

The Volatility in Global Oil Prices

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Global oil prices have more than tripled since 2003, and volatility has become the rule rather than the exception. Between September and December 2007, future prices for West Texas Intermediate (WTI), a sweet marker crude, ranged from \$70 to just under \$100 per barrel. Yet in the past two weeks, prices have again receded to below \$89 per barrel.

As Congress grapples with passage of another energy bill, market observers postulate a number of theories for explaining why oil prices are so high and offer projections as to where future prices may be headed. Are market fundamentals (supply, demand, refining capacity, inventory levels, etc.) driving the high prices, or is the involvement of an increasing number of speculators, increased capital in energy markets, and geopolitical tension responsible for a so-called security premium? In fact, there are a number of factors at play, each of which at least partially explains the price trajectory of the last few years and the most recent climb (and reduction) in oil prices. Indeed, a combination of noteworthy short- and long-term trends supports current price movements. To begin with, however, one should be careful not to equate the future price for WTI with the average price of crude oil as currently traded on the global market. WTI is indeed a premium marker crude with limited (and decreasing) relevance to the U.S. and world market, but it is generally higher by several dollars a barrel than the average crude price available to refiners, or the average price of the composite Organization of the Petroleum Exporting Countries (OPEC) basket.

Q1: What are the short- and long-term trends contributing to current price movements?

A1: *Continued global demand growth:* Energy demand growth in 2004 was more than double the average seen in the previous decade. Since that time, while incremental growth has reverted to more normal trends, global oil consumption has continued to increase even in the face of higher prices, with demand driven by economic and population growth and improved standards of living. The ability for this growth to weather the impact of higher oil prices is helped by the declining value of the dollar (making oil less expensive in foreign countries) and, in the case of the United States, the relative efficiency of our economy—as compared to the 1970s when it took much more energy to produce each unit of gross domestic product (GDP).

Limited supply response from non-OPEC sources: In general, non-OPEC production has been unable to keep pace with the increase in global oil consumption for a variety of reasons, such as resource depletion, investment, governance, and weather-related issues. Consequently, in order to meet increased demand, consumers must increasingly rely on a strategy that includes improvements in efficiency, development of alternative fuel sources, and drawing down existing inventories.

Increased reliance on OPEC nations: Without adequate contribution from non-OPEC suppliers, OPEC has been increasingly called upon to produce more oil to meet projected shortfalls. Last fall, in an attempt to stem the precipitous decline in oil prices and trim back global inventories, OPEC nations collectively agreed to reduce output. That strategy proved to be extremely effective in tightening the market and, coupled with the growth in demand, turned a surplus into today's precarious balance. In September, OPEC agreed to relax its output restrictions and since that time has begun to add incremental production to the market. In the face of continued demand growth, however, that production increase has had a limited impact in dampening oil prices. In the process, increased OPEC production has resulted in a decline in spare capacity, which can be used to offset the impacts of limited supply disruptions. In addition, most OPEC members are now producing at full capacity and are not able to provide additional supplies to the market.

Enhanced geopolitical risk: Geopolitical tensions are also a source of rising investor and consumer concern, and their impact is particularly pronounced because of the already tight market conditions. For some time, reduced output in Nigeria and continued tensions in Iraq have been driving upward pressure on prices. More recently, those tensions were coupled with renewed hostilities between Turkey and the Kurdistan Worker's Party (PKK), concern over Iran's nuclear ambitions, and political instability in Pakistan. To the extent that these types of conflicts have the potential to disrupt production or delivery of oil supplies in an already tight oil market, ongoing concerns are reflected in higher prices.

CRITICAL QUESTIONS

Refinery issues: As a consequence of a variety of planned and unplanned refinery outages (either due to routine/seasonal maintenance, refinery fires, or mechanical issues) throughout the year and a decided lack of surplus refining capacity globally, process constraints have also had an adverse impact on delivering finished products to the market.

Market speculation: A great deal of new money has moved into (and recently, out of) the oil market because it is seen as an attractive commodity hedge with great upside potential compared to other commodity markets. Earlier this fall, some market analysts predicted that this segment was due for a correction as fund managers looked to lock in their 2007 gains. Others saw “price magnetism” taking place as speculators tested the upward bounds of price, looking to break the \$100 per barrel mark. We view this speculation as moving prices at the margin but recognize that it is able to impact price movements as a consequence of the underlying fundamentals already at work.

Q2: So why the recent price decline?

A2: The price run-up evidenced over the past few months was basically supported by the fundamentals identified above. Oil demand continued to be strong globally despite the higher prices, and non-OPEC supply additions failed to keep pace with that growth. Consequently, the “call” on OPEC crude has risen—and in the absence of additional production coming on line, global oil stocks have continued to be drawn down to make up the difference.

In September, the combination of declining inventories, limited supply availability, continued economic growth, and the concern that supplies could be disrupted—either as a result of hurricanes, sabotage, or restrictive production policies—put upward pressure on prices. Further, the prospect of a colder winter similarly increased estimates for near-term oil demand.

As we rolled into December, several of those threat factors either were reduced or reversed. The International Energy Agency (IEA) revised downward its estimate for fourth quarter demand (based on higher prices and lower economic growth), resulting in a call on OPEC output roughly equivalent to current production levels (OPEC production has been rising over the past few months). Further, global tensions over Iraq, Turkey and the PKK, and the prospect of a near-term confrontation with Iran have somewhat abated. The hurricane season in the Gulf of Mexico passed without a significant supply disruption, and prospects for a milder winter look better. Stock levels, although still worrisome, remain in the range of the five-year average.

Q3: What is the potential impact on gasoline prices in the United States?

A3: As a general rule, gasoline prices tend to reflect trends in crude oil, as raw material costs account for the bulk of refined product pricing. Assuming that demand remains firm, sustained high crude oil prices inevitably translate to higher prices at the pump. A rough calculation is that gasoline prices adjust by about \$.24 per gallon for every \$1 change in the price of crude oil. At an average price of \$90 per barrel for crude, gasoline prices could be expected to be in the range of \$3.20 to \$3.25 per gallon, depending on applicable federal, state, and local taxes and refining and delivery costs. As we get closer to the end of winter, refiners may also be willing to discount their winter grade fuels to get ready for summer blends. It is still an open question about whether or not prices at this level will have a material impact on consumer behavior.

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