CHAPTER XI

ALTERNATIVE APPROACHES TO PRICING

From the analysis of the theoretical concepts in the previous two chapters, one gets the impression that the present oil pricing policy of the Government does not conform to economic theory. There are political and social reasons for deviating from theory, but even accepting these reasons as genuine, there are alternative approaches possible. An attempt is made in the present chapter to examine a few of these approaches.

Subsidized prices send wrong signals to the consumers, encourage inefficient inter-fuel substitution, and discourage conservation. To prevent these distortions and to ensure that the pricing policy is conducive to economic efficiency and financial viability, without sacrificing the welfare objective, a seminar organized by Tata Energy Research Institute suggested a number of alternative approaches:

1. **Integrated Pricing Policy**

There is need for formulating a comprehensive, integrated price policy for energy inputs and other factors of production (labour, capital). For example, it should cover all relevant energy sources for various end uses. For lighting, it should consider kerosene, electricity, biogas, photovoltaic lighting etc; for cooking it should...

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consider fuel wood, charcoal, soft coke, biogas, kerosene and LPG as possible sources and relative prices should be fixed to encourage the desired type of inter-fuel substitution. The objective of equity cannot be met if all the fuels are not considered simultaneously as has been illustrated by the policy of pricing urban fuels in India. Kerosene, electricity and LPG, which are available at subsidized prices, are used primarily by higher income groups. According to a Fuel-use survey, 37 per cent of kerosene, 100 per cent of electricity (for cooking), and 76 per cent of LPG were consumed by high income groups (more than Rs.6000 per year). On the other hand, subsidy on soft coke which was used primarily (56 per cent) in low income households was only marginal. Fuel wood, agricultural wastes etc. which were used by the urban poor did not attract any subsidy or price control. The result is that the urban poor have to pay higher prices for smoky, low efficiency fuels. Such anomalies can be removed only if a comprehensive policy is formulated to cover various end-uses and alternative fuels for target groups. Economic costs have to be worked out for providing these fuels to various target groups for different end-uses. This can then be used as a reference point for determining the tax/subsidy levels for different fuels, different equipment and different target groups.

2. Direct Subsidies

Rather than provide a general subsidy, the Government can consider giving direct subsidies to target groups through special coupons. One such experiment was under way in Sri Lanka. Apart from providing subsidized kerosene to all, the
Government of Sri Lanka simultaneously operates a kerosene stamp scheme (KSS) under which roughly the poorer half of the population receive monthly coupons which can be used to pay for kerosene or basic food products. This scheme was introduced in 1979. The advantages of this scheme are: (i) as kerosene prices would no longer be below their economic cost, the incentives to use this fuel inefficiently would be reduced; (ii) this would give the oil company more freedom to alter the prices of competing fuels such as diesel and fuel oil whose prices had to be held down for fear of diverting demand to subsidized kerosene; (iii) by replacing a subsidy in kind with an effective cash transfer, the welfare of poorer households would be increased to the extent that they choose to spend this higher income on other goods upon which they place a higher value; and (iv) the refinery balance problem would be alleviated to the extent kerosene consumption gets reduced as a result of this policy.

3. Instead of subsidizing diesel, the Government can subsidize diesel engines, kerosene lamps instead of kerosene etc. and equipments using more abundant sources of energy to divert demand away from oil.

4. A comprehensive system of subsidies can be worked out to make renewable energy sources as economically viable to consumers as conventional sources.

5. Taxes may be levied on equipments/ consumers that take undue advantage of the lower prices (e.g. diesel automobiles, kerosene generators, etc.)
Existing energy prices do not reflect the true cost of supplying energy to the consumers nor do they take into account the cross-price effects on demands for substitute fuels. Mohan Munasinghe suggested a two-stage method for the establishment of efficient prices. The first stage involves the estimation of marginal opportunity costs comprising the marginal supply costs and a depletion premium while the second stage requires the estimation of the demand side effects of a particular price structure.

An integrated energy pricing structure should meet the three objectives of pricing, viz. economic efficiency, social equity and financial viability. While the first objective has been explicitly taken into account, an assessment of the achievement of the other two objectives would necessarily have to take into account the price elasticities of demand for various categories of consumers. Based on this concept and following the procedure outlined by Mohan Munasinghe in 1980, the Tata Energy Research Institute worked out an approach on integrated energy pricing involving the following steps:

Step 1: Cost of production/import: Establishment of economically efficient prices involves the use of real rather than the financial cost of resources. In the case of tradeable fuels, the efficient price is worked out on the basis of their border price suitably adjusted to the shadow price of foreign

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exchange. In case of importables, the shadow price is its c.i.f. price inclusive of a premium on the foreign exchange outflow while for exportables the efficient price is its f.o.b. price. The efficient price of non-tradeable fuels is determined on the basis of their real resource cost of production viz. capital outlay, working capital, salaries and wages and other operating expenditure.

**Step 2:** The cost of processing/beneficiation of primary fuel: The cost of processing primary fuels, viz. refining of crude oil, is added to the cost of production. The cost components here are similar to those included in the calculation of production costs of non-tradeable fuels.

**Step 3:** Cost of transportation: The economic cost of transportation is built in by adjusting it to reflect real resource cost of transporting and handling the fuel by different modes, viz. rail, road, sea, pipeline, etc. This is added to the cost of the processed fuel to arrive at its delivered price. Since cost of transportation constitutes a major component of delivered price, the cost of supplying energy to its consumers is computed for different distance slabs.

**Step 4:** Other costs: These costs refer to the cost of marketing and distribution by intermediaries, viz. wholesalers and retailers who collect the product from the manufacturer and supply it to consumers. These primarily consist of
costs of storage, intra-city transportation, infrastructure and running expenses.

**Step 5:** Modified price: The efficient delivered price, hence obtained, is modified to incorporate taxes and subsidies so as to take care of the financial, revenue generation and social welfare objectives. This would form the market price.

**Step 6:** Integrated prices in a single framework: An efficient matrix is constructed consisting of efficiencies of fuel consumption in specific end-uses measured in terms of energy consumption per unit of useful output. The product of this matrix with the fuel price matrix gives the price per unit of useful output for each end-use using alternative fuels. Two fuel price matrices are taken into account - one based on economic prices and the other on market prices.

In the ideal situation, it should be possible to derive maximum benefits from a scarce natural resource like petroleum by pricing it at economically efficient prices. It may be desirable to price the various oil products according to their calorific value. This would then mean a higher unit price for diesel and kerosene as compared to petrol. The Government's approach to pricing, however, was determined by the need to price kerosene at a very low level as it is considered the poor man's fuel. This then necessitated the pricing of diesel at a level not too higher than kerosene to
prevent adulteration. The subsidy element inherent in this approach was then sought to be neutralized by fixing a higher than economic price for petrol. Any move from this situation to the ideal one may not be politically acceptable, unless the subsidy can reach the poor in some other manner. Among all the alternatives suggested above, the most administratively feasible method could be direct subsidies. We already have machineries in the form of the District Rural Development Agencies, rural banks and the local bodies to help the Government in dispensing these subsidies. The other option, suggested by the Sundararajan Committee, is for the oil companies to charge the full price to the dealers, who, in turn, would sell the products to the consumer at prices notified by the Government and claim the shortfall from the Government. The administrative set-up required for this is not likely to be simpler than that required for direct subsidy. Moreover, the benefit of optimizing use under an economic pricing system would not be available. There is also no guarantee that the subsidized product will reach only the intended beneficiary.

The possible mechanisms are:

1. Price kerosene at its cost price, diesel slightly higher than SK and MS slightly higher than HSD. The poor consumer of kerosene can be compensated through lump sum cash subsidy in direct or indirect mode to increase his purchasing power. The mass transport and agricultural sector consumers of HSD may be compensated to a large extent through subsidies on capital equipment like
vehicles and pump sets. The Railways can be compensated through budgetary support.

2. LPG for domestic use seems to display price inelasticity of demand. Consumers are often prepared to pay double the usual market price if availability can be ensured. This is probably due to the fact that its share in the household budget is not too large. Subsidy on this item can easily be dispensed with. Oil companies should be encouraged to invest heavily on piped supply of LPG and natural gas to domestic consumers in urban areas to reduce the unit cost of gas.

3. Once it is decided to do away with subsidies on kerosene, it should be possible to supply it through RPOs as in the case of diesel and petrol. All the customers would then face the same price and would therefore have the same incentive to make economically efficient choices of how much of each commodity to consume.

4. Cash subsidies can be replaced by kerosene vouchers which can be used for buying kerosene from the RPOs and other commodities from the PDS shops.

Obviously, the administration of the above mechanism is bound to be difficult and it is not possible to rule out malpractice. Still, it should involve much lesser misuse of the subsidy and should contribute to energy conservation. It will also encourage more vigorous search for alternative sources of energy. The additional
revenue generated can be used for bridging the investment gap in the oil industry and for augmenting the purchasing power of the weaker sections of society. The same mechanism can be used for subsidizing fertilizer and food grains, in whose cases also the benefit does not always reach the consumer. Ultimately, it would then mean that products and services are available only at economic price, and those who cannot afford will be given an allowance for raising their resource level to as near the poverty line as possible.

The Indian economy is passing through a phase of globalisation. This will necessitate opening up of the economy for global competition. The foreign investors will certainly demand a level playground if they are to participate in our economic reform process. One of the criteria would be free market pricing of the products. The oil industry which is badly in need of heavy investments cannot be insulated from the reform process. Free market pricing of products will mean an end to the retention price based administered pricing mechanism (APM) and much more transparent Government policy.