Regulatory Authorities in Indian Infrastructure Sector

CMA Santhosh J Poovattil, AGM Finance
Cochin International Airport Limited
• Introduction
• Need for Regulation
• Regulatory Bodies in India
• Airport Sector Regulator
• Port / Power Sector Regulator
• Preconditions for Private Investment
• Approach to Regulations Issues/Options
• Role of CMA’s in Regulatory affairs
Introduction- Need to create quality Infrastructure

- Ports
- Highways
- Airports
- Power
- Telecommunication

GDP growth rate of 8 to 9%
Introduction - Present Infrastructure Challenges

**Energy**
- peak hour shortage of 4,208 Mw in 2015-16.
- energy shortage of 28,138 MUs

**Airports**
- Inadequate capacity in Runways and Aircraft handling
- Congestion in Parking Space and Terminal Buildings

**Ports**
- Draft constraints, Berth Productivity and Rail/Road connectivity

**Railways**
- Congested Routes – 804 out of 1219 sections operating with capacity utilization > 80%
- Low average speeds (Freight - 25.9 kmph: Mail/ Express – 50.6 kmph)

65% of freight and 80% of passenger traffic is carried by roads
NH constitutes 2% of network but carries 40% of traffic
Introduction- Increased Investment from Private Sector

**Graph:**

Investment in infrastructure-
lakh crore 11\textsuperscript{th} and 12\textsuperscript{th} Five Year Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Private</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-12</td>
<td>8.78</td>
<td>14.96</td>
</tr>
<tr>
<td>2012-17</td>
<td>26.76</td>
<td>28.98</td>
</tr>
</tbody>
</table>
Introduction- Need of Regulation

Higher Levels of Private Participation-structuring

environment to minimize risk: Market, construction, operating, payment, interest, forex, regulatory, political

Imitation of competitive market outcomes

Tariff Setting

Enforcing minimum service standards

Consumer protection
Introduction - Economic Regulation

State Perspective

Regulation may be broadly understood as an effort by the state ‘to address social risk, market failure or equity concerns through rule based direction of social and individual action

Economist Perspective

Economists regard economic regulation by the state as necessary only when a natural monopoly exists, or where a dominant player abuses monopoly power or to overcome some other form of market failure
Introduction- Ways of Fixing remunerative tariffs

- Cost based Tariff: To cover capital costs on approved normative levels of capacity and specified operating efficiency (Return, padding, technology difference)

- Tariffs on Competitive bidding: Technical spec detailing but over specifying cause foreclosing technology

- Regulated tariffs with competitive bidding: Tariff fixed by regulator and bid for license fee and revenue share (sufficiency of profit, VGF, bundling of assets)

- Public acceptance of tariffs- ensures return-heavily underpriced customers
Challenges for Private Sector Investment in Infrastructure

Problems /Challenges

- Tariff Regulations - Return vs Reasonable - Variable tariffs
- Cost based tariff formula - Efficiency? - least cost?
- Unique Risk profile - interface with regulators & govt agencies
- Absence of long term debt funds
- Domestic currency tariff and foreign loans
## Regulatory Bodies in India

<table>
<thead>
<tr>
<th>Sector</th>
<th>Relevant Statutes</th>
<th>Regulatory Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airports</strong></td>
<td>Aircraft Act 1934 - Airports Authority of India</td>
<td>AERA acts as the Sectorial Regulator and determines the aeronautical tariff for Major Airports</td>
</tr>
</tbody>
</table>
## Regulatory Bodies in India

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<tr>
<td><strong>Power</strong></td>
<td>Electricity Act 2003</td>
<td>Regulatory commissions at Centre and States with very Extensive functions and powers.</td>
</tr>
</tbody>
</table>
## Regulatory Bodies in India

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<tr>
<td>Ports</td>
<td>Indian Ports Act 1908, Major Ports Trust Act 1963</td>
<td>Tariff Authority for Major Ports</td>
</tr>
</tbody>
</table>
### Regulatory Bodies in India

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Telecom and Internet</strong></td>
<td>Telecom Regulatory Authority of India Act 1990</td>
<td>TRAI has been given the responsibility to regulate telecom and internet service providers.</td>
</tr>
<tr>
<td><strong>Cable TV</strong></td>
<td>Cable Television Networks Regulation Act 1995</td>
<td>Provides for the regulation of carriage and content of cable TV broadcasts. TRAI has the responsibility of tariff setting and interconnection for cable operators.</td>
</tr>
</tbody>
</table>
## Regulatory Bodies in India

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil &amp; Gas</strong></td>
<td>Petroleum and Natural Gas Regulatory Board Act 2006. Petroleum Act 1934 Petroleum and Minerals Pipelines (Acquisition of Right of User in Land) Act, 1962</td>
<td>The Petroleum and Natural Gas Regulatory Board will regulate the refining, processing, storage, transportation, distribution and marketing of petroleum products. Director General of Hydrocarbons licenses and regulates the exploration and optimal exploitation of hydrocarbons.</td>
</tr>
</tbody>
</table>
## Regulatory Bodies in India

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Rods</strong></td>
<td>National Highways Act of India, 1998  - Central Road Fund Act, 2000  - The Control of National Highways (Land and Traffic) Act, 2002</td>
<td>No regulatory authority. NHAI acts as the regulator as well as the operator. States have floated their own corporations or agencies. Investors have no recourse to an independent regulator</td>
</tr>
</tbody>
</table>
## Regulatory Bodies in India

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</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>Indian Railway Board Act 1905 - Railways Act 1989</td>
<td>Railways act as the operator as well as the regulator.</td>
</tr>
</tbody>
</table>
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</thead>
<tbody>
<tr>
<td><strong>Coal</strong></td>
<td>Coal Mines Nationalization Act 1973</td>
<td>No regulatory authority. Control by ministry and through nationalized corporations.</td>
</tr>
<tr>
<td></td>
<td>Coal Mines Conservation and Development Act 1974</td>
<td></td>
</tr>
</tbody>
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## Regulatory Bodies in India

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<tr>
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<th>Regulatory Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posts</td>
<td>Indian Post Office Act 1898</td>
<td>No regulatory authority.</td>
</tr>
</tbody>
</table>
Airport Sector Regulator
Historically economic centres have developed along the major transport highways of the age, particularly at modal junctions.

Today, economic development follows airport development.
How aviation drives the wider economy

Regional access to world

Conquering time and distance

Attractive business locations

Providing jobs

Better living conditions

Tourism development

Contributions to GDP
Air travel remains a growth market

Air traffic has doubled every 15 years

Air traffic will double in the next 15 years

20-year world annual traffic growth 4.7%

Source: Airbus
Asia to Lead

Asia to lead in world traffic by 2028

Passengers originating from a particular country

Source: Airbus
Global Airport Turnover

- Global airport revenues 2014 = USD 126 bn
- Aero revenue = 4% of airline costs
- The proportion of aero and non-aero revenues in Indian airports is 70:30
- Non-aero revenues – a budding revenue source
- Diversify revenue sources and de-risk business
- Can provide a source of airport discretionary funding.
- Make many airports not only viable but capable of generating surpluses for further expansion and development.
- Railway, Roadways and Ports are now looking into this Business model.
Airports has the smallest segment of PPP in transport vis-à-vis Roads and Ports

<table>
<thead>
<tr>
<th>Item</th>
<th>Transport – Roads</th>
<th>Transport - Airports</th>
<th>Transport – Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key infrastructure projects</td>
<td>• National Highways</td>
<td>• Airports</td>
<td>• Ports</td>
</tr>
<tr>
<td></td>
<td>• State Highways</td>
<td>• City side developments</td>
<td>• Terminals</td>
</tr>
<tr>
<td></td>
<td>• State Roads</td>
<td></td>
<td>• Berths/ Jetties</td>
</tr>
<tr>
<td></td>
<td>• Rural Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of which typical PPP are for....</td>
<td>• National Highways</td>
<td>• Airports</td>
<td>• Ports (in states)</td>
</tr>
<tr>
<td></td>
<td>• State Highways</td>
<td></td>
<td>• Berths &amp; Terminals (in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Central Govt. ports)</td>
</tr>
<tr>
<td>2002-2007: Total Infra spend</td>
<td>USD 32.2 bn</td>
<td>USD 1.5 bn</td>
<td>USD 3.1 bn</td>
</tr>
<tr>
<td>2002-2007: Total PPP projects</td>
<td>USD 1.6 bn</td>
<td>USD 0.7 bn</td>
<td>USD 2.3 bn</td>
</tr>
<tr>
<td>2007-2012 (P): Total Infra spend</td>
<td>USD 69.8 bn</td>
<td>USD 6.9 bn</td>
<td>USD 19.6 bn</td>
</tr>
<tr>
<td>2007-2012 (P): Total PPP projects</td>
<td>USD 23.7 bn</td>
<td>USD 4.8 bn</td>
<td>USD 12.1 bn</td>
</tr>
</tbody>
</table>

Private investment in railways has been negligible. However, recent PPP initiatives include setting up of manufacturing plants for railway equipment and Container Train Operations.
Aviation Services

- Air-Passenger services
- Airport Services
- ANS
- Cargo Services
- Ground Handling Services
- Fuel Supply Services
- Commercial services
- Real estate services
- Aerotropolies etc.
Airports Sector
Details of investment opportunities

- **New Delhi**:
  - Paladi Ramsinghpur (USD 22 mn)
  - Kushinagar (USD 178 mn)
  - Ludhiana (USD 444 mn)

- **Ahmedabad**:
  - Dabra (USD 44 mn)
  - Itanagar (USD 156 mn)

- **Guwahati**:
  - Chiethu (USD 267 mn)

- **Mumbai**:
  - Greater Noida (USD 1111 mn)
  - Durgapur Airport (USD 156 mn)
  - Greenfield Airport at Navi Mumbai (USD 2.2 bn)
  - Pune Airport expansion (USD 1.6 bn)
  - Goa Airport (USD 556 mn)

- **Bengaluru**:
  - Kannur Airport (USD 200 mn)

- **Hyderabad**:
  - Shirdi (USD 67 mn)
  - Solapur (USD 67 mn)

- **Kolkata**:
  - Proposed Airport (Estimated Investment)

**Major Airports in India**

<table>
<thead>
<tr>
<th>Project</th>
<th>PPP type</th>
<th>Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad Airport</td>
<td>BOOT</td>
<td>GMR Infrastructure</td>
</tr>
<tr>
<td>Bengaluru Airport</td>
<td>BOOT</td>
<td>Siemens, L&amp;T and Zurich</td>
</tr>
<tr>
<td>Modernisation of Mumbai Airport</td>
<td>LDOT</td>
<td>GVK Ltd.</td>
</tr>
<tr>
<td>Modernisation of Delhi Airport</td>
<td>LDOT</td>
<td>GMR Infrastructure</td>
</tr>
<tr>
<td>T3 terminal at Delhi Airport</td>
<td>LDOT</td>
<td>GMR Group</td>
</tr>
</tbody>
</table>
Airports in India

- Airports a public monopoly till 2003
- Presently, 5 airports (handling 60% of country’s traffic) are in private sector. ANS continues to be public monopoly.
- Investment of about US$ 10 bn in hand. Equivalent amount expected to be invested in coming 7-10 years.
- Need for regulatory certainty.
- Enactment of AERA Act - Dec 2008
- Independent Regulator - AERA
- Appellate Tribunal for Airports –AERAAT
- Multiple agencies – MoCA, DGCA, BCAS, AAI and another 17 agencies controlling the Airport Business.
Functions of AERA

- To determine tariff for aeronautical services. (only for Major Airports)
- To determine the amount of development fee including user development fee.
- To determine amount of passenger service fee.
- To monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf.
- ADF (Capital funding)
- UDF (Revenue Gap)
- PSF (PSF sc and PSF fc) (Security funding)
- Major Airports -1.5 million Pax and above
- All other airports are regulated by MoCA
Aeronautical Services

AERA act defined the following services as Aeronautical

- Airport Services
- ANS
- Cargo Services
- Ground Handling Services
- Fuel Supply Services
- Any other service as may be notified by the Government
All airports with passenger throughput > 1.5 mppa

14 airports

1. Ahmedabad
2. Bengaluru
3. Calicut
4. Chennai
5. Cochin
6. Delhi
7. Goa
8. Hyderabad
9. Kolkata
10. Mumbai
11. Pune
12. Trivandrum
13. Jaipur
14. Guwahati
Principles of Airport Regulation

AERA Tariff Guidelines for Major Airports
AERA’s mandate

The Airports Economic Regulatory Authority (AERA) is a statutory body constituted under the Airports Economic Regulatory Authority of India Act, 2008. The statutory functions of AERA are:

• **To determine the tariff for the aeronautical services** taking into consideration
  – Capital expenditure incurred and timely investment
  – Services provided, its quality and other relevant factors
  – Cost for improving efficiency
  – Economic and viable operation of major airports
  – Revenue received from services other than the aeronautical services
  – Concession offered by the Central Government or memorandum of understanding or otherwise
  – Any other factor which may be relevant for the purposes of this Act
AERA’s mandate

- To determine the amount of the Development Fees in respect of major airports
- To determine the amount of the Passengers Service Fee
- To monitor the set Performance Standards relating to quality, continuity and reliability of service
- To call for such information as may be necessary to determine the tariff under clause above
- To perform such other functions relating to tariff, as may be entrusted to it by the Central Government or as may be necessary to carry out the provisions of this Act
Three principal sources of revenue for an Airport Operator:

- **Aeronautical Revenue**, coming from core and essential business area like landing, housing and parking charges

- **Non – aeronautical or Aero- Related Revenue**, coming from commercial activities related to Airport like Duty Free, Car parking, F&B, retail etc.

- **Non airport related Revenues** - which don’t benefit from Airport operations like Golf Course, Trade Fair Centre, Entertainment centre etc

For mature airports, non-aeronautical and non-related revenues constitute a significant portion of total airport revenues (about 50-60%)

In India, despite a growing consumerist society, non-aero revenues is still around 30%. **But this is likely to change**
AERA Overview
How will AERA calculate tariffs? (2/2)

- AERA, follows a “Single Till” approach while determining the tariffs for major airports other than Delhi and Mumbai
  - Single Till means that all the revenues from Aero, Non-aero and in some cases Non airport related businesses, as long as they are operated within the Airport site, will be pooled together to determine the Total Revenue of an Airport

<table>
<thead>
<tr>
<th>Till</th>
<th>Aeronautical Revenue</th>
<th>Non-Aeronautical Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hybrid / Shared</td>
<td>✓</td>
<td>✓ (partial)</td>
</tr>
<tr>
<td>Dual</td>
<td>✓</td>
<td>×</td>
</tr>
</tbody>
</table>
**Tariff Determination – The Building Block Approach**

\[
ARR = RAB \times FRoR + \text{O&M Expenses} + \text{Dep} + \text{Taxes} - \text{Non-Aero Rev.}
\]

\[
\text{Fair Rate of Return} = (g \times R_{d}) + ((1 - g) \times R_{e})
\]

\[
g = \text{Weighted Average Gearing for 5 years} - \frac{D}{D+E}
\]
Guiding Principles - Annual Tariff Filing

- Tariffs to be determined for 5-year period – Control Period
- ARR to be determined year-on-year for each control period
- RAB for each year will be average of RAB for t and t+1th year
- **No adjustments for RAB and OM variations** within control period
- Mandatory/ Statutory costs allowed as pass-through
- Adjustments to ARR and Yield to be made y-o-y based on actual **traffic volumes**, changes in **WPI** and changes in **service quality**
- Adjustments for Over-recovery and Under-recovery on t+2 basis
- Revenues and costs to be determined on accrual basis
- **Non-aero revenues to include revenue share, royalty and dividends earned by Airport Operators** from independent service providers
- AERA will proposals for levy of development fees (ADF and UDF) requirements based on the specific circumstances of each Airport and legal provisions
Three Stage Process in Tariff Filing

**Step 1: Filing of Multi-Year Tariff Proposal (MYTP)**

Yield per passenger = \( \frac{ARR}{Volume \ (Passengers/ \ Cargo)} \) escalated by WPI \( y-o-y \) – determined in PV terms (discounted at FRoR)

*AERA issues a Multi-Year Tariff Order (MYTO)*

**Step 2: Filing of Annual Tariff Proposal**

Determination of Estimated Maximum Allowed Yield (EMAY) + Correction Factor based on changes in traffic volume *beyond a band*, mandated and statutory OM costs and WPI

*AERA issues an Annual Tariff Order (ATO)*

**Step 3: Filing of Annual Compliance Statement**

Determination of Actual Maximum Allowed Yield (AMAY) + adjustments thereof \( y-o-y \) based on Actual Yield per passenger
Indian Port Sector – Determination of Tariff for Major Port Trusts, 2015

Each Major Port Trust will assess the Annual Revenue Requirement (ARR) which is the average of the sum of Actual Expenditure as per the final Audited Accounts of the three years plus Return at 16% on Capital Employed including capital work in progress versus earlier approach of cost plus regime where tariff for all the components are fixed by TAMP.

The ARR assessed will be indexed by 100% of the Wholesale Price Index (WPI) as communicated by TAMP to the Major Port Trusts versus previous regime of no indexation.

The indexed ARR determined is the ceiling Annual Revenue Requirement based on which the Major Port Trusts will draw the Scale of Rates (SOR).
Indian Port Sector – Determination of Tariff for Major Port Trusts, 2015

- While going for a change in SOR the Major Port Trusts have to ensure that as a result of the changes in SOR there will not be a loss of traffic. The responsibility of ensuring this would rest with the Chairman of the Major Port Trusts.

- The indexed SOR will be effective from 1st April 2015 and shall remain valid for 3 years subject to annual indexation.

- The indexation of SOR will be subject to achievement of Performance Standards committed by Major Port Trusts. If a particular port does not fulfill the Performance Standard, no indexation would be allowed during the next year.

- This Policy is not applicable to BOT / BOOT operators or any other arrangement for private sector participation.
## Indian Port Sector – Determination of Tariff for Port projects under PPP

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<tr>
<th></th>
<th>2005</th>
<th>2008</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost plus regime (3 year tariff orders)</td>
<td>Normative cost regime (30 year concession reviewed every 5 years, escalation by 60% WPI)</td>
<td>Applicable to Ports commissioned/awarded after July 2013. Normative cost regime Incentives of 15% post WPI indexation(subject to achievement of operators indicative performance benchmarks)</td>
</tr>
<tr>
<td></td>
<td>16% ROCE calculated on Net Block</td>
<td>6% ROCE calculated on Gross Block</td>
<td>6% ROCE calculated on Gross Block</td>
</tr>
</tbody>
</table>
## Indian Port Sector – Determination of Tariff for Port projects under PPP

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<tr>
<th>2005</th>
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<th>2013</th>
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<tbody>
<tr>
<td>No WPI indexation</td>
<td>60% WPI Indexation</td>
<td>60% WPI Indexation</td>
</tr>
<tr>
<td>Tariff fixed by TAMP on cost plus basis</td>
<td>Market determined rates, Tariff fixed by TAMP is ceiling rate</td>
<td>Can adopt existing port tariff, or tariff at Other ports or can submit new tariff proposal</td>
</tr>
<tr>
<td></td>
<td>Royalty calculated on tariff ceiling rate</td>
<td>Royalty calculated on tariff ceiling rate</td>
</tr>
</tbody>
</table>
Indian Power Sector – Regulatory Structure

Independent Regulators

- Central Electricity Regulatory Commission (CERC) established under the Electricity Regulatory Commission Act, 1998
- State Regulatory Commissions (SERC) established under respective reform acts of the state and the Electricity Regulatory Commission act, 1998
Indian Power Sector – Regulatory Structure

Regulatory Jurisdictions – CERC

Matters related to generation, transmission and trading of electricity involving more than one state.

- Generations assets catering to the need of more than one state (includes all plants of NTPC, NHPC and IPPs serving more than one state)
- Inter-state transmission of electricity i.e. transmission from one state to the other.
- Inter-state trading of electricity i.e. trading of electricity from one state to the other.
Indian Power Sector – Regulatory Structure

Regulatory Purview - CERC

- Tariff for generation and transmission
- Issuing licenses for inter-state transmission
- Issuing licenses for inter-state trading
- Trading Regulations including margin for trading
- Open access regulation
- Power market development
Indian Power Sector – Regulatory Structure

Regulatory Jurisdictions - SERC

- Matters related to generation, transmission and trading of electricity within a particular state.
- Generations assets catering to the particular state (includes IPPs serving the particular state)
- Intra-state transmission of electricity i.e. transmission within the state’s boundaries.
- Intra-state trading of electricity i.e. trading of electricity within the state’s boundaries.
Indian Power Sector – Regulatory Structure

Regulatory Purview - SERC

- Tariff for generation and transmission
- Issuing licenses for intra-state transmission
- Issuing licenses for intra-state trading
- Trading Regulations including margin for Trading
- Open access regulation for intra-state transmission and distribution access
- Distribution and Retail tariff for consumers
Preconditions for Private Investment

- Tariff Regulations
- Cost based tariff formula
- Unique Risk Infrastructure Projects
- long term debt funds
- Domestic currency tariff and foreign loans
Approach to regulations

- Regulatory State-command & control of state to regulators/contracts
- Framework of Infrastructure Sectors - no common philosophy, capacity
- Constitutional Legal Framework - Independence & reporting
- Uniform Regulatory Framework – Carriage & content
- Convergence of sectoral regulators
Role of CMA

- Opportunities under Companies Act 2013.
- Cost Records and Cost Audit for Regulated Sectors.
- Preparation of Tariff filing Documents.
- Transaction Advisory Services for Bidding of PPP Infrastructure Projects.
- Project Structuring of Long Term PPP Infrastructure Projects.
- Advisory Services for Financial closure of PPP projects.
- Certifications of Various forms prescribed by Regulatory authorities such as CERC, TAMP, TRAI etc
- Appearance as authorized representative in CERC, TRAI
- CMA's in Employment is Eligible as Members in Regulatory Authorities.
Thank You