

**Electricity Privatisation Revisited:
Case of India**

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Abstract

Normally privatisation is resorted to by different economies for different reasons -- resource mobilization, introducing efficiency by promoting competition, and for achieving commercial orientation. Often these are assumed to be independent objectives. The Indian experience is showing that they are quite interdependent and unless all the three objectives are tackled simultaneously, privatisation will not succeed. Specifically, the poor financial performance of the State Electricity Boards and their lack of commercial orientation is applying a brake on investment in the Power Sector by foreign IPPs. Similarly the Government's approach to privatisation without promoting competition,—through the so-called Memorandum of Understanding -- is leading to high cost solutions and acrimonious public debates demanding transparency in decision making and review of those already made.

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The imperative for privatisation

Presently India has an installed capacity of about 80,000 MW. For the next 5 years, there is demand for an additional 30,000 MW. This would call for an investment of about \$ 7.5 billion for generation and associated transmission. The traditional sources of power sector funding have been the Central Government budgetary allocations- used rather discretionarily by the States - and World Bank loans. Even the outlay in the 8th Plan (1992-97) was about \$ 4.5 billion, per year, and this outlay has never materialized, due to fiscal constraints, at Centre and States. The World Bank financing has grinded to a halt since it has stopped lending to State Electricity Boards (SEBs) which make losses. There is no scope for internal financing since the SEBs have an accumulated loss of about \$ 2 billion. Hence there is an imperative for privatisation, to mobilize funds for expansion. The SEBs cannot tap the domestic capital market, due to their poor financial performance. For even the private sector, the domestic capital market does not offer much, compared to the investment needs of the power sector; the entire capital market mobilization for the year 94-95 was about \$ 1 billion for all sectors put together. Hence the major recourse has to come from foreign direct investment through schemes like BOT, and foreign financial institutions through portfolio investments in Indian/foreign managed power companies.

The deeper cause for the lack of funds for the growth of electricity supply is the *poor financial performance* of the SEBs, which is partly attributable to (in)efficiency reasons - like poor revenue collection -- but partly due to political tariff setting which subsidises electricity heavily for the farmers, and marginally for the poor¹. So far, electricity pricing never reconciled the need to finance growth, since such finance was provided externally through budgetary support. This has eroded the efficiency and commercial orientation of the SEBs and has made them a plaything for political interference, since their growth was controlled by the politicians who controlled the funds. The loss of commercial orientation has resulted in ignoring the consumer and the erosion of quality of service, on the one hand and indiscipline with respect to both collection and payment of dues on the part of the SEBs. On average they have 4 months' uncollected revenue, as arrears from their consumers. They also owe the Central Government suppliers of power and coal an amount roughly equal to this figure! The providers of funds translate the insecurity of the revenue stream to them into corresponding risk and demand higher cost for funds. This happens even if the borrower is a foreign IPP (Independent Power Producer), since the lending is project based. Conversely if the revenue stream of the power utilities , i.e. the present SEBs, is secure, then they themselves can tap the funds in the international capital market on account of their own creditworthiness. Thus we find a paradox that the unnecessary subsidy to the well-to-do farmers, and laxity in collecting revenue for the power sold from consumers, mainly from the blacksheep of the industry, is hurting all the citizenry in terms of high cost of funds, and hence high cost of power. Thus commercialization is of paramount importance in order to make the utilities financially viable and hence creditworthy.

Finance overtaking economics: Another consequence of the excess demand and the unavailability of funds to finance augmentation of supply, is the phenomenon of *finance overtaking economics* . The Government is encouraging small scale high cost diesel generation to tide over immediate problems of the day, by removing it from the purview of the Central Electricity Authority's requirement of approval, thus sacrificing economies of scale inherent in large scale generation. The nonviable energy technologies like wind, micro hydro etc. are also being promoted by tax breaks , abundant availability of low cost funds from World Bank and organizations like USAID, tied aid from equipment supplier countries and through a higher selling price² by the SEBs which are forced into it , as a matter of 'government policy'. The frequent power failures have also resulted in infructuous investment in the form of captive generation not only by industry but also commercial establishments, not to speak of institutions like hospitals and computer installations. Residential buildings are going in for sumps for water storage, since water supply becomes erratic consequent to power failures³.

Context of electricity privatisation: Presently what is needed is for the electricity industry to acquire commercial orientation and to generate surpluses to enable long term growth, with a redefined and clear focus on its objectives towards supply of electricity to the poor. Electricity Privatisation in India should be looked at in this light, to secure

- financing , for growth
- efficiency and commercial orientation, to achieve
cost competitiveness and improved revenue realization
- customer focus through reduced supply interruptions
improved voltage and service levels

However, as explained earlier, in practice, it is the financing dimension that dominates the privatisation agenda.

The speed, selectivity and secrecy with which the contracts for additional power were signed with foreign IPPs have resulted in a backlash questioning the competence and credibility of the decision making process, with such decisions being reversed or stalled. As for the IPPs, as the Economist put it, they have learned that transparency and robustness of the offer that can withstand public scrutiny, are key to long term success. ⁴

Government Policy on Privatisation: The Government formulated a set of policies to attract private capital in the power sector,

- **Attractive Return on Equity (of 16%) :** On top of this there is a 0.7% incentive for every 1% rise in Plant Load Factor beyond the stipulated normative PLF of 68.5%, which for a 90% PLF amounts to about 31% . This return is post tax and insulated for devaluation. The policy of giving a fixed return on equity , where the equity portfolio may contain foreign and domestic investors, would effectively lead to giving them different returns, since the return on foreign equity is insulated against devaluation , but the return to the domestic equity holders is not insulated against inflation.
- **Counter guarantees by the Government of India:** This was offered by the Government for the first 8 'fast track' projects, since the buyer SEBs were not financially sound and the IPPs needed to secure the revenue stream. But since this amounts to making the market debt into sovereign debt, it will lower the country's credit rating eventually. Viewed domestically, this amounts to the federal government encouraging fiscal indiscipline of the States, since the electricity tariff setting is, de facto, within the ambit of the States.
- **Amendment to Act, to permit direct sale of IPP power to consumers :** This was done to facilitate the IPPs to sell power to industries, at times when the buyer SEB was not in a position to buy the power. But at present , the provision is subject to the caveat of Government permission, lest the IPPs should corner the creamy segment of the customers, viz. the industries. Thus, the idea of letting the customers shop around for the best deal, is still far away.
- **Lenient operating norms (heat rate, PLF etc.):** This has had the effect of translating public sector inefficiency into super-normal profits for the private

sector.

- **No income tax for 5 years :** In the light of the provision for expensing the income tax paid in the fixed charge recovery, this provision is only meant to relieve the the SEB (and ultimately the consumer) of this burden in the tariff.
- **Higher depreciation provision:** This is provided to enable better debt servicing.
- **Waiver of export requirement to repatriate dividends**

Over the last 5 years the Government has learned some lessons and announced several **policy shifts**. These are: ⁵

- Counter guarantees stopped, beyond the first few projects.
- MOU approach abandoned and replaced by requirement of competitive bidding.
- the `2-part tariff`--which was misused as a single part tariff, in some Power Purchase Agreements, by combining the capacity and energy charge portions and thereby claiming a second helping of the fixed costs, beyond the stipulated PLF--being re-examined. Price based bidding being considered instead of cost based bidding.
- Relaxing the 5 year income tax exemption further to any 5 year period
Allowing return on equity on share premia and reinvestment of internal surpluses, for the project . This additional incentive for the investor, will lead to higher cost of power, since the investors will, over the years, substitute low cost debt with high return equity, on which the returns are guaranteed.
- **Distribution privatisation:** Recognizing the reluctance of IPPs to sell power to financially unviable SEBs, and the poor record on revenue collection of SEBs,

Govt. is experimenting with privatisation of Distribution. Here two aspects are noteworthy. Firstly, since the aim appears to be only to discover a financially viable bulk buyer, the efficiency aspects and the effect of natural monopoly in distribution on the consumer are not satisfactorily addressed. Secondly, since electricity is in the concurrent list, it leads to a peculiar situation where policy formulation is in the domain of the federal government, while policy implementation is left to the State Government. Many State Governments are lukewarm about distribution privatisation, since they do not hope to raise cash through sale of assets to domestic private sector. The politicians are also wary about any 'reform' in the agricultural electricity tariff, since it touches a vast segment of the vote bank. A third worry is about the political impact of downsizing in the SEBs which together employ about 1 million to serve about 86 million consumers.⁶ Hence they are proceeding cautiously. In Orissa the first Zone which is 'privatised' is given on a management contract for 2 years. Orissa was perhaps chosen carefully since it had a low agricultural load of about 8.7%, in contrast to say Andhra Pradesh which had 34% agricultural load. Secondly the people of Orissa were mild mannered; so, resistance to reforms was not significant. In Andhra Pradesh, the proposal is to decentralize distribution into 5 Zones, for greater autonomy and accountability. Financial viability is sought to be ensured by a mix of remunerative and unremunerative loads, and in case the latter predominates in the Zone, differential pricing from the grid is suggested. The hope is that decentralization and commercialization in terms of correcting misclassification

of consumer categories and better revenue collection would bring in the improvement. Option for consumers to shop around is not provided. This decentralization is expected to bring the organization ripe for privatisation, either through the management contract, lease or sale route, at a later date.⁷

In spite of efforts, to attract private capital, the fruits have been modest. The only effect of the Government announcing a guaranteed rate of return and settling contracts through the Memorandum of Understanding route, avoiding competitive bidding, has been a vindication of the Averch-Johnson hypothesis⁸. There has been a sharp increase in the cost per MW after the announcement of guaranteed return policy by the Government, from a range of \$.0.5-1 million per MW to \$.1-1.4 million per MW, in real terms⁹. Not even a single project has, by 1995 achieved financial closure. Obviously there is apprehension from many parties:

Apprehension of IPPs

- How secure is the revenue stream, in the absence of counter-guarantee by the GOI? (World Bank gives counter guarantees, but only for financially sound utilities, which do not need them anyway!). In this context, we need to know the risk perceptions of multinational institutions --both lenders and IPPs -- towards public utility buyers in other countries. If the developing countries were to form a buyers' cartel and adopt uniform policies, it is possible that they can get the funds and equipment at better terms than at present.

- Whether foreign exchange will be available, in future, for repatriation?

Apprehension of Indian public

- Are we getting the best deal, given the recessionary conditions in the power equipment industry? Is the ultimate price per kwh comparable to what IPPs sell in developed country power pools? What is the cost per MW in developed country markets? In the absence of a Regulator, how the anti-competitive practices of private monopolies be curbed? Will the price of power go on escalating due to continuous devaluation? or the power intensive industries, cost of power is an important element in maintaining competitive edge in the coming years of lower tariff barriers and they would be unwilling to either cross subsidise for agriculture or pay for high cost power from IPPs arising out of inefficient decision making.
- The Indian Industry is facing the power crisis in terms of high supply restrictions and both industry and domestic consumers feel the need for a more responsive supply organization.

Gaps at present

Lack of institutional capacity in decision making: Presently there is a lack of institutional capacity in decision making in the power sector. This requires a critical mass of skill formation in technical, financial and legal and project finance aspects of the power sector. The Indian financial institutions which have co-financed, have also appraised the projects from a narrow point of view, viz .whether they will get back the money, rather than from the national economic and environmental points of view. In the appraisal of Industrial Development Bank of India, of the Enron project, they never asked the question if the cost of the project cost was too high. Rather they went by rules of thumb, like the cost per MW of project bids recently submitted by different IPPs, instead of asking what is the

competitive or border price of the cost per MW of power equipment of the Combined Cycle Gas Turbine type.¹⁰ Similarly, in the Cogentrix project in Karnataka, the effect of sulphurous emission on the Western Ghats eco-system and effect of hot water discharges into the sea on the marine eco system and its impact on the economy of the fishermen, have not been properly addressed.

Lack of a professional regulator:

So far, being a public monopoly, the power sector did not need a Regulator. The Govt. did the price control, though customer service took a back seat. Now, with privatisation, the Regulatory apparatus needs to be put in place. The Regulator must be a professional who will make policies, instead of the Government, so as to facilitate inflow of private capital on the one hand, and protect interest of consumers on the other. The skills required of an Electricity Regulator are different from that of a judge or a bureaucrat or a technical person, who is traditionally thought of to fill the place. The regulator should have sensitivities to environment, rural and consumer issues on the one hand and a eye on efficiency and financing aspects on the other, together with a solid understanding of power system economics.

Lack of coordinated set of policies: It is not possible to have market and competition in one segment and administered pricing and supra-market behaviour in a related segment. In order to bring the two into alignment, the prices of domestic coal and natural gas must be made to reflect their inherent competitiveness so that if they are cheaper there must be automatic mechanisms which promote their use. Presently questions arise such as why imported gas and coal are used in IPPs, while they are domestically available. These create a divergence between private financial profitability and national economic

profitability. Similarly, when SEB enters into a set of contracts with IPPs for buying generated power, defining each other's obligations through a contract, it has to enter into another set of contracts with the transmission authorities, the Power Grid Company or the Regional Electricity Board, regarding counterpart obligations. At present this issue is not addressed. Similarly commercial contracts should govern domestic coal supply and coal transport through railways. At present, these are done through bureaucratic fiat, with no penalty for breach of performance.

Steps taken so far:

The World Bank is leading the power sector reforms in the country so far, albeit with limited success. It organized a workshop with Ministry of Power, on Competitive bidding for Private Power in June 1994, where the participants were educated on the technical aspects of how to go about competitive bidding.¹¹ Again in June 1995 it organized through MOP another workshop on Private Sector Participation in Distribution.¹² Here the experience of other countries like Argentina, Chile etc. in distribution privatization was shared, along with the latest inputs from Orissa experiment in distribution privatisation and the decentralization proposal for the Andhra Pradesh SEB.

Present status: On the generation side, the stress by the Government has been on *privatisation* rather than on *competition*. Arguably, this approach has been due to an anxiety to secure financing. Ironically, not only has international fund flow into power sector fallen much short of expectations, but even the reduced budgetary outlays by the Government of India have not materialized, worsening the crisis even further. In short there is a paralysis in generation investment. On the distribution side, apart from the early privatised areas as in Bombay, Calcutta and Ahmedabad, an urban area on the border of

Delhi and U.P, Noida has been given to private sector and has been in operation for about an year. The lessons from this experiment are, that while commercial orientation has come to the fore by way of better revenue realization and better attention to paying customers, predictably, the connections to agriculture -- which is free supply, as per the terms of the contract -- have not increased, nor has the quality of supply to this category improved. In Orissa the first contract to the private sector for one zone (out of 4) has just been awarded. The power industry has also been restructured in Orissa, effectively unbundling generation, transmission and distribution. In West Bengal and Gujarat, pockets of areas have been given on a management contract to a foreign firm for improving the quality of supply in distribution along with provisions for green-field generation. In many other States like Karnataka, while privatisation in generation is pursued with vigour, distribution privatisation is ruled out by the politicians. The vexed question of agricultural electricity tariff, though discussed in several power ministers' conferences, has defied a solution.

Conclusion: Electricity privatisation in India is going without a strategy behind it. This is primarily because it is a decision thrust from outside. As a result it has not even achieved the main purpose, viz attracting capital. The main constraint is the non-commercial nature of the State Electricity Boards, with a political pricing for agriculture thrust on them. Yet politicians are interested in generation privatisation, because they would be bringing power, while the future generations of consumers who would be paying for it. But they will not be interested in distribution privatisation, wholesale for the whole State, because that would deprive them of a potent tool of patronage. So, in distribution privatisation, cities may be privatised, but not rural areas. This would then leave two different market segments, one, high cost good quality commercial power for the cities

and another, low cost, poor quality social electricity for rural areas and possibly domestic consumers.

¹ The political argument for continuing subsidies for electricity to agriculture is that 65% of the people depend on agriculture and it constitutes 34% of GDP. Also agriculture gets only 2.7% subsidy as opposed to GATT ceiling of 10 %

² Since wind energy is an intermittent energy source, its cost should be compared only with the energy cost of electricity generation, and not the total cost, which includes the capacity cost. For economics of wind energy see, Ranganathan V and Sharath Kumar "Economics of wind energy: A Reappraisal" *International Journal for Energy, Environment, Economics*, Nova Science Publishers, NY. Vol.I, No.4, pp293-296,1991.

³ There are also the secondary costs of equipment burn outs due to voltage fluctuations, and costs varying from inconvenience to loss of life, due to supply interruptions in hospitals.

⁴ "Are there profits in Asian Power?", *The Economist*, Oct. 28, 1995

⁵ Ministry of Power, Govt. of India, **India's Electricity Sector – Widening the Scope for private Participation**, 3rd Edition, Oct. 1994, and Gazette Extra Ordinary, Part II, Section 3, Sub section (II), dated 13th January 1995)

⁶ Planning Commission **Annual Report on the working of State Electricity Boards** New Delhi, 1995.

⁷ Hiten Bhaya et. al. **Report on Distribution Privatisation of Andhra Pradesh Electricity Board**, Govt. of Andhra Pradesh, Hyderabad. 1995

⁸ Averch H and Johnson L.L "Behaviour of the firm under regulatory constraint"

- ⁹ Centre for Monitoring Indian Economy **Current Energy Scene in India** June 1994,
Bombay, p. 42
- ¹⁰ Personal communication.
- ¹¹ World Bank and Ministry of Power, Govt. of India **Technical Workshop for competitive bidding for power sector**, Hyderabad, June 21-23, 1994.
- ¹² Ministry of Power (with the assistance of World Bank) **Workshop on Private Sector Participation in distribution**, Bangalore, June 26-28, 1995.