

FINANCING INFRASTRUCTURE DEVELOPMENT

A Holistic Approach with Special Reference to the Power Sector

Supplement to earlier report on

INDIA'S STOCK MARKET REFORM AND REGULATION

Submitted to the Planning Commission
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INTRODUCTORY NOTE

1. The present report supplements the earlier report submitted by us, covering *India's Stock Market Reform and Regulation*. It deals with issues relating to financing of infrastructural development.
2. Ever since the Rakesh Mohan Committee Report (1996) made us conscious both of the worsening deficiencies of our infrastructure and of the mammoth investment requirements for overcoming the problem, the financing of infrastructure development has become central to our development policies.
3. What is still not fully realized is that *the funding problem in the case of infrastructure is an integral part of the organizational and management deficiencies. Policy deficiencies also create the funding problem*. This problem cannot be solved unless accompanied, or rather preceded, by policy reforms as well as restructuring the sector's organization and management. This applies to every infrastructure sector without exception. It is best illustrated by the trials and tribulations of the power sector in the last few years. We shall base our discussion on the power sector. We underline the point that only a holistic approach to the problem can succeed in our situation. Mr. Nasser Munjee, Managing Director and CEO of the IDFC, has been at pains to emphasize the same point.
4. The first section of this paper identifies the precise nature of the power sector's problem and shows that the funding problem is totally enmeshed with the organizational and managerial problem.

5. The second section narrates the recent experiences of the power sector's structural reform being implemented in the last few years. It suggests the direction in which improvements are needed.
6. The third and final section shows that the Indian capital market is as yet not fully geared to infrastructure financing. Hence, financial intermediation by development banking type of institutions will be advantageous. It also makes the point that contractual savings institutions, being the repository for the retirement funds, have necessarily to be guided by a more conservative policy than the other financial and investment institutions. We emphasize that the capital market reforms in India are not yet adequate from the viewpoint of investor protection. Considering our stage of development, it appears somewhat too early to give up the idea of development banking which has a significant part to play in appraisal, monitoring and financing of infrastructure projects.
7. We have deliberately attempted to be highly selective in our presentation in order that actionable points are highlighted in order to bring them to the attention of the policymaking authorities.

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EXECUTIVE SUMMARY

The Central Issue in Overcoming the SEBs’ Deepening Financial Crisis and Securing Power Sector’s Development

1. *The fundamentally flawed organizational structure and management of the State Electricity Boards (SEBs) has led to serious and continuous deterioration in their financial condition.* For this reason, the SEBs are neither able to finance their growth internally nor attract external finance from private sources. Still, these nearly bankrupt SEBs continue to control almost the whole of power distribution business in India. Their own power generation meets less than two-thirds of their requirements and the balance is obtained from outside sources, mainly central power utilities and very little from private-sector sources. However, they are unable to clear the dues of outside power generators. As a consequence, any more flow of investment finance into power generation is getting blocked.
2. As a general principle, the availability of private finance for any business, from any source, in any form, depends crucially on whether the business can be reasonably expected to service the providers of finance. SEBs’ business model has miserably failed in every state. Many SEBs need total financial reconstruction.

Privatization: A Case Study of Orissa’s Power Sector Reform from a National Perspective

3. Orissa’s power sector reform, initiated in 1995, gave the original reform model for India.

4. The reform model involved corporatisation and privatization of electricity distribution as well as generation, keeping transmission under government control. Orissa's experiment has important lessons for power sector reform in the other states. The whole thing is still in an evolutionary stage
5. In the case of Orissa, the state's financial crunch and the conditionalities imposed by the World Bank for providing financial assistance to the state were the driving forces behind the reform. Most of the other states have similar compulsions.
6. *The unbundling and privatization create an altogether new situation and give rise to new problems. Orissa's experience indicates that the marriage of public and private sectors is not always compatible and easy, even though highly desirable.* The contractual relationships and dispute settlement mechanism need more refinement and the partners have also to learn to live harmoniously with each other.
7. The not so happy experiences of the private sector companies, which were involved in distribution in Orissa, have made *the private sector less enthusiastic and more cautious about taking up power distribution business in other states.* The hindrances to privatization should be carefully studied.
8. Politicians and bureaucrats have shown reluctance to let go their control over SEBs which have been a great source of rents for them.
9. Our examination of the actual operation of the Orissa model of reform has exposed certain weaknesses which need to be removed.

10. The creation of independent regulatory commissions at the Centre and in the states is the most significant development in the power sector.
11. *The commissions regulate tariffs and also lay down service standards. They scrutinize and probe the operations of the regulated entities, such as SEBs' T&D losses. They have been instrumental in bringing about transparency in decision-making through open-hearings and in disciplining the SEB authorities.*
12. The commissions are on a learning curve. The Indian socio-political ethos and the nature of the power sector's problem have a distinctiveness of their own. These are quite different from that in the U.K. and U.S.A. The Indian regulators have to evolve an approach suited to Indian conditions and problems. Their most significant contribution so far is to infuse a somewhat greater sense of responsibility among SEBs, for example, regarding T&D losses. No checks existed earlier.
13. *Regulation by itself is not enough as it cannot be a substitute for competition. Unfortunately, the present organizational structure of the Indian power industry is such that it shuts out competition. It is important to change the industry's organizational structure. This is a matter for the policy makers*
14. The *Electricity Bill 2000*, pending before Parliament, seeks to introduce greater competition and envisages far-reaching changes within a framework of a comprehensive national policy for the power sector. The Central Electricity Regulatory Commission (CERC) and

the State Electricity Regulatory Commissions (SERCs) do not at present form a cohesive system. They are functioning in an isolated manner. The Electricity Bill 2000 envisages a more cohesive system under the leadership of CERC and in the furtherance of a national power policy.

15. Privatization of publicly owned assets poses some peculiar problems in the Indian socio-economic environment. In the case of existing power generation and distribution facilities, it may be worth considering whether privatization has necessarily to take the form of transfer of ownership to the private party. The giving of *long-term management contracts or leases extending over 10 or 20 years could also be thought of as an alternative way of privatization. This could overcome some of the opposition to privatization of ownership in India.*

Domestic Capital Market's Role in Financing Infrastructure Development in India

16. *The financing arrangements for infrastructure development in India, despite some progress being made, remain on the whole grossly deficient and incapable of supporting any vibrant growth of infrastructure. Strong state initiative and support will be needed as market forces cannot be fully relied upon.*
17. For financing infrastructure development, the corporate bond market has special importance. The RBI has taken many measures over the last decade to create a foundation for the development of a bond market in India. The government bond market has been considerably activated but the *development of the corporate bond market has*

lagged far behind the needs.

18. It is often assumed that the existence of *contractual savings* institutions, like provident and pension funds and life insurance funds, would ensure a ready market for absorption of corporate bond issues. Indian experience clearly shows that this is *not a sufficient condition unless preceded by strong reforms of the capital market to ensure the necessary investor protection.*
19. The private-sector corporate bonds, whether for infrastructure or for other businesses, do not command high confidence among the investor community in India. Trade unions and trustees of employees' pension funds remain highly skeptical about the safety of private sector corporate bonds. That is why provident and pension funds in India have till now largely restricted their investments to government and semi-government instruments even though they are being urged by public authorities to invest in private-sector securities, including equities.
20. From the viewpoint of financing infrastructure projects, there is a further problem that the bulk of demand for corporate bonds in India is for relatively short maturities within 5 years or so only. Another problem is that of illiquidity of the corporate bond market.
21. Open-ended income or bond schemes are an alternative way of providing liquidity to investors but such schemes also need a liquid bond market to unload holdings in case of redemption pressure.

22. A recent feature of the Indian bond market is that private placement of bonds has come to dominate the market. Such private placements account for almost 90% of corporate bond issues. There are serious concerns about this at the top level of RBI.
23. The all-India development financial institutions (DFIs) have played an important role in financing India's industrial development till the early 1990s and now they have to play a leading role in financing infrastructure development. Their role in appraisal and monitoring of new projects is particularly critical. The commercial banks' role in this regard has traditionally been very limited.
24. The intensifying competition both for funds and for lending opportunities has made life difficult for the DFIs by squeezing their margins, given their higher cost of funds compared to that of banks. *Such competition is pushing the DFIs towards universal banks instead of continuing as DFIs. This may not necessarily be a good thing from the economy's viewpoint at our stage of development.*
25. The IDFC's role is more by way of providing intellectual leadership of a superb and innovative kind in the untried area of private investment in infrastructure projects. It has been providing such intellectual inputs both at the national policy level and at the micro-level of designing appropriate contracting instruments. Its direct role in financing is limited but very critical as a leverage for maximizing finance availability.

26. Ultimately, infrastructure financing will have to fall back on the availability of long-term contractual savings. However, it should be remembered that contractual savings institutions, which are repositories of *retirement funds*, *cannot be expected to take upon themselves the degree of risk often involved in new and untried infrastructure ventures during gestation period until the revenues of such ventures have stabilized. They have to play extremely safe*

27. From the viewpoint of a broader and integrated economic policy, it is suggested that the additions to power generation capacity should be viewed as an opportunity for greater utilization and encouragement of the domestic capabilities of power equipment manufacturing firms, like BHEL. This would have many advantages, including reduced dependence on foreign borrowing which normally accompanies large imports of equipment and contracting with foreign firms, like Enron.

I. THE CENTRAL ISSUE IN OVERCOMING THE SEBs’ DEEPENING FINANCIAL CRISIS AND SECURING POWER SECTOR’S DEVELOPMENT

Set right the SEBs’ fundamental ailment

- 1.1 The problem of financing infrastructure development in general and the power sector in particular has attracted considerable attention in India in recent years. The State Electricity Boards (SEBs) are profusely bleeding. Stopping such bleeding should be the top priority of policy. The problem is the consequence of the fundamental weaknesses in the SEBs’ organization and management. Unless we resolve the latter, the financial problem will not go away. No financial innovations can solve the managerial problems.

- 1.2 The Planning Commission has frankly stated that:

“Significant volumes of private investment cannot be attracted in an environment where the independent power producer is expected to sell power to a public sector distributor which may not be in a position to pay for the power purchased”.¹

Funds can be available provided....

- 1.3 According to Mr. Deepak Parekh, Chairman of IDFC, “Today there is no dearth of funds..... The number of private equity funds, international investors, multilaterals and commercial banks, willing to

¹ Planning Commission, *Draft Approach Paper to the Tenth Five Year plan* (May 2001) p.44.

invest in infrastructure investments is growing. We lack bankable projects.”² About three years ago also, at a national Seminar organized by the Society for Capital Market Research and Development at Mumbai, Mr. Nasser Munjee, now IDFC’s Managing Director and CEO, had pointed out that “the issue today for infrastructure is not so much the funding requirements. It is actually getting the projects off the ground”. He mentioned that the financial institutions had approved Rs.22,000 crore for infrastructure projects but had disbursed only about Rs. 6,000 crore because policy and other hurdles were not letting the projects to get off the ground.³

- 1.4 In general, the availability of private finance for any business, from any source, in any form, depends crucially on whether the business model is sound and whether the business can be expected to service the providers of finance. The State Electricity Boards (SEBs) in India are not able to pay their dues and have accumulated large arrears. Hence, the receivables due from SEBs are poor quality assets. Guarantees by state governments have not helped because several state governments have failed to honour the guarantee obligation. The states’ own fiscal situation has become alarming⁴. This has driven away many potential investors and lenders from providing investment

² IDFC *Annual Report 2000-2001*, p.7.

³ See Nasser Munjee, in L.C. Gupta (ed.), *India’s Financial Markets and Institutions* (SCMRD, Delhi, 1999), pp. 47-8.

⁴ See N.J. Kurian, “The States in Crisis”, in *Business Standard*, 31st August, 2001.

finance to generating companies meant for supplying power to SEBs. This problem has been worsening rapidly.

The Government's initial mistake

- 1.5 In the beginning of the 1990s, the Government of India believed that it had found a panacea for India's crippling power shortage in its scheme of Independent Power Producers (IPPs). However, a majority of the approved eight "fast track" IPP projects could not achieve financial closure even after 6-7 years because of the SEBs' continuing losses and their consequent inability to pay to the power suppliers. The Government's policy of inviting IPPs, initiated in 1991, made no attempt to reform SEBs. We are focusing on the power sector. The SEBs are part of the public sector. We are not discussing here the broader systemic problems which afflict the whole public sector.⁵
- 1.6 The top priority in the reform strategy for the power sector should, therefore, be to set right the SEBs' organization and management.

⁵ This is now well-recognized and aptly captured in the following words: "Over time, the state grew. It became inefficient and corrupt. It no longer played its role. In fact, it became a negative force. The state retarded the economy". (Bolivia's former President, cited by Robert Klitgaard in *Adjusting to Reality: Beyond State versus Market in Economic Development* (Tata McGraw-Hill, New Delhi, 1991), p.2.

Mr. Deepak Parekh, Chairman of IDFC, describes the Indian experience as follows:

"The consumer of services– the citizen, for whom the very existence of a governance framework is predicated – is almost always last in the pecking order..... Government has become self-seeking in their own right, taxing and bureaucratically constraining productive activity while at the same time refusing to cut their own waste." (IDFC *Annual Report, 2000-2001*, p.2)

- The SEBs' losses engulfing others**
- 1.7 Because of the difficulties experienced in realizing dues from SEBs, the generating companies, including the public-sector NTPC and the private-sector Tata Power Company are actively thinking of entering power distribution on their own. The NTPC has been hit badly.⁶ The Tata Power's *Annual Report 2000-2001* has expressed serious doubts about the efficacy of mechanisms such as escrows and letters of credit⁷.
- 1.8 In view of the above-mentioned problem, the Central Power Ministry has decided to allow flexibility in the original reform model of unbundling the SEBs. Instead of necessarily unbundling of SEBs into generation, transmission and distribution companies, the generators are now allowed to take up distribution and similarly distribution companies are allowed to take up generation.
- 1.9 As the traditional escrow mechanism is found to have failed to provide payment security, other mechanisms are being explored. One of such mechanisms is to make the lending to SEBs/ state

⁶ The SEBs' failure to pay dues is affecting the commercial operations of the NTPC. Its outstanding dues from SEBs as on August 1, 2001 stood at Rs. 19,129 crore. The Central Government's plan of one-time settlement of SEBs' dues meant that NTPC stands to lose Rs. 6,540 crore on account of the 60% surcharge waiver and incentive payments to SEBs, as per the Government's bail-out package. This has led NTPC to consider the possibility of taking up electricity distribution. The NTPC has also sent notices to Bihar, Madhya Pradesh and Uttar Pradesh which have failed to clear their outstandings amounting to Rs. 8,830 crore which accounts for as much as 50% of the NTPC's total outstanding dues. See *Financial Express*, September 28, 2001.

⁷ See Tata Power Company Limited, *Annual Report 2000-2001*, p.44.

governments conditional on attaining specified power reform milestones and requiring further fall-back security arrangement of dipping into the central devolution of funds to the state⁸. The root causes of the problem need to be attacked more directly.

Already too late

1.10 The steady deterioration in SEBs' financial condition over the 1990s is due to well-known reasons, viz., inefficiencies, leakages and indiscriminate extension of subsidies to agricultural users of power. As this problem is widely recognized, it does not require discussion here. The State Electricity Boards, far from yielding the 3% return on their net fixed assets, as stipulated by the Electricity Supply Act 1948, incurred a loss of 18.7% on their capital in 1998-99⁹.

1.11 Mr. Parekh has described the SEBs' real problem as follows:

“India's power sector is a leaking bucket; the holes deliberately crafted and the leaks carefully collected as economic rents by the various stakeholders that control the system. The logical thing would be to fix the bucket (first)... Most initiatives in the power sector (IPPs and Mega Power Projects) are nothing but ways of pouring more water into the bucket so that the consistency and quality of leaks are assured. Every Megawatt of power produced today produces losses. Roughly speaking about 60% of the power produced is billed and about 60% of that

⁸ See Power Trading Corporation of India Limited, *Annual Report 2000-2001*, p.18, and *Business Standard*, August 11, 2001, regarding Hirma Power Project.

⁹ Government of India, *Report of the Eleventh Finance Commission*, June, 2001, p.11

is collected. Can we honestly run a power system sustainably in this manner?”.¹⁰

The power industry’s structural weakness

1.12 The main contours of the new model for the power sector have been conceptualized in many recent writings, discussions and reports. *Central to the reform of SEBs is the reform of the power distribution to make it a financially viable operation in itself. The SEBs continue to have nearly 100% distribution under their control even today. This is creating all the problem.*

1.13 As almost the entire distribution network for electricity is under SEBs’ control, there is very little market space for independent generating companies, despite generation being short of demand. About 63% of the generating capacity is with SEBs, 32% with central power utilities¹¹ and only about 5% in the private sector. The problem for generating entities other than SEBs is that they can sell only to SEBs which are unable to pay.

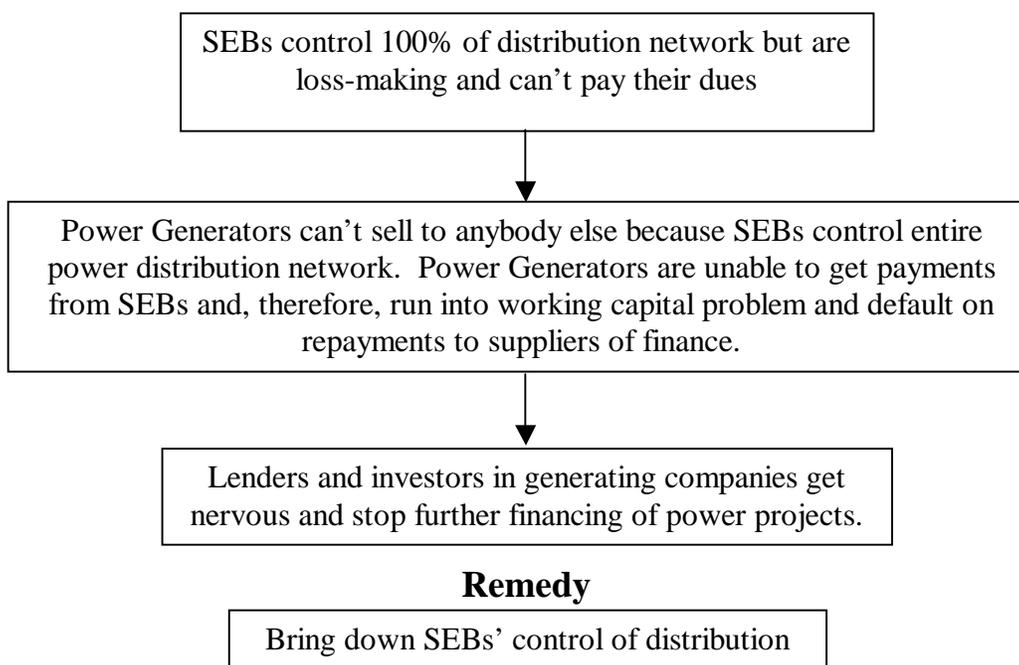
1.14 How the power sector’s present organizational structure has resulted in choking the whole supply line of finance to power generating entities is made clear by Chart 1.1

¹⁰ IDFC, *Fourth Annual Report, 2000-2001*, p.4.

¹¹ There is energy shortage of about 11% and peaking shortage of about 18% according to Dr. Uddesh Kohli, CMD of Power Finance Corporation Limited, a Central Government undertaking.

CHART 1.1

The Power Sector's Organizational Structure as the Stumbling Block



1.15 Among the reasons behind SEBs' losses are the very high transmission and distribution losses¹², most of which should be controllable provided there is political will.

1.16 *The organizational and managerial ailment of SEBs is at the root of both India's power shortage and SEBs' deepening financial crisis.* Our in-depth micro-level examination reveals that the financial problem of SEBs is the direct consequence of their fundamental organizational and management weaknesses. Unless these are resolved, the financial problem cannot be solved.

¹² The average T&D losses in India are reported to be around 26% but they seem to be under-reported by being disguised as power supplied for agricultural use.

The main “enabling condition” for power sector’s development

- 1.17 In the growing economic literature about infrastructure financing, a frequently made point is that, for attracting private investment in infrastructure sectors, governments must create “enabling conditions”. Such conditions usually refer to legal changes, capital market improvements, risk reduction, policy clarity and stability, etc. *In the unique situation of India, the most critical “enabling condition” for attracting private investment to the power sector is the reform of the organizational structure of the State Electricity Boards (SEBs).*
- 1.18 The financial condition of SEBs has reached a stage which requires “basically a bankruptcy workout”, as one observer puts it¹³. That this is the case is indicated by the fact that the Government of India had to work out a special bail out package for the SEBs because their overdues to NTPC, other central power utilities, railways, etc., had accumulated to more than Rs. 40,000 crore as of March 2001. SEBs are still continuing to lose and to default on their dues to generating companies, as media reports show. The one-time settlement of arrears has not solved the SEBs’ fundamental ailment. What is the guarantee that SEBs will not default again?

Can a Reconstruction Corporation for SEBs help?

- 1.19 If things do not improve quickly, the ultimate remedy may be to takeover bankrupt SEBs by creating a *Reconstruction Corporation for*

¹³ See N.K. Dubash and S.C. Rajan, “Power Politics: Process of Power Sector Reform in India,” *Economic and Political Weekly*, September 1, 2001, pp. 3367–90, specially p. 3378.

SEBs instead of bailing them out again and again. After taking them over, they should be restructured by immediately hiving off and corporatising their distribution business. Their power generation and transmission facilities may also be corporatised and run under the supervision of the proposed Reconstruction Corporation. However, all this may not be necessary if the *SEBs* are restructured, as discussed in the next section.

II. PRIVATISATION : A CASE STUDY OF ORISSA'S POWER SECTOR REFORM FROM A NATIONAL PERSPECTIVE

Forces driving the change

- 2.1 The first state to restructure its SEB was Orissa which initiated the process by passing the Orissa Electricity Reform Act 1995 and creating the Orissa Electricity Regulatory Commission. The reform became unavoidable because of the compulsions arising due to state's financial crunch and the conditionalities imposed by the World Bank for financial assistance offered to the state.¹ Factors driving the other states are similar. The Central Government is playing an active supporting role.

Resistance to change: uneasy balance

- 2.2 The resistance to change comes mainly from local politicians who would not like to lose their control over SEBs which, from all accounts, have been an immense source of rents to them. Witness the following observation about Orissa:

“The impending loss of control over the electrical engineering cadre and of a cherished fiefdom were perhaps the most important considerations among the decision makers. Even today, several years down the road of reform, these questions still haunt certain sections of bureaucracy and government. There is

¹ For the role played by the World Bank in the Orissa's power sector reform and a very comprehensive examination of India's power sector's problem in a historical perspective, see N.K. Dubash and S.C. Rajan, “Power Politics: Process of Power Sector Reform in India”, in *Economic and Political Weekly*, September 1, 2001, pp.3367-3390.

much talk about amending the reform act to make the OERC (Orissa Electricity Regulatory Commission) and the privatized companies 'more accountable to the people'.²

- 2.3 Another source of resistance is the staff of SEBs, as illustrated by the SEB employees' strike in Uttar Pradesh about a year ago in protest against the move towards unbundling of the SEB³.

Slow progress

- 2.4 Several states have committed to reforms by entering into MoU with the Central Government (see Chart 2.1) but the actual implementation has been slow. The MoU tries to push the states towards the reform process of unbundling of transmission and distribution, privatizing of distribution in a time-bound manner, electrification of villages, energy audit to check theft at all levels and providing full support to the State Electricity Regulatory Commissions. The experience shows that such support has not been forthcoming from many state governments. Privatization of distribution in the entire state has been achieved in Orissa only.

² See M.Y. Rao's paper entitled "Political and Bureaucratic Hurdles in Reform and Restructuring the Electricity Sector" in *Indian Infrastructure Report 2001: Issues in Regulation and Market Structure*, prepared under IDFC's initiative (Oxford University Press, New Delhi, 2001, pp.71-3).

³ See Anjula Gurtoo and Rahul Pandey, "Power Sector in Uttar Pradesh: Past problems and Initial Phase of Reforms," in *Economic and Political Weekly*, August 4, 2001, pp. 2943-53.

Chart-2.1
STATUS OF POWER SECTOR REFORMS IN STATES

Parameter	SEB Restructuring	Constitution of SERC	Commercialization of Distribution	MoU with Central Government
Andhra Pradesh	√	√	Strategy being finalised	–
Assam	–	–	–	–
Bihar	–	–	–	–
Chattisgarh	–	–	–	–
Delhi	√	√	Committed – proposal to be done during 2001	–
Goa	–	–	–	–
Gujarat	Reform law approved by GOI	√	Strategy being finalised	√
Haryana	√	√	Strategy being finalised	√
Himachal Pradesh	–	√	–	–
J & K	–	–	–	–
Jharkhand	–	–	–	–
Karnataka	√	√	To be completed by Dec 2002	√
Kerala	The state has proposed to reorganize SEB in three profit centers			
Madhya Pradesh	Reform law passed in Assembly	√	–	–
Maharashtra	–	√	√	–
Orissa	√	√	√	–
Punjab	–	Notified; yet to be constituted	–	–
Rajasthan	√	√	Committed	–
Tamil Nadu	–	√	–	–
Uttar Pradesh	√	√	Strategy being finalised	√
Uttranchal	–	–	–	–
West Bengal	–	√	√	–
North Eastern	Willing to constitute joint Electricity Regulatory Commission			

Source: IDFC *Annual Report* 2000-2001, p.9. The original source, as cited by IDFC, is CII Media Release on SEB Ratings on Reforms.

Logic of unbundling: a profit centre approach

- 2.5 The unbundling of SEBs is nothing but the application of the well-tried managerial concept of organizing commercial activities by profit centres and cost centres in order to ensure a better sense of accountability at all levels and in all processes. Once a SEB is broken up into separate entities, the boundary lines for income and expenditure become clear. Each offspring of unbundling is a separate accounting entity in the commercial sense and has to report its profit/loss separately. The costing will be more exact at each stage. Also, as each entity has to compute its profit/loss, there will be greater incentive for efficiency and for instituting effective internal control systems.

New equations and adjustments required

- 2.6 When you unbundle a vertically integrated organization into separate operating units, it becomes necessary to use market prices and contractual relationships among the units. Some initial difficulties in operating the unbundled system arise because of inexperience in designing and operating legal relationships among the resulting new entities.

Orissa's original reform model

- 2.7 The original model of reform evolved in Orissa, called the Orissa model, has been in operation for about three years. It is the only instance so far of complete "unbundling" of any SEB in India.
- 2.8 The main features of the Orissa's reform model were:

- (a) Unbundling and corporatisation of generation, transmission and distribution;
- (b) Private sector participation in generation and distribution stages; and
- (c) Establishment of an autonomous electricity regulatory commission to regulate tariffs, grant licenses and nudge the power sector towards greater efficiency.

2.9 Actual unbundling of the Orissa State Electricity Board created two generating companies respectively for hydro and thermal power, viz. Orissa Hydro Power Corporation (OHPC) and Orissa Power Generation Company (OPGC), one transmission company called Grid Corporation of Orissa (Gridco) and four distribution companies by dividing the state into four zones for the purpose.

2.10 The Orissa scheme privatized generation and distribution using joint venture form but kept transmission (Gridco) wholly under government ownership and control. In generation, a minority stake of 49% equity capital of the thermal generation company (OPGC) was sold to the private-sector company AES (a well-known foreign power company) for Rs. 603 crore paid to the state government. Also, AES was given the right of managing OPGC and appointing its CEO.

2.11 In distribution, a majority stake of 51% equity of each distribution company was sold to the private sector participant who was given the management control of the respective company. The private-sector

partner in three distribution zones was BSES (a well-known Indian power company) and in one zone, it was AES. The state government received Rs.250 crore for all the distribution zones.

Post-unbundling problems and disputes

- 2.12 The state-owned transmission company Gridco is reported to have annually incurred heavy losses, totaling to Rs1171 crore upto 1999-2000. A criticism of Orissa's scheme is that the annual losses of the state-owned Gridco are now higher than the earlier losses of the Orissa SEB. This raises the question why the drain on the state exchequer has not stopped after privatization⁴
- 2.13 In June 2001, the state government appointed a 6-member committee to review the power reforms and examine whether they were proceeding on the right lines.
- 2.14 The privatized distribution companies also have grievances as they are incurring losses. Their grouse is that transmission and distribution losses are much more than what they were told in the Information Memorandum at the time of bidding. Similarly, the investment requirement for metering and bill collection also exceeds the original estimates. It is also reported that the state government and the police are not providing full support in bill collection. Some consumers, in collusion with the police and politicians, are reported to create law and order problems. The police might arrest the distribution company

⁴ Prabir Purkayastha, "Power Sector Policies and the New Electricity Bill: From Crisis to Disaster," in *Economic and Political Weekly*, June 23,2001, p.2259

employee rather than the defaulting consumer. A public relations problem is involved for the distribution company.

2.15 Mr. R.V. Shahi, CMD of BSES, which had three distribution companies under its charge in Orissa, has narrated his experiences as follows:

The first step for the new distribution companies was to find out the status of assets and metering. In every state there is a horror story hidden out here. And the success of installing electricity meters and recording/ billing of electricity consumption is going to determine the success of these companies. BSES discovered that 65-70% consumers in its distribution zone either did not have meters or had meters that did not function.

The second step is to ascertain what is the extent of distribution losses. BSES found that the losses were in excess of what was said in the bid documents.

This can result in other pitfalls. The foremost is the risk that the company gets embroiled in a PR controversy – a private distribution company engaged in collecting more revenues. There cannot be better fodder for disgruntled politicians to hog some limelight⁵.

2.16 The seemingly neat plan of power reform in Orissa, as described earlier, ran into serious disputes recently. The foreign private partner AES has walked out. Through its management control of the generating company (OPGC), it unilaterally shut down power supply to Gridco which had failed to pay OPGC's dues. This was the chain

⁵ India Infoline, 16 May, 2001.

effect of Gridco not receiving payment from AES-controlled distribution company. The High Court's intervention was sought by Gridco for restoring electricity supply by OPGC. Following the court's interim order, OPGC resumed power supply but the dispute continues.

2.17 As mentioned earlier, unbundling breaks up a single vertically-integrated entity into independent parts which have to work under new contractual relationships instead of informal internal arrangements within the SEB. The fact that the dispute among the various entities, created out of the SEB, could be so disruptive and could not be settled through arbitration or through the intervention of the State Electricity Regulatory Commission shows serious imperfections in the arrangements in Orissa. In an essential public utility like electricity, it is important to ensure that, even if there be disputes among contracting parties, nobody should be allowed to disrupt the service. There are lessons for streamlining of bidding documents and contractual terms among the restructured entities.

A structural fault of Indian power industry

2.18 The Orissa model is a **“single-buyer” model** and provides no room for competition. A competitive model implies that both generating and distribution companies should be given open-access to transmission facilities. This means that the transmission company should operate like a public carrier receiving wheeling charges for providing transmission facility. The Orissa model had Gridco as the transmission company but its role does not seem to have been

properly conceived. There was neither provision for competition nor for open access to its transmission lines by generating and distribution entities on wheeling cost basis. From the media reports, it appears that Gridco's buying price for power from OPGC was higher than its selling price to the distribution companies and that it was buying/selling as principal and hence incurred losses. This would not have happened if it had functioned strictly as a transmission company on wheeling cost basis.

- 2.19 The experiences of distribution companies in Orissa have reduced the private-sector's enthusiasm for taking up distribution business in other states. It is reported that there are no private-sector bidders for the Kanpur Electricity Supply Authority created by the U.P. Government with the intention of privatizing distribution. Bidders for distribution have become more cautious about ground-level facts in the distribution areas before committing themselves.

Privatization through long-period management contracts

- 2.20 The socio-political situation in India is such that unlike U.K., for instance, the public's confidence in the integrity of the government mechanism is rather low. This itself creates doubts among many sections of the people whenever publicly-owned assets are privatized. Considerable opposition to privatization of SEBs has arisen on two counts. These are related to the very process of privatization which necessarily involves revaluation of assets because the book values would usually be far below the market values today.

2.21 One is the frequent accusation that assets have been gifted away at far below their current value. The other is a more real problem. When assets are sold to the private operator at the current market value, the operator will take such capital cost into account in pricing the service. The regulatory commissions will have to allow this as the fixed element of the cost of electricity. Hence, privatization will result in raising the tariff substantially. This can make privatization unpopular.⁶

2.22 In order to avoid these kinds of problems, an alternative worth considering is to privatize only the management without transfer of asset ownership by giving long-term, say, 10-year or even 20-year management contracts or leases through public bids. This would be something on the lines of concession agreements with suitable terms

⁶ See Prabir Purkayastha, "Power Sector Policies and New Electricity Bill: From Crisis to Disaster", in *Economic and Political Weekly*, 23rd June, 2001, pp.2257-62, specially p. 2259. The author observes:

"As the private capital is loath to invest in new plants, they are being encouraged to invest in existing public assets built with people's money. What the policymakers are hiding from the people is that the current restructuring will push up the cost of electricity even further."

The reason given by the author is that since it is politically difficult to transfer existing assets at book value, these will have to be revalued at market prices. Even though the consumers have already paid earlier for the capital cost through their electricity bills, the revaluation will make them pay again and also hike the tariff considerably. Similar kind of criticism has been made by Anjula Gurtoo and Rahul Pandey regarding privatization attempt made in Uttar Pradesh. Authors accuse the UP Government that it is attempting to make the unbundled entities of UPSEB look attractive to prospective private bidders in various ways, including under valuation of assets. See their article, "Power Sector in Uttar Pradesh", in *Economic and Political Weekly*, 4th August, 2001, pp.2943-53, specially p.2953

and conditions. Such agreements are likely to face less opposition and will involve less delay than transfer of ownership.

Electricity Regulatory Commissions and their tasks

2.23 An interesting and significant part of the power sector reform in Orissa was the creation of an independent electricity regulatory commission, with power to issue licenses and regulate electricity tariffs. Soon thereafter, the idea was accepted by the Central Government and the Parliament enacted the Electricity Regulatory Commissions Act in 1998, providing for the creation of the Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs). However, this did not touch the SEBs' organizational structure.

2.24 The CERC has direct jurisdiction over central power generating units and other mega units supplying power to several states as well as over inter-state transmission utilities, while SERCs' have jurisdiction over generation, transmission and distribution within the respective states. The creation of these commissions has been a big and bold step forward. These commissions have a wide mandate over substantive matters, like licensing, tariffs and laying down the service standards, resulting in de-politicisation of decision-making in these matters.

2.25 The commissions have hardly any precedents to go by but only some very broad objectives for general guidance. Moreover, experiences of other countries, like U.S. and U.K., may not be applicable to the

Indian situation because of vastly different socio-political environment and history and the nature of problems being faced. This is made clear by the remarks about why the U.K. regulators evolved their distinctive approach:

“To understand why, one must examine the nature of the British political and legal systems. Regulation U.K-style has always been an uncertain art. But there is one thing it is not– legalistic. For a variety of reasons, the U.K. parliament is prepared to delegate considerable responsibility and authority to the new regulators. The consequence is that much of what passes as regulation in the U.K. is informal and ill-defined, an amorphous system which to the American eye looks distinctly undemocratic and elitist. The difference reflects in part the British view of the state and its relationship to the citizen. The British do not in general see government as trampling individual rights, nor do they fear the exercise of discretion by public officials. Quite the opposite. The Government on the whole is seen as honest and well-intentioned and public officials are seen as politically neutral,”⁷

2.26 The Indian situation is different from both U.K. and U.S. in respect of the socio-political ethos and the kind of problems also. The Indian electricity regulatory commissions have a great deal of flexibility to evolve the best-suited approach in our circumstances. They are in an early stage of evolution.

2.27 For example, in India the problem of high T&D losses and theft of power looms large and it has not yet been possible to control it. The

⁷ See Cento G. Veljanovski “Privatisation’s Bureaucracy” in *Institutional Investor* (Forum: Utilities in Transition), November, 1991, p.17.

theft of power is reported to cause a loss of around Rs.25,000 crore per year for India as a whole. The elimination of this loss can change the entire fortunes of the Indian power industry.

2.28 The creation of the commissions has helped to make a beginning in attacking the problem. The commissions insist on the pertinent facts being brought out. They also hold open hearings. A SEB cannot now raise tariff by administrative fiat but has to justify it by submitting a petition to the regulatory commission. The commissions in several states have been questioning SEBs about the high T&D losses. This will put pressure on them to bring down such losses. There were no such checks and no accountability of this kind in the SEBs till now. However, the impact is not yet visible and will take some years to be felt.

2.29 The Electricity Bill 2000 seeks to bring about cohesion among CERC and SERCs in furtherance of a national power policy. For example, the Bill provides that the SERCs shall specify the terms and conditions for the determination of tariff and, in doing so, shall be guided by the principles and methodologies specified by the CERC. The Bill has also laid down certain other guiding considerations for all the commissions.

The Commissions and the Government

2.30 What the commissions need is greater support from the government side. As the government controls the administrative and other

facilities which the commissions need, some dissatisfaction has been aired from the side of the commissions. There is mention of pinpricks, like withholding facilities and staff as if to make the commissions subservient to the government.

Competition in Indian power industry

- 2.31 The Electricity Bill 2000, pending before Parliament, seeks to introduce greater competition and envisages far-reaching changes within a framework of a comprehensive national policy for the power sector. Among the tenets of such policy is the promotion of competition.
- 2.32 Regulation is a poor surrogate for competition. The present structure of Indian power industry is such that competition is nearly impossible even though the regulatory commissions have been charged with the responsibility of encouraging competition. The commissions have no power to change the structure of industry. This can be done only through appropriate government policy.

III. DOMESTIC CAPITAL MARKET'S ROLE IN FINANCING INFRASTRUCTURE DEVELOPMENT IN INDIA

Laying the foundation for a bond market

- 3.1 For financing infrastructure projects, bond market is particularly important. The development of India's bond market is still lagging far behind the needs of the economy. The problem has acquired urgency in the context of financing infrastructure development.

- 3.2 The undeveloped character of the Indian bond market, including both government bonds and private-sector corporate bonds, has been a subject of much discussion since long. The corporate bond market's development is linked to that of the government bond market because only the latter can provide the bench-mark yield curve. The gilt-edged market is the basis and pace-setter for all other interest rates. That is why a pre-requisite for the development of a corporate bond market is the existence of a yield curve for treasury securities. Even the yield curve for gilts was not available till recently because there was no active trading in these.

- 3.3 Active trading in government bonds had been impeded because such bonds used to be issued at less than market rates of yield. This was made possible because of the captive nature of the market till early 1990s. The market comprised banks, LIC, GIC, provident funds, etc., all of which were statutorily required to hold high levels of government bonds. Other investors had no interest in government

bonds. The amount of government bond issues was limited to what these captive institutions could absorb. The bonds were held passively in their portfolios.

3.4 The Sukhamoy Chakravarty Committee (1985) was the first to recognize the problem. It made the far-reaching recommendation that the *government borrowing should follow the principle of market-related rates and that it should offer to investors a real yield of 1-3% depending on maturity.*¹ This recommendation was implemented in 1992-93² and continues to guide the policymakers today. As a result, the entire edifice of administered interest rates, which characterized the Indian financial system till early 1990s, was gradually dismantled over the 1990s.

3.5 Many more things had to be done for building an active secondary market in bonds, including the creation of a trading mechanism. The RBI has been actively working in this direction and much has been done in the last few years. Among the measures taken was the RBI's decision to tap the retail segment for selling government bonds in the indirect form of dedicated gilt funds. Such funds are matched by pure debt schemes, also called income schemes, of mutual funds which invest mainly in corporate bonds. According to the data provided by the Association of Mutual Funds of India, the total assets held in Gilt funds amounted to only

¹ See *Report of the Committee to Review the Working of the Monetary System* (Reserve Bank of India, 1985). Professor Sukhamoy Chakravarty was the committee's Chairman. See specially pp. 154 (para 9.46), 160 (para 9.64) and 177 (para 10.15) of the Report.

² The RBI *Report on Currency and Finance 1992-93*, Vol. I, p-237

Rs. 3415 crore (i.e. less than 4%) out of Rs. 91,811 crore total assets of the Indian mutual fund industry as on 30th September, 2001. Pure debt or income funds accounted for Rs. 51,359 crore or more than one half of the industry's total assets.

- 3.6 Other developmental measures include the creation of a system of Primary Dealers, elongation of maturities, and adoption of a strategy of consolidation of government debt by reissuing existing securities and aligning coupon payment dates in order to deepen liquidity in key bench-mark securities. More recently, the RBI has set up the Clearing Corporation of India to clear money, government securities and foreign exchange markets.³

The corporate bond market

- 3.7 A foundation has been laid on which the corporate bond market can be built. Since costs of infrastructure projects are mostly domestic costs, the attempt should be to harness domestic financing to the maximum possible extent. This depends, of course, on the financing capacity of the domestic capital market.
- 3.8 Building and harnessing contractual savings, such as insurance, provident and pension funds is often suggested as important in this connection. The assumption is that such funds can provide a ready market for long-term bonds of infrastructure companies. Presenting the international experiences, a World Bank-sponsored study reached the following conclusion:

³ See *RBI Annual Report 2000-2001*, pp. 181-86.

“.....A **key ingredient** in the development for domestic financial markets in the developing countries... has been the establishment of vehicles for contractual savings, and a network of institutional investors who manage such savings”⁴
(Emphasis added)

Placing the cart before the horse

3.9 Indian experience suggests that the “key ingredient” is not the same as mentioned above and that the *foremost requirement is capital market reform focused on investor protection*. We are emphasizing this because the capital market reforms in India have not yet been able to create the level of investor confidence needed. Without this condition being satisfied, contractual savings pools, even when they exist, would not be forthcoming to invest in private corporate securities, including bonds; and, if they do so, they may jeopardise the interest of their beneficiaries. Asking the trustees of retirement funds to invest in private corporate securities without first reforming the market is like placing the cart before the horse.

3.10 India already has fairly large annual accretions to the pool of contractual savings in employees’ provident funds and life insurance. Most of this has been invested in government and semi-government instruments. The key questions that we should be asking are: “Why the trustees of the employees’ provident/pension funds are loathe to invest in private-sector securities, including

⁴ See Anjali Kumar, R. David Gray, Mangesh Hoskote, Stephen von Klaudy and Jeff Ruster, *Mobilising Domestic Capital Markets for Infrastructure Financing: Experiences and Lessons for China* (World Bank, 1997), p.22.

investment-grade bonds? Why household savers in India continue to have strong preference for bank-fixed deposits and government saving schemes rather than higher-yielding private corporate bonds?”

Other hurdles to corporate bond market's development

3.11 There are other reasons too why the corporate bond market has not developed. These lie partly in the imperfections of the bond market's trading mechanism itself and partly in the weaknesses at the level of corporate governance of Indian enterprises, most of which remain tightly controlled by families.

3.12 The incidence of malpractices both with regard to trading of securities and with regard to corporate management remains high. Misgovernance is reflected in sickness of many corporates. This does not give assurance of long-term survival and health of private corporates. A prominent and peculiar feature of private-sector enterprises in India is that family divisions and feuds lead to division of the original enterprises, each part being handed over to a family faction. For this reason, strong companies do not remain strong for long.

Half-hearted reforms

3.13 There have been some reforms of the market and the enterprise system but these are half-hearted attempts, leaning generally in favour of business interests rather than outside investors. India has

not achieved an adequate level of protection of outside investors in corporates. The Indian situation remains somewhat similar to that described in a recent World Bank sponsored research study, *Ownership Structure and the Temptation to Loot*. The study found “evidence for static asset stripping, but also for what Akerlof and Romer call looting—borrowing heavily with no intent to repay and using the loans for private purposes”⁵.

Bond Safety versus Liquidity

3.14 A typical bond buyer in India is a risk-averse “buy-and-hold” type of long-term investor and is concerned with the bond’s safety over the whole holding period. The corporate bondholders’ actual experiences have been frequently unhappy, eroding their confidence in private-sector company bonds. The incidence of defaults by bond issuing companies has been relatively high.⁶ There are trustees for bondholders but they have not discharged their duties towards the bondholders, as they should.⁷ The legal protection to the contractual rights of creditors has also been weak. The high NPAs of banks and financial institutions are attributed to the same kind of factors.

3.15 Our surveys of investors have brought out that for the ordinary investors, safety comes first, and liquidity only next. It is

⁵ Robert Cull, Jana Matesova and Mary Shirley, *Ownership Structure and the Temptation to Loot*, (World Bank, March 2001).

⁶ See L.C. Gupta, C.P. Gupta and Naveen Jain, *Indian Households’ Investment Preferences* (Society for Capital Market Research and Development, Delhi, 2001), pp. 37-45.

⁷ See M.G. Bhide, “Debenture Trustees in Default,” in L.C. Gupta (ed.), *India’s Financial Markets and Institutions* (Society for Capital market Research and Development, Delhi 1999), pp. 57-63.

noteworthy that the bonds of IDBI, ICICI and public-sector undertakings have been popular despite not being traded actively and not being liquid. A large number of investors seem to treat such bonds like savings certificates, intending to hold them till maturity.

“Customised” bond schemes

- 3.16 At the same time, it is also true that provision of some liquidity to bonds makes them more attractive to investors. That is why large bond issuers, like IDBI and ICICI designed their bonds to allow “put options”, “easy exit” facility, loan facility, and a variety of options regarding how much of bond interest and repayment of capital is to be made at what point or points of time. The idea was to attract more investors by allowing them to choose the type which fits each person’s cash flow needs best.
- 3.17 The direct provision of liquidity to investors through a variety of bond designs, as mentioned above, helped to expand the demand for bonds among households but it was not a good solution from the viewpoint of bond market’s over-all development, nor from that of the bond issuer and the bondholder. It puts the burden of providing liquidity on the bond issuer itself and makes the task of asset-liability-management more complicated. From the bondholder’s angle, if the bonds have a liquid market, the bondholder can manage the cash needs, including unforeseen needs, far more efficiently through sales/purchases on the market as and when necessary.

A fragmented bond market

- 3.18 What we have in India at present is a highly fragmented and illiquid corporate bond market because of the immense variety of bond schemes. The only way to create a deeper bond market is to have just a few standard types of bonds. For example, if all Triple-A rated bonds could be considered by investors as inter-changeable bonds, constituting a single large pool of equally good bonds, it would greatly facilitate the creation of a more deep and liquid market for bonds than is the case now.⁸
- 3.19 Open-ended income or bond schemes of mutual funds are an alternative way of providing liquidity to the investors against bond investment. However, since open-ended schemes have to stand ready to repay the investor any time, the scheme would need a liquid bond market or at least a temporary borrowing facility. Only a liquid bond market can realize the full potential of the bond market for mobilizing savings for infrastructure investment. It would reduce the yield required to attract investors.

Investors' demand for short maturities only

- 3.20 We may also note that the bulk of demand for corporate bonds is for relatively short maturities. There is not much demand among investors for bonds having maturity of over 5 years. Further, floating rate bonds are not popular in India. For both these reasons,

⁸ For quick over-all view of Indian bond market's development, see Shanti Ekambaram, "Miles to Go", in L.C.Gupta (ed.), *India's Financial Markets and Institutions* (Society for Capital Market Research and Development, Delhi, 1999), pp. 215-22.

the retail segment of the bond market cannot be a significant direct source of long-term debt finance for tenures of over 5 years.

Contractual savings vs. mutual funds

3.21 Contractual savings institutions, like insurance and pension funds, are repositories of long-term savings and could therefore help infrastructure financing much more than mutual funds or individual investors. At the same time, it should be emphasized that, as *contractual savings represent the retirement funds of people, the safety of their investment should receive far more emphasis* than in the case of mutual funds.

3.22 As the financing requirements of infrastructure development are often for terms far exceeding 5 years or even 10 years, India's bond market at its present stage of development is unable to provide such long-term funds. Both commercial banks and financial institutions (whose bond issues are mostly for terms upto 5 years because of put option) face asset-liability mismatch.

“Take-out” financing

3.23 Given this situation, the IDFC has particularly tried to involve commercial banks in infrastructure financing as the banks are flush with funds but the problem is that their time-horizon is rather short. The solution evolved by the IDFC is through ‘take-out’ financing under which the banks take up the earlier maturities while the IDFC takes up the later ones. These are stop-gap arrangements till we are able to develop a market for long-term corporate bonds.

Private placement of bonds

3.24 A relatively recent development in the Indian bond market is a spectacular rise of private placement of bonds. This development has both positive and negative features and needs to be carefully guided on sound lines. As against annual raising of around Rs. 4000-5000 crore through public issues of corporate bonds in recent years, annual raising through private placements of corporate bonds has been of the order of Rs 55,000-60,000 crore currently. In other words, bond private placements account for as much as 90% of all corporate bond issues.

3.25 There are serious concerns about such private placements because of certain unhealthy practices and lack of transparency. Many of such issues are unrated. The RBI Governor, Dr. Bimal Jalan, in his mid-term review of monetary policy on September 22, 2001, drew pointed attention to this problem in the following words:

“ It has been observed that, of the investments by banks, a significant proportion of the banks’ investments in non-SLR securities is through the private placement route. The non-transparent practices in this market could be a matter of concern. RBI had accordingly issued guidelines in June 2001 regarding the due diligence to be undertaken, the disclosures to be obtained and the credit risk analysis to be made in regard to privately placed investments especially for unrated instruments. Banks have been advised to adopt an internal system of rating for issues of non-borrowers, whether rated or otherwise, and adopt prudential limits to mitigate adverse impact of concentration and illiquidity..... A further review of non-SLR investments in the light of recent

developments reveals that the ease of mobilizing funds through privately placed debt issues could lead to the use of such funds for risky purposes other than what is disclosed in the offer document.”⁹

3.26 The problem is not limited to banks because such private placements are being made with many other institutions, including mutual funds and provident funds. In order to curb the menace, the Companies Act was amended in December 2000 to insert a new provision restricting private placements to a maximum number of 49 persons and that if this number is exceeded, the issue shall be deemed a public offer and would come under SEBI purview. Only the private placements by public financial institutions and non-banking financial companies are exempted from the restriction mentioned above. However, there exist serious doubts whether the new legal provisions are being observed in practice¹⁰

Concept of ‘Qualified Institutional Buyers’ needed

3.27 The Indian private placement market is not well-conceived in terms of its regulatory framework. It will be useful to consider the creation of a facility in India, similar to that under the U.S. Securities and Exchange Commission Rule 144A which permits qualified institutional buyers (QIBs) of securities to trade among themselves under certain safeguards.

⁹ As reported in *The Economic Times*, 23 October, 2001.

¹⁰ See *Times of India*, 16th August, 2001.

Concluding observations

- 3.28 The all-India development financial institutions (DFIs) have played an important role in financing India's industrial developments till the early 1990s and now they have to play a leading role in financing infrastructure development. Their role in appraisal and monitoring of new projects is particularly critical. The commercial banks' role in this regard has traditionally been very limited.
- 3.29 The funding of DFIs from government sources and RBI has been withdrawn in the pursuit of the policy of making them market-oriented. However, they are allowed to issue the so-called "tax-saving infrastructure bonds". The tax concession has the effect of reducing the interest cost of these bonds for the issuing institutions and has made the bonds enormously popular among household investors. As the tenure of these bonds is short, the institutions are still constrained by the asset-liability mismatch problem in providing the kind of long-term finance which infrastructure projects need. These bonds have a lock-in period of just three years. The exposure limits prescribed for the DFIs by the RBI limits their role in infrastructure development because many projects are of huge size, like the Enron-promoted Dabhol Power Company.
- 3.30 After the withdrawal of government funding of the DFIs, these institutions have to depend heavily on mobilizing funds from the capital market through bond issues without government guarantees. This has transformed them into true financial intermediaries. They used to be criticized earlier for not mobilizing savings but only

channelling government funds. In the new role, they had the advantage of enjoying the status of public financial institutions and, therefore, a far better image among investors in the bond market compared to private-sector bond issuing companies. The sharp difference in the ordinary investors' attitude towards DFI bonds and private-sector bonds is revealed by Chart 3.1 based on a survey carried out in late 1997.¹¹ Whereas 80% of investors perceived DFI bonds as safe, the corresponding figure for private sector bonds was only 15%.

3.31 The intensifying competition both for funds and for lending opportunities has made life difficult for the DFIs by squeezing their margins, given their higher cost of funds compared to that of banks. Such competition is pushing the DFIs towards universal banks instead of continuing as DFIs. This may not necessarily be a good thing from the economy's viewpoint at our stage of development.

3.32 The financial problem of the DFIs can be mitigated to some extent by asset-securitisation in which a beginning has been made in India but its wider adoption needs special legislation which is under the consideration of the Central Government. This will still leave the tenure problem (i.e. the period for which they can lend) unsolved.

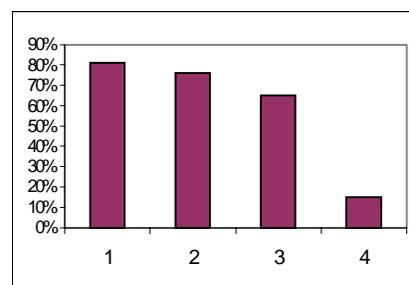
¹¹ See L.C. Gupta, C.P. Gupta and Naveen Jain, *Indian Households' Investment Preferences with Special Reference to Debt Market Instruments* (Society for Capital Market Research and Development, Delhi, 2001), p.17.

CHART 3.1

(a) SAFETY PERCEPTIONS

Percentage of respondents who regarded the particular category of bonds as safe

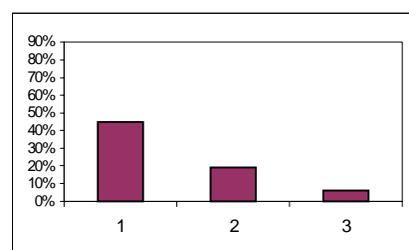
(1) IDBI bonds	81%
(2) Other DFI bonds	76%
(3) PSU bonds	65%
(4) Private-sector company bonds	15%



(b) FUTURE INVESTMENT INTENTIONS

Percentage of respondents who intended to invest in the particular category of bonds in the next 12 months

(1) DFI bonds	45%
(2) PSU bonds	19%
(3) Private-sector company bonds	6%

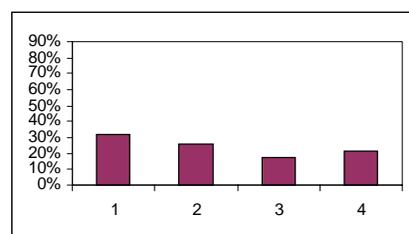


(c) PRESENT MARKET PENETRATION OF BONDS

Percentage of respondents who held bonds at the time of the survey

(1) IDBI bonds	31.4%
(2) Other DFI bonds	25.4%
All DFI bonds, i.e. (1) and/or (2)	39.5%
(3) PSU bonds	17.2%
(4) Private-sector company bonds	21.6%

*All the above categories of bonds 54.7%



* Double counting of those holding two or more bond categories is excluded when sub-categories are combined to form a broader category.

- 3.33 Ultimately, infrastructure financing will have to fall back on the availability of long-term contractual savings. However, it should be remembered that contractual savings institutions, which are repositories of retirement funds, cannot be expected to take upon themselves the degree of risk often involved in new and untried infrastructure ventures during gestation period until the revenues of such ventures have stabilized. They have to play extremely safe.
- 3.34 Admittedly, techniques are now available for separating the risk-taking and financing functions. The policy issue is: who will perform the risk-taking function? In the developed countries in their early stage of development, this function was often performed by the government in one way or another in the case large infrastructure projects which had significant external economies.¹²
- 3.35 It seems to us too early for India, at the present stage of its development, to forsake the idea of development banking by not providing to the DFIs greater access to long-term funds at reasonable cost, such as by linking them to some long-term pools of savings.
- 3.36 While risks can be transferred from, say, A to B, there is no escape from risks for the society as a whole. If every person and every institution becomes risk-averse, how will rapid development occur?

¹² For many examples of government's role in the developed countries, see Anjali Kumar and others, *Mobilising Domestic Capital Markets for Infrastructure Financing: Experiences and Lessons for China* (World Bank, 1997).

The banking authorities have to make careful choice of the most appropriate architecture for our financial system at the present stage of our development.

3.37 The so-called *moral-hazard* problem has often been cited in current discussions as an important consideration to guide policymakers. This view has come to dominate theoretical literature in recent years in the U.S. *after* its financial system had matured and it had become an advanced industrial nation. This argument was not heard of much in the U.S. in the earlier period of its industrial history. The saying is that “the U.S. industrial development was so rapid in the late 19th century and early 20th century because its banking system was so bad!” This is not to suggest that we should be reckless but a proper balance has to be struck, keeping a long term vision before us.

3.38 The IDFC has demonstrated its usefulness in providing intellectual leadership of a superb quality, ranging over the whole area of infrastructure development. It has defined its mission as that of *leading private capital to commercially viable infrastructure projects*. The harnessing of private initiative and investment for infrastructure sectors is an untried area requiring careful designing of the ‘software’ part of development, i.e. policies at the national level and contracting instruments or designs at the micro-level. Its own direct role in financing of infrastructure development is at present limited.

- 3.39 We would like to conclude by drawing attention to an important general point to set a broader and *integrated economic policy vision* for the country's development in the context of the power sector's development. *The dire need for adding to power generation should be viewed as an opportunity for greater utilization and encouragement of the domestic capabilities of power equipment manufacturing firms, like BHEL.* This would have many advantages, including reduced dependence on foreign borrowing which normally accompanies large imports of equipment and contracting with foreign firms, like Enron.
- 3.40 The history of today's developed nations provides examples of how their governments strongly backed their own industry and continue to do so today in various ways available to them. The examples include mechanisms like the U.S. Exim Bank and the PL-480 funds, or the U.K.'s imperialist policy in the olden days, or Japan's discouragement of imports of manufactured goods while permitting intense competition among domestic manufacturers. The instruments available to India in today's world should be seriously explored. More subtle ways have to be devised, as the U.S. is doing. In India, there is a real risk of integrated approach to economic policymaking getting lost due to compartmentalization of thinking in different ministries.