, suppose OPEC's worldwide consumption number turns out to be more accurate than the IEA's. Assume that all other supply/demand statistics for the IEA and OPEC remain unchanged. Then this adjustment to the IEA format (outlook) creates a stockbuild within the IEA statistical array. Of course supply/demand estimates themselves do not produce actual inventory outcomes. However, days coverage now appears adequate in OPEC's view. So this variation in consumption estimates suggests that in the absence of substantial evidence of inventory drawdowns in days coverage terms, OPEC (collectively) will be less willing, all else equal, to boost production.

TECHNICAL DRUMBEATS

“Darkness on the city streets
Violence in the air
I can feel the animals looking at me
But I’m a tiger and I have no fear
I’m a big cat...
I prowl the streets without a sound
And the human jungle just brings us down.” Tiger Army’s song, “Jungle Cat”

NYMEX and Brent (ICE) crude oil (nearest futures) reached their all-time highs in July 2008. Given Brent (North Sea) crude oil’s leading role in the recent petroleum price rally, let’s concentrate on Brent. Its peak was 14750 on 7/11/08. Note that this followed the final high in equities by about two months (S+P 500, 5/19/08). The high in the broad GSCI was 7/3/08 around 890.

History is not destiny. One can choose various start dates to measure noteworthy bull moves. One could trek back to much lower lows in the recent bull moves to measure the rally. Despite such concerns and considerations, some big petroleum moves have involved about a doubling (or more) in price. Admittedly these moves vary in duration. Anyway, the 1986-87 crude oil bull move (NYMEX crude oil prices used for this one due to better available data), was about 2.1 times the low (2276 high on 7/16/87 versus the 7/28/86 low at 1065, though one could go back to 4/1/86’s all-time low at 975). In the first Gulf War era, the Brent peak at 4095 represented a 2.67 multiple of the valley of several months prior (1533 on 6/6/90). What about the 2007-08 heavenward flight? The summer 2008 Brent peak was 2.9 times the key 1/17/07 trough at 5075, and about 1.75 times the 1/22/08 low at 8500.

Suppose one takes a key price low in the current petroleum jungle era, 7175 on 8/25/10. This is an important bottom, for it happened to occur during the Federal Reserve’s most recent enthusiastic money printing round and as the broad real trade-weighted dollar continued to sag. Double it. That gives 14350, not far from the July 2008 height. A ten percent move over the 7/11/08 peak gives about 16200. Ninety percent of 14750 equals around 13300.

Another Brent level to watch is around 12550. This is the 8/25/10 low of 7175 times 1.75 (the rally multiple to the peak from the 1/22/08 interim low).

Marketplace petroleum highs and lows have been reached in various calendar months. **However, the last major top, that of 2008, was in calendar July. The 1987 peak was in calendar July. So “around July” is an important calendar time to look for a noteworthy petroleum price top and trend change.**

In this time and price context viewpoint for petroleum, observers also should closely monitor supply/demand information for and price trends in stocks, interest rates, the US dollar, and other commodities.

Both the 2008 and 1987 eras hint that any major (final) high in the petroleum complex will be fairly near in time (within a few months, either before or after) one in United States equities. Incidentally, the final S+P 500 high of 1440 in May 2008 was about 91.3 percent of the

major high at 1576 in October 2007; 1418 is 90pc of the 1576 top. Double the S+P 500's 667 major low of March 2009 gives 1334.

Why not hunt around and see what noncommercial creatures have been up to recently in the NYMEX petroleum complex? This safari focuses on benchmark NYMEX crude oil, heating oil, and gasoline (futures and “traditional” options combined).

The noncommercial gross long position achieved a record on 3/8/11 at 573,000 contracts. The current level (3/29/11 week) of 560,000 contracts is almost that high. **The net noncommercial long reached an all-time arithmetical record on 3/8/11 at 427,000 contracts. The most current statistics show net noncommercial length has faded only a bit, with this week at 414,000 contracts.**

Moreover, the 3/29/11 net noncommercial length as a percentage of total open interest at 11.57 percent is a new recent record and quite large. It is the highest net NCL percentage since late spring 2004.

NYMEX petroleum contracts obviously are neither the entire petroleum world nor the only important petroleum pricing benchmarks. **However, these NYMEX statistics indicates that net noncommercial buying has played a very significant role in the bull stampede of the petroleum complex.**

Now gaze back on and compare the worldwide economic crisis epoch.

NYMEX and Brent crude oil peaked 7/11/08 (nearest futures continuation) at over 14700. **Historically elevated noncommercial long positions occurred not long before the time of the 2008 petroleum price peaks** The gross noncommercial long high for the NYMEX petroleum complex was roughly 415,000 contracts (416m on 2/26/08, 412m on 5/6/08). The high for the net noncommercial longs was reached 4/22/08 at 238,000 contracts. The net NCL position as a percentage of total open interest that week was a fairly high 6.95pc.

These noncommercial long statistics from the petroleum complex are relevant to equity marketplace analysis as well. Compare these NYMEX noncommercial long statistics alongside the timing of the final high in the S+P 500 at 1440 on 5/19/08. Pretty close in time. Walk back a few months to around the time of the October 2007 S+P 500 pinnacle. The net noncommercial long position in the NYMEX petroleum complex on 9/18/07 made a high of 236m contracts (about that of April 2008), with the net percentage of total open interest at 8.08pc. Gross highs for noncommercial longs for that time were on 9/18/07 (375m) and 11/6/07 (380m). Compare the timing of S+P 500 top on 10/11/07 at 1576 with this noncommercial NYMEX petroleum information.

Alternative investment (buy and hold for the long run) in commodities reduces free supply to some extent. One can quarrel as to how much.

How massive is alternative investment within the noncommercial long petroleum camp? No one knows for sure. However, a survey of the CFTC's statistics for a dozen agricultural commodities (futures and options combined) in regard to Index Trader length generates a guideline. The net Index Trader position relative to total open interest percentage varies between these agricultural

commodities. Yet add together all the open interest for these commodities. Do the same for the net Index Trader positions for each agricultural commodity. The net Index Trader length in the agricultural complex for 3/29/11 was 21.5pc of total open interest. This is lower than the average of about 25.3pc (about five years of data; 31.7pc was the 6/29/10 record high), but it is still very substantial relative to the overall size of the marketplace.

To what extent, if at all, will commercials reduce their hedge-type selling (or cover existing shorts) if petroleum prices keep going up?

FINAL ARROWS

“You say you want a revolution
Well you know
We all want to change the world
You tell me that it’s evolution
Well you know
We all want to save the world...” The Beatles, “Revolution”

How far and to what extent will concepts of democracy and freedom spread in the Middle East? Suppose Bahrain gives more voice to its Shiite minority. What are the implications for the Shiite minority in Saudi Arabia? Most of OPEC’s spare petroleum producing capacity is in Saudi Arabia.

How soon will Libyan production head back to normal? Under what circumstances might the US and its allies intervene in military fashion in places other than Libya? What happens for Iraqi oil politics and oil production as the United States winds down its presence there?

Don’t overlook potential for supply interruption threats beyond the Middle East, whether Nigeria (it has an April 2011 presidential election), Gabon, Azerbaijan, or elsewhere.

The Iranian nuclear issue has not vanished. Neither has the Israel/Palestine one.

The Saudis and many other oil producers may want higher petroleum prices to help maintain social stability. The Financial Times (4/1/11) cites the Institute of International Finance view that Saudi Arabia’s breakeven petroleum price to balance its budget rises from \$68 per barrel in 2010 to \$88 this year and \$110 in 2015.

As a generalization, and all else equal, a given total “quantity” of speculative and (alternative) investment activity in a marketplace has a greater bullish effect as supplies of that physical instrument diminish. One can debate how much that effect may be. Anyway, note Brent/NSea production trends. The IEA places OECD Europe production at 5.0mm for calendar 2007. In 2010, it slumped to 4.2mmbd. The 2011 prediction is 4.1mmbd, likewise a substantial fall versus 2007.

In terms of estimating the time of any petroleum marketplace trend change, note that the seasonal low for 2011 European crude oil production of around 3.9mm occurs in the third quarter (IEA statistics).

Though central bankers and finance ministers can print money, they can't print petroleum or food.

Hurricane season for the US Gulf Coast arrives in a few months.

Watch the Spring Meetings of the International Monetary Fund/World Bank beginning 4/11/11 for viewpoints on economic growth prospects and risks.