

Ferguson: Energy Matters

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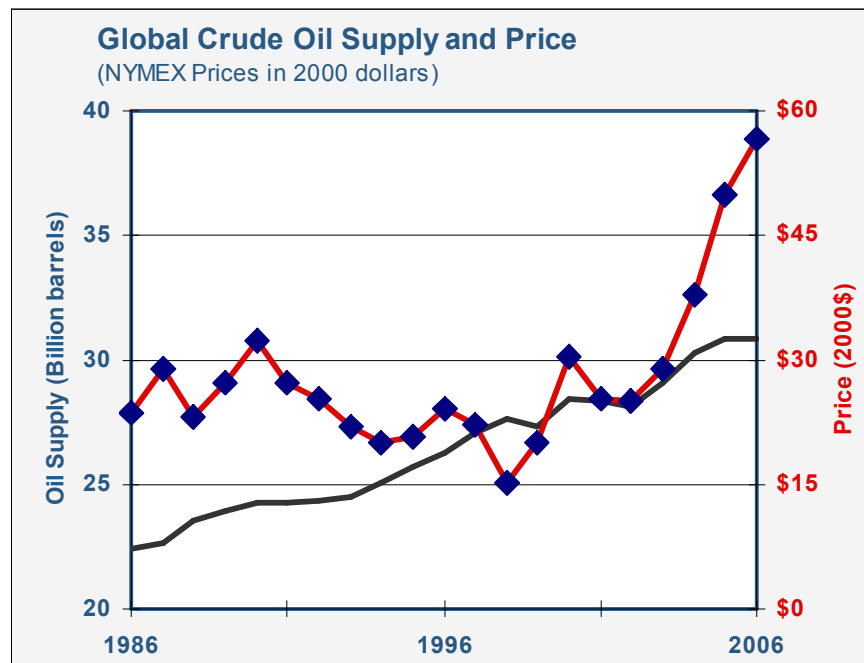
Oil Prices Increase When They Can

Petroleum experts were asked for their opinions at a recent conference about when global crude oil supplies would reach a peak. Estimates ranged from as early as 2020 to as late as 2040 or so. Although there was no consensus on when the peak would occur, all agreed that oil supplies will not continue to expand forever.

Popular theories about peak oil seem a bit simplistic to me because they tend to ignore what happens to oil prices and how the world reacts to them. These theories are based on the notion that crude oil supplies will max out when about one-half of the ultimate oil resources are used up. The conventional debate is over how much of the oil left in the ground can be extracted.

However, as I pointed out in last week's column, how much oil is burned depends on the price. Seen this way, the peak will arrive when oil prices reach the point at which the world stops using more petroleum every year. When might that occur, and how high will prices have to go before we start burning less?

The chart shows that in the last 20 years crude oil consumption has increased at a fairly constant rate of 1.6 percent per year. During most of this time, oil prices remained at around \$25 per barrel (in 2000 dollars adjusted for inflation). Since 2001 the price has doubled, but the rate at which consumption increased remained unchanged. During that time, oil producers' revenue *increased* nearly \$1 trillion.



Alert readers will note that global oil consumption did *not* increase from 2005 to 2006 when prices averaged over \$55/bbl (in 2000 dollars). Perhaps a \$55 price is enough to limit consumption, but perhaps not. A single year does not constitute a trend. In the first quarter of this year, prices were down a bit compared to the first quarter of 2006, and consumption was up.

With the global population and economy expanding, my guess is that oil consumption will continue to increase unless prices continue their recent dramatic climb. The trillion-dollar question is how high prices must go before the world starts using less.

The problem, of course, is that we have become so dependent on petroleum that we are relatively insensitive to price. To halt the 1.6 percent annual increase in consumption, a price increase of at least 16 percent per year would be required unless cheap alternative sources of energy become available or the global economy collapses. At this rate, oil prices would continue to double every five years.

Oil production in the U.S. peaked around 1970, but prices did not go through the roof because cheap supplies from other countries were available. Alas, the prospect of importing inexpensive oil from Mars is remote. In the absence of cheaper alternatives to petroleum here on Earth, prices will continue to climb. Sooner or later, oil consumption must decline as supplies are depleted. Meanwhile, one can only guess how high prices would have to go to *reduce* consumption.

The bottom line is that oil prices increase when they can. Politicians would like you to believe that petroleum can be replaced by biodiesel or other fuels made from agricultural products. However, modern agriculture is already heavily dependent on petroleum and is not considered sustainable. The notion that agriculture can be further expanded to replace the world's largest source of energy seems highly unlikely.

Our addiction to oil is a major cause of global warming, but it is also responsible for increasing prices. In the next few decades, oil prices are much more likely to cause global chaos than climate change.

— - *Dr. Rich Ferguson, Research Director, CEERT,*
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