

At each closing bell of the NYMEX market, the level of hysteria rises: pundits cry that oil prices will reach \$150, \$200, or \$250 per barrel. A similar panic swept markets in 1979 during the Iranian Revolution. Then it was provoked by a dramatic short-term cutoff of oil production, but the real cause of the sustained oil price rise was speculation and OPEC's willingness to cut supply.

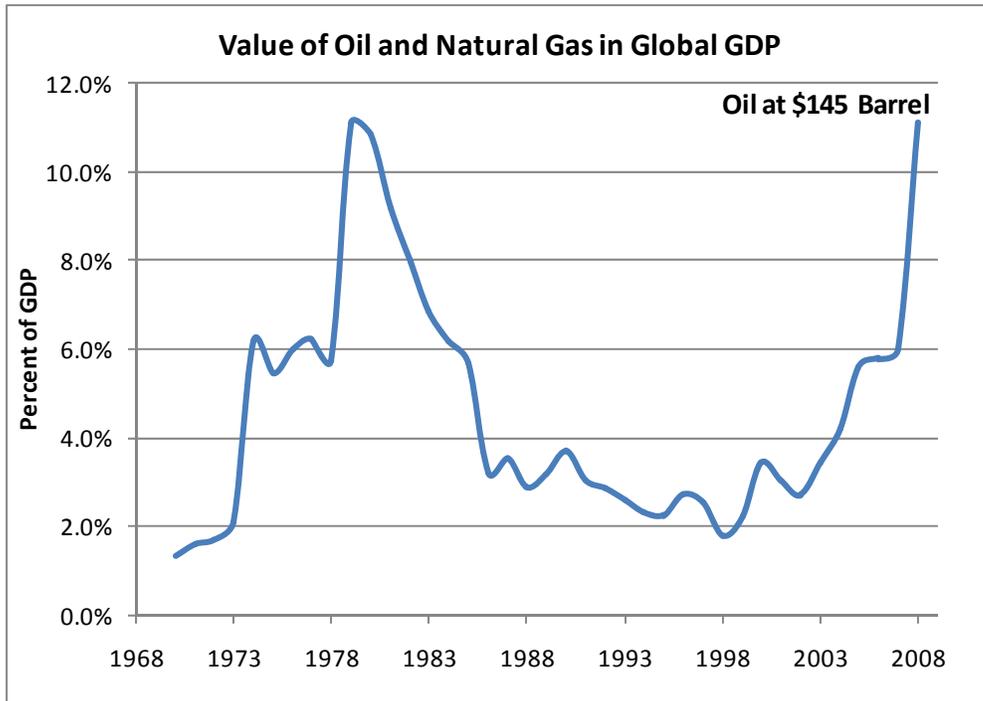
In the years before the 1973 Arab oil embargo, global oil demand had been growing at nearly 8% per year and virtually all the incremental volume was shipped by sea. The consequence was an explosive growth in the demand for super tankers. The oil price rise of 1973-74 more than halved demand growth, but it took four years to tamp down tanker construction. When workers struck the Iranian oil fields in the fall of 1978, there was huge storage capacity in spare tankers. As prices rose, traders built inventory, spot prices quadrupled, and because of the hoarding, production for the year actually exceeded consumption by two million barrels per day.

There is no similar overhang of storage capacity in today's oil market, but speculation is playing a role, however subtle. The flood of money into financial contracts is pumping up apparent demand, particularly in the forward market. In the 1990s, far-forward oil prices were relatively stable at around \$20 per barrel, while spot prices fluctuated up and down. In the present market, far-forward prices often lead spot prices – the price of oil for delivery in December 2016 posted at \$142 per barrel on May 21, as compared to the prompt month price of \$133. What is the signal that rapidly rising oil prices sends to traders and oil producers? It is a simple one: store oil, "buy cheap and sell dear."

Oil and gas fields are not underground storage tanks. In stable markets, it does not pay to hold back present production for a future sale. In some cases "shutting-in" a field may actually reduce the total amount of reserves to be recovered. Moreover, high far-forward prices ought to encourage much greater investment in future oil supplies, at least in the long term. Nonetheless, there can be a perverse short-term impact. Almost all of the world's large oil fields are mature, and most have a high marginal cost of extraction. Part of the marginal cost is the opportunity cost of a future sale. Production rates can be varied somewhat without harming a field's long-term potential. If some producers believe that prices in the coming years will be significantly higher than present prices, it is rational to produce less. To a large extent, this behavior can explain why oil supplies appear to be dwindling in the face of record high prices. In short, today's oil market has all the characteristics of a classic bubble.

Because both producers and consumers must invest in long-lived equipment to produce and use oil, the market may take a long time to correct. Indeed, the mechanism that brings prices down may be a global recession. In 1979 and 1980 the value of crude oil sold represented about 10% of global GDP, having more than doubled from previous years. The rise in oil prices and associated disruptions flattened world economic growth for three years. Oil is less important in world commerce than it was in 1979, but that is because natural gas has displaced many of its uses. Unfortunately, rising oil prices are also inflating the natural gas market. In total, the value of natural gas and crude oil in 1979 and 1980 was around 11% of world GDP. An average crude-oil price of \$145 per barrel and natural gas prices of \$12 per million Btu

has the equivalent impact in 2008. These prices now seem like a reasonable forecast, when a few years back they would have been unthinkable.



The experience of 1979 suggests something about price spikes too. At the end of 1979 (just after U.S. hostages were taken in Tehran) spot oil prices peaked at around \$42 per barrel, 30% to 40% higher than the majority of oil sold at official prices. Oil prices may indeed reach the fanciful levels analysts in the financial sector are now suggesting, but are they really sustainable? Again, history provides some guidance. The oil industry is a cyclical business, requiring decades-long investment planning. Spot oil prices were under \$1 per barrel in the Persian Gulf in 1969, reached a peak in 1979, and ultimately collapsed in 1986, when the Saudis were finally convinced that attempts to maintain high oil prices would destroy their future market. It is ironic that this lesson has once again been lost.

Oil is far from indispensable and the alternatives are rapidly emerging. The low-tech and humble pellet stove is now five to seven times cheaper than oil for space heating. The emergence of reliable Lithium-Ion batteries will make electric vehicles and plug-in hybrids competitive at oil prices of \$55 to \$60 per barrel, implying gasoline prices of less than \$2 per gallon. Wind generation is growing at double digit rates and a host of new solar and alternative energy companies are the toast of Wall Street. While the short-term price elasticity of oil may be extremely low, the long-term price elasticity is actually quite high. But, as any schoolboy knows, history classes are a dreadful bore compared to the scrimmage on the playground.

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