GUIDELINES FOR IMPLEMENTING ELECTRICITY TARIFF INCREASES

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The urgently needed politically acceptable process of implementing electricity tariff revisions requires the formulation of guidelines for decision-making regarding subsidies.

If one sector of the economy is not used to subsidise another sector, ***the first guideline is that there should be no net subsidies to the power sector***. In fact, the 1996 balance sheet of the Karnataka Electricity Board showed that there were no net subsidies. However, there were ***cross***-subsidies with some categories of consumers (industrial, commercial and AEH categories) subsidising other categories particularly the agricultural consumers.

Some argue that there should not even be cross subsidies and indeed no subsidies at all to any category of consumers. The thinking is that, in an ideal world with perfect markets, efficient use of an input like electricity requires that its price covers the cost of production. However, the price of electricity must not be set on the basis of the ***average*** cost of cheap plants constructed in the past. Demands for extra electricity may require new plants. Thus, the price should cover the cost of a unit of electricity from the next power plant, i.e., the long-run ***marginal*** cost of production, which tends to be much higher.

If the input is administratively priced at less than this marginal cost, it is being subsidised. Subsidies are not in the larger and long term interests of society. They do not encourage efficient use of inputs. They even promote waste. Hence, the demand that all subsidies must be removed.

In practice, however, the objective of eliminating subsidies and raising prices is a major political challenge. Governments have to take into account the necessity of helping some sections of society. Further, privileges and benefits, once given, are not easy to withdraw. Consumers become used to the prices associated with subsidies that are in vogue. They develop vested interests in the associated benefits, and therefore resist elimination, or even reduction, of the subsidies. Governments have even fallen because of attempts to eliminate or reduce subsidies in the face of consumer opposition.

A crucial strategy in this context is to exploit the fact that consumers are more concerned about their total ***expenditure*** on an input like electricity than its unit ***price***. So, if their expenditure stays the same (or better still decreases), they will not mind paying more per unit consumed. A higher tariff for the same expenditure means a lower consumption. But this lower consumption must not lead to a decrease in the energy service (lighting, heating, etc) that they obtain. To achieve the same energy service with a lower consumption requires efficiency improvements so that energy is

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used ***more efficiently***. Thus, efficiency improvements must be used to ensure that the resulting reduction of electricity consumption offsets tariff increases so that there are no increases of consumers' expenditures on electricity. Thus, ***the second guideline is that reduction of subsidies and tariff increases must come after implementation of efficiency improvements so as to offset expenditure increases.***

What if the tariff increase required by the electricity supplier is so large that it cannot be offset with consumption decreases achieved through efficiency improvements? This is the problem with the tariff for irrigation pump sets in Karnataka and some neighbouring states. The tariff is so low today that any reasonable tariff increase is bound to increase the farmer's expenditure on electricity. This possibility generates vehement opposition to the tariff increase.

In this context, the ***unreliability*** of the utility's subsidised, low-tariff electricity to irrigation pumpsets (IPS) may turn out to be a blessing in disguise. The farmer today has to suffer low voltages that burn out his motors, low frequencies that decrease their performance, erratic supply at odd and inconvenient times and frequent power cuts for long periods. If the quality of supply were significantly improved, the farmer would perhaps be willing to pay a much higher tariff particularly because electricity is often a small part of the total costs for most crops. Thus, ***consumers are likely to prefer metered and priced reliable electricity to unmetered free (or low-tariff) unreliable electricity*** even though they are bound to reject unsubsidised, high-tariff unreliable electricity in favour of subsidised, low-tariff unreliable electricity.

Thus, the poor quality of the electricity supplied today should be the starting point of the supplier's approach to tariff revision. Except for installing captive generation sets, consumers have no other option than to continue their connection with the supplier. Since it is only the monopoly power of the electricity board that enables them to retain their customers, they should not even consider adding insult (price increase) to injury (poor-quality electricity). ***The third guideline is that improvement in the quality of supply must precede tariff hikes.***

However, even with this improvement, there may be an implementation barrier. The credibility of the electricity board may be so low that farmers are unlikely to believe that it can ever deliver reliable electricity. Demonstration projects may be the answer. Such projects should show that electricity supplier can supply quality electricity reliably at times convenient to the consumers. They should also demonstrate that metered and priced reliable electricity benefits farmers much more than unreliable subsidised, low-tariff unmetered electricity. Simultaneous introduction of efficient IPS and water-delivery systems will keep down the price of this priced electricity. If both the quality of electricity supplied and the efficiency of pumping improve, then it is likely that the subsidy elimination or reduction will become acceptable.

Across-the-board opposition to cross-subsidies and subsidies to any category of consumers stems from the belief that "getting the prices right" is the best way of inducing consumers to use electricity efficiently. It is believed that consumers will respond to price increases by reducing their consumption and/or improving efficiency. Unfortunately, the demand may be inelastic -- consumption of an input like electricity may not decrease even when its price increases, as is the case with petrol consumption when petrol prices increase.

In fact, it may be far more effective to lower demand by installing energy-conserving end-use equipment -- the resulting efficiency improvements are ***non***-price-induced. For example, solar water heaters reduce electricity consumption for water heating more significantly than electricity tariff increases. Thus, ***the fourth guideline is that improving the efficiency of end-use equipment may be a better option than expecting the behaviour of consumers to change in response to price increases.***

However much subsidies may be inconsistent with "right" pricing, decisions regarding subsidies invariably have to take into account the necessity of helping some sections of society. Ideally, these deserving sections should be the poor. In practice, they often turn out to be the powerful.

Decision-makers are generally tempted to opt straightaway for subsidies. However, there may be other equally effective options. For example, loans for efficient equipment, or leasing of such equipment, or provision of more efficient fuels, may be options. If these alternative options achieve the same purpose as subsidies (viz., reducing the expenditure burden), then they should be preferred. ***The fifth guideline is that, to help specific sections of the population, it may be better to subsidise efficient end-use equipment than subsidise energy inputs (electricity or fuels).***

Subsidies may also be necessary in the case of emerging technologies, for example, solar water heaters. The purpose of such subsidies is to help the technologies to mature and achieve lower costs. However, these subsidies must be temporary with clear sunset clauses, and specifically directed towards promoting technology development. In fact, subsidies should be withdrawn if a technology is not improving.

Efficiency improvement is not, however, a "free lunch". Investments have to be made on purchasing and installing efficient equipment. If customers cannot afford the first cost of this equipment, they may have to be helped with investments to install the efficient equipment. But this investment may be no more than the political costs of ramming through a subsidy reduction and tariff increase without an associated efficiency improvement.

Andhra Pradesh has just now illustrated the consequences of ignoring the above guidelines for subsidy reduction and tariff revision. Its CEO has been compelled to retreat partially in the recent battle to cut subsidies and hike tariffs. This should not come as a surprise. Even restructured and reformed electricity boards and regulatory commissions have to earn political acceptability. Hopefully, Karnataka and other states will learn the lessons.

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