A brief note on transport infrastructure regulation: Harmonizing governance, regulation and policy-making in Portugal

Carlos Oliveira Cruz*, Joaquim Miranda Sarmento**

Abstract: This paper provides a historical overview on the transport infrastructure regulation in Portugal. The institutional organization, regulatory models and private sector level of risk assumption are continually changing, requiring a more active and dynamic approach to regulation.

Introduction

Infrastructure regulation is facing unprecedented challenges. Firstly, over the last 20 years, most countries have evolved towards the development and implementation of an active regulatory framework. Infrastructure networks have undergone a drastic development since the 1980s, and are now reaching a maturity level where maintenance and optimization, rather than construction, is the main challenge. Secondly, after the 1990s' boom in private sector participation in infrastructure, particularly through the form of public-private-partnerships (PPPs), the first contracts developed are close to the end, and there is an entire set of data and experience regarding the benefits and costs over this contractual regulation. Despite being perceived as a clear, transparent and predictable model of regulation, contracts have shown little ability to cope with change, which has led to excessive renegotiations leading to negative consequences for the public sector (Cruz and Marques, 2013a, 2013b).

Regulating infrastructure in the XXI century: A literature review

The infrastructure sector is changing and there are conflicting trends worldwide. Infrastructure plays a critical role in promoting economic growth and wellbeing. Most developed economies have invested in improving their infrastructure networks and the effort is still ongoing in most developing economies (Burger & Hawkesworth 2013). This "wave" of infrastructure development is still a central development driver in most, if not all, developing economies.

However, infrastructure requires capital - not just for construction, but also for its operation, which places efficiency at the core of decisions today. Governments are not willing to finance an infrastructure operation at any cost, and societies now require higher levels of efficiency, so they have turned to the private sector (Sarmento & Renneboog, 2014).

However, there are reasons for ensuring a strong governmental role in the field of networked infrastructure (Miranda and Lerner 1995). There are three main reasons: i) there is a tendency for most networked infrastructure to be natural monopolies; ii) it is difficult to assemble the right-of-way for most projects, and; iii) there are benefits larger than those directly related with the users.

It is estimated that more than 200 regulators were created in the 90s and early 2000s (Brown et al. 2006). Many, if not the majority, have evolved, changing their role, responsibilities, institutional and legal status, etc. These institutional changes have occurred simultaneously with the establishment of new regulatory models, forms and types of contracts.

The evolution of the regulatory institutional framework in Portugal

Regulators in Portugal have been suffering from a continuous change movement in terms of institutional framework. These changes concern the terms of how to re-

* Assistant Professor; CERIS/ICIST, Instituto Superior Técnico, Universidade de Lisboa. IST, Av. Rovisco Pais, 1049-005 Lisboa, Portugal, Email: oliveira.cruz@tecnico.ulisboa.pt

** ISEG, Rua Miguel Lupi, 20, 1250 Lisboa, Portugal, Email: jsarmento@iseg.utl.pt.

Advance, ISEG-Lisbon School of Economics and Management, Universidade de Lisboa, Rua do Miguel Lupi nº20, 1200-078, Lisboa, Portugal; Email address: jsarmento@iseg.ulisboa.pt. I gratefully acknowledge the financial support received from FCT- Fundação para a Ciência e Tecnologia (Portugal), and the national funding obtained through a research grant (PEst-OE/EGE/UI4027/2014).

gulate, and the definition of the objectives of regulation. Until the 1980s, the majority of the regulation of the sector was based on tariff setting - establishing conditions for accessing the market through the issue of permits (most of them being perpetual permits) and technical regulation, and also through norms and technical notes. The markets were relatively stable, and public companies, managed by the Central Government, dominated. Regulation was seen as a secondary activity.

This changed in the 1990s, when the private sector began to be more active, thus forcing a more dedicated regulatory approach in order to preserve the quality of service, and to avoid predatory behaviors, as well as other well-known negative consequences of inadequate regulation.

Figure 1 presents a historical overview of how the regulatory institutional framework has been changing between different institutions in Portugal.

These changes were the result of different policy changes, namely:

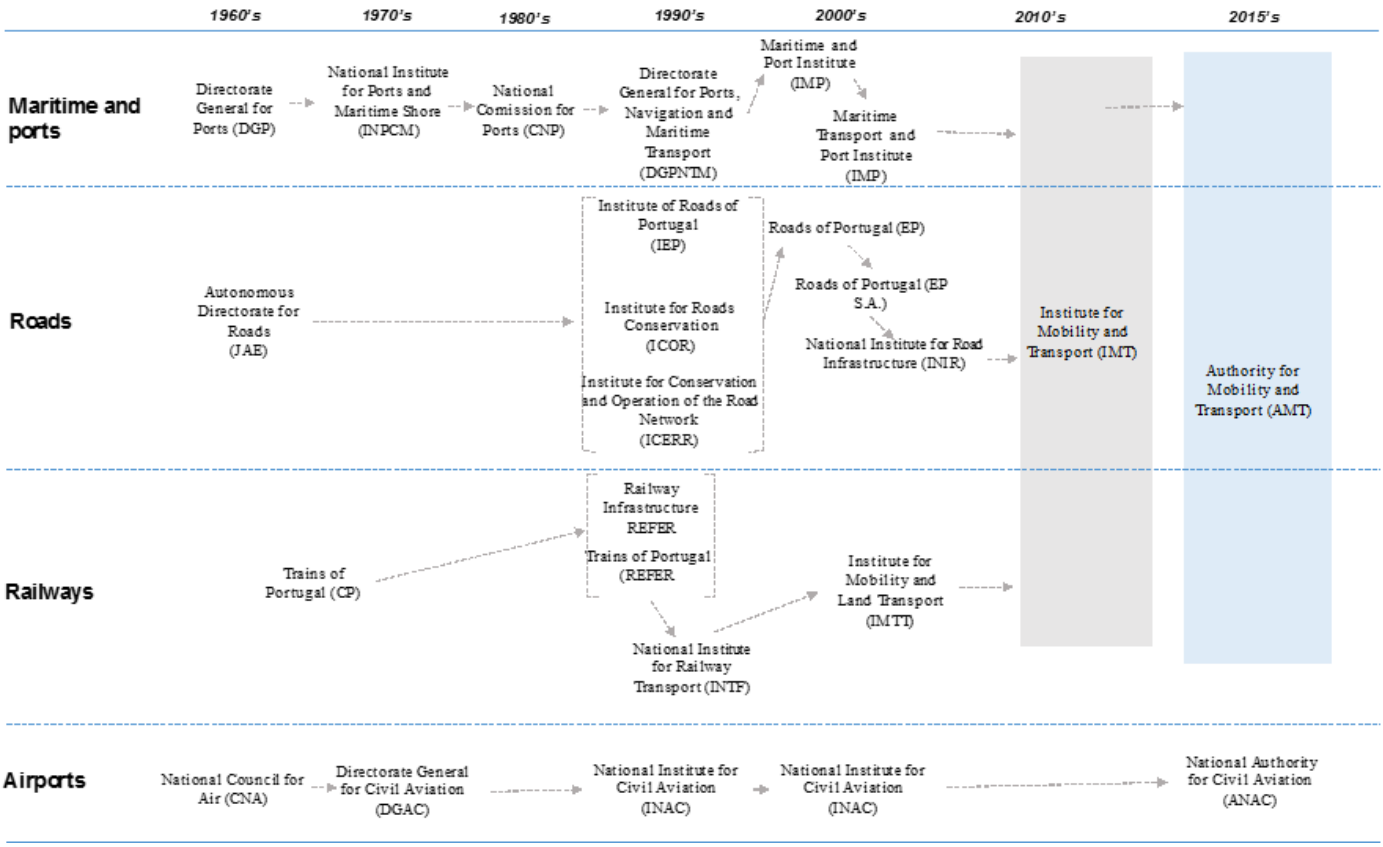
- Re-naming and re-organization of institutions: in some cases, the change in the regulatory body was carried out due to the "upgrading" and/or re-organization of their activities (e.g. changes in the airport sector);

- Division of responsibilities: the regulatory responsibilities were split between different organizations, as happened in the road and railway sectors in the 1990s;

- Merging of regulatory responsibilities: this was the latest movement, and it resulted in the merger of the regulatory responsibilities in the entire transport sector (except airports) under the same regulatory entity (Authority for Mobility and Transport – AMT) in 2015.

After this restructuring, some entities remained active, with different responsibilities, whilst others were abolished. An example of the former is the change of regulatory responsibility for the transport sector. In the 2000s the Institute for Mobility and Land Transport was created for overseeing public transport. In the 2010s this Institute took over the regulatory responsibility of the rail sector, which had previously been the responsibility of the National Institute for Railway Transport (INTF). The INTF was created in the 1990's, when a political decision was made (not just in Portugal, following the European Commission guidelines) to vertically separate the rail sector, segregating its operational and infrastructure management. The rationale was

Figure 1 – Institutional regulatory changes in the period 1960-2015



to progressively create the conditions to allow competition in the operation of railway services, and to increase the private sector participation in this market. Simultaneously, it was necessary to create sector-specific regulatory bodies capable of addressing the specificities of each sector. This also occurred in the road sector.

There are several examples of institutions that lost their function as a regulator, but kept other functions (e.g. planning). One of these cases is the National Institute for Mobility, which, until 2015 was the single transport regulator for the maritime-ports, roads, and railway sectors. In 2015, with the creation of the AMT, IMT lost its regulatory functions and it became responsible for planning and the issue of permits, etc.

Behind the creation and empowerment of the AMT, was the external "pressure" of the International Monetary Fund (IMF), the European Union (EU) and the European Central Bank (ECB) under the financial aid programme to Portugal. Portugal was subject to a bailout programme in 2011, which imposed several changes. One of them was related to the need to increase the regulatory activity of the transport sector. Unlike previous transport regulatory agencies, the AMT is not subordinate to the Government, which provides a truly independent regulatory action. Former transport regulators were under the control of the Ministry of Transport, and were therefore vulnerable to political interference, and they did not have the ability to provide a transparent regulatory approach.

However, the changes in the regulatory framework were much deeper than just at the institutional level. The regulatory models in different sectors have been evolving from a discretionary-based model towards a contractual-based approach. The increasing involvement of the private sector started in the late 1980s in the ports sector and even more significantly in the 1990s in the roads, railways and ports sectors. This involvement has been developed under either a contractual approach, typically in the form of concessions (ports and, as of in 2012, also airports), or in the form of PPPs, which involves a project-finance scheme (roads and railways) (see Cruz & Marques, 2011 and Sarmento & Renneboog, 2015, for more details).

Both in the case of concessions and PPPs, there have been opposite movements regarding the contractual structure, or risk sharing in different sectors. Up until 1990, the risks of CAPEX, OPEX and revenue were essentially public (Figure 1), with the exception of the port sector, where, during the 1980s some private concessions were established. By this means, the private sector was made responsible for the operation the subsequent costs, and for small investments on the land side of the terminals.

In the 1990s a deeper involvement of the private sector in infrastructure provision and management began to take place, particularly for roads. These initial contracts transferred the majority of the risks to the private sector (CAPEX, OPEX, and revenue risk). In the railway sector, the first projects developed by the private sector were initiated with a mix of public and private financing and shared risk in terms of revenue risk. OPEX was a responsibility of the private sector. In the ports sector, the port terminals evolved into private management under concessions. The private sector assumes most of the traffic risk and it pays the port authority a rent for the concession.

Since 2010, there has been a shift in terms of risk sharing, mainly in the road sector, with the public sector assuming most risk by changing a significant part of the road system to availability schemes. Under these availability schemes, the concessionaire is paid a fixed fee for operating and maintaining the road, with a very limited variable compensation, which is indexed to traffic volume.

In the port sector, where the previous concessions had resulted in most of the demand risk falling on the terminal concessionaire (private), some concessions moved towards a (partially) variable rent model, which meant that the port authority is also subject to demand (revenue) risk. In the airport sector, the risk matrix moved completely to the private sector, because of a concession agreement of ANA, and its subsequent privatization.

Although the railway sector remained stable in terms of risk sharing, all the other sectors have suffered opposite changes. While in the road and port sector, there is evidence of a greater risk assumption by the public authorities, in the airport sector, the movement was the opposite.

Network approach

The fast and expressive expansion of the road network, described above, along with some investment in railways, has led to the current situation of a large infrastructure network, particularly in the road sector, with a high quality standard. However, this represents a significant cost for a country facing strong fiscal constraints. Additionally, in many cases, the expansion of both networks was not coordinated, creating an overlap of structures and services. This led to a new reform in 2014, of the merger of "Estradas de Portugal" with "Refer", resulting in a single company for the management of the road and railway infrastructure. The main motive for the merger was the intention to have a single and unified management structure for both transport systems. The other motive was the fact that both companies share similar challenges, besides the management of

large infrastructures. They are both highly in debt, facing strong financial constraints over the next years. The two companies also have large internal structures, with more than three thousand employees between the two of them.

There were several objectives tor this merger, one of the most important being the financial sustainability of the two operations, through increasing revenues and reducing costs. However, there was also a strong emphasis on promoting a sustainable mobility framework. The merger aims to promote a compensation and remuneration system, with an integrated and rational planning of the entire network, and the development of a multi-modal mobility management.

Conclusion

This paper evaluates how the different transport sectors (road, railway, urban transports, ports, and airports) have been de- regulated and-re-regulated in Portugal. The authors found that, over the last years, changes have made the role of the public and private sector clearer, particularly for the risk sharing structure. The framework has evolved from being dominated by the public sector, to more private participation, particularly for roads, ports and airports. In these sectors, the private sector is now responsible for a large share of the risks and functions. However, 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. In most of the cases, particularly for roads and railways, the public sector still guarantees most of the revenues to private firms.

The intensive investment in infrastructures posed a new challenge regarding efficiency and the reduction of costs (particularly bearing in mind the budget constraints that the country faced over the last years). A merge between the road and the railway infrastructure operator was decided upon and implemented in 2014-2015. This merger was based on the need for Portugal to optimize the use of its road and railway network, and also to increase the efficiency of the large investments that had been made. The new company no longer positions itself as an investor and constructor of infrastructures, but rather as a provider of multi-modal mobility. This merger created scope for a better service, with increased revenues and reduced costs, all through synergies that allow for a more financially-sustainable operator.

All these changes in the Portuguese transport sector imply a relevant future role for digitalization with regard to regulation, governance, and decision-making, both for the public and the private sector. Digitalization will allow for the large investments in infrastructures to be optimized and will lead to an increase in mobility and efficiency. This could be achieved by management providing real time information, or by increasing tolls to enable operators to be more flexible and to be able to respond to market and consumer changes, and to be more proactive.

The transformation that has occurred in Portugal in the transport sector over the last decades has been an impressive effort to close the infrastructure gap that the country suffered. However, new challenges ahead focus mainly in reducing costs, improving quality, and increasing mobility. There is a large role for digitalization in this effort.

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