

RISE & IMPACT OF CRUDE OIL PRICE IN INDIA

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ABSTRACT

The study is an attempt to understand the causes for rise in crude oil prices and the factors that influence it. As a matter of fact, crude oil is the most essential commodity and also the most traded product which influences an economy. Petroleum known as 'liquid gold' is an extract of crude oil and is compared to gold because it is an exhaustible resource and also of its economic value. The objective of the study is to study the change in prices of crude oil and its effect on the environment of business. Crude oil being very indispensable it greatly affects the prices of commodities, particularly the transport sector. In India the change in the price of crude oil has been a major cause for the rise in inflation rate as it greatly affects the prices of essential commodities and adversely affecting the common man. The OPEC organization is composed of 12 nations possess over 60% of world reserves of crude that work as a cartel and to an extent they have a monopolistic approach towards the regularization & controlling of crude oil prices across the world.

KEY WORDS: OPEC –trading block, cartel, crude oil.

INTRODUCTION

It is a well known fact that crude oil is indispensable facilitating the development of an economy. The world consumes about 76 millions barrels per day of oil and OPEC accounts for nearly 60% of world's proven oil reserves & its exports represent 55% of the oil traded internationally. The OPEC which accounts for 40% of annual crude production works as a cartel to influence oil prices with the twin goals of price stability & maximum profits for OPEC members. India ranks among the top 10 largest oil consuming countries. India's oil reserves are deficient and it imports nearly 70% of its total oil consumption from the OPEC countries.

The organization of the Petroleum Exporting Countries (OPEC) is a group of 12 members that include Iran, Iraq, Kuwait, Qatar, Saudi Arabia, the United Arab Emirates, Libya, Algeria, Nigeria, Angola, Venezuela and Ecuador. Venezuela was the first country to move towards the establishment of OPEC by approaching Iran, Iraq, Kuwait & Saudi Arabia in 1949.

OPEC was founded in Baghdad, triggered by a 1960 law instituted by American President Dwight Eisenhower that forced quotas on Venezuelan oil imports in favour of Canadian & Mexican oil industries.

The principal objective of the OPEC organization is the determination of the best means for safeguarding their interests, devising ways & means of ensuring the stabilization of prices in international oil markets & secure a steady income to the producing countries, an efficient, economic and regular supply of petroleum to consuming nations and a fair return on their capital to those investing in the petroleum industry.

2. Objectives of the study

- a) To understand the extraction of petrol and components of crude oil.
- b) To understand the determinants of crude oil price.
- c) To understand the reasons for changes in price of crude oil
- d) To study the impact of price rise in crude oil on the Indian economy.

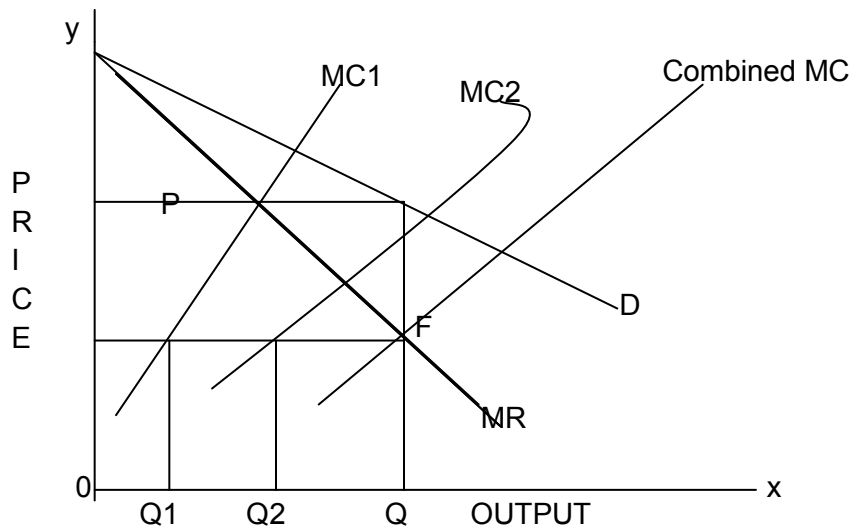
3. Economic theory related to the study

A cartel is a combination of firms constituted with the objective of limiting competition in the market so as to maximize the profits.

Cartels & Joint Profit Maximisation: A cartel will have a monopoly situation to the price-output problem & it attempts to equalize the industry's marginal cost with the industry's marginal revenue. This can be explained with the following diagram. In the diagram MC1 & MC2 are marginal cost curves of the oligopolistic firms that form a cartel. MC is the combined marginal cost curve that intersects industry's marginal revenue MR curve at point F. Firm 1 will produce OQ1 level of output & firm 2 will produce OQ2 ie $OQ1+OQ2=OQ$ level of output. A firm with lower costs is allowed to produce larger quantity by the cartel.

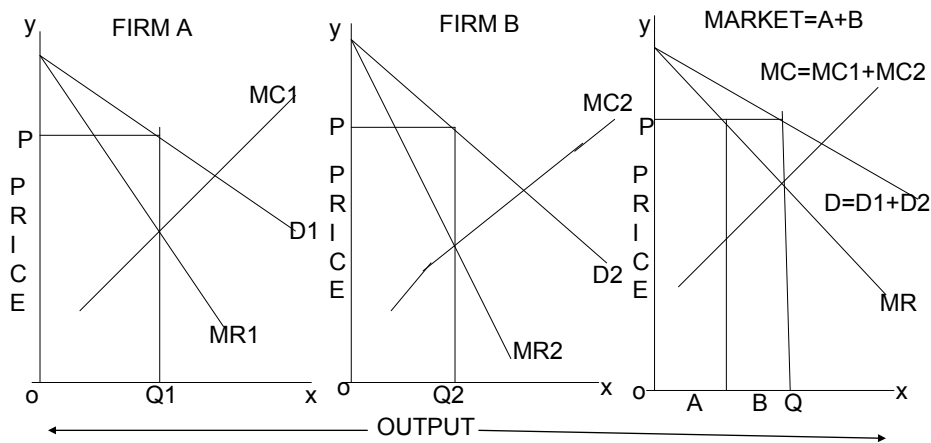
The criteria for profit sharing will be decided by the central agency of the cartel.

FIGURE 1 depicts cartel with joint profit maximisation.



Cartels & market sharing: Cartels use quota system for market sharing amongst the members. If all firms have identical costs, the price will be determined by the cartel & the market will be shared equally. In the diagram 2 there are 2 firms in the market with identical costs, each firm will sell one-half of the output at the monopoly price. In the diagram 2 the monopoly price is OP & the quotas which will be allotted to each firm are $OQ_1=OQ_2=1/2 OQ$. In case of geographical sharing of the market, members have the freedom to set their own prices.

FIGURE 2 depicts sharing of the market by determining quotas for the members.



4. Research Methodology

The study is based on the secondary data . Secondary data includes journals, newspapers, magazines & information collected from the websites.

4.(a)Extraction of petrol & component of crude oil

Crude oil is a complex soup of different molecules, must pass through a refining process to split it out into kerosene, gasoline, diesel & other products. Crude oil varies greatly in appearance depending on its composition. It is usually black or dark brown. Crude oil may also be found in semi-solid form mixed with sand & water as in the Athabasca lil sands in Canada referred to as crude bitumen. Petrol is extracted from crude oil & there are many derivatives which are extracted from crude oil. Diesel, Kerosene, LPG, white kerosene (aviation fuel), petrol, ethanol, methanol to name a few. One barrel of crude oil makes 19.5 gallons of gasoline that converts to 73.8 litres of petrol. Crude oil is traded in the world market in terms of US dollars.

4.(b) Determinants of crude oil price:

1. **Production:** A large part of the world's crude oil share is produced by OPEC nations. Any decisions made by the OPEC countries to raise prices or reduce production will affect the prices of crude oil globally.
2. **Inventory:** Oil producers & consumers build a storage capacity to store crude oil for immediate future needs. They also build some inventories to speculate on the price expectations in case of changes in demand & supply equations. Any change in these inventory levels triggers volatility in crude oil prices which in turn creates volatility in stock markets.
3. **Demand:** The demand for crude oil is due to high growth & demand from the emerging economies. Crude oil inventories increase in the summer & decrease in winter. This is because cold temperatures in the winter increase the use of energy for heating in many cold countries. The demand for fuel goes above supply & results in a need to tap inventories. During summer supply generally exceeds demand & inventories build up. Hence the crude oil prices drop. Crude inventory levels provide a good signal of the price direction.
4. **Speculation:** Speculation in oil futures affects the price. The large liquidity floating around the world found its way into petroleum & other commodity markets. Recent estimates based on the commodity futures trading commission data indicate that as of April 2008, West Texas Intermediate (WTI) crude oil trading at NewYork Mercantile Exchange (NYMEX) comprises 71% speculators & 29% hedgers. Speculation has become a critical element in causing random fluctuations in crude oil prices.

4.(c)Reasons for changes in crude oil prices.

Rise in crude oil prices:

- a) OPEC decisions have considerable influence on international oil prices. In 1973 energy crisis OPEC refused to ship oil to western countries that supported Israel in the Yom Kippur War or October war which they fought against Egypt & Syria. This refusal caused a fourfold increase in the price of oil which lasted for five months starting on October 17th 1973 & ending on March 18th 1974. OPEC nations agreed on January 7th 1975 to raise crude oil prices by 10%.
- b) During the 1990-91 Gulf war, Iraqi President Saddam Hussein advocated that OPEC push world oil prices up, thereby helping Iraq & other member states. The invasions of Afghanistan & Iraq in 2001 & 2003 prompted a surge in oil prices to higher levels.
- c) Since currently oil sales are traded in terms of US dollars, changes in the value of the dollar against other world currencies affect OPEC's decisions on how much oil to produce. For example, when the dollar value falls relative to the other currencies, OPEC-Member states receive smaller revenues in other currencies for their oil, causing substantial cuts in their purchasing power.

The oil prices increased to \$111.80 per barrel in March 2008. This is because falling dollar value puts pressure on oil exporting nations as they price their most money-spinning commodity in dollars. In July 2008 oil prices increased to US \$ 147 per barrel. Iranian president Mahmoud Ahmadiejad agitated for a switch to stronger currency like Euro. Accordingly the US economy is feeling pressure because of oil-dollar linkage as the rising price of oil has contributed to concerns about the dollar.

Political tensions in Kenya, Algeria & Pakistan as well as the threat of US sanctions against Iran also aggravated the situation. Threats to oil facilities in Nigeria the world's eighth largest oil exporter have led to an increase in the prices of crude oil. The attacks from rebels in the Niger delta, demanding more control over oil reserves led to shutting of many oil facilities in 2007. Militant attacks in Nigeria's main oil city, Port Harcourt affected the supply.

Other factors leading to an increase in price of crude oil is due to a rapid growth in Asian economies & their petroleum consumption. The 2005 hurricane and US refinery problems have also led to higher prices.

Fall in crude oil prices:

Lower oil prices are the consequences of a deterioration in the global economy. All developed economies are officially in recession. Crude oil in New York declined to 6.9% due to reduced demand for energy products because of recession in Europe & US. Japan has also reduced its fuel demand.

The International Energy Agency (IEA) cut its global oil demand forecast for 2009, projecting consumption will decline by 1 million barrels a day as the global economic slowdown deepens it stated in its monthly report.

The IEA which advises 28 developed nations on energy policy trimmed its 2009 forecast by 570,000 barrels. It maintained that one of the effects of low prices would be a delay in investment in future capacity which will be needed as global growth picks up again. If investment slips, the level of price response to resurgent demand could again destabilize the global economy.

4.(d) Impact of crude oil price on Indian economy

As a matter of fact, India is not self-sufficient in the production of petroleum. It remains one of the largest importer from the OPEC countries. The Indian economy has entered a period characterized by slow growth & high inflation. The Govt's decision to hike the prices of petrol, diesel & LPG was inevitable, given the sharp increase in international prices of crude & India's dependence on imports to meet much of its consumption.

The rate of inflation increased to 12.91% on August 2nd 2008 mainly due to increased oil prices as oil is an universal input that directly & indirectly enters into the cost of production of every other commodity.

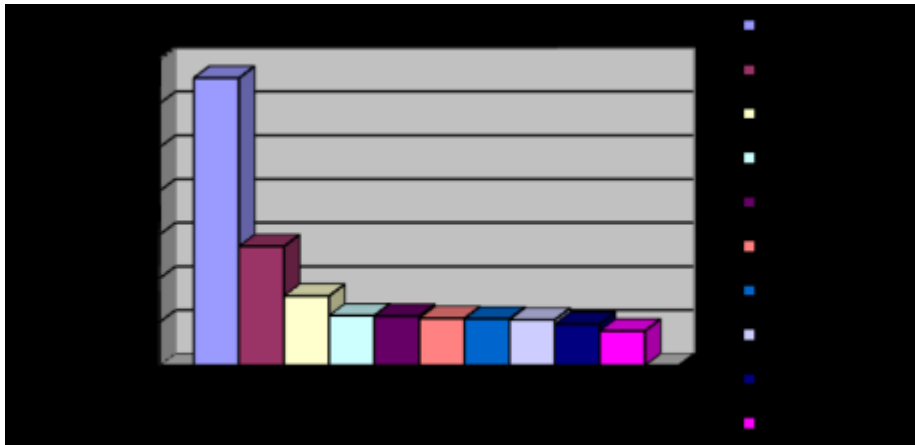
India's total oil consumption is about 2.2 million barrels per. It imports about 70% of its total oil consumption. Oil accounts for about 30% of India's total energy consumption. The recent escalation in petroleum prices has a cascading effect on the essential commodities which invariably has affected the common man.

There is uncertainty about future as increased price of petrol has affected adversely, therefore the Govt. of India may increase excise duty on diesel cars such that diesel cars will cost 8-10 % more. The current scenario shows that there is no clear visibility in forecasting about the future situation.

TABLE 1: The following table shows India is among the top 10 oil consumers.

Sl.No.	Country	Consumption of crude oil- barrels per day.
1	USA	13,150,000
2	Japan	5,449,000
3	China	3,181,000
4	Netherlands	2,284,000
5	South Korea	2,263,000
6	Italy	2,158,000
7	Germany	2,135,000
8	India	2,090,000
9	France	1,890,000
10	Spain	1,582,000

Source: Enam Research (July2008)



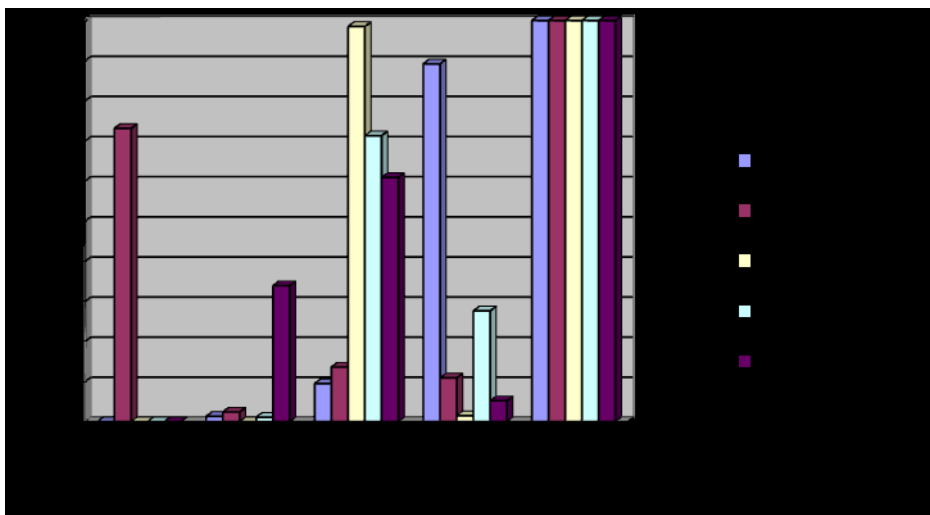
The transport sector consumes one –third of India’s oil. In India oil & supply volatility affects inflation through the transport sector. Essential goods & consumer durables are largely transported by road & when diesel & petrol prices are increased, the prices of these goods also increase affecting the poor & middle class people. A transport strike by the truck owners also affects the supply of goods to the people.

TABLE 2

The table shows sectoral energy consumption by fuel for the Year 1999-2000 which is measured in terms of percentage.

Sectors	Coal	Natural Gas	Petro-products	Power	Total
Agriculture	0	1.3	9.5	89.2	100
Industry	73.1	2.4	13.6	10.9	100
Transport	0	0	98.5	1.5	100
Residential	0	1.1	71.3	27.6	100
Others	0	33.9	60.9	5.2	100

Source: The Energy & Resources Institute (TERI)



India has spent 48.389 billion dollars to import its crude oil in the year 2006-07. Due to an increase in international price of crude oil the crude oil price of the Indian basket touched an all-time high of 92.13 dollars per barrel on November 26th 2007.

Due to fall in international price of crude oil because of recession, this has come as a boon for the Indian economy. Prices of commodities such as edible oil, rubber & plastics, textiles & vegetables came down on account of fall in price of crude oil. The wholesale price index number based inflation rate reduced to 4.39% from 5.07 % in the month of January 2009.

5. Limitations of the study

1. The study is related only to production of crude oil by the OPEC organization that works as a cartel, it does not consider the production of crude oil by the Non-OPEC countries such as United States, Canada, Mexico, Netherlands & Russia.

2. The study does not explain about Brent Crude which is one of the many classifications of oil that consists of Brent sweet light crude, oseberg & forties which is widely used to determine crude oil prices in Europe & other parts of the world.
3. The study does not analyse the impact of the changes in prices of crude oil on other metals like gold, silver, copper & platinum in commodity exchange markets.

6. Findings of the study

- ✚ India is dependent on imported crude oil but not entirely about 1/4th of the nation's requirements comes from the fields within the country.
- ✚ The fall in demand due to recession has been much faster than the cuts in production, leading to a fall in prices. In United States the largest consumer & where recession is deepest, demand for oil reduced to 8%. India's demand for petroleum products during 2008-09 is estimated to be 133.4 million tons. India imports crude oil from Saudi Arabia, Iran, Iraq, the UAE & Kuwait. During the last 3 years oil is imported from the Caspian Sea region, particularly Azerbaijan.
- ✚ The minister for petroleum & natural gas has come with a proposal for co-operation between Turkey, Israel & India for transportation of crude oil from the Caspian region through the Mediterranean & Red Sea into India. This project envisages transport of crude oil through very large crude carriers (VLCCs) & eventually by laying a sub-sea pipeline. Crude oil will be transported through the existing Ashkelon-Eilat pipeline in Israel to Eilat port on the Red Sea. But this Turkey project is still in a conceptual stage & requires a detailed feasibility study to establish its techno-commercial viability.

7. Conclusions

At the peak of oil prices, the need for research into alternative fuels & energy technology increases. To reduce dependence on crude oil imports India should develop alternative sources of energy . India can develop solar & wind energy India is also the fourth largest producer of wind energy. India should use energy more efficiently. For every unit of GDP, India consumes more energy than other developed countries such as United Kingdom. Indian railways the largest consumer of diesel is using a blend of high-speed diesel & bio-fuel in some regions on an experimental basis.

To cope with the situation of variations in prices of crude oil especially when the prices rise, the need for development of innovative technology like green technology & other sources assume importance. As it was maintained by Ahmed Zaki Yamani, the former Saudi oil minister that never raise the oil prices as it will cause an innovation into wind, solar & other sources. He said “ Stone age didn't end because we ran out of stones.”

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