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Quarterly Energy Update



Fourth Quarter 2007

Soaring Oil Prices Dominate Energy Markets

Oil Prices Rise Sharply

Since sliding to just under \$70 per barrel for West Texas Intermediate (WTI) in mid-August, oil prices have risen nearly 30 percent in two months. WTI closed at \$92.91 on October 25—within \$10 of the all-time inflation-adjusted high of \$101.70 set in April 1980. Prices have been elevated and rising throughout 2007, climbing from \$50 in mid-January to over \$90 in mid-October, an astounding 86 percent gain. Oil futures prices remain in fairly sharp backwardation, which means that the market expects presently high oil prices to fall in the long term. Although this has been the case through many price spikes this year, long-term oil price expectations today have strengthened by almost 15 percent since mid-August (*Chart 1*).



Current Analysis

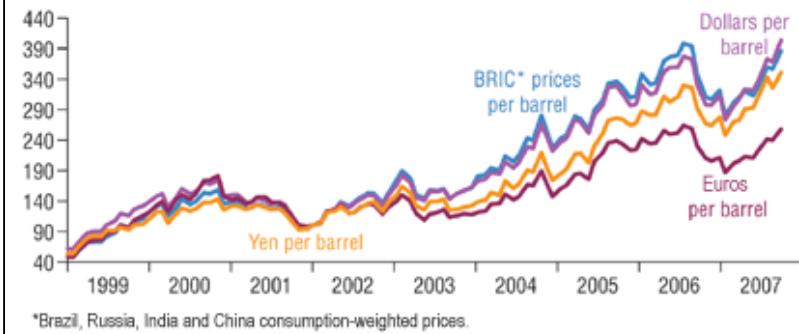
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- Texas Manufacturing Outlook Survey



Escalating tensions in the Middle East, slippage of the U.S. dollar (*Chart 2*), and an unexpected drawdown of international crude oil and product inventories account for the upward pressure on oil prices.

Chart 2 Euro and Yen Prices Haven't Risen by Much

WTI, Index, January 2002 = 100



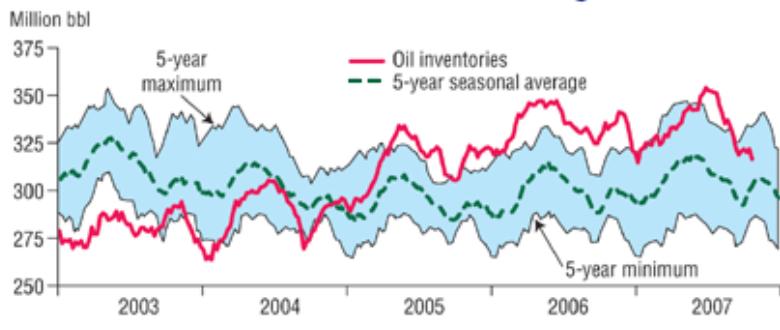
Most news sources have claimed that U.S. oil prices have been pushed up by reports of low domestic crude oil inventories. According to the U.S. Energy Information Administration, domestic stocks of crude oil, which had been slipping throughout September and October—much of it a seasonal decline—dipped below 317 million barrels in late October, about 5 percent below year-

Other Resources

- Fed in Print—an index of Federal Reserve economic research
- Catalog of Public Information Materials

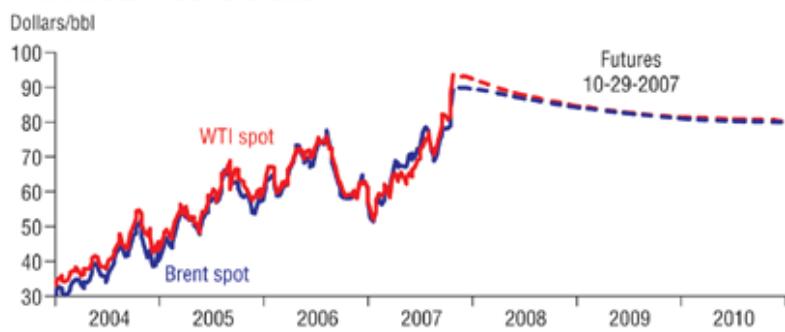
ago levels. Even so, domestic crude oil inventories are well above their seasonal average for this time of year, making it unlikely that overall inventories are contributing to upward pressure on prices (Chart 3).

Chart 3
Crude Oil Inventories Above Seasonal Average



Oil inventory levels at Cushing, Oklahoma—the official delivery point of the benchmark WTI and home of 10 percent of U.S. oil inventories in pipelines and tank farms—were 21 percent below year-ago levels at last count. This phenomenon could partially explain the current premium that WTI commands over its European counterpart, Brent, as of October 25. The futures market expects this premium to dissipate quickly (Chart 4).

Chart 4
WTI Prices Above Brent

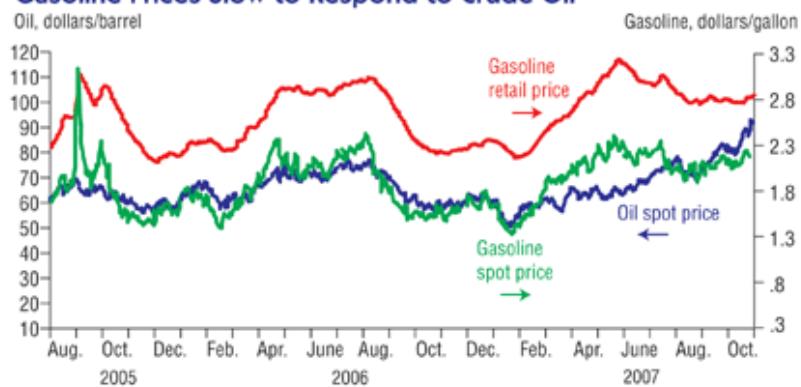


Although the Organization of Petroleum Exporting Countries (OPEC) has expressed concern about the effects that rising oil prices could have on world economic activity, it has taken little action to stabilize oil prices. OPEC insists that the world oil market is not necessarily short on supply and that speculative forces and a weak dollar are actually driving oil price increases.

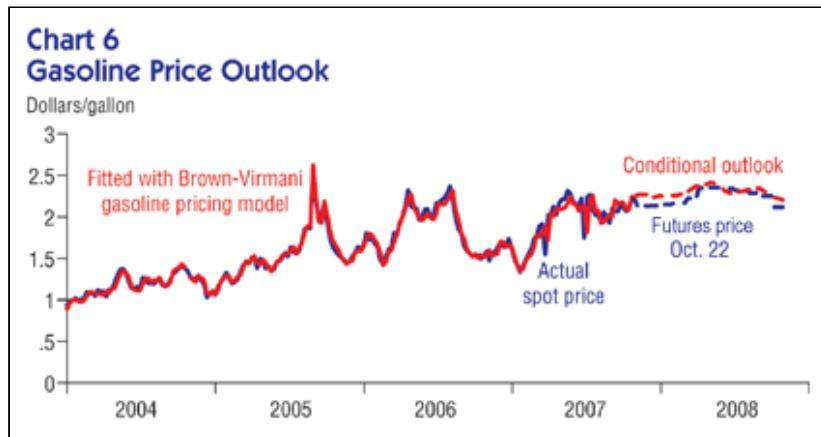
Gasoline Prices Slow to Rise; Heating Oil Prices Strengthen

Although retail gasoline prices rose to \$2.87 per gallon at the end of October, gasoline prices have responded slowly to rising crude oil prices (Chart 5).

Chart 5
Gasoline Prices Slow to Respond to Crude Oil

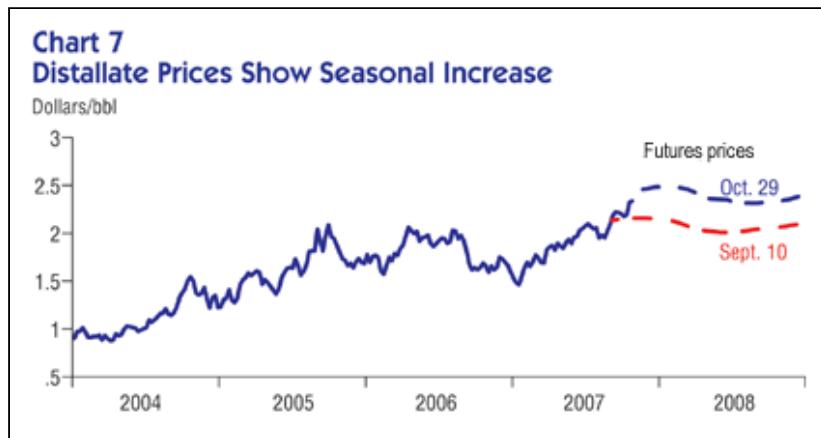


According to the [Brown-Virmani gasoline pricing model](#) developed at the Dallas Fed, sustained crude oil prices above \$85 will mean spot gasoline prices will eventually climb to about \$2.25 per gallon, which would push retail prices above \$3 per gallon (*Chart 6*).



The slow response of gasoline prices is indicative of a squeeze on refiners' margins—reflecting both normal seasonal weakness in gasoline prices relative to crude oil and a lagged response to rising crude oil prices. With the driving season over, low gasoline inventories don't seem to be contributing much upward pressure on prices.

The price of distillate oil (diesel fuel and heating oil), which hadn't kept pace with the gains in crude oil, has begun to show increases consistent with a normal seasonal draw on inventories and increasing demand. As of late October, the futures market shows expectations for peak-winter distillate prices to be more than 15 percent higher than about six weeks earlier (*Chart 7*).

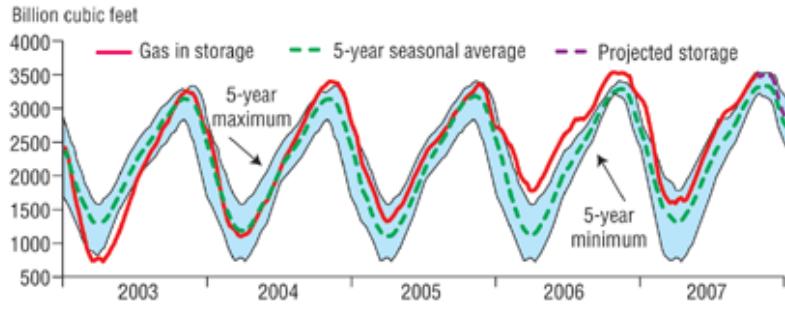


Natural Gas Prices Mired by High Inventories

Natural gas prices briefly climbed above \$7 in mid-October before returning to a familiar level under \$6.50 per million Btu for delivery at Henry Hub. Prices slid downward through much of August in what seems to be a market correction and were relatively moribund around \$5.50 per million Btu into early September.

High inventories continue to depress natural gas prices relative to those for crude oil. Inventories are currently on a path to reach about 3.5 trillion cubic feet (*Chart 8*). Low prices and high inventories have prompted major natural gas producers to reduce production and keep some of their gas in the ground until market conditions improve, and that may eventually alleviate some of the downward pressure on natural gas prices.

Chart 8 Natural Gas in Storage at Seasonal High



—Stephen P. Brown and Raghav Virmani

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