CHAPTER VIII

LATER MODIFICATIONS IN THE PRICING SYSTEM
AND THE PRESENT PRICING MECHANISM

The present pricing system was evolved on the basis of the recommendations of the earlier oil price committees, reports of which were examined in the previous chapter. The system has been considerably modified by later oil price committees and in response to the developments that took place in the world oil industry. The present chapter examines the impact of the oil shocks on the Indian economy and the later modifications in the pricing system. It also gives a detailed account of the present pricing mechanism for petroleum products.

Impact of Oil Shocks on the Indian Economy

A second oil crisis shook India in 1979-81 when the world oil prices doubled. The price which stood at $13.34 a barrel in January 1979 increased to $26.00 in January 1980. This exogenous shock changed India’s current account position from near balance in 1978 to a deficit of 2 per cent of GDP (30 per cent of exports) in 1981. There was hardly any current account adjustment after 1982, despite favourable developments such as a softening of oil prices and rising domestic oil production. The current deficit averaged 25 per cent of exports from 1982 to 1984; from 1985 to 1990 it averaged no less than 40 per cent of exports. The deficits were covered by a large
loan from the International Monetary Fund which was disbursed between 1982 and 1984 and by heavy borrowing from commercial sources.7

The third oil crisis occurred in 1986 when the international oil market changed from a sellers' to a buyers' market. From $29 a barrel in December 1985, oil prices fell to $9 a barrel in July 1986 and stayed at $15 a barrel in August 1986.

The latest oil shock came with Iraq's invasion of Kuwait in August 1990. The oil prices nearly doubled from around $16-17 to over $30 per barrel. It should have been possible for India to weather this oil shock to a large extent, but failure to cut down on the current account deficit culminated in the macroeconomic crisis that erupted in early 1991 which was brought to a head by a steep fall in foreign exchange reserves to about $1 billion, a sharp downgrading of India's credit rating and a cutoff of foreign private lending. The basic underlying features of the crisis were high inflation, large fiscal and current deficits and a heavy and growing burden of domestic and foreign debt.7

The use of pricing system as a means of oil conservation was emphasized in various policy pronouncements of the Government, but the realisation of this goal

7 Joshi: "Macroeconomic Policy and Economic Reform in India", 1994, p.2

7 Ibid., p.2
was only marginally successful. The Sixth Five Year Plan adopted pricing as a strategy for reducing dependence on oil. It stated:

Through the pursuit of appropriate pricing policies and other related measures, the rate of growth of consumption of oil products must be curbed, particularly of diesel and kerosene which have shown unacceptably higher rates of growth in recent years. Utmost economy and maximum efficiency in the proper use of petrol, diesel and other petroleum products should be effected and public should be made more aware of the nature of the oil crisis and what it means for the average citizen.  

Table 8.1 Percentage share of Different Fuels in Commercial Energy Consumption

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>79.6</td>
<td>74.1</td>
<td>59.1</td>
<td>52.6</td>
<td>39.0</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>17.1</td>
<td>20.9</td>
<td>31.3</td>
<td>35.7</td>
<td>43.4</td>
</tr>
<tr>
<td>Electricity</td>
<td>3.3</td>
<td>5.0</td>
<td>9.6</td>
<td>11.7</td>
<td>17.6</td>
</tr>
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Source: Eighth Five Year Plan, Vol II, p.162

Still, the consumption of oil and its share in commercial energy consumption kept on increasing as shown in Table 8.1. In the early years, coal accounted for 80 per cent of the total energy consumption. With the construction of hydro-electric projects, the share of electricity multiplied several times, but still lags far behind coal and petroleum. Oil and gas overtook coal as India's most important fuel by the late 1980s, in spite of the planners laying more emphasis on coal.

"Sixth Five Year Plan, 1980-85, p.44"
Recognising the danger of overdependence on oil imports, the Eighth Plan cautioned:

The share of oil in the total commercial energy consumption has thus increased contrary to the recommendations of the Working Group on Energy Policy. One of the major factors contributing to this was the relatively lower prices and easy availability compared to alternate fuels. This led to a rapid growth in the consumption of LPG, Kerosene oil, motor spirit and diesel oil (both HSD and LDO). HSDO and SKO together constituted about 54 per cent of oil consumption in 1990-91 and their share is likely to increase further unless measures are taken to contain this trend.16

In spite of this warning, the share of middle distillates continued to grow, HSDO and SKO together constituting 57 per cent of oil consumption in 1994-95. (See Table 5.1).

The failure to use the oil pricing policy as a means of reducing dependence on oil imports should have been enough to persuade the Government to change the entire pricing structure of both crude oil and products. As early as 1981, the planners had cautioned:

In the past, the pricing of energy has not always reflected the true cost to the economy or helped to ensure the financial viability of the energy industries. It is wrong to think that an adjustment in the prices of a basic input like energy would aggravate the inflationary situation; the costs to the economy are not reduced by not reflecting them in proper pricing. Indeed, the continuance of wrong pricing policies has a far more

16 Eighth Five Year Plan, 1992-97. Vol 2, pp.164-165
deleterious effect on the health of the economy than is often realised. Given the pressure of the international oil prices and rising domestic energy costs, a high priority will have to be given early in the Plan period to the evolution of a structure of energy prices which reflects true costs, encourage economy in energy use and promotes replacement of scarce fuels.

Modifications in the Pricing System

The pricing system of petroleum products have undergone some deviations on the basis of recommendations of successive Oil Cost/Prices Review Committees. The first one was the Oil Cost Review Committee (OCRC) headed by J.S. Iyer, Chief Advisor (Cost), Ministry of Finance (Department of Expenditure) set up on 18 July 1984. The Committee was to examine and make recommendations upon the following:

(i) A comprehensive review of costs which form the basis of the current pricing arrangement of petroleum products, including the need for working out formula to enable quick calculations of changes in cost factors.

(ii) A re-examination of the current concept of return on capital employed and the desirability of adopting return on net-worth for refining operations at least on a limited scale in the context of the recent steep increase in interest rates.

(iii) The desirability of including more petroleum products in the category of formula products for which basic ceiling selling prices have been determined.

(iv) The feasibility of introducing uniform prices on an all India or on regional basis, for all or some petroleum products, particularly in view of the steep increase in railway freight during the past few years.

Sixth Five Year Plan, 1980-85, p. 231
(v) A review of the commission applicable to dealers/ distributors of MS, HSDO, LDO, kerosene oil and LPG.

(vi) The feasibility of charging differential prices for products like naphtha, LSHS and Furnace Oil depending upon end-use.

(vii) The need to introduce adequate incentives into the pricing mechanism for inducing refineries to operate efficiently in the matter of product pattern, fuel and loss, ocean loss, stock loss, etc.

(viii) The need for providing adequate compensation to the marketing operations for the opening of independent storage and bottling plants for LPG with separate infrastructure and associated facilities.

(ix) The need for simplifying the present mechanism of pool accounts.

This Committee studied the comparative refining cost of various refineries and found the variation to be between Rs. 21.86 per mt in the case of CRL and Rs. 211.78 per mt in the case of Bongaigaon. In view of such wide variation, the Committee found no alternative but to continue the retention concept for the refineries. However, they recommended that efficiency norms be developed in specific areas either on industry basis or separately for each refinery. Although the variation in marketing costs of major marketing companies was not very wide, the consensus was to continue the retention concept for marketing companies also. In place of return on capital employed, the Committee preferred return on net worth to ensure a fair return on the owners’ funds.

The OCRC fixed standard throughput and product pattern for each refinery based on technical assessments, but decided to retain the system of allocation of cost on the basis of indices. The Committee, however, revised the indices used for
determining retention prices by taking into account the prevailing demand and supply position in the country, ability of products to bear additional charges, their end-use profiles, international prices of various petroleum products and the need to encourage production of deficit products with a view to conserve foreign exchange. The present pricing mechanism described later in this chapter are based on the recommendations of the OCRC.

The latest in the series of the price review committees was the Oil Prices Review Committee appointed in 1989. A price revision on the basis of the recommendations of this Committee was effected in September 1992. This Committee has essentially recommended a cost plus return formula with some normative judgements on costs of various operations and a return on capital employed. The final consumer prices include, apart from such cost plus return to producing, refining, and marketing companies, at various levels, royalty payments to the States and the Oil Development Cess.

Even in an imperfect market, the price structure sends signals to the producers and consumers which enable them to optimize their decisions and employ the resources efficiently. There is no substitute mechanism which can do this. Distorted prices lead to misutilization of scarce resources and lower their productivity. To understand the inadequacy of petroleum pricing in India as an instrument for the efficient utilization of this precious natural resource, a detailed examination of the current pricing mechanism is necessary.
The Present Pricing Mechanism

Under the "retention price concept" refineries are allowed mainly the following three elements:

i) Cost of crude  
ii) Refining cost  
iii) Return on capital

Marketing companies are entitled to:

i) Ex-refinery price of the product payable to the refineries  
ii) Installation/ Distribution/ Administration cost  
iii) Return on capital

The methodology adopted for pricing petroleum is as follows: (Also see Appendices III & IV).

A. Crude Oil Price: The standard cost of crude oil is determined on the estimated weighted average price of imported and indigenous crude oil. The price of indigenous crude oil, both from onshore and offshore areas, has been fixed at Rs. 3169 per tonne for 34° API Gravity crude with effect from 1 April 1993. The price build-up is as follows:
Basic Price Rs. 1741 per tonne
Royalty Rs. 528 -do-
Cess Rs. 900 -do-

B. Pooled price of crude oil: The price charged for crude from the refineries is determined by pooling the price of indigenous and imported crude oil. The processors of indigenous crude pay the difference between the pooled price of crude oil and indigenous crude oil, while the processors of imported crude oil claim the differential between approved price of crude oil and the pooled price of crude oil. The two transactions are expected to balance each other so that a uniform price is paid by different refineries.

C. Cost of crude oil at the refineries: The cost of crude oil at the refineries is the sum of the pooled price, transportation costs incurred in bringing the crude oil to the refineries by tankers or pipelines, losses involved in transportation and handling, insurance paid to the marine companies, wharfage charges payable to port authorities and auxiliary duty payable to the government (including royalty and cess payments). Ocean freight is worked out on the basis of the rates under the contract committee and Shipping Corporation of India/other Indian shipping companies on a cost plus profit basis. In case of transportation by pipelines, the compensation is based on actual costs and certain norms of operation. The actual annual cost of operation comprises wages and salaries, repair and maintenance and depreciation including a certain rate of return on net worth. In order to encourage efficiency in utilisation of
facilities, a certain norm of capacity utilisation is adopted for determining the transportation rate. Ocean loss refers to the difference in quantity loaded in the tankers at loading ports and the quantity received at the port of destination. The Oil Price Committees of 1976 and 1984 have laid down a norm of 0.5 per cent for ocean loss for imported crude oil. To improve the performance in this respect, any loss exceeding the ceiling is not debitable to the oil industry pool account. At the same time any benefit accruing from a reduction in these losses will be credited to refineries as an incentive for an effective control on losses.

D. Cost of refining: The cost of refining consists of raw material cost, i.e. the delivered cost of crude oil to various refineries, refinery cost and return on investment. The refinery cost includes expenditure on chemicals, catalysts, consumables, utilities, salaries and wages, repair and maintenance, overheads and depreciation of fixed assets. These are fixed by OCCI Government on the basis of actuals with suitable provision made for periodic revision on the basis of past trends and projections given by the refining companies for future escalation in different cost components. The return to the refinery is allowed at 12 per cent post tax on the average net worth at the beginning and close of the year as per the balance sheet and interest on adjusted borrowings (net fixed asset + 35/45 days' value of crude throughput = net worth) at the weighted average interest rate for the company.

F. Ex-refinery prices: On the above basis the cost of processing per tonne of oil for each refinery or the retention price per tonne of crude is worked out.
The retention price is allocated to the various products on the standard pattern of production through a set of indices using kerosene as the base and the retention prices for each product is thus worked out. The weighted average retention price is arrived at, to form the basis for ex-refinery prices of each product, which is common for all the refineries. For the refineries processing crude oil beyond the standard levels also, retention price is paid at the same rate. The ex-refinery prices are converted from weight to volume by adopting conversion factors. To this a certain flat sum is added to avoid frequent revisions in ex-refinery prices following variations in the price of crude oil.

F. Cost of marketing and distribution: There are separate pipelines for the transportation of crude oil and products. For the crude oil pipeline, the transportation cost is built up recognising 12 per cent post tax on the average net worth at the beginning and close of the year as per the balance sheet and interest on adjusted borrowings (net fixed assets + 30 days operating expenses less depreciation = net worth) at the weighted average interest rate for the company and the operating expenses inclusive of depreciation to be claimed on moderated capacity of the pipeline or the capacity of the refineries receiving such crude oils as the case may be. In the case of product pipelines also the transportation cost is built up on similar lines and based on 80 per cent capacity utilisation or as estimated. The marketing and distribution cost comprising of installation, administration and distribution margins are worked out for each oil company and a weighted average "industry margin" under these heads is evolved. Also specific expenses pertaining to handling/stock loss and
bridging expenses are assessed. The profit margin is evolved on the basis of 12 per cent post tax on the average net worth at the beginning and close of the year as per balance sheet and interest on adjusted borrowings (net fixed assets + 30 days inventory cost = net worth)

G: Basic ceiling selling price ex-storage points: On the above principles, ex-storage ceiling prices are evolved for the major petroleum products like MS, HSD, SK, LDO, furnace oil etc. at primary pricing points, by adding excise duty and freight surcharge.

H. Consumer Prices: To the basic ceiling selling prices the railway freight is added to arrive at the various inland depot prices. Subsequently, transportation, octroi, sales tax, dealer's commission and other local levies, if any, are added to arrive at the retail selling prices of products like SK, HSD, MS and LDO. However, the actual prices charged from the consumers are fixed on the basis of 'differential pricing' concept.

The administered pricing policy incorporates cross subsidy to make kerosene used by vulnerable sections of society and naphtha for the fertilizer industry cheaper. LPG is subsidised for domestic consumers to wean away kerosene users to LPG. Fuels like petrol are priced in such a manner as to promote their economic and efficient use.
Oil Industry Pool Accounts

The successive Oil Price Committees have introduced and retained the concept of Pool Accounts in the pricing mechanism for petroleum products. The primary objectives of such Pool Accounts include:

a) To maintain uniform prices throughout the country recognising the need to import crude and finished products to meet the deficits in indigenous production;

b) to provide retention margins to refineries and marketing companies operating at various cost levels;

c) to even out imbalances caused by some of the States in local levies such as sales tax, octroi etc.

The pool accounts are expected to be self-balancing over a period, the inflow into which being regulated mainly by the surcharges included in the product price build-up and the outgo from which being confined to the under-recoveries which the refining and marketing organisations incur on various factors so as to ensure retention margins to them as provided for.

The pool adjustments are carried out under the following main heads:
1. The Crude Oil Price Equalisation Account

The f.o.b. cost of imported crude oil is generally higher than that of indigenous crude oil. The difference between the indigenous crude oil price and the pooled f.o.b. price is surrendered by the refineries processing indigenous crude oil whereas the difference between the price of imported crude oil and the pooled price is claimed by the refineries processing imported crude oil. Refineries processing both types of crude oil work out the weighted average cost of crude processed by them and the difference between this weighted average cost and pooled f.o.b. cost is adjusted to the Crude Oil Price Equalisation Account.

2. Crude & f.o.r Adjustment Account

Various crude & f.o.r elements such as the difference between the delivered cost of crude and that actually incurred by refineries, difference between the retention price and the ex-refinery transfer price, cost variation due to deviation from standard pattern, incentives for achieving superior product pattern, for reducing fuel...
and loss and for higher crude throughput, under/over recovery on account of LPG/bitumen filling, bitumen drum cost variations, crude & f.o.r surcharge collected by marketing companies on sale of products, special surcharges like the Gulf Surcharge levied from 15 October 1990, differences between the landed cost of imported products and ex-refinery price, difference between the selling price of bunkers and inland selling price, difference between export price and domestic price of exported products, difference between marketing margins and the ceiling selling prices, the difference between the dealers' commission and RPO surcharge built into the ceiling selling prices and the actual commission payable to dealers, etc are adjusted into this pool account.

3. Product Price Adjustment Account (PPA)

The ceiling selling prices of petroleum products are changed from time to time keeping in view socio-economic considerations. Unless the built-up of ceiling selling prices are revised starting from the retention price/ex-refinery price, the difference on account of increases allowed in the ceiling selling prices of petroleum products are adjusted in the PPA Account. In the long term, however, PPA Account is supposed to be self-balancing. The negative PPA as in the case of SK, LPG (domestic) and naphtha for fertilizers is balanced by cross subsidy by way of positive PPA on products like MS etc.
4. Freight Surcharge Pool (FSP) Account

With the establishment of primary/secondary pricing points within the country, the need was felt for disciplining the movement of petroleum products from one pricing area to another mainly to avoid cross haulage of products and the resulting tie-up of railway tank wagons. Consequently FSP Scheme was introduced permitting the oil companies to seek reimbursement from the industry pool account for any additional cost incurred in the movement of products from one pricing area to another on authorization from OCC/Government. To cater to such additional cost, an incidence of FSP Surcharge which is currently Rs.40 per selling unit in the selling prices of petroleum products is included.

5. CST/Sales Tax Surcharge Scheme

This scheme was introduced to compensate the under-recoveries suffered by oil companies on account of Central Sales Tax (CST) and Sales Tax surcharges levied by certain states.

A typical computation of retention price of different products is given in Appendix III.