

5TH CONFERENCE ON THE REGULATION OF INFRASTRUCTURES: THE CHALLENGES OF
DIGITALIZATION AND THE USE OF DATA
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Institutional “tetris” in infrastructure regulation: Harmonizing governance, regulation and policy-making in the transport sector

Carlos Oliveira Cruz
IST/Universidade de Lisboa

oliveira.cruz@tecnico.ulisboa.pt



Joaquim Miranda Sarmiento
ISEG/Universidade de Lisboa

jsarmiento@iseg.utl.pt



INTRODUCTION

- Since 1990 there has been a clear trend towards increasing private sector participation in infrastructure provision and management (both in emerging as developed economies);
- Increasing private participation should mean a clearer regulatory framework
- The regulatory framework and institutional setting have been changing to cope with new challenges;

INTRODUCTION

Evaluate how the different transport networks in Portugal have been de-and-re-regulated.

- 1) How regulation have evolved in Portugal in the road, railway, urban transports, ports and airport sector;
- 2) How the new regulation framework have clarified the role of public and private sector?
- 3) How the merge between roads and railway infrastructures potentiate a network approach?
- 4) What role can digitalization have in the Portuguese context of transports network?

Portugal Experience – Global overview

- ❑ Like most countries, Portugal has been establishing regulatory bodies, expanding the past regulatory experience (mostly technical), to economic regulation; Nevertheless, the trends in infrastructure sectors have been diverse;
- ❑ Since 1990, the government has vertically and horizontally separated the management of infrastructure, creating public companies for operating transportation services and other to manage the infrastructure; Likewise, the regulatory functions were isolated in sector specific regulators;
- ❑ In the last the last two years, both infrastructure managers (e.g. roads, railways), as well as regulatory bodies have been merged, thus horizontally integrating the regulatory and the governance structures.

Portugal Experience – Port and Maritime

- ❑ Continental Portugal has nine commercial ports, which can be divided into a main system of five ports and a secondary network with four ports ; there are four separate administrations managing the system (SOE)
- ❑ The management model for the Portuguese Ports is based on a “landlord model”
- ❑ The port authority manages most activities related with navigation and pilotage, whilst the terminal operations (loading, unloading and management of cargo) are carried out by the private concessionaires that hold a concession to operate the terminal (typically over 20/30 years’ long)

Portugal Experience – Roads and Railway

- ❑ Intensive investment in highways and roads, along with some investment in urban railroads.
- ❑ Highways are PPPs. Roads are managed by a SOE “Estradas de Portugal”.
- ❑ High levels of payments putting pressure in the public budget.
- ❑ Railways are managed by SOE’s, except 2 Lisbon urban projects under PPPs.

Portugal Experience – Roads and Railway

- ❑ Changes in road regulatory model has been focus on public accounting issues:
Effort that the SOE “Estradas de Portugal” to stay out of the deficit perimeter.
- ❑ 3 different type of highway PPPs contract:
 - ❑ Real tolls (Highways of the 1st wave (90’s), with sufficient traffic to be sustainable)
 - ❑ Shadow tolls on the 2nd wave (98-2002), changed in 2010-2011 to availability payments.
 - ❑ Availability payments in the 3rd wave (2007-2009).

Portugal Experience – Airports

- ❑ The airport manager ANA holds a 50-year concession (starting in 2012) for the exclusivity of managing and operating the Portuguese Airport System;
- ❑ ANA was privatized in 2012 (3.050 million Euros)
- ❑ The regulatory model is based on a single till regime with a price-cap
- ❑ The formula for setting the price-cap allows for tariff increases whenever the traffic is growing
- ❑ In the last years the traffic is growing at double digits, thus leading to a significant tariff increase
- ❑ Lisbon will need a second airport (within the next 5 years) but the financing of the development of a secondary airport is not included within the concession contract

1960's

1970's

1980's

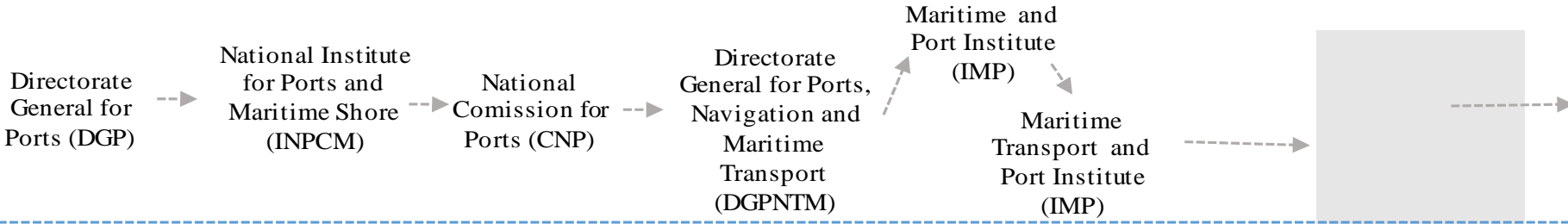
1990's

2000's

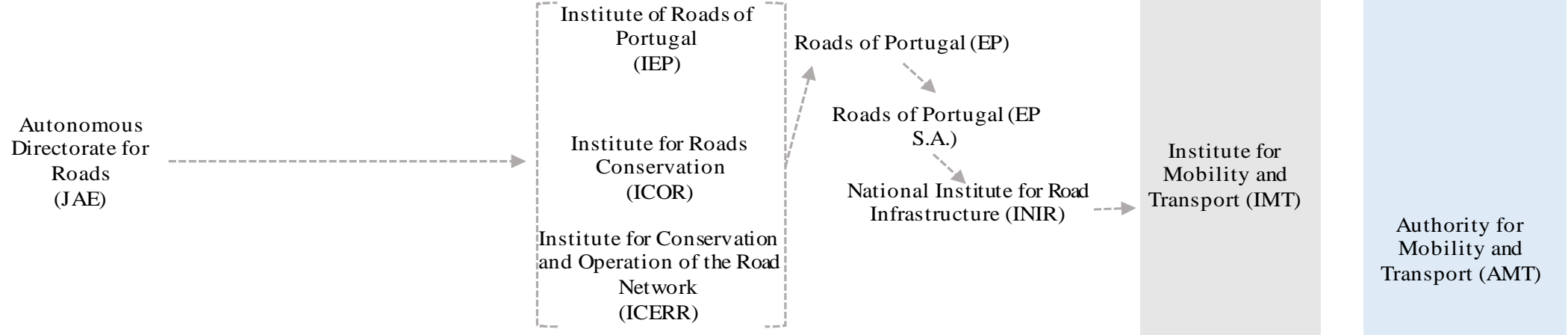
2010's

2015's

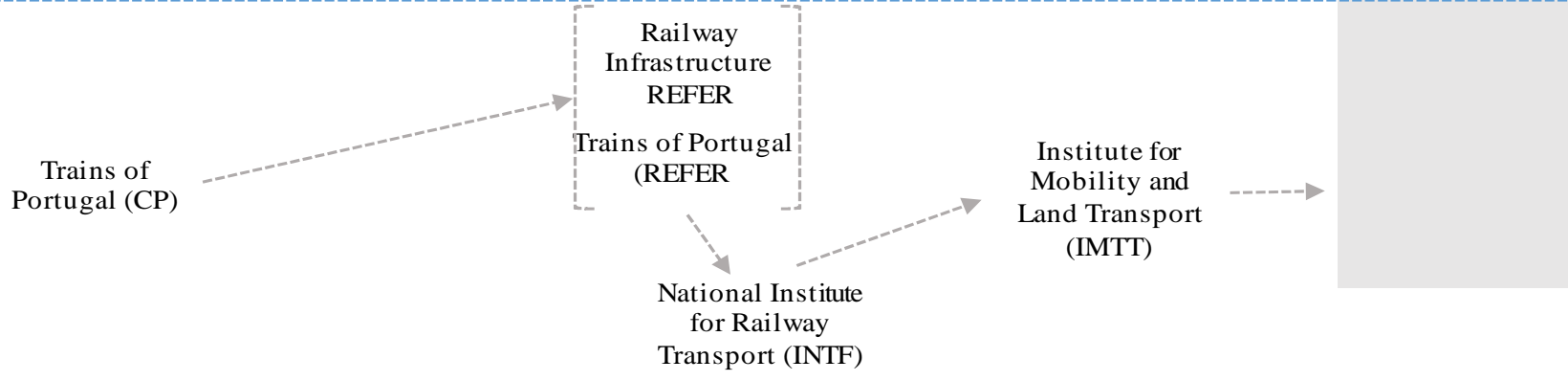
Maritime and ports



Roads



Railways



Airports



The evolution of the regulatory institutional framework

- ❑ Historically, the regulatory institutional framework has been changing
- ❑ These changes were the result of different policy changes, namely:
 - ❑ Re-naming and re-organization of institutions: in some cases, the change in the regulatory body was carried out due to the “upgrading” and/or re-organization of their activities (e.g. changes in the airport sector);
 - ❑ Division of responsibilities: the regulatory responsibilities were split between different organizations, as happened in the road and railway sectors in the 1990’s;
 - ❑ Merging of regulatory responsibilities: this was the latest movement, and it resulted in the merger of the regulatory responsibilities in all the transport sector (except airports) under the same regulatory entity (Authority for Mobility and Transport – AMT) in 2015.

Table 1 – Predominant risk-sharing structure up until 1990

	Roads	Railways	Ports	Airports
Model of management/provision	Public	Public	Mostly Public	Public
CAPEX risk	Public funding	Public funding	Public funding	Public funding
OPEX risk	Public funding	Public funding	Public and private funding	Public funding
Revenue risk	Public	Public	Public/private shared	Public

Table 2 – Predominant risk-sharing structure from 1990 to 2010

	Roads	Railways	Ports	Airports
Model of management/provision	PPPs	PPPs	Concessions	Public
CAPEX	Private funding	Public/private funding	Public funding	Public funding
OPEX	Private funding	Private funding	Public and private funding	Public funding
Revenue risk	Private or shared	Public/Private	Private shared	Public

Table 3 – Predominant risk-sharing structure from 2010 to 2015

	Roads	Railways	Ports	Airports
Model of management/provision	PPPs	PPPs	Concessions	Private
CAPEX	Private funding	Public funding	Public funding	Private funding
OPEX	Private funding	Public funding	Public and private funding	Private funding
Revenue risk	Public (under availability schemes)	Public/private shared	Public/private shared	Private

Network approach of the merge between roads and railways infrastructure

- ❑ The fast and expressive expansion of the road network, along with some investment in railways, has led to excessive capacity within the main transportation system
- ❑ The merger of the road and railway manager aims at capturing synergies between the two systems (increasing revenues and decreasing costs)
- ❑ They are both highly in debt, and have large internal structures, with more than three thousand employees between the two of them

The role of digitalization

- ❑ Improving the efficiency on the management of infrastructure
- ❑ Providing real time information about the system's operation and supply solutions;
- ❑ Improving the capacity management of the system;
- ❑ Providing tolls as a form of active demand management;
- ❑ Allowing for an effective and efficient monitoring of projects.

Conclusions

- ❑ Over time the role of public and private sector has become clearer, particularly for the risk sharing structure
- ❑ As a sign of some weakness in the market and in the regulatory arrangement, this increase of the private sector role was not accompanied by assuming more of the revenue risk
- ❑ The regulatory framework and institutional arrangement have been changing periodically, which makes more difficult to have a stable environment