



## Oil Prices

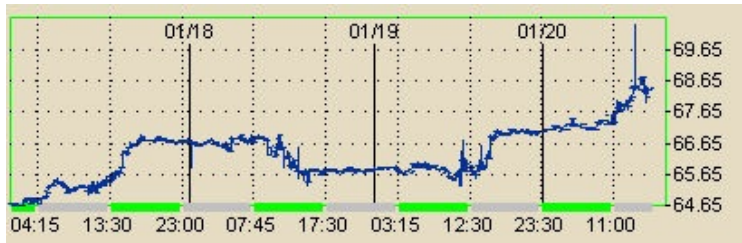
Posted by [Stuart Staniford](#) on January 20, 2006 - 6:46pm

Topic: [Economics/Finance](#)

Tags: [hubbert peak](#), [oil prices](#), [peak oil](#) [[list all tags](#)]

Oil prices seem to be on a tear again. The nominal reason is [anxiety over Iran](#) and [Nigeria](#). Certainly those are good enough reasons for oil prices to increase.

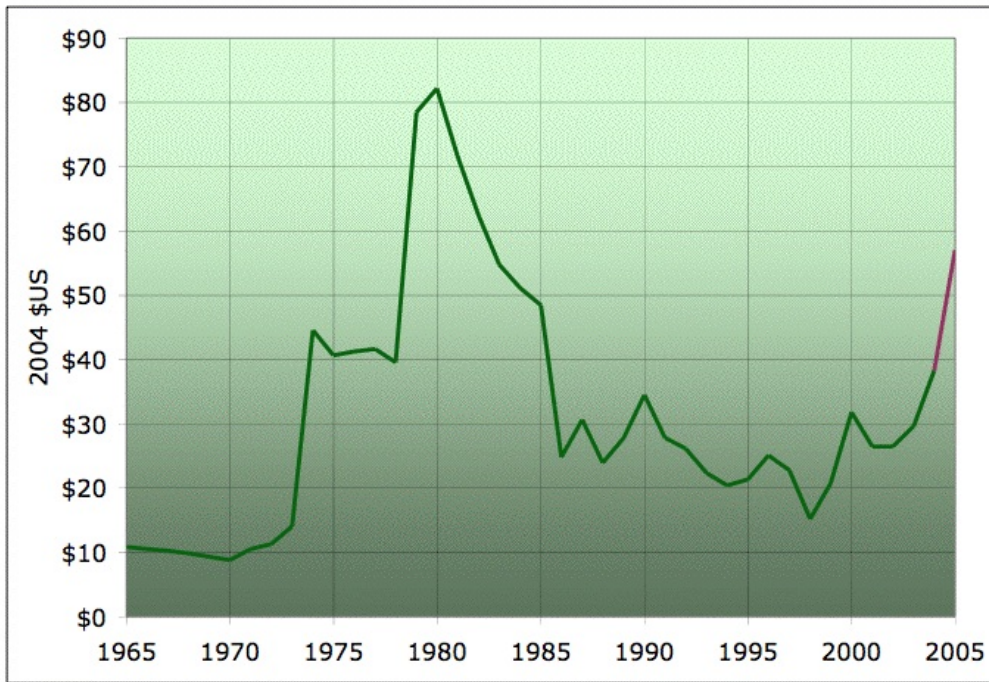
But we can put the story in a larger context. The graph to the right shows the daily close in the price of West Texas Intermediate according to the [EIA](#) over the last few years. That provides the backdrop for the action in the last few days:



More below the fold.



For the broadest context, we can look at the history of annual average prices from 1965 on, as documented in the [BP Statistical Review of World Energy](#). BP chooses different light grades for the price. The last datapoint is a preliminary estimate till the new report comes out.



Average price for light sweet crude during each year 1965-2004. Expressed in 2004 US dollars. Source: [BP Statistical Review of World Energy](#). [Click to enlarge](#).

The history of seventies oil shocks sending prices into the alto-cumulus, followed by the collapse back to earth, is clear. Prices bottomed out in 1998 during the Asian currency crises when demand was temporarily reduced. They then began rising again, but as the MSM is fond of pointing out, we are not yet back to the 1981 value. We can focus in a little bit in this next graph, which shows prices from the beginning of 1997 on:



Average weekly price of all oil grades weighted by export volume of each, together with daily price of West Texas Intermediate. 1997-present. Expressed in then current US dollars. Source: [EIA](#), and also [here](#) for the world data. [Click to enlarge](#).

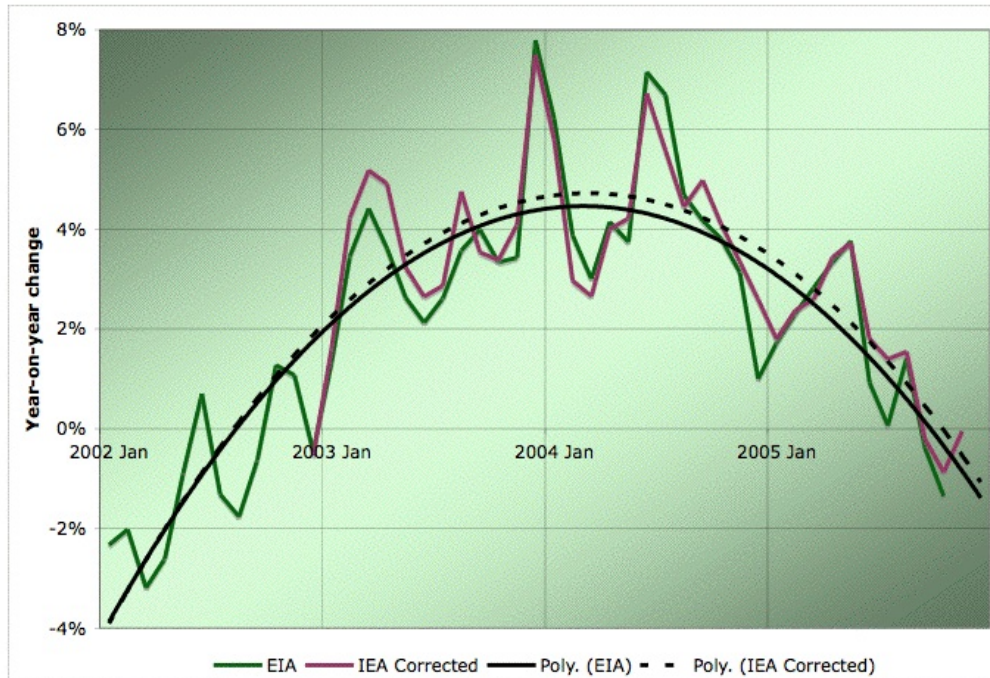
The purple line roughly corresponds to what BP plots. It's the daily spot price of WTI - West Texas Intermediate (Freight-on-board in Oklahoma - ie you have to pay for the shipping on top of this). The green line is the weekly average closing spot price of all grades of oil around the world. The EIA weights each grade according to how much is exported globally. This line is probably a more realistic measure of the oil price forcing function on the world economy, since it includes all the heavy grades in a reasonable proportion according to how much of them is being exported. However, WTI is the price that is usually quoted in the US media.

Let's now focus in further just on the period from 2002 on. Price bottomed out at the beginning of 2002 due to demand reductions following the tech-crash in the world's stock markets, but have been generally rising since then.



*Average weekly price of all oil grades weighted by export volume of each, together with daily price of West Texas Intermediate. 2002-present. Expressed in then current US dollars. Source: [EIA](#), and also [here](#) for the world data. Click to enlarge.*

We can see that the spread between the world average price and WTI is increasing, presumably as a result of the increase in the proportion of heavy oil in what is available. Now, this is where it gets pretty intriguing. Notice that there is a break in the trend around the beginning of 2004. Before that prices were increasing, but not as fast. Then remember this next graph from [the most recent "plateau" post](#). It shows how much change in supply there was each month from the prior year. Notice that the price break corresponds to the peak in ability to increase supply.



*Percentage change in world oil production from same month in prior year, according to various estimates.*

*2002-present. Click to enlarge. Believed to be all liquids. Source: [IEA](#), and [EIA](#). The IEA corrected line is calculated from the month-on-month production change quoted the following month. The smooth curves are quadratic fits to each data set - the fits are only intended to provide a clearer sense of the trend, not to express a model of the data.*

It's apparently been getting harder and harder to increase supply, and now we are basically running flat over the same time last year (the change on same month last year is basically zero). Prices seem to have responded accordingly. Presumably, if prices increase much further it will be because supply starts to decline from year-ago values.

We can see more detail on the oil price trends if we just plot WTI for each year as separate lines on the same graph based on the date in that year.



*Daily closing price of West Texas Intermediate. 2002-present. Expressed in then current US dollars. Source: [EIA](#). [Click to enlarge](#).*

The very early running in this year suggests that the price increases year to year are actually accelerating (not decelerating, as I [very recently hoped](#).)

So that's the context for what the market has done in the last few days:



Price for light sweet crude to be delivered in Feb 2006 in last few days. Source: [Nymex](#). [Click to enlarge](#).



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