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OPINION

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Although most experts agree that financial speculation was not responsible for the surge in the global prices of food and energy, many people remain puzzled about the source of these remarkable price rises. Economics offers a simple supply-and-demand explanation and reason for optimism about the future of commodity prices. In the case of oil, economics also suggests how policy changes today that affect the future could quickly lower the current price of oil.

We all know that rising incomes in China, India and the Gulf states have increased the demand for oil and many other commodities. But how could the modest, one-year rise of these demands lead to 100% increases in the prices of oil and other commodities? Let's take a look first at perishable agricultural commodities.

Corbis In the short run, there is little scope for increasing the supply of corn in response to a global increase in demand. For demand and supply to balance – for the market to clear – the price of corn must rise.

If the demand for corn were very price-sensitive, a relatively small increase in price would reduce global demand by enough to offset the initial rise in demand. However, since demand is actually quite insensitive to price in the short run, it takes a very large price rise to bring global demand into line with supply.

Here is a simplified picture of what happened in the past year. The quantity of corn demanded by high-growth countries rose gradually, increasing eventually by an amount equal to, say, 10% of the previous total global level of corn consumption. Since the supply of corn did not increase, the price had to increase enough to reduce corn consumption in other countries by 10%. If it takes a 10% increase in the price to reduce the quantity of corn demanded in the first year by just 1%, it would take a 100% increase in the price of corn to offset the initial 10% rise in the quantity of corn demanded.

In reality, the picture is complicated by the substitution in both supply and demand among different agricultural commodities, and by the role of the corn ethanol program. But the basic explanation holds: With a very low short-run price sensitivity of demand and little scope to raise supply in the short run, even a relatively small increase in corn demand by the high-growth economies can lead to a very large short-run rise in the price of corn.

Fortunately, the price sensitivity of both demand and supply will increase with time. This implies that the rising demand from China and other countries may eventually be accommodated with a price lower than today's level.

The situation for oil is more complex, but the outcome for prices is potentially more favorable.

Unlike perishable agricultural products, oil can be stored in the ground. So when will an owner of oil reduce production or increase inventories instead of selling his oil and converting the proceeds into investible cash? A simplified answer is that he will keep the oil in the ground if its price is expected to rise faster than the interest rate that could be earned on the money obtained from selling the oil. The actual price of oil may rise faster or slower than is expected, but the decision to sell (or hold) the oil depends on the expected price rise.

There are of course considerations of risk, and of the impact of price changes on long-term consumer behavior, that complicate the oil owner's decision – and therefore the behavior of prices. The Organization of Petroleum Exporting Countries (the OPEC cartel), with its strong pricing power, still plays a role. But the fundamental insight is that owners of oil will adjust their production and inventories until the price of oil is expected to rise at the rate of interest, appropriately adjusted for risk. If the price of oil is expected to rise faster, they'll keep the oil in the ground. In contrast, if the price of oil is not expected to rise as fast as the rate of interest, the owners will extract more and invest the proceeds.

The relationship between future and current oil prices implies that an expected change in the future price of oil will have an immediate impact on the current price of oil.

Thus, when oil producers concluded that the demand for oil in China and some other countries will grow more rapidly in future years than they had previously expected, they inferred that the future price of oil would be higher than they had previously believed. They responded by reducing supply and raising the spot price enough to bring the expected price rise back to its initial rate.

Hence, with no change in the current demand for oil, the expectation of a greater future demand and a higher future price caused the current price to rise. Similarly, credible reports about the future decline of oil production in Russia and in Mexico implied a

higher future global price of oil – and that also required an increase in the current oil price to maintain the initial expected rate of increase in the price of oil.

Once this relation is understood, it is easy to see how news stories, rumors and industry reports can cause substantial fluctuations in current prices – all without anything happening to current demand or supply.

Of course, a rise in the spot price of oil triggered by a change in expectations about future prices will cause a decline in the current quantity of oil that consumers demand. If current supply and demand were initially in balance, the OPEC countries and other oil producers would respond by reducing sales to bring supply into line with the temporary reduction in demand. A rise in the expected future demand for oil thus causes a current decline in the amount of oil being supplied. This is what happened as the Saudis and others cut supply in 2007.

Now here is the good news. Any policy that causes the expected future oil price to fall can cause the current price to fall, or to rise less than it would otherwise do. In other words, it is possible to bring down today's price of oil with policies that will have their physical impact on oil demand or supply only in the future.

For example, increases in government subsidies to develop technology that will make future cars more efficient, or tighter standards that gradually improve the gas mileage of the stock of cars, would lower the future demand for oil and therefore the price of oil today.

Similarly, increasing the expected future supply of oil would also reduce today's price. That fall in the current price would induce an immediate rise in oil consumption that would be matched by an increase in supply from the OPEC producers and others with some current excess capacity or available inventories.

Any steps that can be taken now to increase the future supply of oil, or reduce the future demand for oil in the U.S. or elsewhere, can therefore lead both to lower prices and increased consumption today.

Mr. Feldstein, chairman of the Council of Economic Advisers under President Reagan, is a professor at Harvard and a member of The Wall Street Journal's board of contributors.