

# Economics of Infrastructure: Growth and Policy Environment

Course outline (revised on October 20, 2016)

(A 10-lecture course at IIM Calcutta, offered by **R Nagaraj**, IGDR Mumbai, email: nag@igidr.ac.in)

Objective of the course: Need for greater investment in infrastructure industries is widely accepted, but their economic characteristics, the principles underlying their supply and demand, and their myriad modes of financing and regulation are often inadequately understood. Further, lessons of the growth in these industries – and their institutional variations – in a historical and comparative perspective are often ignored in public policy discourse. The suggested course seeks fill the void by offering an analytical introduction of the issues in economics and public policy of infrastructure that could be of interest to management students.

The following the list of topics to be cover in the course.

## 1. Introduction: Economics of infrastructure:

Distinguish between physical infrastructure and social infrastructure, and the focus of the course would be on the former. Introduce the concepts of public goods, externality, decreasing cost industries, natural monopoly etc; correspondingly, the role of state in promotion and regulation of the industries supplying such goods and services.

## 2. Infrastructure growth in modern times and its financing and regulation (post-war period in the advanced economies and in LDCs):

Post war European reconstruction and the rapid rise of East Asia were predicated on a growing role of public investment in infrastructure supply. However, liberal reforms since the 1980s have questioned the dominance of public investment, but the state's role in these industries remains significant as regulator and facilitator. What are their implications of the changing role of state and market for technical efficiency and financial performance?

## 3. India's efforts since independence:

National economic planning played a vital role in promoting a frame work for infrastructure development and its regulation in the initial post-independence period. In India context, the scope of infrastructure is wider as it would also include rural roads, irrigation, flood control etc. Infrastructure industries were the exclusive preserve of public sector. While their growth was respectable, it fell seriously short of meeting the needs and their poor financial performance contributed to fiscal imbalance. In response, economic reforms sought to introduce private ownership, management and financing of these services. What have been their effectson the growth and financial performance of infrastructure?

## 4. Changing role of state and market in infrastructure development: After the reforms a variety of newer forms of financing such as public financing (PPP) have been tried out. The course will review the experience of some of these initiatives.

5. Privatisation of infrastructure services: Globally, since the early 1980s, there have been systematic efforts to sell public infrastructure assets to private and international firms. What is the evidence on the ownership change in delivering efficiency and equity?

6. Recent experience of infrastructure provision:

- Dhabol power plant – fiasco with foreign capital in power sector.
- Public Private Partnership –
  - roads – Incomplete projects with large debt
  - Airports – Success stories with huge debt
  - Channel Tunnel – Differential impact in the UK and France.

8. Lessons and reformulation of infrastructure policies: Past, present and future

With over two decades of experience with private ownership and market-based financing, did the supply improve with greater technical and financial efficiency after the reforms? What are the lessons for public policy and regulation? Are the lessons similar for developed and developing countries?

Mode of examination: Term-end “essay type” examination.

References:

Abhy Mehta (1999): *Power Play: A Study of the Enron Project*, Hyderabad, Orient Longman.

Anguera, Richard (2006): “The Channel Tunnel – an Ex Post Economic Evaluation”, *Transportation Research*, Part A, Vol 40.

Arezki, Rabah, Patrick Bolton, Sanjay Peters Frederic Samama and Joseph Stiglitz (2016): *From Global Savings Glut to Financing Infrastructure*, IMF working paper WP/16/18.

Deloitte (2013): *Funding Options – Alternative Financing of Infrastructure Development*.

Economist (2014): *Infrastructure Financing – Long and Winding Road*, March 22.

Ehlers, Torsten (2014): *Understanding the Challenges of Infrastructure Finance*, BIS working paper 454.

Hansakul, Syetarn and Hannah Levinger (2016): *Asian Infrastructure Financing*, Deutsche Bank Research

Kessides, Lonnis (2005): “Infrastructure Privatisation and Regulation: Promises and Perils”, *World Bank Research Observer*, Volume 20, No. 1.

Kirkpatrick, Colin, David Parker and Yin-Fang Zhang (2006): FDI in infrastructure in developing countries: Does regulation make a difference?”, *Transnational Corporations*, Vol 15, NO. 1.

Mody, Ashoka (1996): *Infrastructure Delivery – Private Initiative and Public Good*, Economic Development Institute of the World Bank, Washington D C.

Ramamurti, Ravi and Jonathan P Doh (2004): "Rethinking Foreign Infrastructure investment in Developing Countries", *Journal of World Business*, Vol. 39.

Saptington, David E M and Joseph Stiglitz (1987): "Privatisation, Information and Incentives", *Journal of Policy analysis and Management*, Vol. 6, No. 4.

World Bank (1994): *World Development Report: Infrastructure for Development*, Washington D C.