



# THE MORNING ENERGY UPDATE

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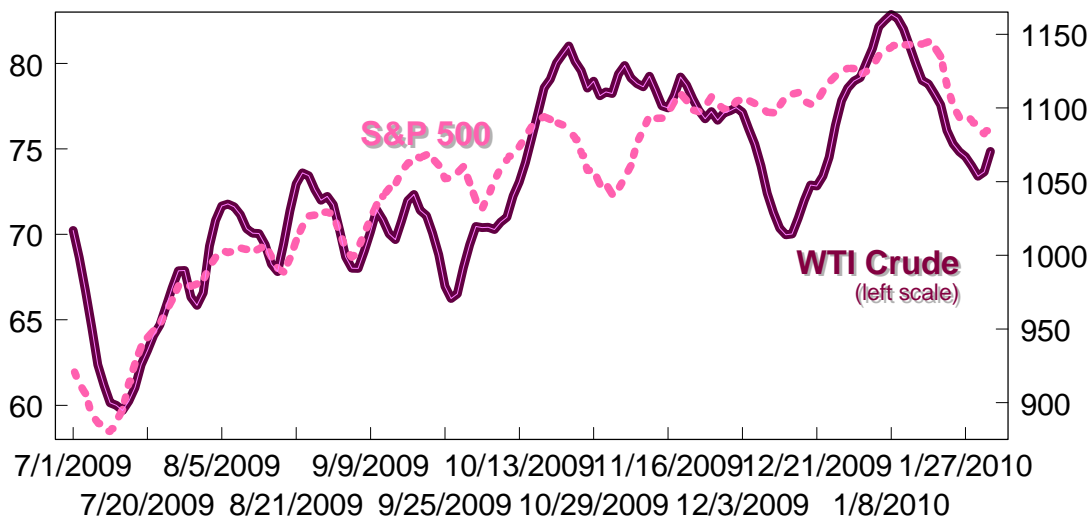
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## THE PROGRAM

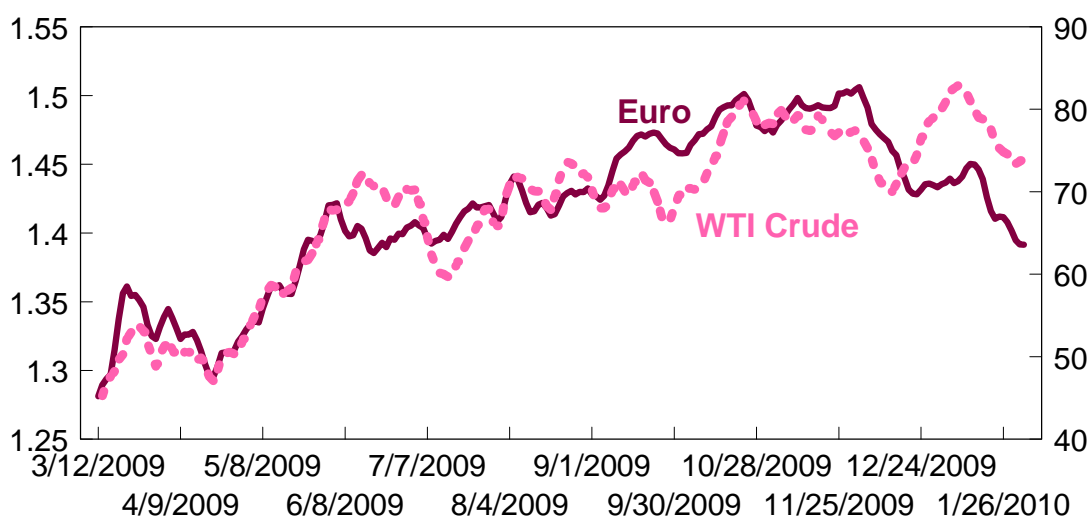
### S&P 500 versus Crude Prices

3 day moving average of daily settles



### Euro versus Crude Prices

3 day moving average of daily settles



Most of this week's price action in the oil market seems tied to the macro trade with the catalyst for the lift in financial indices coming in reaction to ISM data. This particular influence on crude prices relates to a hope that a rising stock market signals a growing economy and, in turn, a pick-up in oil demand. Because of still evident issues in non-OPEC countries to grow production, the oil markets (and the global economy) face a most unusual situation, in our estimation, of facing boom and bust cycles in oil demand as the mechanism to adjust the market clearing price for crude. There is no analogue like this in the oil market going as far back as World War II. One of the other oil price influences still evident is the \$/€ hedge which first emerged in the summer of 2007 when subprime issues became "toxic."

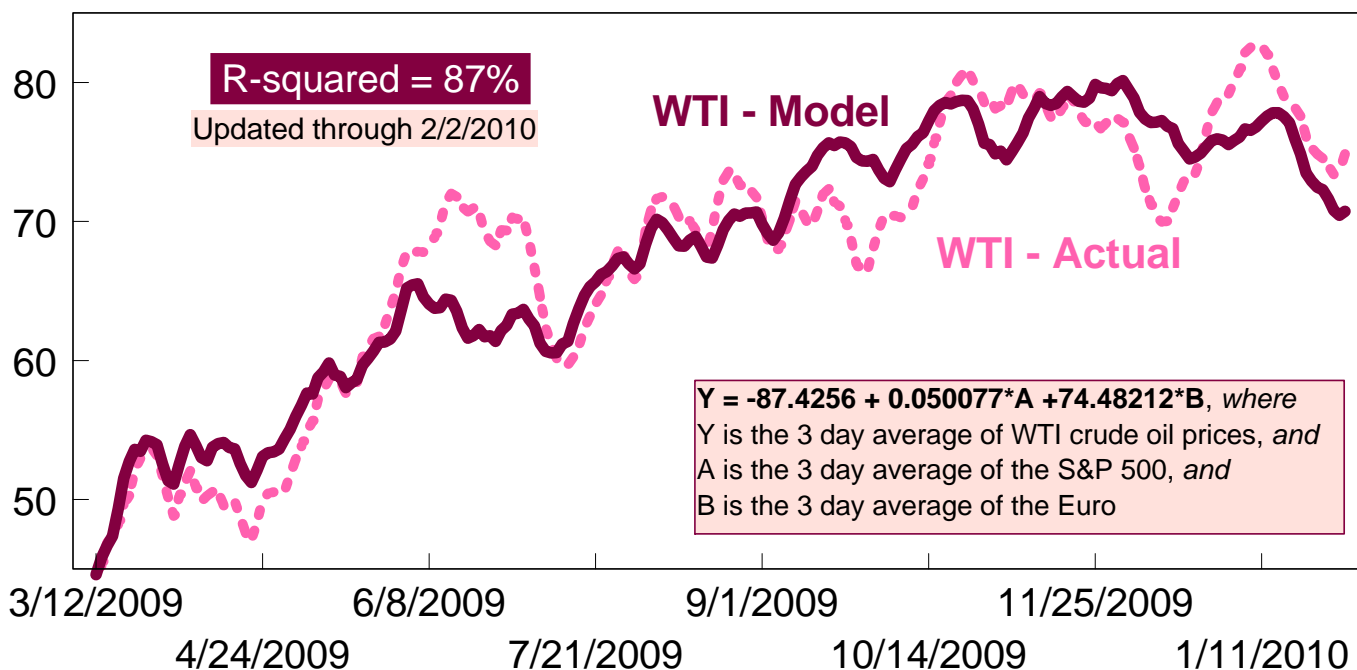
The chart and detailed econometric model detailed below quantifies the combined influences of the macro trade and the \$/€ hedge on crude prices. The  $R^2$  being near 90% is still startling to us, given that the two causal factors in the model aren't really a reflection of changes in the underlying oil balance.

As discussed on the preceding page, the macro trade reflects a hope that oil supply/demand data eventually catches up to oil prices, and the \$/€ factor is the use of the oil market to hedge currency risks owing to its comparatively higher levels of trading liquidity for oil versus gold in both the exchange traded market as well as the over-the-counter market.

The model below was updated through last night's settle. It is interesting to note that when we have deviations between the model value for crude prices and the actual price of WTI, the gaps gets closed by actual crude prices converging towards the model value. This suggests that oil prices still remain vulnerable to the downside over the near term.

### WTI Crude Prices: Actual versus Model

Model is a function of The Dollar and S&P 500



## FILLING BIG HOLES...WITH A QUARTER-BILLION BBLs?

<i>Million barrels/day</i>	
2009 Net Crude Imports	3,974,284
2009 Domestic Production	<u>3,821,000</u>
<b>China's Total Crude Supply</b>	<b>7,795,284</b>
<b>2009 Average Crude Runs</b>	<b><u>7,461,560</u></b>
Net oil inventory change	333,724
<b>2009 stock change (bbl)</b>	<b>121,809,318</b>
2008 Net Crude Imports	3,492,464
2008 Domestic Production	<u>3,793,000</u>
<b>China's Total Crude Supply</b>	<b>7,285,464</b>
<b>2008 Average Crude Runs</b>	<b><u>6,915,255</u></b>
Net oil inventory change	370,209
<b>2008 stock change (bbl)</b>	<b>135,126,190</b>

The table to the immediate left is our analysis that assesses China's "crude balance – the difference between crude 'supply' (production + imports) and 'crude demand' (what's distilled at refineries). The gap in 2008 came to +370,000 b/d or (135 million bbl for the year) and for 2009 we reckon the figure was 334,000 b/d (122 million bbl). This quarter-billion barrels is tough to simply write off as "missing oil" leaving us with prospects that barrels have been stored in various facilities that could be for various emergency facilities or the 5 identified commercial storage projects. The 1.0 MM b/d of new refining capacity that came on line over the past year "ate" at least 17 MM bbl of crude for pipe and tank fill.

### China's Strategic Petroleum Reserve (SPR) Projects

Million Barrels

<u>Storage site</u>	<u>Capacity</u>	<u>Category</u>	<u>Status</u>	<u>Operator</u>
Zhenhai, Zhejiang	32.71	SPR phase 1	Operation	Sinopec
Zhoushan, Zhejiang	31.45	SPR phase 1	Operation	Sinopec
Huangdao, Shandong	20.13	SPR phase 1	Filling	Sinopec
Dalian, Liaoning	18.87	SPR phase 1	Construction completed	CNPC
Shanshan, Xinjiang	50.32	SPR phase 2	Filling	CNPC
Tieling, Liaoning	5.03	SPR phase 2	Construction completed	CNPC
Daqing, Heilongjiang	7.55	SPR phase 2	Completing construction 2009	CNPC
Lanzhou, Gansu	<u>12.58</u>	SPR phase 2	Completing construction 2011	Sinopec
<b>Total</b>	<b>178.63</b>			

### China's Major Commercial Oil Storage Projects

Million Barrels

<u>Storage site</u>	<u>Capacity</u>	<u>Category</u>	<u>Status</u>	<u>Operator</u>
Dushanzi, Xinjiang	12.58	Commercial	Completing construction 2009	CNPC
Jinzhou, Liaoning	3.77	Commercial	Under construction	CNPC
Lanshan, Zhejiang	23.90	Commercial	Construction completed	Sinopec
Yangpu, Hainan	62.90	Commercial	Under construction	Sinopec
Caofeidian, Hebei	<u>20.13</u>	Commercial	Completing construction 2011	Sinopec
<b>Total</b>	<b>123.28</b>			

*Reuters* - Daily output at Iran's Azadegan oil field has reached 40,000 bpd and will soon hit 50,000 bpd, Deputy Oil Minister Seifollah Jashnsaz was quoted as saying on Wednesday. After completion of more wells, production would soon reach 50,000 bpd, Mehr reported, without giving details. **Last July, China's National Petroleum Corporation (CNPC)** signed a memorandum of understanding for development of the south Azadegan field. Under that deal, it would pay 90 percent of the costs of a \$2.5 billion project. In January 2009, CNPC signed a deal with the NIOC to develop the north Azadegan oilfield...

China's foray in the oil upstream over the past 5 years reflects an overt attempt to "lock up" as much supply as possible given their continued growth in import needs.