

CRUDE OIL PRICES: “MARKET FUNDAMENTALS” OR SPECULATION?

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In a May 12, 2008 New York Times article entitled “The Oil Nonbubble ” Paul Krugman argued there is no evidence of a speculative oil bubble because if speculators are driving up the price of oil above the price “justified by fundamentals”, then a market adjustment would occur where “ drivers would cut back on their driving; homeowners would turn down their thermostats; owners of marginal oil wells would put them back into production ...[and the resulting] excess supply would...drive prices back down”.

Of course, The news media is full of reports that drivers are cutting back as the number of car pools increase and the use of public transportation has risen dramatically. Europeans have also cut back on gasoline use even though the price in Euro’s has not risen as rapidly as the price in dollars – as the dollar-euro exchange rate has fallen. Furthermore, since Krugman’s article was published, the U.S. government has stopped filling the Strategic Petroleum Reserve (SPR). This one action by government is equivalent to reducing total market demand for U.S. crude oil by 75,000 barrels per day. Despite these cutbacks in market demand for oil in OECD nations, the price of oil has continued to escalate until it exceeded \$135 per barrel in May 2008. Nevertheless it is true that despite a five fold increase in crude prices since 2001, no excess supply has developed in the market to drive prices back

down. So is this lack of “excess supply” evidence that there is no speculation in the crude oil market?

SPECULATION AND CRUDE OIL PRICE INCREASES

The price of crude oil highlighted in the media is determined in the future markets on two international oil commodity exchanges – NYMEX in New York and ICE in London -- where the benchmark prices are determined for two crude oil grades: West Texas Intermediate and North Sea Brent. The Brent futures market price is used, in spot and long term contracts, as a basis of evaluating much of the crude produced globally. The major oil producing nations use the Brent for pricing the crude they produce and therefore it is the basis for most of the crude destined for European and Asiatic markets. The West Texas Intermediate price is the benchmark for US crude production.

The Commodities Futures Trading Commission (CFTC), a U.S. government agency, has the mandate to assure that the futures prices of commodities do not reflect price manipulation or excessive speculation. In January 2006, however, with crude oil future prices at approximately \$60 per barrel, the CFTC decided to permit the ICE to permit trading of West Texas Intermediate as well as US gasoline and heating oil futures in London. The CFTC has indicated these ICE trades, even if done by U.S. traders, would be beyond the jurisdiction of the CFTC. (Moreover there are crude oil futures contracts traded on over the counter electronic

exchanges which are also not regulated by the CFTC.) Some observers has pointed out that since this CFTC decision on ICE futures in 2006, benchmark oil futures prices have more than doubled! These facts fuel the possibility that speculation in oil has affected the price of oil?

As early as July 2006, the U.S. Permanent Senate Committee on Investigations presented a report entitled "The Role of Market Speculation in Rising Oil and Gas Prices". Although the report did not attract much media attention, after weighing the evidence, the committee report stated that "speculators have expended tens of billions of dollars in U.S. energy commodity markets....[and] Speculation has contributed to rising U.S. energy prices." The Committee report estimated that as much as \$20 to \$25 per barrel of the then prevailing price of \$60 was due to speculation.

More recently there have been statements by knowledgeable individuals to suggest the importance of speculation on crude prices. For example, a May 2,2008 statement (reported by Mark Shenk of Bloomberg News) by the Qatari oil minister indicated that despite spare production capacity "OPEC will not increase production of crude oil because what is happening now is not an increase in oil demand, but heavy speculation on oil futures. That's what's making oil prices so high."

In an article in Arabbusiness.com [May 28, 2008] the secretary-general

of OPEC was quoted as saying "There is clearly no shortage of oil in the market. OECD commercial oil stocks remain above the five-year average, with days of forward cover at a comfortable level of more than 53 days. US crude inventories, meanwhile, rose by almost six million barrels last week (mid May), which is a further indication that oil supplies are plentiful," The secretary general noted that OPEC member countries continue to produce more than 32 million barrels a day and that OPEC's spare capacity currently stands at more than 3 million barrels per day. To suggest why OPEC is not using its spare production capacity, he added " crude oil movements indicate that some OPEC Member Countries are unable to find buyers for their additional supply." The secretary general also has been quoted as stating "“Even though we see no shortage of oil in the market, since the middle of 2007 we have seen a major disconnect between oil prices and market fundamentals. A number of factors have contributed to this, but primarily [it is] the massive role that speculators now play in the oil market”.

Finally, the fact that oil future prices have increased by 86 per cent in one year while, according to the International Energy Agency estimates, world demand for oil has increased by approximately 2 per cent might suggest that hedge funds and other speculators, having abandoned the dot.com bubble and the housing bubble in recent years, might now be

engaged in speculation that is adding to market demand and creating a commodities bubble for crude oil as well as for basic food commodities

To explain why the absence of any excess supply adjustment is not, as market fundamentalists claim, evidence of the absence of a speculative force requires examining the “market fundamentals” argument in some detail. An article entitled “The Oil Price Recoil” that appeared in the May 29, 2008 issue of The Economist magazine will provide us with the basis of this analysis.

The Economist article admits that some “\$260 billion is invested in commodity funds, 20 times the level of 2003”. Since margin requirements in most commodity markets are typically less than 10 per cent, these commodity funds could take positions in commodities equal to several trillion dollars – much of it on oil. Nevertheless, The Economist article argues that it is not these huge commodity funds investments (speculations?) in oil futures that are driving up the price of oil. The article notes, most “speculators do not own real oil. Every barrel they may buy in the futures market they sell back again before the contract ends. This may raise the price of ‘paper barrels’ but not of the black stuff refiners turn into petrol”.

The Economist admits that “it is true that high future prices could

lead someone to hoard oil today in the hopes of higher prices tomorrow. But [reported] inventories are not especially full just now and there are few signs of hoarding ”¹. The article continues “If the speculators are not to blame, what about oil companies, which have failed to increase output in spite of record profits?.... The oil price is set in the market. For Shell, Exxon et al to hoard oil underground would be to leave billions of dollars of investment languishing”.

Since the OPEC nations produces 40 per cent of total world crude oil production, it is surprising that The Economist does not mention the OPEC nations along with Exxon and Shell as possible producers that might hoard oil underground. After all OPEC decisions on the cartel’s daily crude oil production is probably the most important single determinant of the total amount of “the black stuff refiners turn into petrol” in the world market. As the Qatari oil minister and the secretary general of OPEC have suggested OPEC has decided not to change the supply of crude oil it supplies to refiners despite the tremendous rise in the price of oil over the last year -- even though OPEC has existing spare capacity of 3 million barrels per day.

Market fundamentalists such as the writer of The Economist article and Paul Krugman have has never read John Maynard Keynes’s General

Theory (1936, pp. 66-73) writings on the Marshallian concept of User Cost. Keynes argued that User Costs links present production decisions and future production decisions of profit maximizing organizations – especially in the production of raw materials. Although Keynes uses copper mining in his discussion of user costs and raw material production decisions, the same profit maximizing principle can be applied to pumping crude oil out of the ground as digging copper out of the ground

Keynes [1936, p. 73] stated "In the case of raw materials the necessity of allowing for user costs is obvious – if a ton of copper is used up today it cannot be used tomorrow and the value which the copper would have tomorrow must clearly be reckoned as part of the marginal cost" of production today. In other words, if oil prices are expected to rise tomorrow then producing a barrel of oil today involves the cost of foregone larger profits that could be obtained by holding the oil underground to produce tomorrow in order to sell at an expected higher price. Clearly such expectations of future oil prices should affect the oil producers's decision of how much oil to produce today if they are interested in maximizing the return on already existing investments. In other words, the recognition of a user costs factor means that both Krugman's argument that higher prices due to speculation will induce an "excess supply" and The Economist's

assertion that producers will not hold oil reserves underground because this always means a lower return on investment already undertaken are not correct. The concept of user costs suggests that leaving more oil underground may enhance total profits on the producer's investment if prices are expected to rise in the future (more rapidly than the current rate of interest). And what better indicator of future prices exists today, then the benchmark oil price determined in the NYMEX and ICE futures market?

There is empirical evidence that oil producers do take the "user costs" of foregone future profits into account when deciding whether to produce today or tomorrow -- especially when prices are expected to increase significantly in the future. In a study my colleagues and I did for the Brookings Institution [Davidson et al 1974] we noted that after President Nixon, in 1971, imposed temporary price controls on oil produced in the U.S. , the U.S. Geological Survey reported that the number of shut-in oil-producible zones on the U.S. outer continental shelf jumped from 14.3 per cent of the total completions of oil producible zones in 1971 to 44.4 per cent in 1972 and 44.5 per cent in 1973, while the number of completed wells continued to grow by some 300 per year from 5718 in 1971 to 6421 in 1973. (By way of comparison it should be noted that the shut-in ratio was 18 per cent in 1965 and the trend was steadily downward until

1972.) As we noted in our Brookings paper "This tremendous increase in readily available, but unused, productive capacity is compatible with the sudden appearance of large positive user costs as OPEC began to escalate oil prices worldwide".

Today if speculators in futures contracts in NYMEX and ICE are causing the escalation of the market price of benchmark crude oil, then the same user cost incentives exist for multi-national oil producing companies and for the OPEC nations to limit production and leave reserves underground as long as they have expectations that oil prices will continue to rise at the phenomenal rates of the last few years. Furthermore, The Economist article suggestion that current market price increases are merely the forerunner of further increases in demand outstripping supply, merely exacerbates user cost expectations. With some talking heads on television indicating they expect the price of crude to reach \$200 a barrel in the near future, it should be apparent that there are potentially significant user costs in the minds of crude oil producers to encourage leaving oil reserves in the ground..

In addition, it should be obvious that with the rapid increases in oil prices, hedge funds, pension funds, other large financial institutions as well as individual investors have been placing billions into oil commodity

markets to hedge against inflation and/or to take increase the value of their portfolios via market price increases. But, as the Keynes concept of user cost suggests , speculators on crude price increases may not only include hedge funds - but may involve oil producing companies and countries who recognize that they must produce sufficient quantities of oil to prevent prices rising so rapidly that the economies of their major markets do not collapse – and therefore kill the goose that is laying the golden egg for oil producers. On the other hand, recognizing that speculation has enhanced the rapid escalation of market price, oil producers do not want to pump enough oil from existing underground capacity to squeeze out speculators and thereby reduce their user costs to zero – or even push user costs into negative territory!

A POLICY TO SQUEEZE OUT SPECULATION

If speculation plays some role in pushing up crude prices in recent years, is there some policy that the government can institute to remove this speculative excess? The US government can crush this speculation and force futures oil prices well below \$100 a barrel by a strategic use of the world's largest emergency supply, the US Strategic Petroleum Reserve (SPR).

As of May 2008 the SPR held 701 million barrels (96% of capacity). If

the United States was to dump say between 70 and 105 million barrels on the future market, speculators would lose a fortune, while the U.S. would earn billions of dollars that would offset a significant portion of the current U.S. government deficit. Gasoline prices would readily fall by more than the amount that the suggested Clinton- McCain gasoline tax holiday from Memorial Day to Labor Day would provide as a respite to American drivers.

Moreover it would not be the first time that strategic use of the SPR prevented run away crude oil prices. After Desert Storm in 1991, 21 million barrels from the SPR was sold over 45 days. As a result world oil prices was barely disturbed despite the interruption of crude oil supplies from Kuwait and Iraq. Again after Hurricane Katrina shut down U.S. crude production in the Gulf of Mexico (approximately 25% of total U.S. oil production), the release of 11 million barrels from the SPR assured stability in the world's markets for crude oil.

If there is any speculative froth in the crude oil market, then if the government would sell between 10 and 15 per cent from the SPR on the market, we would really have a test of the importance of speculation on commodity prices. Since SPR can pump up to 4 million barrels a day, the government can readily sell oil the futures markets for at least two months without significantly draining the SPR. (It would also be a test of what

would happen to world oil prices if OPEC used its current unused capacity.) Can one imagine what the sale of SPR oil would do to reduce the speculative force behind crude price increases?

Given our current economic problems we should remember Keynes's statement [1936, p. 159] that "Speculators may do no harm as bubbles on a steady stream of enterprise, But the position is serious when enterprise becomes the bubble on a whirlpool of speculation"

REFERENCES

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Keynes, J. M. (1936) The General Theory of Employment, Interest and Money (Harcourt Brace, New York)

NOTES

1. Compare this with the previously quoted statement of the secretary general of OPEC .Also, it should be noted that the previously cited 2006 U.S. Senate report, stated that "with respect to crude oil the influx of speculative dollars appears to have altered the historical relationship between price and inventory, leading the current oil market to be characterized by both large inventories and high prices". Consequently, it is not clear that The Economist's claim that inventories are "not especially full" is "not full" by comparing with inventories as of 2006 or some historical inventory relationship .