

Does Big Oil Collude and Price Gouge?

Big Oil came back into the headlines in recent weeks with another spike in gasoline prices and their reported record profits. Some months ago, during the last gasoline price spike, Congress summoned the executives of the Big Oil companies to testify about their enormous profits. Some commentators and pundits characterize the pricing policy of Big Oil as “price gouging;” others aver that the oil companies provided a “public service” in raising prices to prevent shortages of product and lines at the gas pump.

What’s the truth of the matter? What conditions must exist to support the contention of Big-Oil opponents? That is, what conditions allow Big Oil through implicit collusion to jack up their prices and drive their profits through the roof? No reasonable critic, to my knowledge, accuses Big Oil of explicit collusion, which would justify legal action by the Department of Justice.

Economists generally agree that collusive arrangements require five conditions: few firms, entry barriers, large collusive payoffs, each member can easily confirm other members’ cooperation, and frequent collusive opportunities.

The first three requirements pass the test. In addition, the recent consolidations in the oil industry further reduced the number of firms. That is, few players make up Big Oil and huge barriers exist to the entry of new firms. Moreover, the reported profits of Big Oil also support the contention of a large payoff.

The fourth requirement also proves easy to meet. That is, cooperation in price gouging only requires observing your “competitors” prices.

That leaves the fifth requirement of frequent collusive opportunities. Little evidence supports the contention that Big Oil price gouges on a regular basis.

How does implicit collusion work? Consider a simple two-firm collusion game. Two firms supply the market and each can supply its capacity level of production or only supply a fraction of that capacity, say 90 percent. In the oil industry, unresponsive demand causes a small reduction in quantity to generate a big increase in price. When both firms withhold product from the market the price rises the most, but even when one firm withholds product the price still rises a lot.

When both firms withhold product from the market to jack up prices, however, the door opens to cheating. Each firm must resist the incentive to offer more product to

the market to cash in on even larger profits. That is, they can sell their entire capacity at the higher price because of the others firm's reduced supply to the market. The repeated nature of this "collusive game" can forge the alliance (i.e., impose the necessary discipline) on the firms to not cheat and to maintain their restricted supply to the market, leading to the price gouge.

But the proof of the pudding is in the eating. If Big Oil did price gouge in recent months, then why did we not see such behavior on a repeated basis in the past? That is, to implicitly enforce the necessary discipline, collusive behavior relies on the repeated nature of the game.

Claims of price gouging emerge typically when the price of crude oil jumps higher on international markets. The OPEC cartel, however, only drove crude prices higher on two occasions – 1973-74 and 1979-80. The two Iraq wars associate with other crude price spikes. Critics of Big Oil conveniently forget the crude price collapses in 1981-82 and 1985-86 as well as the collapse immediately after the crude-price run up during the first Iraq war. That is, OPEC also faces the difficulty of maintaining collusive activity in world markets, in this case explicit collusion. OPEC must restrict the supply of crude oil to world markets.

Another longer-run, more-subtle strategy can achieve the same end without requiring the discipline of repeated plays of the game. To wit, Big Oil can create an "artificial shortage" of refined products through their long-run strategy on building refining capacity. If refinery capacity does not keep pace with the demand for refined products, then the "shortage" of refined products will drive prices higher, even though no shortage of crude oil exists.

All currently operating refineries were built more than 30 years ago. Did that reflect implicit collusion by Big Oil? Or did it reflect an imbalance between the costs of building a new refinery relative to the expected profitability of adding such new capacity? Whatever the reason, the growth of the Chinese and Indian economies created recent price pressure on crude oil products. Then, Hurricanes Katrina and Rita shut down numerous oil refineries and oil production facilities in the Gulf region, adding to the shortage of refined product.

Implicit collusion in refining capacity seems improbable, however. During the 1970s, government controls favored small-sized refineries. Elimination of these controls, improved refining technology, and the costs of conforming to new stricter environmental standards shifted the economics of the refining industry toward larger-sized operations.

Although the number of refineries fell from 216 in 1986 to 149 in 2004, total capacity increased as small and inefficient refineries exited the market and other refineries expanded their scale of operation. Nonetheless, total refinery capacity in 2004 still falls somewhat short of its peak level in 1981.

Finally, the refining industry's 4-firm concentration ratio, one measure of market concentration, still falls below 50 percent at the national level. Although these ratios exceed 50 percent in the five sub-regions that the Federal Trade Commission (FTC) monitors, the FTC monitors behavior and enforces antitrust regulations in refining and throughout the rest of the oil industry. In sum, implicit collusion in refining capacity appears a rather remote possibility.

Refinery capacity utilization rose above 90 percent and remained there since 1993, peaking at 95.6 percent in 1998. Big Oil needs to invest its recent windfall profits into new refining capacity to provide a cushion for the smoother operation of U.S. energy markets. An unwillingness to fund new refining capacity may create a long-run public relations problem for the industry.

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