

Factors Involved in World Oil Prices

Without doubt, economic factors and political events play an important role in the change of crude oil prices. However, I believe that economic factors have the upper hand in determining long-term trends in oil prices, while political events related to the stability of the Middle East and the Arabian Gulf region take the lead in the short run. Indeed, a study of economic factors alone, without an attempt to understand the complexity of political events, is insufficient to explain and predict oil price trends in both the short and long terms.

Oil traders study regional and world economic factors of crude oil proven reserves, the production, transportation, and total demand in world markets. In the end, they accept market determination of oil prices. In studying price data over time, I have listed the prices of Arabian light crude in **Table 1** and adjusted the figures for inflation.

Table 1
Price Per Barrel of Arabian Light Crude in US Dollars

Year	In Current Prices	In 1972 Prices
1973	2.83	2.72
1974	10.41	9.38
1975	10.70	8.84
1980	35.69	21.24
1985	27.53	10.75
1990	20.50	5.76
1995	16.09	3.48
1996	19.15	3.80

The figures in the last column demonstrate that the 1995 price of oil in real terms and the 1996 figure were less than half the price in 1974, when the first big jump in oil prices occurred. Following the second oil shock, the price peaked at \$21.24 in 1972 prices. Afterwards, there was a steady decline until the trend was reversed in 1996, due mainly to the steady increase in world demand for oil. Economists attempt to explain crude oil prices in order to forecast them in both short and long terms. However, no theory has thus far been able to use economic variables in a model that can accurately predict future oil prices. This article will focus on two models - a mainstream one and one by this author.

Because of inherent competition among oil-producing nations, some economists concluded in 1972 that the price of crude oil was bound to drop to the level of its marginal cost. However, there are three major criticisms of this theory. First, the marginal cost of a barrel of crude oil differs not only from one country to another,

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but also from one well to another. The model did not offer any criteria for what they may have chosen as the figure for marginal cost in general. Second, when applying new technology, the marginal cost was drastically reduced - as in the case of North Sea oil. Third, if such a theory were to be valid, the price of crude would never have reached the high levels it did in 1974 and 1980, but should have kept sliding downward to whatever they meant by marginal cost.

In an attempt to explain the dynamics of oil pricing in the long run, I presented a study at Oxford University in November, 1982, which was later published. In applying economic theory, I introduced a new statistical demand curve, which differentiated between upward and downward trends in oil prices. I argued that a small rise in price from its low pre- 1973 levels would not have an appreciable impact on the quantity demanded, as the demand could be highly inelastic. However, as oil prices substantially increase, the quantity demanded must eventually be reduced. Meanwhile, both production and exploration will increase, as prices keep their upward trend.

In economic terms, the inelasticity of demand must be reduced with a continuous increase in price. As prices rise, the demand curve becomes concave to the origin. If prices fall in response to a glut, for whatever reasons, a conventional downward-sloping demand curve could occur. The model showed the dynamics of the interaction between oil prices and the quantity demanded over time. Excessive demand and a constant search for market equilibrium reflect an upward trend. A glut in a politically stable market reflects a downward turn. My model is limited, however, because it does not address short run fluctuations. Moreover, there is no way to have complete market data or to quantify all political developments or events.

The effects of political events on the region's stability differ when they are expected or unexpected. Expected situations are factored out in the price of crude oil in the spot and future markets in world trade. Consider, for example, recent events in Iraq. An analysis of crude oil prices during the Security Council debate over the international oil embargo on Iraq, and on how and when to allow the country to sell 700,000 barrels per day to purchase food and medicine and to pay for repatriation under UN terms, shows that the market was not affected when the Resolution was agreed upon last August. In resorting to political risk analysis, oil traders were certain that Security Council Resolution 986 on Iraq's behalf would eventually be adopted. Hence, they factored out the partial entry of Iraqi crude oil into oil markets even before the resolution was adopted. When political events occur suddenly, however, crude oil prices rise immediately. An analysis of short-term fluctuations of these prices shows a strong correlation between the region's political instability and the prices.

On September 3, the US attacked targets in southern Iraq after Saddam Hussein attacked the Kurds in northern Iraq. The price of West Texas intermediate crude jumped by \$1.20 - an increase of approximately 5%. Since the US bombing was

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limited, the tension subsided somewhat. The oil price dropped back by \$0.17 on September 4. The same day, Palestinian President Yasser Arafat shook hands for the first time with Israeli Prime Minister Benjamin Netanyahu at Eretz Crossing, a checkpoint between the Gaza Strip and Israel. This act gave hope to some circles for a possible revival of the Middle East Peace Process. On September 10, indications of Iraq's rebuilding its air defenses, which had been partially destroyed by the US attack, pushed the price back up by \$0.40 - an opposite turn.

When Iraq fired a missile at an American military aircraft, the US prepared for an air strike against Iraq, although there were no casualties. The price of oil then jumped by \$0.60 to \$24.75 a barrel on September 11-the highest in five years. On September 12, the price rose again by \$0.20. The next day, Iraq announced it would not fire any more missiles against US military aircraft. Although the situation was temporarily contained, the US moved more weapons and personnel to the region. On September 13, the price expectedly decreased by \$0.42. On September 16, President Clinton announced that he sought no confrontation with Saddam Hussein. While the rhetoric cooled, rumors circulated in the New York Mercantile Exchange that the US had urged Saudi Arabia to boost oil production, should US-Iraqi tensions disrupt oil deliveries. The price of oil dropped by \$1.35 the same day. However, on the 17th, 3500 additional US troops were ordered to Kuwait, and the price of oil increased by \$0.15. So the story continues.

This 14-day swing of political tension and oil prices is not a special case. Since the 1956 Suez crisis, the pattern of tensions' affecting the price of oil is the same because of the relative importance of the Middle East. The region sits on 660 billion barrels of oil, representing almost two-thirds of proven oil reserves. It produces 20 million barrels per day (approximately 33% of world production) and has 45% of world trade in oil.

Table 2
Oil Prices (P) and Tensions (T)
(Price per Barrel of West Texas Intermediate Crude)

Date	P	Change from Previous Day	T
9/03/96	\$23.40	up \$1.12	+++
9/04/96	23.23	-0.17	-
9/05/96	23.43	up 0.20	+
9/06/96	23.84	up 0.40	+
9/09/96	23.73	-0.12	-
9/10/96	24.13	up 0.40	+
9/11/96	24.75	up 0.62	+++
9/12/96	24.95	up 0.20	+
9/13/96	24.53	-0.42	-

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9/16/96	23.18	-1.35	--
9/17/96	23.33	up 0.15	+

The relationship between oil prices ("P") and political tensions ("T") -in the region in general, and the Gulf in particular-is summarized in **Table 2** (see above) by the "+" sign when "T" increases, and the sign when it decreases. Hypothetically, if the situation worsens and lasts longer than expected, oil traders would leave factored out in the price the pattern of political turmoil and left daily fluctuations to economic consideration.

Although political tensions with Iraq have somewhat subsided, the price of oil may not decline substantially, even to the level before September 3. The reason is the continuous surge in world demand for oil - for various factors. First, growth in the real domestic product (GDP) of advanced industrial countries has steadily increased. For example, the increase in the European Union's GDP amounted to 0.49% in the first quarter of 1996, and the yearly rate may surpass 2%. This may reflect an increase on the demand for oil by approximately 1.5 million barrels per day.

Second, the US continues to demand more imported oil because of the expansionary phase of its business cycle and the constant dwindling of its internal oil reserves and supplies. Third, because LJM Resolution 986 has currently been suspended, Iraqi oil will not enter world oil markets for the time being. Fourth, with the new leadership in Israel, a further deterioration of political stability in the Middle East is expected, despite the handshake described above.

Given the parameters in which Mr. Netanyahu moves and his conviction of Greater Israel, I do not anticipate a meaningful revival of the Peace Process. To the extent that the US is perceived as siding with Israel, Arab leaders, no matter how friendly they are with the US, will not be able to prevent sentiments against both countries. Rising hostilities may threaten the US presence in the region on a much wider scale and explode. If so, the price of oil is certain to rise.

On the other hand, if a successful coup takes place in Iraq, and the new leadership normalizes relationships with the US and its neighbors, the price of oil will drop to even less than that of 1995. Economic sanctions will be removed, and Iraq will be allowed to sell its oil in world markets again. Otherwise, the price of oil will fluctuate around the price prevailing before the recent tension.

The interaction between economic factors and political developments which affect the price of oil was obvious when it appreciably increased in 1996, compared to 1995. As oil traders anticipated the UN's plan for Iraq, world demand for oil steadily increased. However, the traders postponed some of their purchases and awaited the fall of oil prices until the Security Council would allow Iraq to sell its oil. Meanwhile, the UN debate over the resolution continues longer

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than expected, and oil traders have found reserves dwindled to critical levels. Hence, a sudden demand for oil occurred, and prices rose. In view of these current economic factors mid the political turmoil and instability in the Middle East, I do not expect any substantial decline in the price of oil in the near future.