

# **OIL PRICE HIKE-Analysis**

## **INTRODUCTION**

A young Winston Churchill, on the eve of the World War I, took a gamble that changed the course of history. As first Lord of the Admiralty, he decided to convert the British navy from Welsh coal to imported oil. The resulting gains in speed gave Britain's navy a decisive advantage over Germany's. It also set off a geopolitical scramble as Britain sought to secure oil supplies before its rivals did. Churchill believed that "safety and certainty in oil lie in variety and variety alone"

By mid century, America was the super power scrambling to secure oil supplies around the world. Fearing depletion of its vast domestic store of petroleum, America forged an alliance with the then –new oil province of Saudi Arabia. Driven by the same desire for energy security, today's aspiring superpowers are in a similar race. Thanks to the spectacular rise of futures trading, oil has become a fungible global commodity. The conventional notion that stakes in oil fields add up to energy security no longer holds up: if there is an oil shock, then the market price of every barrel of oil in the world will shoot up past \$100 a barrel.

To get the cutting edge to control the world, super-powers needed oil which was a critical component to boost the economic and military growth. This led to the active participation of super-powers in controlling the oil prices. Thus, the oil producing countries gained importance and this led to the formation of the monopolized cartel of OPEC countries.

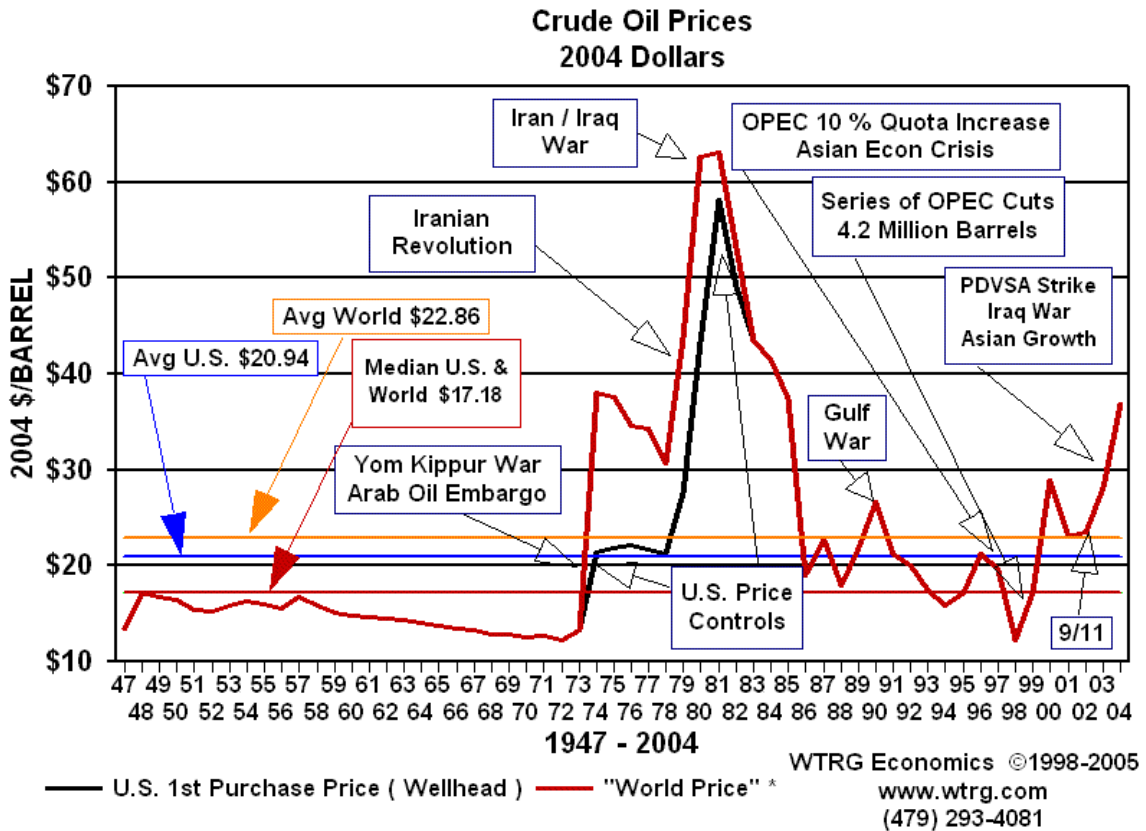
## **OPEC**

The Organization of the Petroleum Exporting Countries (OPEC) was created at the Baghdad conference on September 10-14, 1960. It is made up of 11 developing nations, whose economies rely on oil export revenue. One of OPEC's primary missions is to achieve stable oil prices, which are fair and reasonable for producers and consumers.

## **Objective of the analysis**

The objective is to find a relationship between the oil price movements and world economies with special reference to emerging economies like India.

## Oil Price Movement



When we look at oil price movements over a period of time, we observe three major surges or shocks which are directly related to major events namely:

The **1973 oil crisis** began on October 17, 1973, when the members of Organization of Arab Petroleum Exporting Countries (OAPEC, consisting of the Arab members of OPEC plus Egypt and Syria) announced, as a result of the ongoing Yom Kippur War, that they would no longer ship petroleum to nations that had supported Israel in its conflict with Syria and Egypt (i.e., to the United States and its allies in Western Europe).

About the same time, OPEC members agreed to use their leverage over the world price-setting mechanism for oil in order to quadruple world oil prices, after attempts at negotiation with the "Seven Sisters" earlier in the month failed miserably. Due to the dependence of the industrialized world on OPEC oil, these price increases were dramatically inflationary to the economies of the targeted countries, while at the same time suppressive of economic activity. The targeted countries responded with a wide variety of new, and mostly permanent, initiatives to contain their further dependency.

## **Crises in Iran and Iraq.**

Events in Iran and Iraq led to another round of crude oil price increases in 1979 and 1980. The Iranian revolution resulted in the loss of 2 to 2.5 million barrels of oil per day between November, **1978 and June, 1979**. At one point production almost halted.

Iraq invaded Iran in September, 1980 by November the combined production of both countries was only a million barrels per day and 6.5 million barrels per day less than a year before. Worldwide crude oil production was 10 percent lower than in 1979.

## **Oil Price hike in 1990's.**

The **1990 (or third) energy crisis** was milder and more brief than the two previous oil crises (1973 and 1979). It lasted only six months and occurred as a result of the first Gulf War. As Saddam Hussein retreated, the oil fields of Kuwait were set on fire, causing damage that reduced the oil output until repairs could be performed. OPEC decided that since the oil production in Kuwait was falling, that they would increase their oil supply and stabilized the oil market.

## **Current Global Scenario**

The first oil shock of the 21<sup>st</sup> century is now upon us, even if it has not (yet) hit the global economy. This time, the early fall out is measured in largely political terms-in the growing cockiness of oil states like Venezuela, the defiance of Iran, the expansion of state oil companies from producing nations like Russia, the backlash against hugely profitable oil giants and the nearest desperation of incumbent politicians in consuming nations like the United States and Germany. In recent weeks, as the price of oil passed \$70 barrel, the price of gas topped \$3 a gallon in the US.

The problem is exacerbated by the fact that the international oil supply structure is complicated; nearly half of the supply is controlled by OPEC, which is increasing the price of oil to maximize its own profits. It even purposely reduces the oil supply in order to keep the price high. Thus the international crude oil prices depend mostly on OPEC's actions rather than on imports at least in the short term.

Hurricanes in the Gulf of Mexico (Katrina and Rita), guerrillas in Nigeria and a spate of kidnappings and violence has reduced the oil production output by 0.5 million tones for many months now, political grandstanding in Latin America, war and sabotage in Iraq: all have helped propel the vertiginous price rise from less than \$20 a barrel at the end of 2001 to more than \$70 a barrel today. It may be only a matter of time before the economic shock arrives. Predictions that a \$10 hike in the price per barrel of oil would shave half a point off world growth rates.

The problem is that the major oil producing nations have not spent enough-and don't plan to spend enough-to meet rising demand, particularly from the United States and China, in the near to medium term. Spooked by past tensions of overspending in boom times,

companies have chosen to sit on their cash, or return it to shareholders, rather than build new production or refining facilities. In Russia, oil investment boomed after the fall of the Soviet Union but has leveled off since.

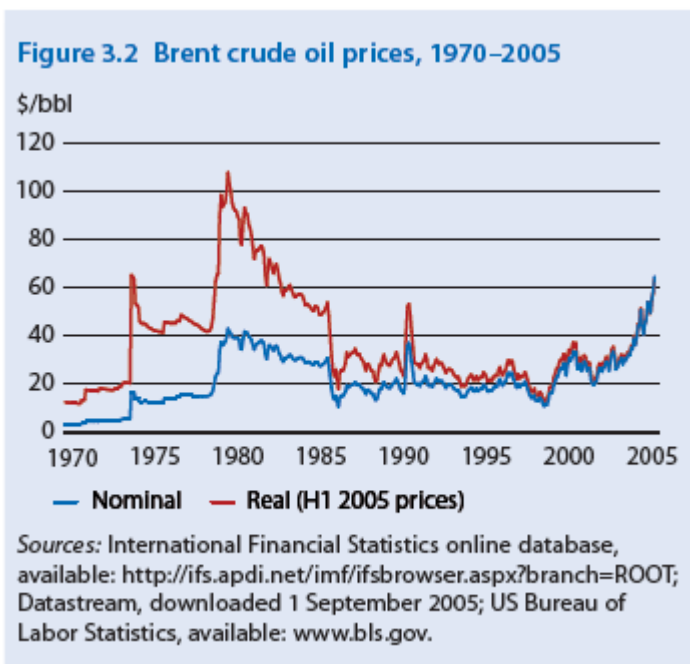
Venezuela has seen production from its state owned firm drop 50% since 2003 under the radical populist Hugo Chavez, even as he runs foreign investors out of the country. Chavez claims grand plans to spend \$56 billion by 2012 on new production and refineries, but analysts are skeptical about his priorities. They feel Chavez uses oil as a political tool to advance his social agenda. One big reason is politics, and not only in Venezuela is that oil producing nations from the Middle East to Russia are raising the government share of oil revenue to fund the welfare programs that keep reigning princes and populists in power.

As on 5th June, 2006 oil prices rose as oil major exporter Iran warned that flows from the Gulf, which pumps nearly a quarter of the world's crude, would be endangered if Washington made a 'wrong move' over Iran. Any strike against Iran would not only cut off 3.85 barrels of Iranian crude but could endanger another 15 million barrels of oil if Iran chokes the Strait of Hormuz, through which this oil is shipped.

OPEC producers in late May-early June, 2006 agreed to leave output limits unchanged and keep pumping at near full rates in a bid to ease prices, which they worry will spur inflation that could slow economic growth and sap oil demand.

Apart from the US price movements studied earlier we now take a closer look at the Brent oil price movements affecting the Indian economy.

## Brent Crude oil Prices



The above figure shows nominal and real prices for Brent crude for the past three and a half decades. Although oil prices continue to set new records in nominal terms, in real terms they remain well below the peak established in the oil shock of 1979, having generally fluctuated within a broad band of about \$20–40/bbl. The increases in nominal oil prices seen during the recent run-up have also been more modest and gradual than the earlier shocks.

For example, between 1990 and 2003, for the world as a whole, annual demand for oil grew at 1.3%, while for China and India combined it expanded at 7%. Together, these two countries have accounted for almost 40% of the growth in demand since 1990. The impact of rising incomes on oil demand in these two Asian giants—their income elasticity of demand for oil is thought to be about 50% higher than in the rest of the world (Verleger 2005)—has been magnified by their comparatively inefficient use of energy which was proved by the recent oil spill off Karwar, Goa that was caused by the breaking up of a marooned 75,000 ton bulk carrier Ocean Seraya.

### **Impact of Brent crude oil on the Indian economy.**

The other implication of high world oil prices was, of course, a rise in India's import bill. India's average nominal oil price stood at \$37.66, the Reserve Bank of India had reportedly estimated that every one dollar rise in the international price per barrel of crude oil adds \$600 million (around Rs 2,800 crore) to the country's oil import bill. The Indian basket of crude oil touched an all-time high of \$52.83 per barrel on April 4, 2005 which is now ruling at around \$68 a barrel.

High and rising levels of oil prices have been around long enough to give cause for concern. As measured by the price of West Texas Intermediate crude, that level reached \$75 to the barrel on April 21 and has remained above the \$70 level since. Spot prices of Brent Crude have risen by more than 40 per over the year ending April 21. In spite of global crude oil prices raising the Indian government has not yet increased the local prices though on 31<sup>st</sup> May, 2006 the government announced an oil price hike was inevitable with surging international crude prices.

Though the Ministry of Petroleum and Natural Gas still wields considerable influence on the prices charged by "autonomous" petroleum refining and marketing companies, the fact of the matter is that domestic prices have become — and will continue to be — more and more closely linked with world prices.

### **Impact on Transport and Manufacturing Sectors in India**

India, which imports 70 per cent of its crude oil requirement, has managed to sustain a commendable GDP growth. It is not a particularly efficient user of oil. The fact is that India's industrial growth is not oil intense.

Oil price hikes were due mainly to the spurt in transport, and not manufacturing, cost. The transport sector accounts for about 50 per cent of the country's total oil consumption

and only 20 per cent by industry. Hence, even if oil prices shoot up in the event of war, the manufacturing sector, barring fertilizer and some petrochemical units, is unlikely to be affected much. Moreover, the sector mainly uses coal and hydro power.

That is why, in the petro-product mix, the share of transport fuel (diesel and petrol) is as high as 50 per cent, whereas that of fuel for industry (such as furnace oil, naphtha, LSHS/HHS and petroleum coke), a mere 25 per cent. In 2004-05, petrol, diesel and jet fuel together accounted for 51 per cent of the total petroleum products consumed. Then followed LPG and kerosene (about 20 per cent).

Prices of all these products are controlled by government, despite the dismantling of APM (Administrative Price Mechanism). Heavy subsidies are doled out for kerosene and LPG. Thus, prices of about 70 per cent of oil products consumption are controlled by government. These controls hedged the pressure on inflation. In other words, the actual impact of oil price hike was not reflected on the overall price situation in the country.

In India, oil price/supply volatility impacts inflation mainly through the transport sector. Stagnancy in the development of the Railways is to blame for this. Essentials as well as consumer durables are now largely transported by road and, so, whenever diesel and petrol prices are hiked, the prices of these goods also go up, affecting mainly the poor and the middle class. Moreover, the nexus between truck owners and traders often adds to the problem.

Unlike China, the growth in the economy and its extensive motorization did not turn it into an oil guzzler. Its crude oil consumption increased moderately, by 4-5 per cent a year since 2002-03, while GDP rose 7 per cent a year. India's import of crude oil increased at 6-7 per cent a year. Of course, the booming growth in exports and invisible trade surplus due to software exports and remittances also provide a cushion.

## **Oil Price Mechanism in India**

With the declared objective of moving towards market determined prices for petroleum products, Government under the report of the C.Rangarajan committee announced the dismantling of the Administered Pricing Mechanism (APM) effective 1.4.2002. However, it was decided to continue to subsidize PDS kerosene and domestic LPG on the ground that these were fuels of mass consumption largely consumed by “economically weaker sections of society”. The subsidy on these two products was to be continued on a flat rate basis financed from the budget and was to be phased out in three to five years.

A comparative picture of the refinery gate price of diesel (HSD) under alternative pricing models based on the international prices ruling during April-September 2005 is as follows:

### **Pricing model Rs/Litre**

Cost plus (APM) (HPCL Refinery, Mumbai)	Rs. 19.27
Import parity (using existing tariff of 10% on products)	Rs. 20.48
Export parity	Rs.18.77
Proposed trade parity (80% import parity + 20% export parity)	
Using reduced (7.5%) customs duty on products	Rs.19.77

It may be noted that the proposed trade parity price is marginally higher than the cost plus price under the APM model. However, the APM model uses a cost build-up based on return on capital on the depreciated cost of assets. If, in fact, the replacement cost of assets had been used in the APM model, the price would be higher, and in line with the trade parity price.

The Oil Marketing Companies (OMCs) were to adjust the retail selling prices of these products in line with international prices during the year 2005. However, in compliance with Government directions, the OMCs did not make the necessary adjustment in prices of PDS kerosene and domestic LPG commensurately, resulting in losses on account of these two products.

Since international prices are unlikely to soften in the near to medium term, an immediate adjustment of prices and subsidies is an urgent imperative. The economic and financial costs of continued inaction will be alarmingly high as the financial position of the oil companies will rapidly deteriorate. The Government will not only forfeit the taxes and dividends that it has been getting from these companies but will have financially crippled companies on its hand, which will be unable to make the much needed capital expenditure required for expansion and modernization.

According to the report an appropriate pricing regime which promotes efficiency needs to be evolved in relation to petrol and diesel on the one hand and domestic LPG and PDS kerosene on the other. Currently, the refinery gate prices are computed based on the import parity principle. Given the global context and our refining capacity, a more appropriate pricing model for diesel and petrol will be the trade parity price.

A recommendation was made to adopt the trade parity principle for pricing petrol and diesel which would be a weighted average of the import parity and export parity prices in the ratio of 80:20. The trade parity prices would be port specific as against weighted average import parity prices currently followed for fixation of consumer prices of petrol and diesel. The relative weights of exports and imports in estimating the trade parity price may be reviewed and updated every year.

The report states, that customs duty on crude may be retained at 5%. The customs duty on petrol and diesel should be reduced from the existing rate of 10% to 7.5%. This will reduce the effective rate of protection for refining these two products from the present 40% which is high to a more reasonable rate of 20%. Given that PSU refineries are required to produce PDS kerosene, domestic LPG and specified fertilizer inputs, on all of which there is no customs duty, the aggregate effective protection for the refining

business as a whole will be less than 20%. Customs duty on industrial products other than petrol and diesel may be retained at 10% in order to protect domestic producers who suffer sales tax as compared to direct importers.

#### COMPONENT OF TAXES IN RETAIL PRICE

Product	Central Taxes	State Taxes	Total taxes
Petrol	38%	17%	55%
Diesel	23%	11%	34%
Domestic LPG	-	11%	11%
PDS kerosene	-	4%	4%

Raising the customs duty on crude is inadvisable in view of the Government's declared policy of aligning customs duty to ASEAN levels and of standardizing customs tariffs on bulk commodities at 5%. State level taxes too have been responsible for the pressure on prices of petroleum products as they have been contributing to a third or more of the total sales tax collections of the states thereby burdening the consumers as well as building an undesirable dependency at the state level too for revenues on a single sector. Moreover the rates of taxation vary widely – from a minimum of 20% to a maximum of 34% in the case of petrol, and from a minimum of 9% and a maximum of 38% in the case of diesel. Coming on top of what is considered a large incidence of excise duties; heavy sales tax levies lead to a high degree of cascading. The Empowered Committee of State Finance Ministers deliberating on the implementation of VAT should also be entrusted with the task of evolving a uniform policy on sales tax levies on petroleum products.

#### SUBSIDY ON PDS KEROSENE & DOMESTIC LPG

Rs./Selling Unit

Item	PDS Kerosene (Rs./Litre)			
	2002-03	2003-04	2004-05	2005-06 (Est.)
Subsidy from fiscal budget	2.45	1.65	0.82	0.82
"Under recoveries" to oil companies*	1.69	3.12	7.96	12.14
Total subsidy to consumer	4.14	4.77	8.78	12.96
Item	Domestic LPG (Rs./Cylinder)			
	2002-03	2003-04	2004-05	2005-06 (Est.)
Subsidy from fiscal budget	67.75	45.18	22.58	22.58
"Under recoveries" to oil companies*	62.27	89.54	124.89	147.74
Total subsidy to consumer	130.02	134.72	147.47	170.32

\* On a gross basis before adjusting amount shared by upstream companies

It is suggested that Kerosene should be given at a subsidized rate to the BPL (below poverty line) families. If the trade parity prices for petrol and diesel are allowed to operate there will be no subsidy burden on their account. Restricting the subsidy on



kerosene to BPL households will reduce the subsidy burden by Rs.6, 315 crores, and increasing the price of domestic LPG by Rs.75/cylinder will reduce the subsidy by a further Rs.4, 414 crores.

Historically, there has been a wide variation in the excise duty on petrol and diesel in our country. For example, the current excise duty is Rs.14.64/litre on petrol and Rs.4.97/litre on diesel. This is contrary to world wide trends where the excise levies on both products are more or less equal. Indeed, in some countries, diesel is costlier than petrol. The contrarian's trend in our economy leads to inefficient substitution of one fuel for another.

### **India and its oil companies**

It is well known that the subsidy burden extracts a severe toll on the public sector integrated downstream oil companies such as Indian Oil Corporation, Bharat Petroleum Corporation and Hindustan Petroleum Corporation that refine and market petroleum products. These companies buy crude either from ONGC or from the global markets at prevailing international prices. But they are not allowed to sell their products at prices marked to market and thus have to sustain substantial losses.

The future scenario states that the total investment in exploration now stands at about US \$5 billion. Even as private participants partner in the exploration process, a very large part of the effort will continue to devolve on ONGC and OIL and they will need to have the financial resources to develop oil assets both at home and abroad.

ONGC has invested in offshore gas fields in Vietnam, as well as energy projects in Algeria, Kazakhstan, Indonesia, Venezuela, Libya and Syria, while Indian Oil Corporation is looking to invest in deepwater exploration in Sri Lanka. Reliance Industries, India's largest private sector oil firm, also has stakes in an offshore field in Yemen and a liquefied natural gas project in Iran, and is in talks to acquire energy assets in Nigeria, Chad, Angola, Cameroon, Congo and Gabon in Africa, as well as in South America and the Middle East.

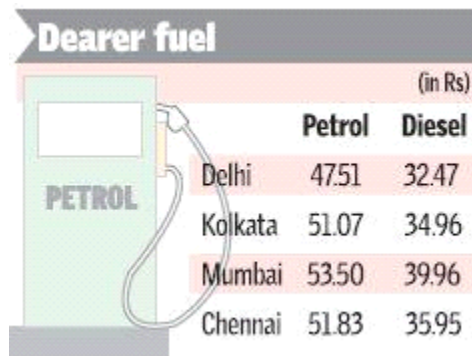
India has recently stepped up efforts to access energy resources in Russia, the world's second largest oil producer and leading gas producer. India's ONGC Videsh Ltd (OVL) holds a 20% stake in Sakhalin-1 of \$1.7 billion, which is set to begin production this year eventually generating 2.3 billion barrels of oil and 17.3 trillion cubic feet of gas. India is also looking to invest in the Sakhalin-3 project, which is estimated to hold 4.6 billion barrels of oil and 770 billion cubic meters of gas as well as investing in the joint Russian-Kazakh Kurmangazy oilfield in the Caspian Sea.

The economy is not far behind in its domestic oil and gas exploration as we see with the recent Krishna-Godavari (KG) Basin in Rajasthan which proves to have India's largest reserves of Hydrocarbons. The KG Basin was first discovered by Reliance Industries in 2002 which was the largest in the world in that year. Focus energy has announced a major discovery lately on onshore Rajasthan block RJ-ON/6 in well SGL-1, it is located in the Shahgarh are of Jaisalmer district. This discovery is estimated to have 88 to 91 %

hydrocarbon content. Recently, the Assam government has set up an oil and gas exploration company to discover hydrocarbons in this oil rich state with the help of The Oil India Ltd (OIL) and Oil and Natural Gas Ltd (ONGC). Lately, Gujarat State Petroleum Corporation (GSPC) has made another big gas find in the KG-basin, off the Andhra coast, exactly a year after its 20 trillion cubic feet (TCF) gas find was made in the same block, now called Deen Dayal.

The recent exploration bids undertaken by India are an effort to cushion the economy against any future oil shocks.

### Recent developments on the Indian Oil front.



	(in Rs)	
	Petrol	Diesel
Delhi	47.51	32.47
Kolkata	51.07	34.96
Mumbai	53.50	39.96
Chennai	51.83	35.95

Prices of petrol and diesel have been increased by an average Rs 4 and Rs 2 per litre, respectively, in accordance with the new pricing regime on 6<sup>th</sup> June, 2006. However, prices of kerosene and LPG were not changed. The increase is the highest in Mumbai, where petrol will now sell at Rs 53.5 a litre (a hike of Rs 4.34 per litre), and diesel will sell at Rs 39.96 a litre in Mumbai (an increase of Rs 2.39 a litre). Mumbaikars will have to bear an extra cost due to the sales tax levied by the State government which charges 34% tax on petrol and 38% tax on diesel. The BMC also charges octroi on the fuel price. Petrol will sell at Rs 47.51 per litre and diesel at Rs 32.47 per litre in the capital.

The Opposition and the Left parties which form an ally with the government are against this fuel price hike and are protesting against the same.

The revised prices are still way below the required changes as per the new pricing formula. It is estimated, that while petrol would have to be hiked by Rs 8.75 a litre, diesel would have to be increased by Rs 10 a litre, if they were put on actual trade parity prices.

While leaving kerosene sold under public distribution system (PDS) and domestic liquefied petroleum gas (LPG) untouched, the Cabinet has decided on an integrated package involving a price increase in petrol and diesel, issuance of oil bonds worth Rs 28,000 crore. The new trade parity pricing regime is in line with the Rangarajan Committee report, which had recommended lowering of protection levels for refiners and a more transparent system to provide subsidies. Accordingly, the Union cabinet on 5th

June, 2006, decided to reduce custom duties on petrol and diesel to 7.5% from 10%, thereby reducing the effective protection level for refineries.

As on 8<sup>th</sup> June, 2006 the oil companies will now have complete autonomy to revise prices of all four products, including cooking fuels-kerosene and LPG- apart from petrol and diesel, in line with the new pricing regime introduced by the government.

## **Oil Price and Inflation**

Central Banks the world over face a strange conundrum. High oil prices have pushed headline inflation up and yet non-oil (core) inflation remains tamed. As the IMF's World Economic Outlook released in April puts it the impact of oil prices on core inflation to date has been surprisingly mild relative to previous experience. If one takes the G-7 average, consumer price inflation has risen steadily from 1.5% in early 2004 well over 3% in 2006. Yet, core inflation has remained virtually flat in a range between 1.75% and 2%.

With higher crude oil prices translating into costlier petrol, diesel and aviation fuel, these items can quickly push inflation upwards. Also, as crude oil is a key raw material for all sorts of products, the latter's prices will also be impacted by a costlier oil. A rise in the price of raw material will affect the cost structure of producers, who will tend to pass on the higher charge on to customers. Manufacturers have been unable to pass on increased energy prices to consumers and have instead had to accept reduced margins, which have largely been achieved through control of labor costs. Oil prices before the recent rise were historically cheap when adjusted for inflation, which meant that the proportion of consumers' disposable income affected by a rise in oil prices was less significant during the current oil shock than previously.

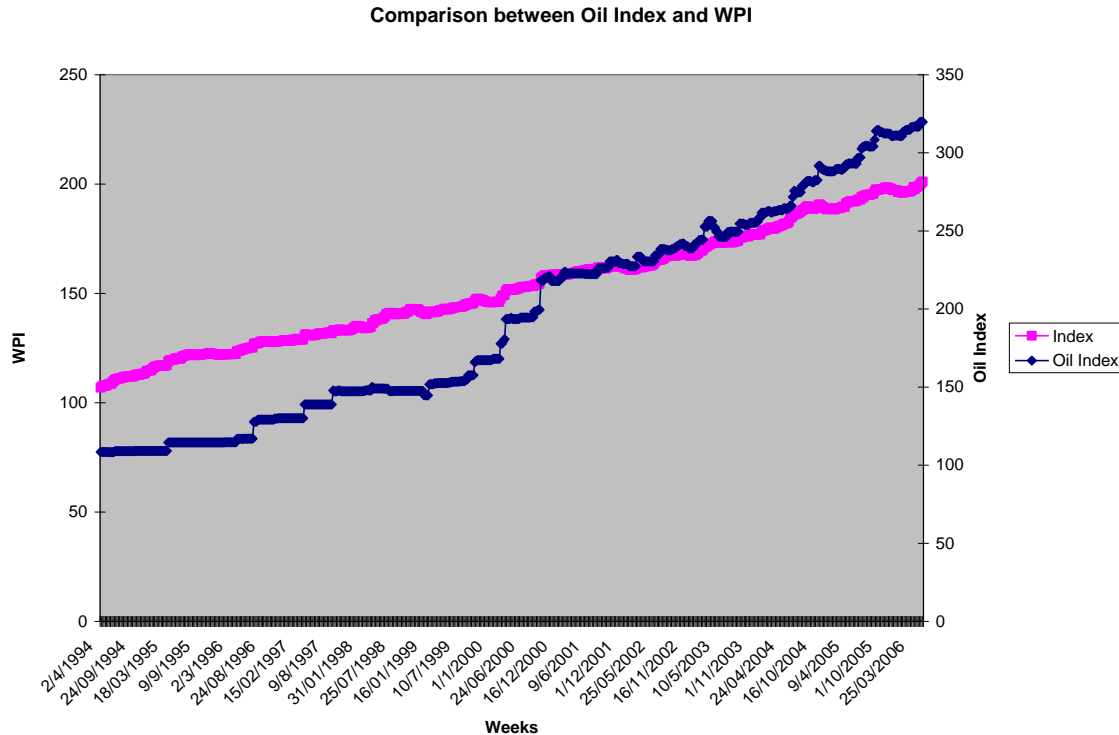
Indian wholesale price inflation data puzzles us as oil prices were hiked in September 2005, in the six preceding months, manufactured product inflation, a rough proxy for core inflation was at 3.8%. In the six months that followed, average manufactured product inflation declined to 2.8%.

Whenever prices are artificially held back, it works like a stretched slingshot, eventually when it is released it will explode in an effort to return to the free market price causing major disruptions in the process. As the oil price adjusted to true market pricing it spiked up and has been floating freely ever since.

Since, U.S and China are both coming out of a recession; both countries are also demanding vast increases in oil. In case of economies like India, the energy intensity of production has gone down dramatically, by up to 60% according to some estimates. Also, though wages have gone up, they have not by much in real terms. This forces people to work more to earn more, setting off a virtuous cycle that helps keep inflation reined-in.

The key to this riddle is the two advantages which insulate India from any long-term impact: Low dependence on the global economy and the structure of oil product consumption, which is very different from those in other South-East Asian countries.

When the first Gulf war broke out in January 1991 after the Saddam Hussein regime invaded Kuwait, India was cushioned from the full impact of the surge in world oil prices simply because the country imported less than one-third of its requirements of crude oil and petroleum products.



On comparing the Oil Index and WPI, we notice that the year 2000-01 is the inflection point where the oil index and WPI intersect and thereafter the oil index has surpassed the WPI. There is a very strong correlation between the Oil Index and WPI, as high as 0.989388 and thus any change in the Oil Index will reflect a change in the WPI. Though fuel, power, light and lubricants (FPL&L) constitute around 14 per cent of weight in the WPI, the impact of increase in energy prices works both directly and indirectly on a wide range of economic agents, driving up the cost of production. Higher oil prices would put pressure on profit margins of companies and if they are unable to pass the higher costs on, this would discourage investment and employment. Higher oil would push up inflation and reduce real household income and affect consumption unless they perceive the high oil prices as temporary and dig into their savings to maintain spending. Wage rise could restore the real household income; however, wage price spiral looks unlikely at the moment.

The current increase in oil prices has both the impact of demand and supply shock. The rise in oil prices from \$40 to over \$70 a barrel is due to the fears of a supply shock and due to increase in demand. Asian demand has risen by 45 per cent in the past three years. A rise in petrol and diesel prices could push up inflation, and, consequently, force Reserve Bank of India to raise interest rates.

Inflation in India has been controlled artificially by the government. Oil-refining companies, most of them state-owned, have been told to absorb the losses arising from high crude-oil prices, rather than pass the costs on to consumers.

Finally, while supply concerns have played a critical role in determining oil prices in the short run, robust global demand conditions have done their bit in pushing up the average price level. Tight Monetary policy might just be able to put a lid on oil prices if it dampens the growth momentum.

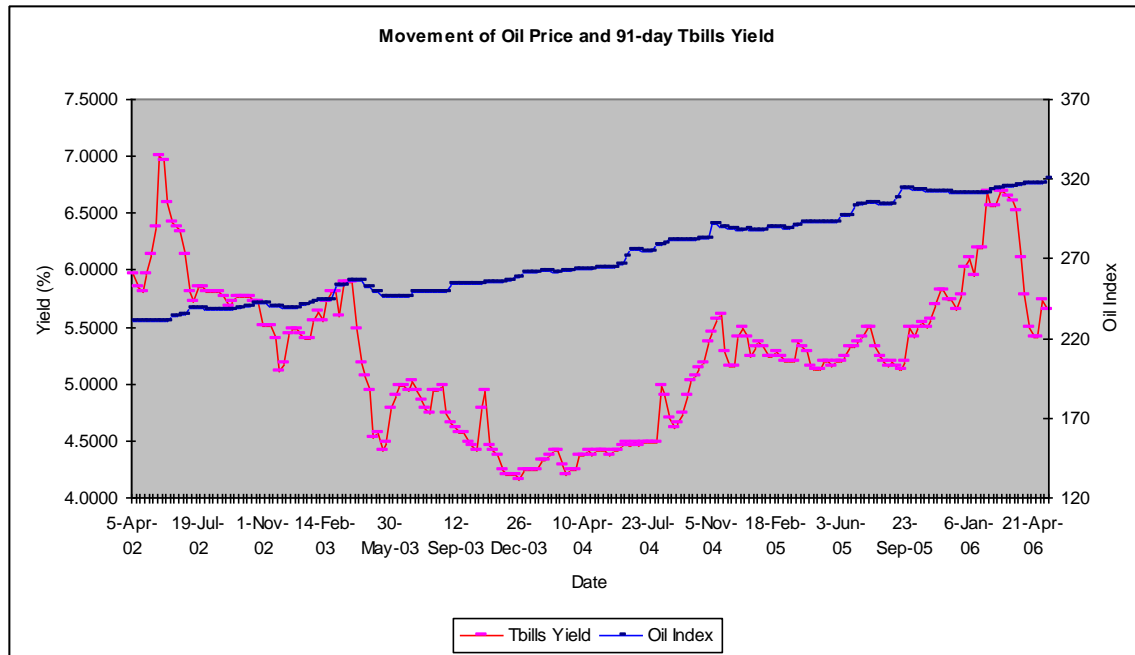
### **Oil Price and Interest Rates**

The world is awash with excess liquidity. This has been driving up not only global stock markets but also commodities, gold and of course oil. The two largest economies in the world, viz. U.S.A and Japan, were both pumping money into the system, the former to keep its economy moving on consumer spending and the latter to fight deflation. The U.S Federal Reserve has been hiking interest rates, with several consecutive hikes of 25 basis points. And now the Japanese economy also seems to have got over the fear of deflation. So any threat or perception of threat, to liquidity drying up could cause a temporary halt in the charge of the raging Indian bull.

Indian Finance Minister Mr.P.Chidambaran is probably taking comfort from the fact that north-bound oil prices haven't dampened growth in both transport and manufacturing, two sectors that normally bear the brunt of oil price changes. Competition has compelled industry to absorb rising input cost and not pass these on to consumers. Low interest rates have cushioned bottom lines from squeezed margins. But with interest hardening, one question is looming on the horizon- how long can the industry continue to take this on the chin?

Of more interest were the **oil price hike effects on the short term interest rates**; for which we have considered the **91-day T-Bills**.

The 91-day T-Bills are a discounted government security issued by RBI through a weekly auction process with a maturity of 91 days.

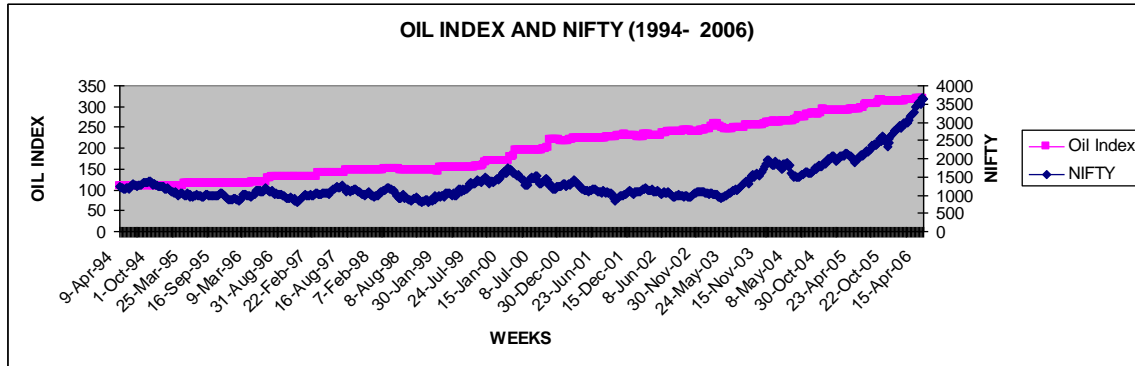


The above graph shows the movements of the Oil Index and the 91-day T-Bills. We see a lot of volatility in the 91-day T-Bill, which moved closer to the repo rate of 6.5% in April, 2006 and Oil Index. This was due to the RBI interventions in the foreign exchange markets on account of Oil and FII driven purchases.

### **Effects on Financial Markets**

The impact on financial markets in turn provides additional channels through which the oil price increase would affect economic variables. However, given cyclical developments in the world economy, it is unclear to what extent the recent increase in the oil price has been directly responsible for the recent turbulence in advanced country financial markets and movements in currency markets. In the case of oil importing emerging markets, however, there have been noticeable adverse effects across a range of financial and currency markets, which appear directly linked to oil market developments, while risk premia on external debt of most oil exporters have declined significantly.

In equity markets, an increase in oil prices would be expected to lead initially to a weakening in the earnings of firms producing energy intensive output and in their market valuations. This would occur both through higher production costs, which would be particularly severe in the traditional manufacturing and transportation companies, as well as through the slowdown in demand. Subsequently, if the oil price rise were deemed to be permanent, there would be adjustment costs entailed in changing the input mix, with substitution away from oil.



The above graph shows the movement in the Oil Index and Nifty. While the Oil Index is rising steadily, there is volatility in Nifty's movements.

Finally, in currency markets it has been suggested that the desire to invest the proceeds of oil exporters in U.S. dollar denominated assets, and increased transactions demand for dollars in which oil is priced, have meant that higher oil prices are associated with a stronger value of the U.S. dollar. A recent study suggests that higher oil prices are positive for the U.S. dollar exchange rate and have exacerbated the downward pressures on the euro. While there are a variety of other factors underlying the configuration of the G3 (Germany, Japan, US) currency rates, it is possible that in the recent period higher oil prices have had some effect on the G3 currencies. It should be noted, however, that the value of the Japanese yen has continued to be high against the euro, even though Japan's dependence on oil is similar to that of the euro area. The currencies of several emerging markets have recently come under pressure as oil import bills have increased, and there has been some slackening in the flow of portfolio capital and direct investment. However, the pressure on currencies has been exacerbated by a variety of economic and political factors unrelated to developments in the oil market. India's oil import bill has swelled 52 per cent to \$44.64 billion in 2005-06 on the back of high global oil prices.

### **Effects on Monetary and Fiscal Policy**

The underlying fiscal stance should in general remain broadly unchanged, although automatic stabilizers can play a role in supporting activity. On the microeconomic side, any adjustment of taxes on gasoline and other petroleum products would need to be considered in terms of what is appropriate from the overall fiscal and macroeconomic situation. If the oil price increase appears to be temporary, there would appear to be little merit in adjusting taxes. However, if prices remain, or are expected to remain, at a higher level and ad valorem taxes generate revenue increases greater than required for fiscal policy considerations, there is bound to be some rethinking of the best use of the revenue windfall. The appropriate strategy will depend upon the tax structure of the country concerned.

The macroeconomic policy implications for oil importing developing countries are similar to those for advanced economies in terms of monetary policy and the fiscal response, with the appropriate macroeconomic response also depending upon the cyclical

situation, existing policy stance, and exchange rate regime. Countries with fixed exchange rates will, of course, be unable to ease the impact on activity through a currency depreciation. Finally, it is particularly important that oil importing countries minimize budgetary costs by passing through the hike in oil prices onto administered energy prices, especially if there is a reduction in access to international capital markets, constraining the ability to use foreign borrowing to finance the deterioration in the external accounts.

## **Conclusion**

The current global scenario gives us a sneak peak into the constraints arising from growing demand and controlled supply of oil which results in oil price manipulation.

The global oil industry is on the verge of a dramatic transformation from a risky exploration business into a technology-intensive manufacturing business. And the soon to be manufactured product is “Greener fossil fuels”.

Experience shows that oil price shocks have had only a marginal impact on the Indian economy, especially in the long-term perspective. Any effects on major economic segments have often been more because of inflationary fears rather than economic weaknesses.

India is a developing economy, which has not been affected since crude oil prices crossed \$70 /bbl mainly due to its foreign exchange reserves. This price hike has not hampered the economy's GDP growth which on May 31<sup>st</sup>, 2006 was recorded at 8.4%, surpassing its targeted estimate of 8.1% by the Central Statistical Organisation. With the oil dependence of agriculture and industry, which account for over 55 per cent of GDP, being only 10-14 per cent, GDP growth is unlikely to be affected this year. Oil dependence of agriculture is a mere 10 per cent. Electricity is the main source of energy for agriculture. About 90 per cent of energy requirement for agriculture is met by electricity. Hence, any oil price hike or supply constraints are unlikely to affect agricultural growth. Similarly, the oil dependence of industry is only 15 per cent. About 75 per cent of energy requirement of industry is met by coal.

Despite not having very large oil and gas reserves, India seems to be a desirable market for foreign investments. According to a recent poll by Ernst & Young, five countries — Norway, Canada, Qatar, India and the United Arab Emirates — emerged to have favorable conditions for US investments in the energy sector. Driven by high demand and pricing, interest in oil and gas exploration is surging across the globe.

In its bid to secure oil supply, India is in talks with Iran over the proposed ‘oil pipeline’ project, which will pass via Pakistan before entering the country. This project will depend heavily on Pakistan's’ co-operation and on the recent developments between Iran and United States over Iran's nuclear stand.



According to India Hydrocarbon Vision 2025, India's oil elasticity to GDP was 2 in the 1970s, 1.2 in the 1980s and 1.1 in 1999. It is forecast to slide to 0.7 in 2025. The Vision 2025 assumed 6.5 per cent GDP growth. Based on these assumptions, oil consumption was estimated to grow at 4.6 per cent, reaching 156 million tonne by 2010. Domestic production is not expected to contribute significantly, and is estimated to pump in about 38 million tonne by that time. This means oil imports will be about 118 million tonne by 2010.

One effect of high crude prices is enhanced interest in petro-substitutes. Fuel cells are the most tempting in terms of promising zero pollution but hydrogen production technology will take 15-30 years to be market ready. Hybrid vehicles that switch between electricity and conventional fuels are already popular though expensive compared to normal vehicles. Bio fuels could be a practical solution. **Variations on ethanol, jatropha-based diesels and even plain cooking oil mixed with petro-products can easily be used and they are also renewable. Such experiments have been successful in Brazil. Recently, Alan Greenspan, retired Federal Reserve Chairman, suggested the US for the development of Ethanol made from cellulose in switchgrass and other plants that may help its economy become less dependent on foreign crude oil. Another example is that of Nigeria working on burning natural gas to produce electricity instead of simply flaring the gas. China and India are currently heavily investing in natural gas facilities..** For energy deficit India this can be the dawn of a new era.

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