Regulatory Authorities
in
Indian Infrastructure Sector

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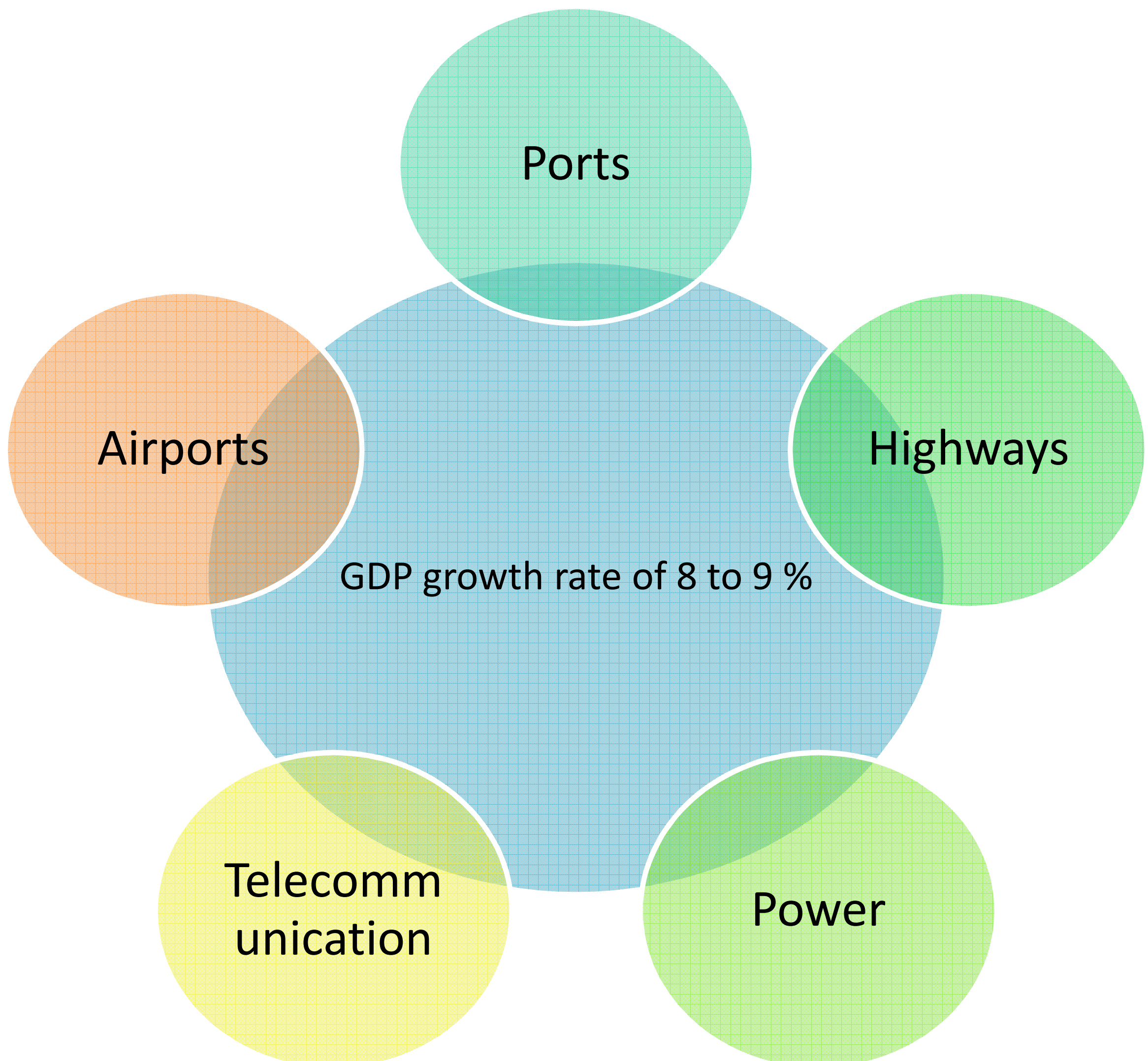
- Introduction
- Need for Regulation
- Regulatory Bodies in India
- Airport Sector Regulator
- Port / Power Sector Regulator
- Preconditions for Private Investment
- Approach to Regulations Issues/Options
- Role of CMA’s in Regulatory affairs

Introduction- Need to create quality Infrastructure



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

Roads

65% of freight and 80% of passenger traffic is carried by roads

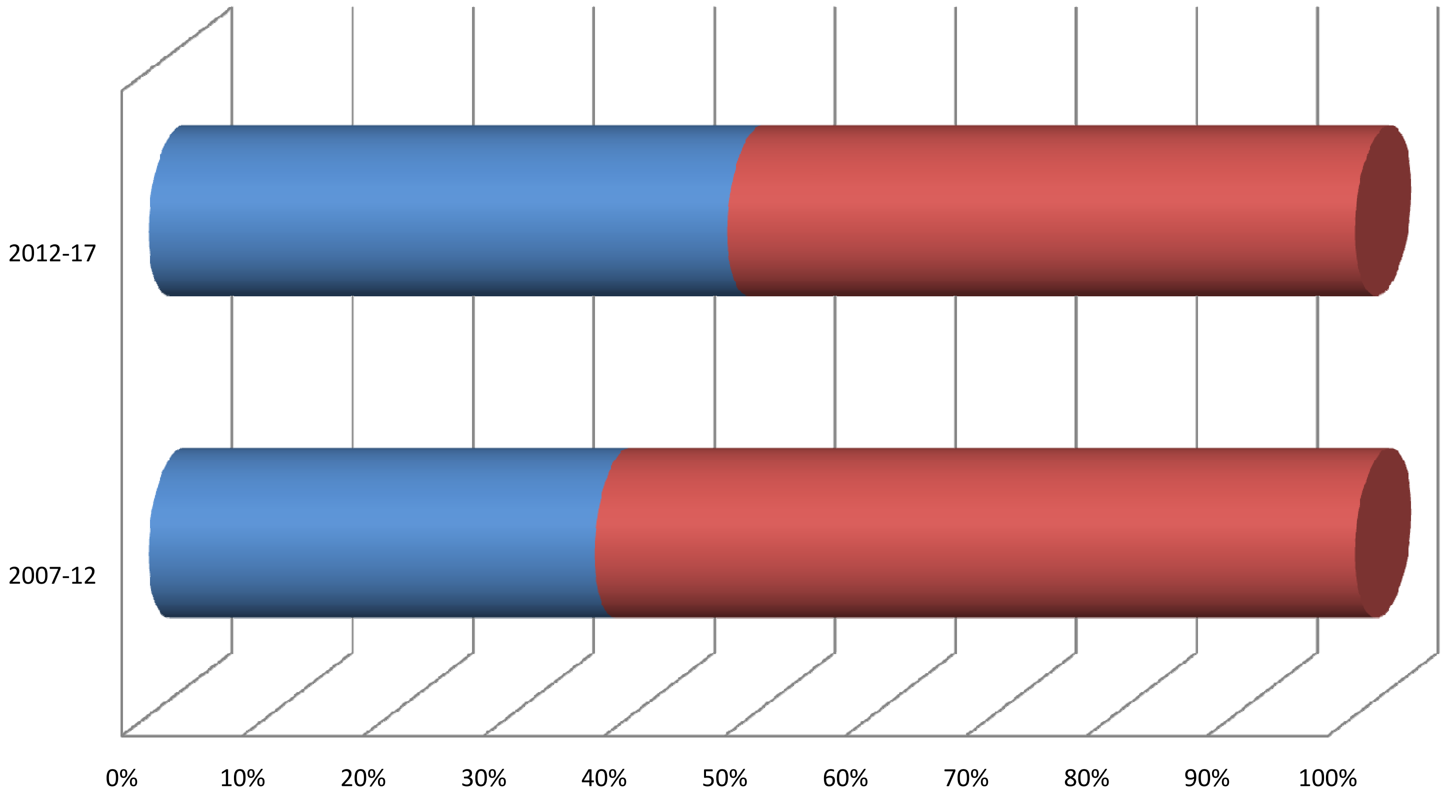
NH constitutes 2% of network but carries 40% of traffic

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)

Introduction- Increased Investment from Private Sector

investment in infrastructure-
lakh crore 11th and 12th Five Year Plan



	2007-12	2012-17
Private	8.78	26.76
Government	14.96	28.98

Introduction- Need of Regulation

Need for Infrastructure Regulation

- Higher Levels of Private Participation- structuring
- environment to minimize risk :Market,construction,operating,payment,interst,forex,regulataory,polical
- 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

Sector	Relevant Statutes	Regulatory Authority
Airports	Aircraft Act 1934 - Airports Authority of India Act 1994 Airports Economic Regulatory Authority Act 2008	AERA acts as the Sectorial Regulator and determines the aeronautical tariff for Major Airports

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Power	Electricity Act 2003	Regulatory commissions at Centre and States with very Extensive functions and powers.

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Ports	Indian Ports Act 1908 , Major Ports Trust Act 1963	Tariff Authority for Major Ports

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Telecom and Internet	Telecom Regulatory Authority of India Act 1990	TRAI has been given the responsibility to regulate telecom and internet service providers.
Cable TV	Cable Television Networks Regulation Act 1995	Provides for the regulation of carriage and content of cable TV broadcasts. TRAI has the responsibility of tariff setting and interconnection for cable operators.

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Oil & Gas	Petroleum and Natural Gas Regulatory Board Act 2006. Petroleum Act 1934 Petroleum and Minerals Pipelines (Acquisition of Right of User in Land) Act, 1962	The Petroleum and Natural Gas Regulatory Board will regulate the refining, processing, storage, transportation, distribution and marketing of petroleum products. Director General of Hydro carbons licenses and regulates the exploration and optimal exploitation of hydrocarbons.

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Roads	National Highways Act of India, 1998 - Central Road Fund Act, 2000 - The Control of National Highways (Land and Traffic) Act, 2002	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

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Rail	Indian Railway Board Act 1905 - Railways Act 1989	Railways act as the operator as well as the regulator.

Regulatory Bodies in India

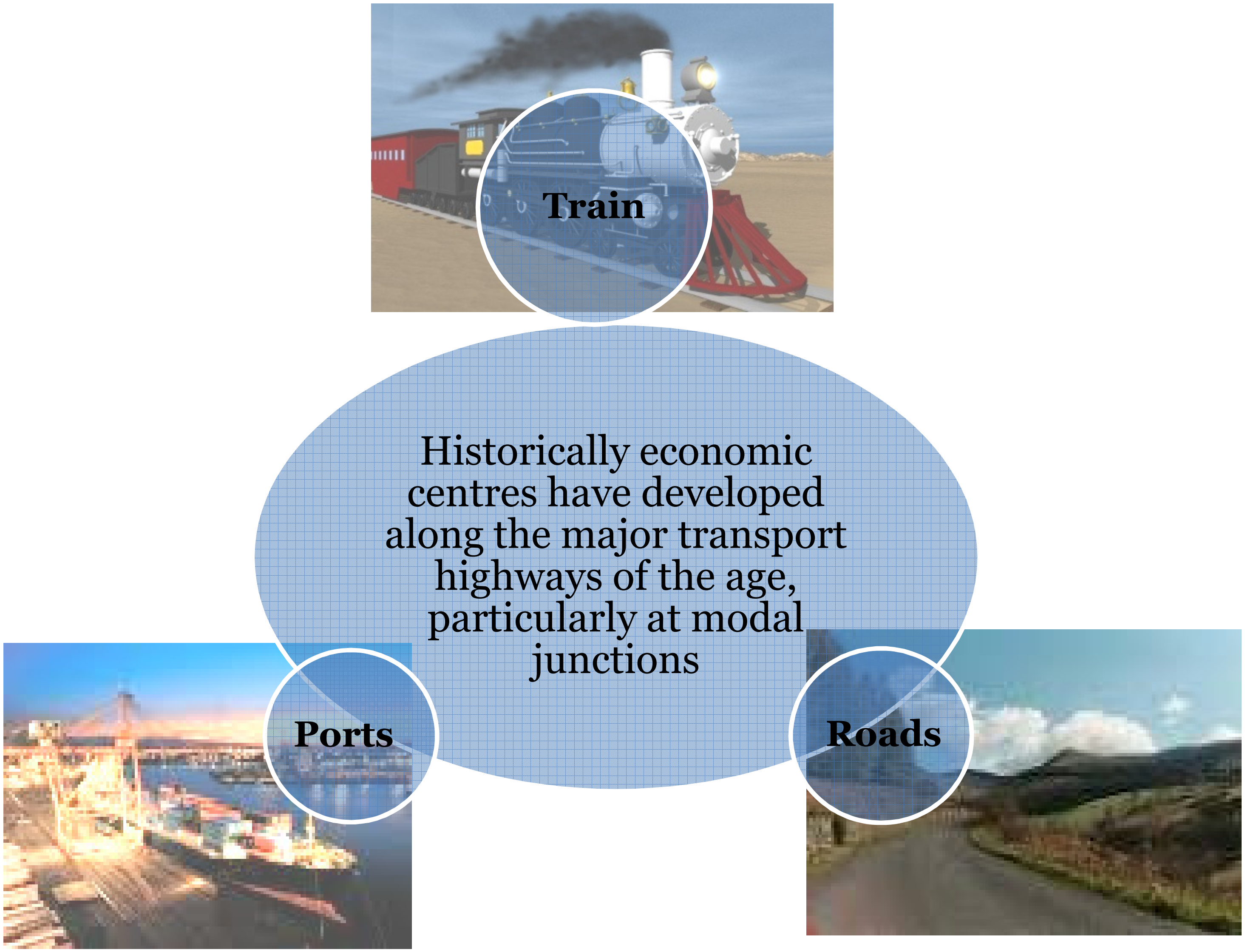
Sector	Relevant Statutes	Regulatory Authority
Coal	Coal Mines Nationalization Act 1973 Coal Mines Conservation and Development Act 1974	No regulatory authority. Control by ministry and through nationalized corporations.

Regulatory Bodies in India

Sector	Relevant Statutes	Regulatory Authority
Posts	Indian Post Office Act 1898	No regulatory authority.

Airport Sector Regulator

Historically



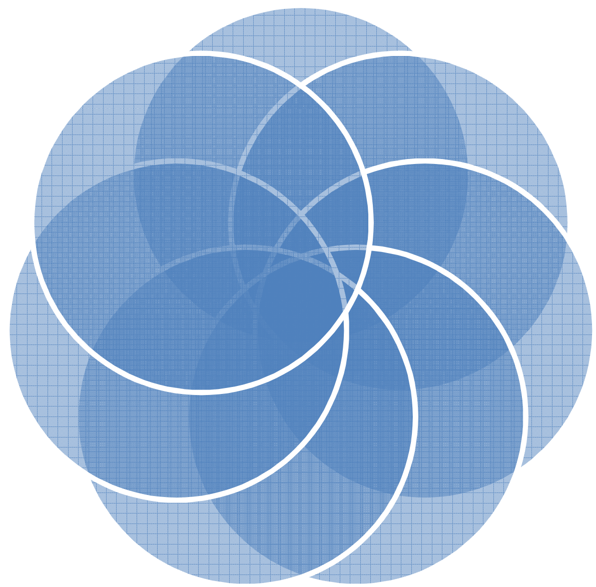
Today, economic development follows airport development

How aviation drives the wider economy

Regional access to world

Conquering time and distance

Attractive business locations



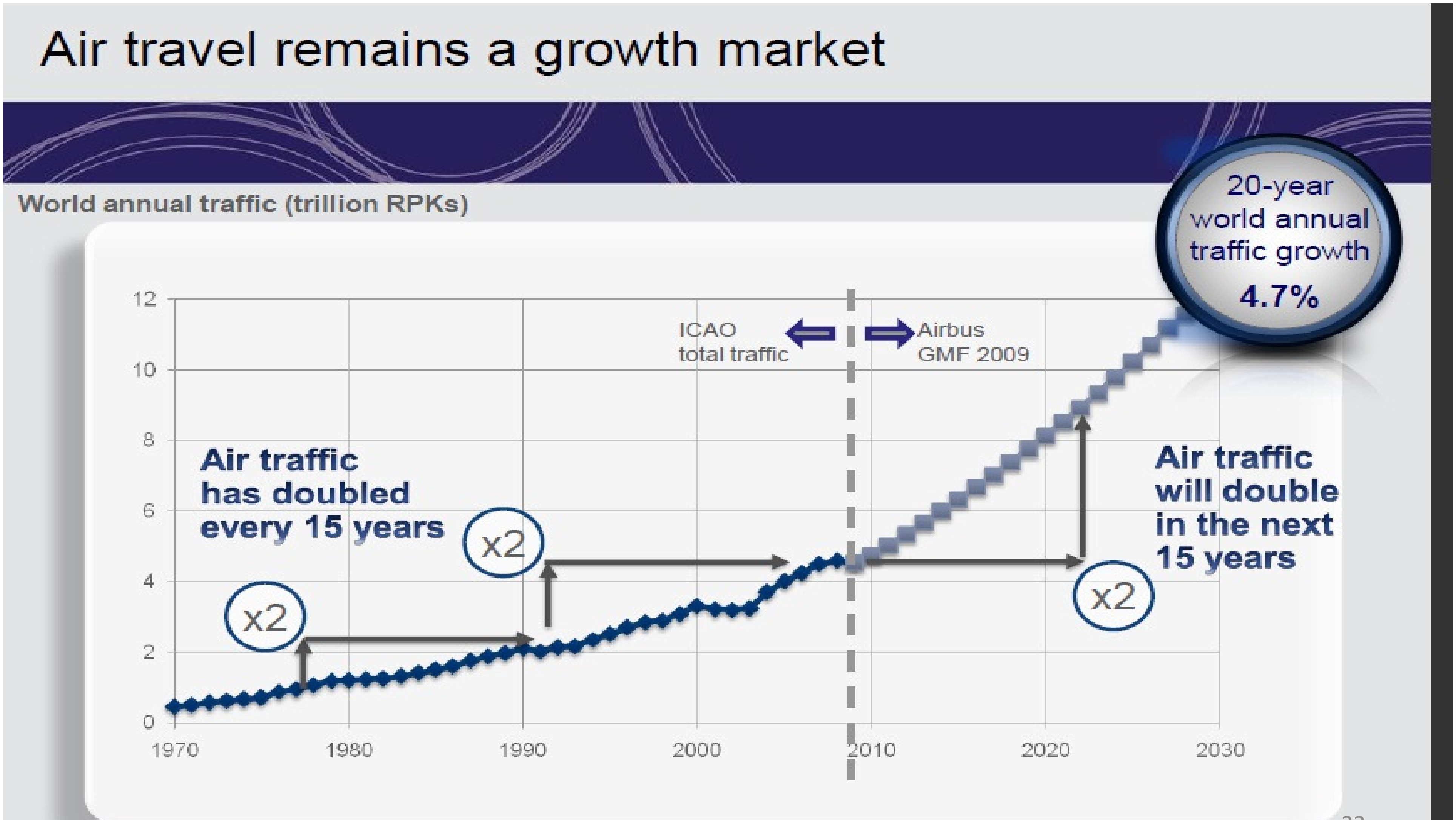
Providing jobs

Better living conditions

Tourism development

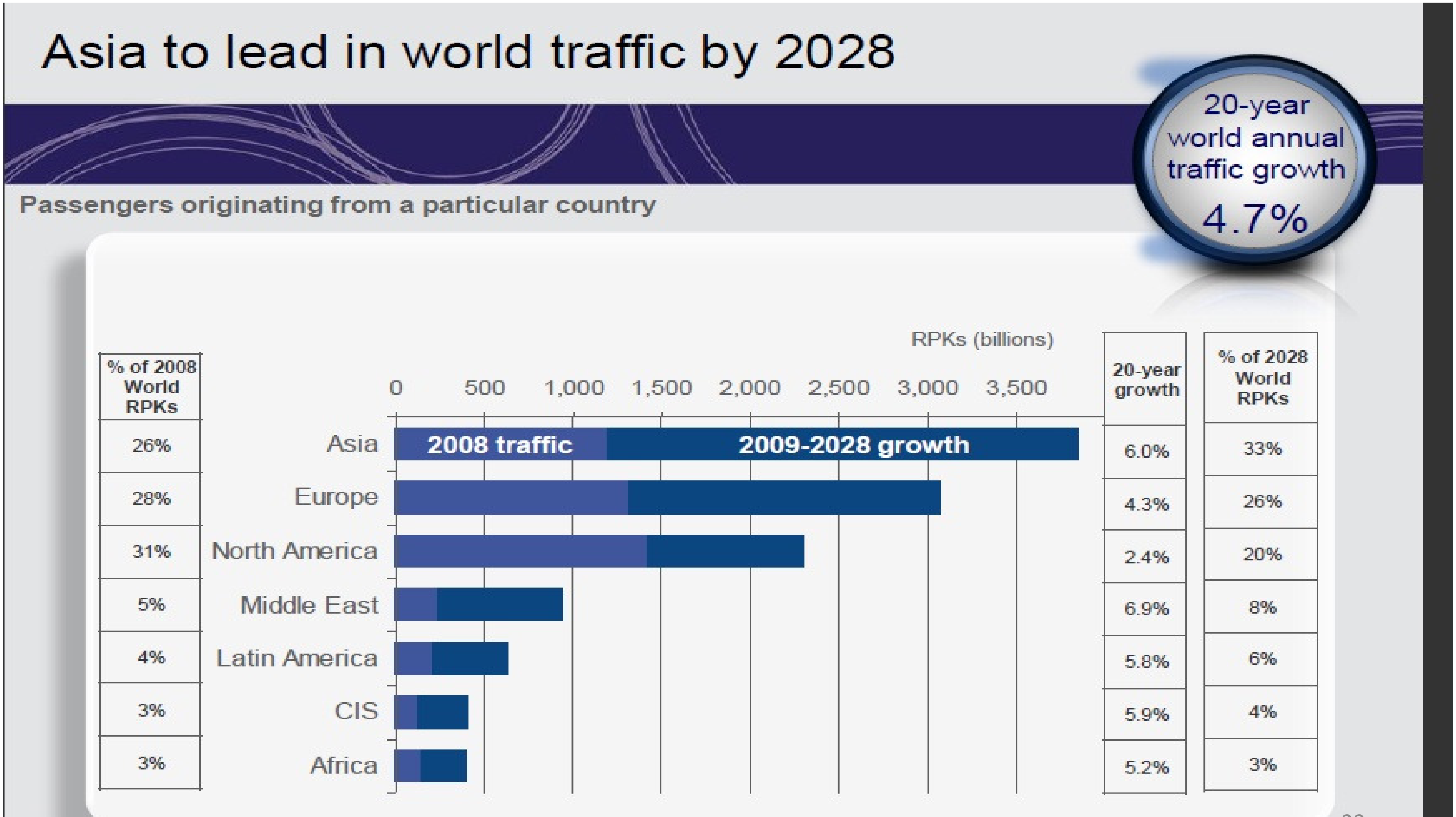
Contributions to GDP

Market Effect



Source: Airbus

Asia to Lead



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

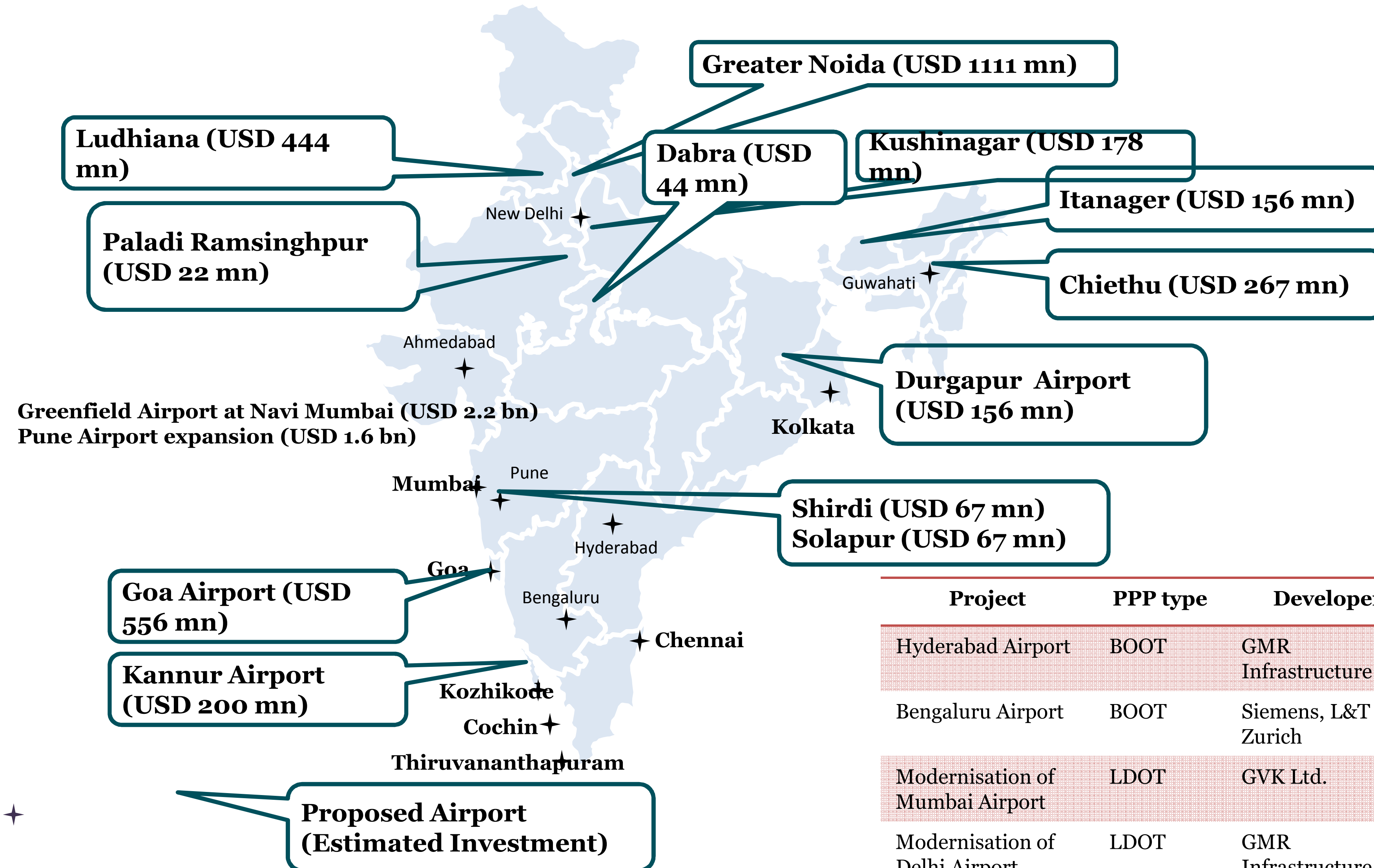
Item	Transport – Roads	Transport - Airports	Transport – Ports
Key infrastructure projects	• National Highways • State Highways • State Roads • Rural Roads	• Airports • City side developments	• Ports • Terminals • Berths/ Jetties
Of which typical PPP are for….	• National Highways • State Highways	• Airports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

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



Major Airports in India

Project	PPP type	Developer
Hyderabad Airport	BOOT	GMR Infrastructure
Bengaluru Airport	BOOT	Siemens, L&T and Zurich
Modernisation of Mumbai Airport	LDOT	GVK Ltd.
Modernisation of Delhi Airport	LDOT	GMR Infrastructure
T3 terminal at Delhi Airport	LDOT	GMR Group

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.

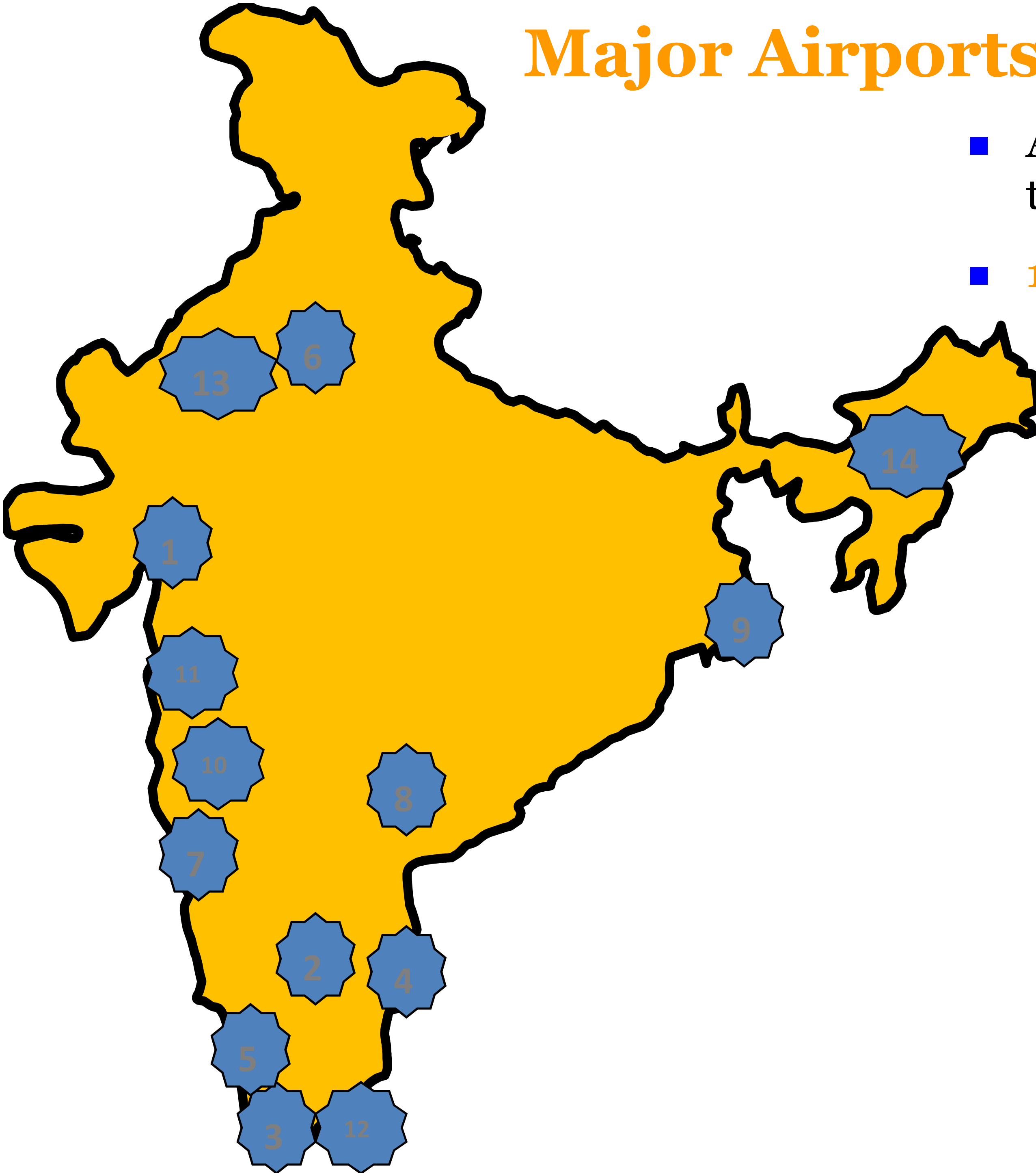
Functions of AERA

- 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



Major Airports

- 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

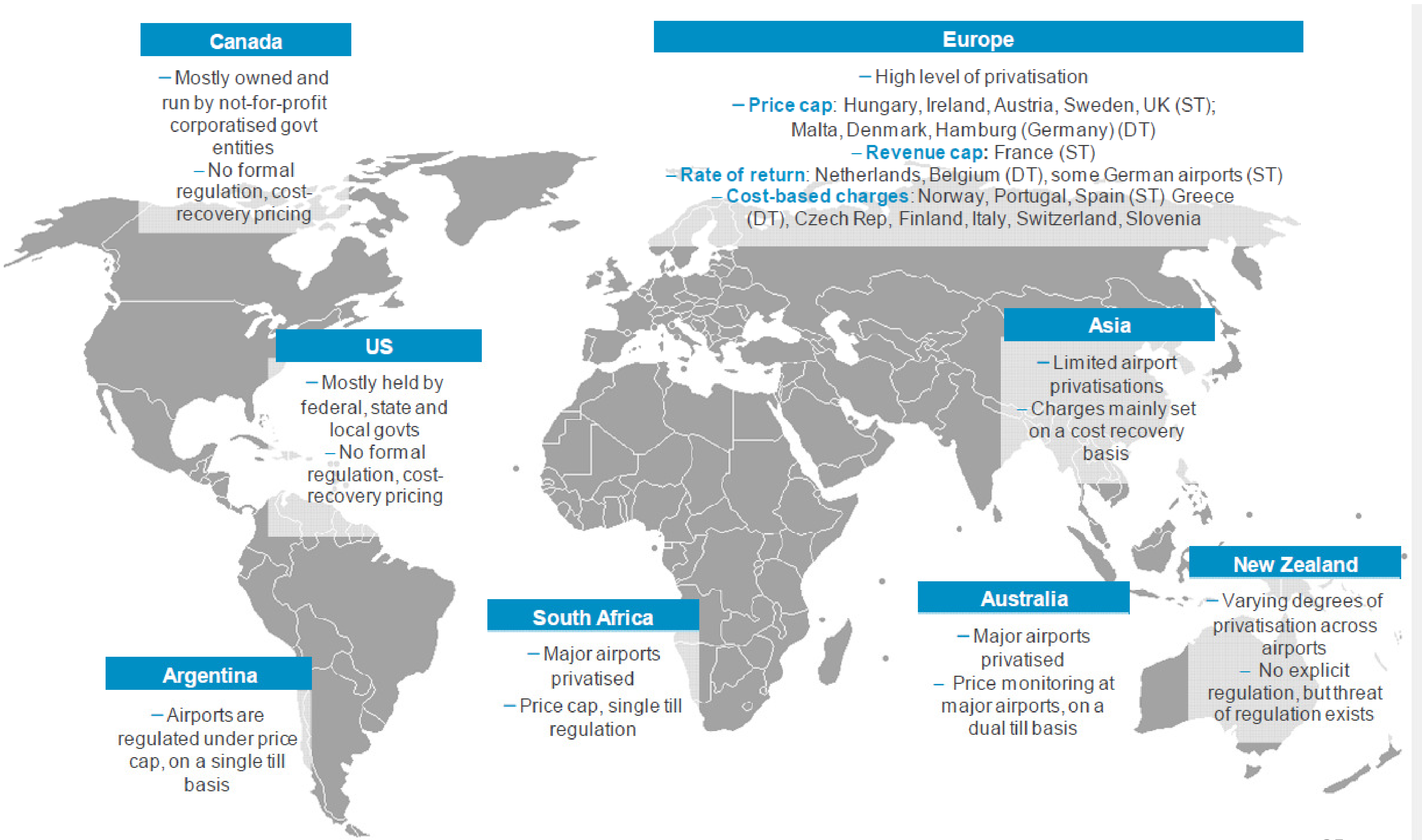
The statutory functions of AERA are:

- **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

Airport regulatory models around the world



Flying High: A review of airport regulation in Australia, April 2010, Colonial First State

AERA Overview

How will AERA calculate tariffs? (1/2)

- 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%)

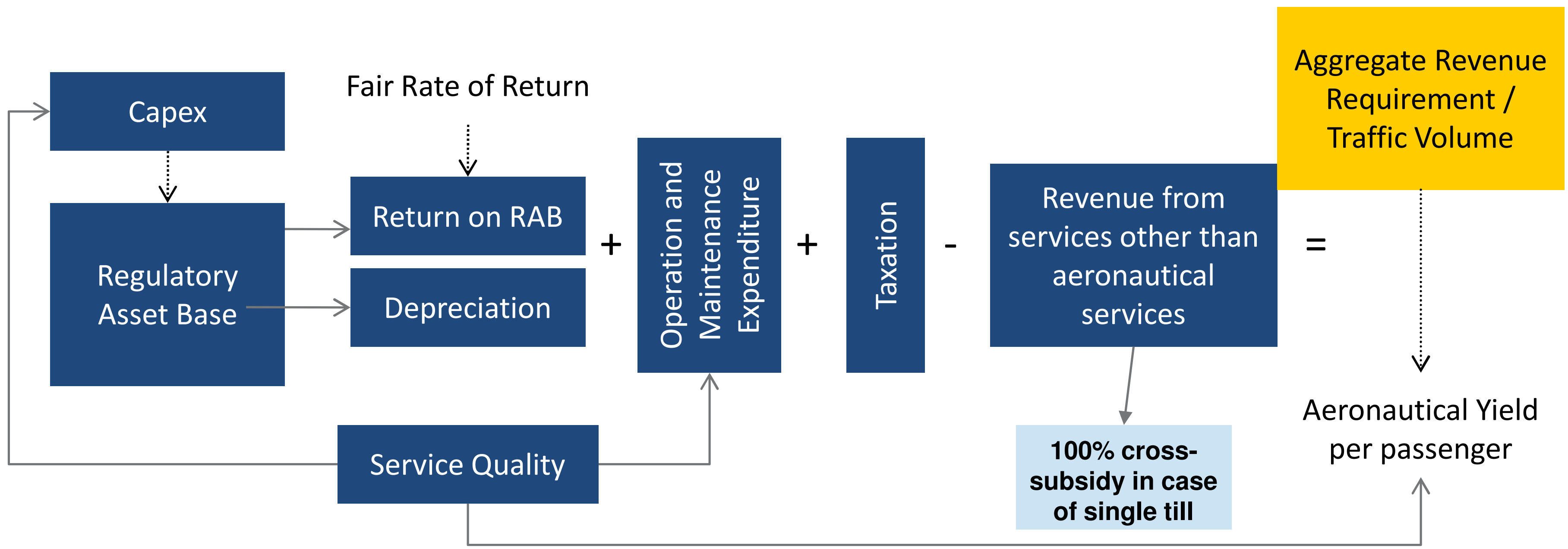
In India, despite a growing consumerist society, non-aero revenues is still around 30%. **But this is likely to change**

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

Till	Aeronautical Revenue	Non-Aeronautical Revenue
Single	✓	✓
Hybrid / Shared	✓	✓ (partial)
Dual	✓	✗

Tariff Determination – The Building Block Approach



ARR = RAB X FRoR + O&M Expenses + Dep + Taxes – Non-Aero Rev.

Fair Rate of Return = (g x R_d) + ((1 – g) x R_e)

g = Weighted Average Gearing for 5 years - 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

Step1: Filing of Multi-Year Tariff Proposal (MYTP)

Yield per passenger = 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

2005	2008	2013
Cost plus regime (3 year tariff orders)	Normative cost regime (30 year concession reviewed every 5 years, escalation by 60% WPI)	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)
16% ROCE calculated on Net Block	6% ROCE calculated on Gross Block	6% ROCE calculated on Gross Block

Indian Port Sector – Determination of Tariff for Port projects under PPP

2005	2008	2013
No WPI indexation	60% WPI Indexation	60% WPI Indexation
Tariff fixed by TAMP on cost plus basis	Market determined rates, Tariff fixed by TAMP is ceiling rate	Can adopt existing port tariff, or tariff at Other ports or can submit new tariff proposal
	Royalty calculated on tariff ceiling rate	Royalty calculated on tariff ceiling rate

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

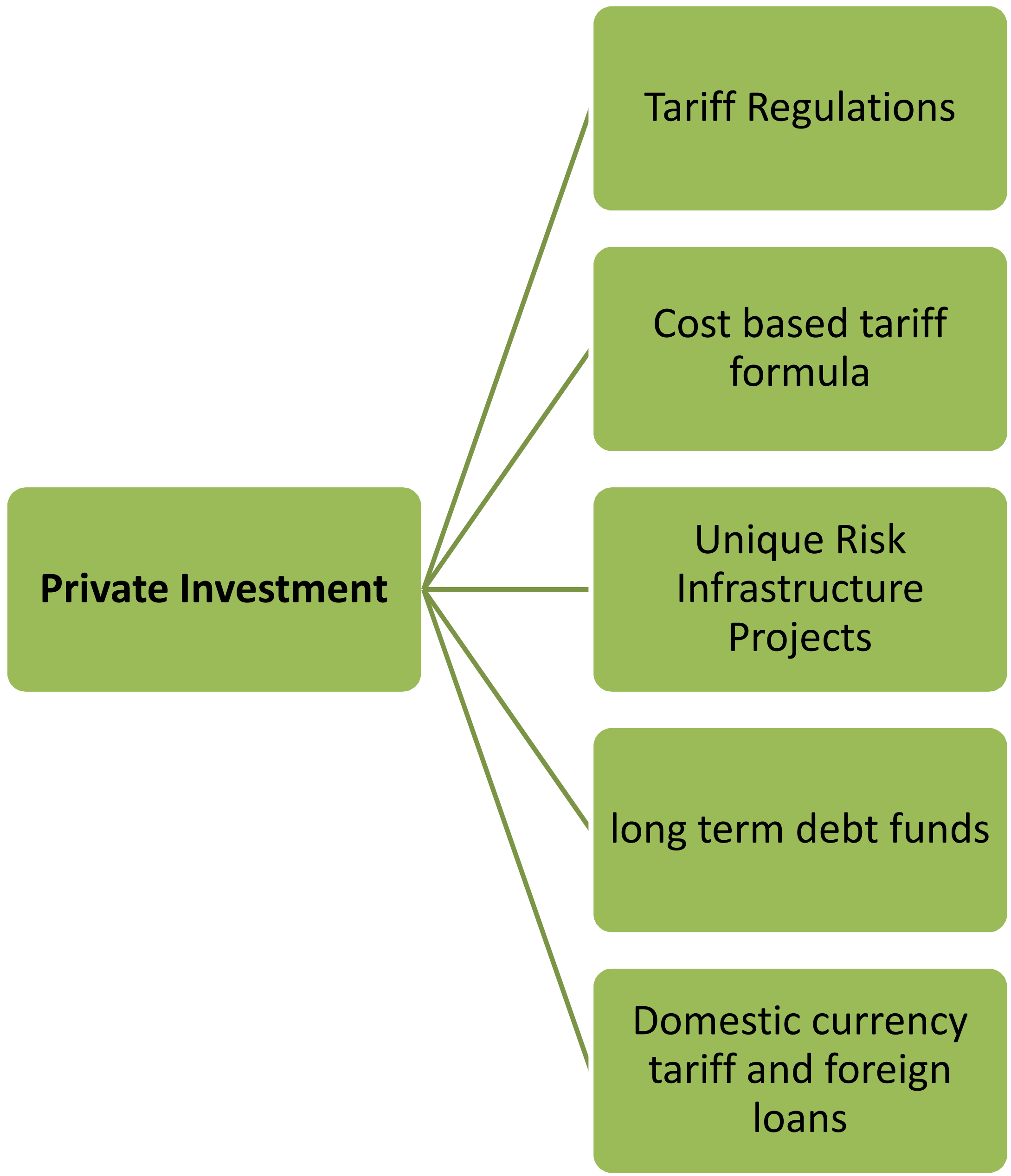
- Matters related to generation, transmission and trading of electricity within a particular state.
- generations assets catering to the particular state (includes IPPs serving the particular state)
- Intra-state transmission of electricity i.e. transmission within the state's boundaries.
- Intra-state trading of electricity i.e. trading of electricity within the state's boundaries.

Indian Power Sector – Regulatory Structure

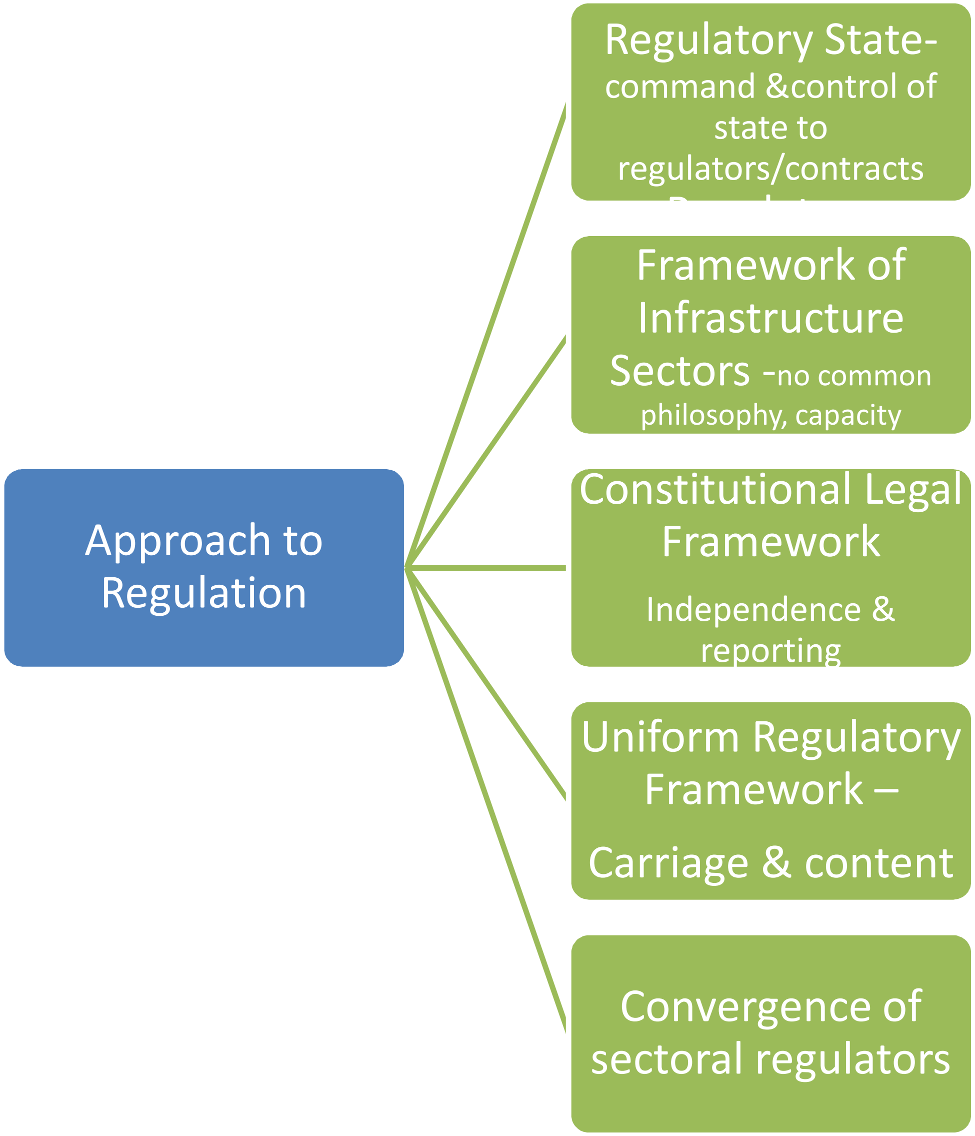
Regulatory Purview - SERC

- 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



Approach to regulations



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