Disclaimer

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Preface

This Thematic Research Summary has been produced as a part of the activities of the Transport Research and Innovation Portal (TRIP) project. The purpose of TRIP is to collect, structure, analyse and disseminate the results of in EU-supported transport research and research financed nationally in the European Research Area, and selected global research programmes. The main dissemination tool used by TRIP is the public web portal www.transport-research.info.

The Thematic Research Summaries provide a structured guide to the results of research projects carried out mainly at EU level, either as part of a framework programme or as a study commissioned by the European Commission. These summaries are intended for policy makers at European, national and local levels, stakeholders and researchers.

The Thematic Research Summary on ‘Regulation, Competition and Public Services’ is one of 24 themes, which provides:

- an overview of research activities in a specific aspect of transport focusing on EU-funded projects;
- analysis and compilation of research findings and recommendations.

An overview of the Thematic Research Summaries is presented in Table 1.
Table 1: Transport themes used in TRIP

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<td>Economic and regional impacts</td>
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<td>Accessibility, social and equity impacts</td>
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Executive Summary

This Thematic Research Summary provides a synthesis of results of completed European research projects on regulation (market opening), competition and public services in the transport sector.

In the last few decades, transport and mobility have been addressed by the EU through a variety of initiatives that aim at fostering competition and improving public services through regulatory action:

- three railway packages between 2001 and 2007 aimed at market opening, infrastructure regulation, standardisation and harmonisation of railway markets - administratively and technologically;

- the air transport sector was fully liberalised and opened up to competition between 1987 and 1997;

- in maritime transport, the EU has achieved market opening, but is still working to achieve a single market without administrative barriers, particularly in short-sea shipping and inland waterways. In addition, major concerns are efficiency, pricing, and market opening of port services;

- EU road freight markets and international markets for bus passenger services have been opened to competition. Coach markets for passengers are also open to competition but national and local bus passenger services remain heavily regulated by national law.

In spite of the major improvements achieved, opening of markets (e.g. port services, airport ground services, and local bus services), further improvements in the regulation of infrastructure and strengthening of competition particularly in the rail sector are still high on the agenda. In addition, implementation of general public interest in transport markets has become a major issue in the last decade. Since 2000, a comprehensive body of EU Regulations has been issued covering passenger rights in practically all transport modes (air, railways, bus and coaches, sea and inland waterways). These Regulations directly serve the needs of people travelling. However, by providing minimum standards for the transport of all goods, they also have a positive impact on market transparency, and thus on strengthening competitive pressure. Implementation of public interest also refers to the efficient use of public money spent on transport.
EU policy aims at establishing standards for contractual prerequisites and the awarding procedures for Public Service Contracts.

Several research projects have been set up to improve information about transport markets and to analyse the potential to improve regulation, competition conditions and measures to implement general public interest. This Thematic Research Summary presents the results of these projects under the Sixth and Seventh Framework Programme, and studies tendered by the European Commission since 2007.

**Market opening**

The first sub-theme, market opening, is concerned with efforts to open markets to competition that have been closed by regulatory measures for various reasons. Currently, market opening is an issue for the railway sector and for ports and airports. Studies have been carried out on these sectors (with the exception of ports) during the review period.

In the rail sector, recommendations for further market opening include:

- opening passenger railway markets to competition;

- introducing impartial and powerful economic regulation covering all parts of the rail industry (including the award process for Public Service Contracts);

- introducing a national ticketing system with inter-availability of a range of standard national tickets between railway undertakings, backed by a fair and impartial revenue allocation system;

- ensuring ticketing, sales and information systems operate impartially at stations, with customers able to purchase a ticket for any domestic journey from a single sales point;

- implementing an infrastructure charging system that encourages railway undertakings to run additional trains, and which also applies on a non-discriminatory basis to small railway undertakings;

- ensuring availability of suitable rolling stock;
implementing all EU Directives and Regulations affecting the rail industry in both letter and spirit.

In the air transport sector, opening airport ground handling markets to entry and competition promises further improvements, such as enhanced efficiency, price reductions and improved quality. However, the social dimension should not be overlooked, both in its own right and because it may lead to deterioration of service quality.

**Strengthening competition**

The second sub-theme, strengthening competition, covers analyses of barriers to competition, for instance entry barriers, and possibilities to remove them in sectors already deregulated. The strength of competition that evolves in a transport mode depends on factors such as the size of the respective market. If markets are fragmented, sunk costs of market entry (costs that cannot be recovered by leaving the market) are effectively increased so that competition is likely to be impaired. This indicates the importance of technical and administrative harmonisation as an instrument of strengthening competition.

The research studies make several recommendations for strengthening competition in the railway and in the inland waterway sectors. These recommendations centre on creation of single harmonised markets for the entire EU in the two sectors.

In railways, the issue of interoperability needs further action, and in particular, the European Railway Agency (ERA) should be strengthened. For this purpose, internal organisation of ERA should be reviewed and a long-term strategic focus for ERA developed. In addition, the certification processes for railway vehicles need to be improved in order to reduce time and costs. One promising route discussed is ‘virtual certification’, which partly replaces testing by simulation. This could simplify the authorisation processes with an optimal mix of field testing, mock-up testing, and simulation.

In Inland Waterway Transport, studies discuss measures to remove or to reduce national barriers, such as harmonisation of financing conditions, manning requirements, job profiles, and other aspects to improve the working of the market.

In the road sector, markets are well developed. Some concerns about whether unfair competition of unregulated Light Goods Vehicles with standard heavy goods vehicles could not be verified in a research study.
In contrast, there would be substantial benefits from allowing Longer and/or Heavier Vehicles on European roads.

In the air sector, the current slot allocation systems seem to prevent optimal use of the scarce capacity at busy airports. Therefore, changes to the current Regulation have been proposed by the European Commission to allow introduction of market-based mechanisms across the EU. Safeguards to ensure transparency and undistorted competition should be established, including greater independence for slot coordinators. This has led to the ‘airport package’ adopted in November 2011.

Implementing public interest

The third sub-theme, implementing public interest, looks at the need and options for political interventions in deregulated and regulated markets to improve the position of customers or to implement general policy goals.

One national study in the UK addressed the organisation of the whole railway sector in order to identify areas for improvements and appropriate measures to improve railway services at lower cost. Four areas of special importance are leasing markets for rolling stock, fostering competition and contestability, franchise reforms, and network regulation.

Two studies on regional, local, and urban public transport by railways and buses took stock of the diversity of awarding and contracting practices in the EU Member States. At this stage, only a few practical recommendations for EU actions could be given. However, this diversity of administrative procedures implies a fragmentation of markets, thus weakening the potential for competition.

In the air sector, an issue of public interest - the protection for people with reduced mobility travelling by air – was addressed in a recent study. The study found room for improvement in practice. However, again, most of this relates to the national policies.

Future challenges for research and policy

In a review of implications for further research and policy, TRIP external expert Prof. Marco Ponti stresses that:
• the European regulatory activity is strongly and correctly focusing on the rail sector, given the limited success to date. In railways and also partly in road infrastructure, economies of scale and scope need to be investigated in infrastructure and rolling stock, for example, to protect independency of regulatory authorities, to achieve cost efficiency, and to allow some forms of yardstick competition, at least in terms of information for the regulator;

• a more consistent approach to infrastructure regulation between the transport modes should be considered, for instance forms of scarcity pricing, forms of slot allocation in rail and air markets, and number of tills in airport regulation;

• research on social dimensions of further liberalisation (leading to competition ‘in the market’ and ‘for the market’) should be extended, especially in public passenger markets. The final judgment has to be based on political choices, but a better understanding of the real content of these choices is urgently needed not least to achieve higher acceptance for these measures.
1. Introduction

This Thematic Research Summary deals with ‘Regulation, Competition and Public Services’ in three sub-themes of market opening, strengthening competition, and implementing public interest. Research results are presented on the competitive market organisation in different transport modes (rail, road, air, water, cross-sectional) and aspects of quality regulation in a competitive setting. It focuses on economic regulation in the transport sectors with an intramodal perspective (competition and quality provision in each transport mode). It is primarily concerned with economic issues related to the organisation of the various transport sectors. The reasons for economic regulation of transport markets include:

- correcting market failure;
- preventing the emergence of monopoly power or control monopolies;
- realigning the outcomes of market processes with commonly accepted social values.

Currently, infrastructure sectors are regulated by national institutions. The EU mostly focuses on harmonising regulations by setting out guidelines for national regulators and lawmakers. In a broader sense, economic regulation can be understood as any use of the law or of legal means to influence market outcomes. The EU uses legal means to foster competition and other goals of public interest in the transport sector.

For this Thematic Research Summary, research projects reviewed have been grouped under the following three sub-themes:

- market opening: from regulated to competitive markets;
- strengthening competition: further reducing entry barriers to competitive markets, including creating a common market for each mode (e.g., interoperability);
- implementing public interest: targets of public interest are ensured in the transport market partly by direct regulation (e.g., passenger rights) and partly by using competitive instruments such as public service tendering.
The first and second sub-themes focus on competition in transport modes at two stages. The first is the opening of a market and the second is the additional steps needed to ensure full implementation of competitive forces. The third sub-theme addresses other economic issues in sector regulation and their relationship to competition issues.

The issues in intermodal competition (competition between modes) and fair pricing (e.g., road pricing) are addressed in the Thematic Research Summaries on Financing, Pricing and Taxation, on Passenger Transport, and on Freight Transport.

In preparing this Thematic Research Summary, all European projects under the Sixth and Seventh Framework Programmes and studies commissioned by the European Commission and some national studies were reviewed. This covers all projects since 2007. The projects most relevant to this topic are studies commissioned by the European Commission.

The report is structured as follows. Chapter 2 presents the background to the research topic by outlining the relevance of the topic in EU policy.

Chapters on the three sub-themes (Chapters 3, 4 and 5) summarise the results of research projects analysed. Each chapter begins with a brief background and overview which is followed by descriptions of projects by transport mode.

Since there are few studies in each sub-theme, each study and its issues are discussed separately. For each research project, the situation and policy issues are outlined to provide a framework for the research objectives. Then, the methodological approach for the study is briefly described, and the main findings and policy recommendations are summarised. Finally, conclusions drawn from the results and an overview of the gaps and topics for further research are presented.

Future challenges for research and policy prepared by Prof. Marco Ponti are presented in Chapter 6. The Annex presents a list of the projects reviewed.
2. Policy Background and Scope of Research

In the last few decades, transport and mobility have been addressed by the European Commission in a variety of initiatives to foster competition and to improve public services through regulatory action. The 2001 White Paper on European transport policy for 2010 - Time to decide emphasises the need for regulatory action because of the growing imbalance between transport modes in the EU and the need to eliminate bottlenecks and to manage the globalisation of transport.

The full potential of rail and short-sea shipping is not being exploited to provide alternatives to road haulage. The share of freight carried by rail in Europe had fallen in the last few years as the share carried by road has increased. However, the European Commission considers rail to have major potential for freight transport. To revitalise the railways, the Transport White Paper proposes a single European railway system by 2020 (EC, 2001).

Since then, substantial progress has been made in opening rail transport to regulated competition. Most notably, the three railway packages were issued between 2001 and 2007 to open up, to standardise, and to harmonise railway markets, administratively and technologically. At present, the first railway package is being revised and updated in the recast initiative to be finalised in 2013.

To achieve and assist further technological harmonisation, three developments are of particular relevance:

- since 2002, the Technical Specifications for Interoperability (TSI) have been developed, extended and refined;
- in 2005, the European Railway Agency was set up to coordinate the harmonisation process;
- European Rail Traffic Management System ERTMS was developed in the 1980s and in 2005; agreement was reached to implement the system in the trans-European network within 12 years.
A related endeavour is the establishment of the trans-European rail freight network (EC, 2006a).

Between 1987 and 1997, the air transport sector underwent a dramatic process of market opening in airline operations with a three aviation packages introduced by the EU. After several changes since its introduction in 1992, the third package has been updated and recast. The airline market can now be considered to be fully liberalised.

However, there still several areas for market opening and strengthening competition to be addressed by EU policy:

- gradual opening of airport ground-handling to competition (started by EC, 1996), regulation of airport fares (EC, 2006d and EC, 2009c) and of airport subsidisation by Member States (EC, 2005a);
- slot allocation at congested airports (EC, 2006b);
- regulation and harmonisation of air traffic control (EC, 2008d and EC, 2006d).

Similar to ERTMS in railways, the SESAR project will harmonise technology in air traffic control.

In maritime transport, the basic steps for market opening of transport services were taken in 1986. However, EU is working on achieving a single market without administrative barriers, particularly in short-sea shipping (EC, 2009b). The same aim drives EU policy in inland waterways (EC, 2006c). In addition, key focuses for the EU are the efficiency, pricing, and market opening of port services.

EU road freight markets were opened to competition in the early 1990s, but there is still some way to go to fully liberalise the road freight market. There are also competitive (and efficiency) issues arising from Regulations on different types of trucks in the EU. International coach market for passengers is also open to competition, subject to some caveats. However, markets for bus services within the Member States remain heavily regulated by national law and are often closed to international competition (see below, Public Service Contracts).

Another related aspect of EU policy is the implementation of general public interests in transport markets. The promotion of passenger rights and of the rights of people with reduced mobility is a form of quality regulation.
Since the EU took initiative on this 2000, a comprehensive body of EU Regulations has been issued covering passenger rights in all transport modes - air, rail, bus and coaches, sea and inland waterways. These Regulations directly serve the needs of passengers.

The implementation of public interest also concerns efficient use of public money spent on transport. Many governments spend substantial amounts on local and regional rail and bus services. The money usually coupled with exclusive service rights is received by transport companies, which in turn are required to provide certain public services. EU policy aims at establishing standards on the contractual prerequisites and the award procedures for such Public Service Contracts (EC, 2007c).

Although much has been achieved in fostering competition in some transport modes, the Transport White Paper indicates there is still more to be done to complete the internal market for transport (EC, 2011a). Thus, the objective in the coming decade is to create a Single European Transport Area by eliminating all remaining barriers between transport modes and national transport systems, easing the process of integration, and facilitating the emergence of multinational and multimodal operators.

The 2011 White Paper notes that bottlenecks are still evident in the internal market for rail services and overcoming them is a priority (EC, 2010). The objective is to establish an attractive and open rail market by removing administrative, legal, and technical barriers that impede entry to national railway markets.

Further integration of the road freight market is expected to make this mode more efficient and competitive. In air transport, the capacity and quality of airports needs to be addressed, the Single European Sky needs to be implemented as foreseen, and passenger rights need to be further consolidated. In water transport, market access to ports needs to be further improved and ‘Blue Belt’ implementation in the seas around Europe will simplify formalities for ship movements between EU ports.
3. **Sub-Theme: Market Opening**

In the railway sector, the studies reviewed recommended further opening of passenger markets to competition and the introduction of impartial and strong economic regulation covering all parts of the sector. In the air transport sector, studies highlighted that opening ground-handling markets to competition promises further improvements, such as enhanced efficiency, price reductions and improved quality. However, the social dimension should not be overlooked, both in its own right and because it may lead to deterioration of service quality.

**Background**

Legal market opening is a prerequisite for competition, particularly competition within a transport mode. This refers to intramodal competition as opposed to intermodal competition between transport modes.

In the road sector, market opening has been well under way for many decades. A private car can go anywhere; and a truck can go to any EU country carrying goods as cabotage. International bus services are open within the EU. However, access to national bus markets is restricted in many Member States. During the review period, no research on market opening of roads was carried out.

In the rail sector, international freight markets have only recently been opened to competition. Passenger markets (and tendering regional public railway services) are not yet open, although this is a long-standing EU policy issue. No research projects were found on this topic.

Air and water transport are intermediate cases. Transport services are open for competition. However, there are some major issues with airport ground services and services in seaports. In the review period, several studies on the opening of airport ground services were carried out.
Research

In the railway sector, passenger business has declined over the last century, progressively losing market share. Aimed at revitalising the rail sector, a study in 2010 analysed different models of market regulation introducing competition. The study assessed the interaction of the various regulatory models and their effects on market performance, quality of service, public finance, citizen mobility and accessibility.

In the air sector, research on market opening included a study on access to the ground handling market at Community airports. Ground-handling services are covered by the Directive 96/67/EC from 1996 that aims to gradually open services to competition while improving service quality at airports. However, since evaluations have shown that the current legal framework is not adequate, the European Commission has commissioned a study on potential revisions to the Directive.

Market opening in rail passenger transport

For the railway sector, a ‘Study on Regulatory Options on Further Market Opening in Rail Passenger Transport’ was carried out (Everis/NTU, 2010). One of the main reasons to consider further market opening of passenger railway services is the unsatisfactory development of this sector (measured in person-km and modal share), especially in the non high-speed segment. Figures 1 and 2 show the development of traffic volume and modal share (corrected for high-speed rail construction).

To evaluate the potential impact of market opening, two types of competition were considered: competition within the market (characterised by open access); and competition for the market (characterised by competitively tendered Public Service Contracts, PSCs). Four models were selected from these categories for closer examination:

- services provided only by open access but with public funding for unprofitable corridors or services by individual tender (Model B);
- services provided only by open access on profitable routes, with unprofitable service groups operated under competitively tendered Public Service Contracts/franchises (Model E);
• all lines operated under competitively tendered PSCs/franchises, with open access permitted under regulatory control (Model G);

• all lines operated under competitively tendered PSCs/franchises, with open access permitted without restriction on certain lines (Model H).

Figure 1: Rail passenger traffic volume (corrected for high-speed rail construction), 1990-2008 (Everis/NTU, 2010)
An impact assessment was carried out of the four selected models on the following criteria: impact on passenger railway transport; the economy; social aspects; service levels in different market segments; and environmental aspects.

Although the general conclusion was that Model G performs best, followed by Models H, E and B, there were no major differences between the models. The anticipated traffic growth from domestic passenger market opening is more strongly influenced by the detail arrangements that surround market opening than by the model selected.

There was a clear difference between the formal/legal opening of the domestic rail passenger market and measures facilitating market access for new entrants. The study considered the success or failure of market opening to depend largely on the following issues:

- impartial and powerful economic regulation covering all parts of the rail industry (including the award process for PSCs);

- a national ticketing system with a range of standard national tickets between railway undertakings (RUs), backed by a fair and impartial inter-RU revenue allocation system;
• ticketing, sales and information systems operated impartially at stations, enabling customers to purchase a ticket for a domestic journey from a single sales point;

• an infrastructure charging system that encourages RUs to run additional trains, and also applies on a non-discriminatory basis to small RUs operating a small number of trains;

• availability of suitable rolling stock;

• full implementation of all EU Directives and Regulations with regard to the rail sector.

Access to the ground handling market at airports

Research on market opening in the air sector included a study on the ‘Possible revision of Directive 96/67/EC on access to the ground-handling market at Community airports’ (Steer Davies Gleave, 2010b).

The ground-handling market covered by the Directive includes the provision of a wide range of services, such as passenger handling, baggage handling, ramp handling, and fuel and oil handling. These services are usually provided by one or more airport/airline operators or by a third party.

Before the adoption of the Directive in 1996, ground-handling services were often provided by a monopoly supplier at airports in the European Union. Through effective competition, profit margins for these services have been reduced and so too prices to airlines (and thus potentially to passengers). However, there is a risk of market failure in highly competitive, low margin businesses, with the consequence of deterioration in service quality provided to airlines and in the working practices of employers.

The 1996 Directive 96/67/EC on access to the ground-handling market at Community airports introduced minimum requirements for transparency of information and market access for service provision according to airport size. The Directive aimed to introduce competition in order to reduce costs to airlines and to improve service quality.

According to the study, opening the market to increased competition can be expected to have benefits through price reductions and service quality improvements. However, it also has an impact on the staff costs of ground-handling service providers, unless social protection measures are in place as is the case in Spain.
The 96/67/EC Directive has limited market opening requirements, and independent handlers would like these to be extended. However, the trade unions believe that greater social protection is needed across Europe even under the current arrangements.

Moreover, the following issues require action:

- barriers to entry. Some barriers to the market remain because of (i) the limited size of the contestable market; (ii) the duration of the approval process; and (iii) the dominance of some airports in the ground-handling market;

- potential for greater benefits to airlines of more open competition. The evidence shows that greater reductions in prices have been experienced in Member States that have moved from a monopoly to a managed competitive ground-handling market (for instance, Greece and Italy) than in those already open to competition (the Netherlands);

- social impacts of competition. Greater competition for ground-handling services and pressure to reduce prices have had impacts on employment conditions and on wages levels. A large number of employees have transferred between ground-handling providers. Finally, workers have increasingly moved to more flexible working arrangements;

- impact on service quality. With greater competition in the provision of ground-handling services, there is concern about deterioration in the service quality. Some employees are not qualified to the minimum standards, and there is some evidence of greater congestion on the ramp;

- regulatory and legal costs. The Commission and Member States incur significant costs from enforcing the Directive through enforcement or local legal processes. In addition, ground-handling companies have the costs of compliance related to the approvals and tendering processes introduced by the Directive. There is a potential to simplify and reduce these costs, but these cost may be increased by some of the options for changing legislation and introducing independent regulators.
4. Sub-Theme: Strengthening Competition

The studies reviewed made recommendations for strengthening competition in the different transport sectors, focusing on the creation of single harmonised markets for the EU. For the road sector, two studies made recommendations on issues of potentially unfair or inefficient regulation of certain types of freight trucks. In the rail sector, the issue of interoperability requires further action. In particular, the European Railway Agency should be strengthened. In Inland Waterway Transport, EU policy needs to aim at removing or reducing barriers to the functioning of a single European market deriving from several national regulatory and administrative burdens. In air transport, the current slot allocation systems seem to prevent optimal use of scarce capacity at busy airports. Thus, changes to the current Regulation have been proposed by the European Commission to allow introduction of market-based mechanisms across the EU.

Background

Strengthening competition in a transport mode depends on numerous factors, one of which is the size of the market. If markets are fragmented, then sunk costs of market entry (costs that cannot be recovered by leaving the market) are effectively increased so that competition is likely to be impaired.

This indicates the importance of technical and administrative harmonisation as an instrument for strengthening competition. For instance, technical interoperability together with administrative or regulatory harmonisation can play a key role in strengthening competition in transport.

Research

In the rail sector, three studies addressed deficiencies in technical harmonisation (interoperability) and ways to overcome them. Two studies on Inland Waterway Transport addressed deficiencies in administrative or regulatory harmonisation and ways to overcome them.
Two studies on the road freight sector focused on potentially unfair or inefficient regulatory interference in the market. One study showed there is no potentially unfair competition between unregulated Light Goods Vehicles and standard heavy goods vehicles. The other study evaluated the potential benefits emerging from allowing Longer and/or Heavier Vehicles on European roads.

In air transport, the market for airline services is highly liberalised. However, a severe impediment to airline competition is congestion at airports when new entrants are denied access to airport slots. One study investigated the EU Regulation on slot allocation.

**Strengthening competition by improving railway interoperability**

The European Railway Agency (ERA), established in 2005, plays a critical role in railway safety and interoperability. The study ‘Evaluation of Regulation 881/2004 establishing the European Railway Agency’ analysed the impact of the implementation of the Regulation (Steer Davies Gleave, 2011a). It assessed the effectiveness of the system created by the Regulation, and notably the effectiveness of ERA. In addition, potential new roles for the Agency in railway safety and interoperability were examined.

The study found that the Agency has made reasonable progress meeting its policy objectives, taking account of the time scales and the resources at its disposal. The agency has had an indirect influence on innovation in interoperability through its role in extending the scope of Technical Standards for Interoperability (TSI) and on safety through the development of Common Safety Methods, Common Safety Indicators, and Common Safety Targets.

However, the role of the Agency has not been to actively promote innovation, but rather to set standards in response to innovation. The absence of a clear long-term strategy in the Agency’s business reporting highlights a potential lack of effectiveness.
Table 2: Summary of potential future roles of the European Railway Agency

(Steer Davies Gleave, 2011a)

<table>
<thead>
<tr>
<th>Role</th>
<th>Additional resources required?</th>
<th>Can it be Self-financing</th>
<th>Should the Agency have an expanded role?</th>
<th>If so, change to the Regulation necessary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot checks of safety-critical components</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Type approval and certification of rail vehicles and ERTMS</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes (ensuring that Notified Bodies are suitable trained; facilitating the development of guidelines)</td>
<td>Yes</td>
</tr>
<tr>
<td>Certification of infrastructure managers and railway undertakings</td>
<td>Yes</td>
<td>Yes if certification is done centrally</td>
<td>Yes (setting the framework and developing the single European safety certificate); No (carrying out the RU certification itself in the short-term except for ERTMS corridors)</td>
<td>Yes and may require a change to the Safety and Interoperability Directives</td>
</tr>
<tr>
<td>Supervision, audit &amp; inspection of National Safety Authorities</td>
<td>Yes</td>
<td>No</td>
<td>Yes (auditing National Safety Authorities adherence to common guidelines)</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigation of railway accidents</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Monitoring national safety and interoperability legislation</td>
<td>Yes, but minimal</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Promoting innovation</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>International cooperation and promotion of EU standards</td>
<td>Yes</td>
<td>Yes in some cases</td>
<td>Yes (delegated authority for technical matters)</td>
<td>Yes</td>
</tr>
<tr>
<td>Dissemination of railway-related information and training</td>
<td>Yes, but minimal</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Provision of advice and support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
The study evaluated a number of potential roles for the Agency (see Table 2) and identified the following areas for improvement in the Agency’s performance:

- develop a more integrated system for quality assurance;
- introduce objective-based performance measures into the organisation’s management reporting processes;
- review current governance arrangements with a view to strengthening the management of the Agency’s operations and performance.

Certification of rail vehicles is a significant element of vehicle costs and of vehicle time to market. Therefore, innovation in this area is vital to the competitiveness of the rail sector. A cluster of integrated research projects partially funded under the EC 7th Framework Programme, TrioTRAIN (Total Regulatory Acceptance for the Interoperable Network) aims to further promoting interoperability (TrioTRAIN Consortium, 2012). The central idea is to introduce virtual certification to replace testing by simulation, and to propose a simplified authorisation processes by means of an optimised mix of field testing, mock-up testing, and simulation.

TrioTRAIN addresses three key technical issues for rail vehicle certification, namely vehicle dynamics (DynoTRAIN), pantograph-catenary interaction (PantoTRAIN) and train aerodynamics (AeroTRAIN).

AeroTRAIN aims to contribute to European homologation and acceptance procedures to speed up interoperable product approvals while reducing risk through improved safety management.

In DynoTRAIN, inconsistencies and open points in the acceptance criteria have been identified, and revisions to acceptance criteria in European standards and resolutions to close open points in the TSI proposed.

PantoTRAIN aims to establish compatibility in the pantograph/catenary system, which is a major barrier to rolling stock interoperability. Each Member State has developed its own overhead line equipment leading to different catenary designs with variations in mechanical properties. Thus, a unified approval method is a key aspect to be addressed in establishing a competitive railway system. PantoTRAIN proposes transfer of pantograph-catenary certification from current line testing to laboratory testing and simulation.
This will improve pantograph interoperability, increase train performance on existing infrastructure, and achieve considerable cost and time savings in the homologation of new pantographs.

**Strengthening competition in Inland Waterway Transport**

A significant reduction in the administrative and regulatory burdens of Inland Waterway Transport (IWT) has been achieved in the last 15 years. A study on ‘**Administrative and Regulatory Barriers in the Field of Inland Waterway Transport**’ made a comprehensive assessment of the remaining barriers (NEA, 2008).

Administrative barriers can arise from the information requirements imposed on market parties through the enforcement of regulations. Regulatory barriers arise from rules and regulations that hamper functioning of the EU internal market in IWT.

Data and information were collected during the study by means of questionnaires and interviews, and specific case studies were carried out to analyse the situation in several European countries.

In total, 136 administrative and regulatory barriers were identified. The study identified barriers in almost all countries to the financing of investment in vessels, and in a number of countries barriers to vessel insurance. Problems with respect to financing included:

- lack of harmonisation of financing and insurance requirements between countries;
- problems in convincing banks of investment profitability (e.g., due to limited experience of banks in IWT);
- lack of support from authorities (for example, with regard to taxes, subsidies and state guarantees).

Furthermore, the study found that in a number of countries, companies were not satisfied with the performance of the inspection authorities. Instances of long delays in obtaining certificates and errors were reported in various countries.

The study also reported that to some extent the manning requirements could be investigated because they are sometimes perceived as being too strict by inland navigation operators.
Moreover, lack of standardised or harmonised job profiles for manning and crew requirements was seen as a barrier in some countries and also non-compliance with Regulations on resting and sailing times. Furthermore, problems with local and port authorities were stated, for instance, port dues, limited opening times of ports and port facilities and reduced number of facilities (such as rest areas in ports) and problems in infrastructure planning processes.

Many barriers mentioned in the country studies related to cargo, for example, to the 'burdensome' requirements that operators have to meet in order to be listed to transport liquid cargos. Many problems related to lack of harmonised procedures with non-EU countries were reported particularly along the Danube River.

The study ‘Proposal for a Legal Instrument on the Harmonisation of Boatmasters’ Certificates in Inland Waterway Transport’, conducted in 2009, described the current fragmentation of requirements for boatmaster certificates in the EU and carried out an impact assessment on potential harmonisation of boatmaster certificates throughout the IWT network in the EU (Europe Economics, 2009).

The study showed a rather fragmented legislative and institutional framework in the sector. The main regulatory actors are the Central Commission for Navigation on the Rhine (CCNR), European Commission, Danube Commission, and United Nations Economic Commission for Europe (UNECE). Each actor has a different but to some extent overlapping geographical scope and their legislation/resolutions set different requirements for boatmaster qualifications.

The study highlighted that the CCNR has the smallest geographical scope but the highest harmonised requirements, whereas the UNECE has the largest geographical scope but the lowest level of harmonisation. In addition, regulators have different mechanisms to implement their decisions. For example, the CCNR Regulations and EU Directives are binding, whereas Danube Commission Recommendations and UNECE Resolutions are not.

The professional experience required to obtain a boatmaster certificate also varies between these four main regulatory entities. The study indicated that this may create both competitive advantages and disadvantages for boatmasters and IWT companies, depending on the country of residence.
The study indicated that in terms of market access, the main restriction is access to the German Rhine. A Rhine Patent is required in nearly all cases to be able to navigate this part of the river. Yet this section of the Rhine is Europe’s main inland waterway in terms of economic significance. Thus, the current regime results in significant entry barriers for the most important river in IWT.

In addition to the German Rhine, other stretches of inland waterways in some European countries have restricted access for boatmasters with a defined minimum of local experience. This is another obstacle in the entry to new foreign markets.

In the impact assessment, the study analysed four pre-defined policy options to improve the current situation (options A to D). Moreover, an alternative option was added (option C1):

- option A: maintenance of the current situation;
- option B: the promotion of voluntary actions by the EU (strengthening cooperation between Member States);
- option C: mandatory action through new or revised EU legislation - Directive;
- option C1: A revision of Council Directive 96/50 to ensure that a boatmaster with a certificate issued by a licensing authority in any Member State has access to all inland waters in the EU;
- option D: mandatory action through new EU legislation - Regulation.

The policy options were analysed for economic, social, and environmental impacts.

The study concluded that the incremental benefits of option C1 outweighed the incremental costs and possible safety concerns. Further, the study recommended the Commission implements Option C1 by amending Council Directive 96/50 to enforce recognition of boatmaster certificates for EU inland waterways. This would permit boatmasters to move freely from one Member State to another, and would allow companies to respond more quickly to changes affecting incentives, such as evolving market conditions, peaks (and troughs) in demand, and availability of labour.
Competition in EU road freight transport

The study ‘Light Goods Vehicles in the Road Transport Market of the European Union’ analysed the question of unfair competition in-depth (NEA, 2010). One of the EU core targets is to promote and ensure the free flow of people and goods. A pre-condition is that the international transport system functions optimally. In particular, unfair competition between transport modes may hinder further development of European integration.

Commercial road freight transport within the European Union is strictly governed by legislation. For instance, requirements concerning social rules, road charging and admission to the profession of commercial road haulage operators are addressed in different EU legislation. These rules apply only to freight vehicles of maximum permissible weight of 3.5 tonnes or more (own weight plus loading capacity = Gross Vehicle Weight).

However, a dispute could arise over unfair competition of non-regulated freight vehicles of less than 3.5 tonnes (Light Goods Vehicles or LGVs). These vehicles might compete with the regulated vehicles of over 3.5 tonnes. To analyse this question, an empirical study was conducted, comprising three sources of data:

- cost level comparison between LGVs and heavier freight vehicles;
- analysis on the basis of international freight flow statistics;
- questionnaire on legislation.

Cost calculation exercises showed no substantial cost-price based competition between LGVs and the heavier and larger freight vehicles. The freight cost price per tonne or per cubic metre of the latter was at least 25% lower than that of a LGV. The analysis of the bilateral freight flows (in tonnes) between the Member States showed that on average the maximum share of LGVs in international goods was less than 5% of the total goods flow. A questionnaire was distributed to the national representatives of the International Road Transport Union and to the Ministries of Transport of each EU Member State. Although some countries stated that there might be a problem, most stated that LGVs in international freight transport are not a substantial problem in their country.

The study concluded there was no substantial unfair competition between Light Goods Vehicles and heavier freight vehicles in commercial road freight transport between EU Member States.
This type of competition would begin to occur with an increase of more than 25% in cost price of freight transport for heavier vehicles and no increase for the light goods vehicles.

The project ‘Effects of adapting the rules on weights and dimensions of heavy commercial vehicles as established within Directive 96/53/EC’ assessed the competitive effects of allowing Longer and/or Heavier Vehicles in international road freight transport (Transport & Mobility Leuven, 2009).

The current Directive 96/53/EC regulates weights and dimensions of heavy goods vehicles in the EU. To assess its appropriateness in the ongoing growth of the freight transport market, the study investigated the potential effects of changing the directive to allow for Longer and/or Heavier Vehicles (LHV).

Four scenarios were set up in the study to assess the possible effects of changing the directive on transport demand/modal choice, safety, and infrastructure as well as on emissions and energy consumption:

- scenario 1: ‘Business as usual’. This scenario assumed no change to the road transport equipment constraints valid in 2000;
- scenario 2: ‘LHV Full option’: Europe-wide permission of 25.25 m and 60 tonne trucks. These LHVs trucks are allowed on all European motorways (backbone roads). Usage of LHVs on regional roads may be restricted;
- scenarios 3 and 4: Intermediate cases where, for example, LHVs are allowed only in some countries, on certain corridors, or where permissible, LHV size is gradually increased.

The study concluded that the full permission of LHVs (scenario 2) would have an overall positive effect on society (with intermediate results for the intermediate scenarios). The main reason is that society would have to spend less on transporting the same amount (or even slightly more) goods. LHV vehicles seem to be more cost-effective than current heavy goods vehicles. They transport more tonne-km (+1%) with less vehicle-km (12.9%). In addition, positive effects were predicted for safety and emission reduction, both mainly due to a reduction in road vehicle-km (-12.9%), despite the fact that the individual LHV is less safe and more polluting than a regular truck.

The only negative impact was the high cost to road infrastructure. Higher investments in maintenance and bridges would be needed.
The study concluded that LHVs could be introduced in the EU without harm to society in general. However, the following effects would need to be addressed:

- growth in rail and Inland Waterway Transport would be somewhat less than expected, leading to a risk of difficulties for local rail lines;
- individual LHVs are less safe than a smaller truck;
- investment needs to be made in Infrastructure.

The study highlighted that from a purely economic point of view, harmonisation is not necessary. Benefits are substantial in a scenario in which the EC sets minimum standards, and countries can choose whether to allow LHVs (scenario 3).

However, there is concern about timing. Introduction of a major change in weights and dimensions of heavy commercial vehicles needs to be announced well in advance. This is needed to adapt infrastructure, and to give opportunity to monitor the effects on transport demand and modal choice, emissions, and safety. Stepwise introduction is also an option, but the competitive position of smaller transporters could be at risk in this case.

Infrastructure: The study recommended that precautions be taken with regard to access to certain roads and infrastructure that may not be able to cope with LHVs.

Safety: The study recommended adopting strong limitations on overtaking LHVs. Moreover, LHVs should be made easily identifiable day and night and in low visibility conditions by means of clear markings (signs).

Modal choice: Road freight transport (as well as other transport) currently does not fully pay the cost it causes. The study suggested assessing the feasibility of introducing certain taxation systems for LHVs.

**Strengthening competition between airlines**

Research on strengthening competition in the air sector comprised an ‘Impact assessment of revisions to Regulation 95/93’ (Steer Davies Gleave, 2011b).

With capacity constraints at many European airports, Regulation 95/93 sets out common rules for slot allocation. Under the Regulation, Member States designate congested airports as coordinated, and slot coordinators at each of these airports seek to balance
demand for slots with supply. Where demand exceeds supply, the coordinators allocate slots based on criteria, including historic preference (the 'grandfather rights'). For instance, an air carrier that has operated particular slots for at least 80% of the summer/winter scheduling period is entitled to the same slots in the equivalent scheduling period in the following year. Consequently, slots that are not used sufficiently by air carriers are re-allocated ('use it or lose it'). The Regulation also promotes access of new entrants to the airport capacity.

The study evaluated the current operation of the Regulation and did an impact assessment of various options for its revision. It focused on a sample of 15 airports, including all large European hubs as well as other large airports. Data were collected in interviews with key stakeholders and in open public consultation. Table 3 shows the actual and forecasted capacity utilisation for 14 of these airports (no information was available for Stockholm Bromma).

In respect of current implementation of the Regulation, the study did not find a single major problem but rather a number of issues. These issues are: (i) Sub-optimal use of capacity at some airports. For instance, unutilised slots or a high proportion of small aircrafts limit the number of passengers; new entrants have difficulties in obtaining slots; challenging the dominant position of the incumbent airlines is often difficult for new entrants. (ii) Operation of slot coordination. For instance, in some Member States, aspects of the structure of the coordination system could be interpreted as limiting the independence of the coordinator; availability of information on capacity parameters, local guidelines, and slot availability, allocation and utilisation varied significantly between coordinators; at most coordinated airports, it is difficult or impossible for business aviation to obtain historic rights to slots.

The study identified the following facts:

- mobility (turnover) of slots is low at many congested airports. As a result, it is difficult for new entrants to increase operations;
- the new entrant rule has resulted in schedule fragmentation and has not promoted competition;
- even at airports where slot demand exceeds supply, over 10% of slots allocated are not utilised. This indicates that scarce capacity is under-utilised.
<table>
<thead>
<tr>
<th>Airport</th>
<th>2010</th>
<th>2017</th>
<th>2025</th>
<th>Capacity assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam Schiphol</td>
<td></td>
<td></td>
<td></td>
<td>Annual movement cap raised to 510,000 in November 2010 but no further increase</td>
</tr>
<tr>
<td>Dublin</td>
<td></td>
<td></td>
<td></td>
<td>Second runway built when needed</td>
</tr>
<tr>
<td>Düsseldorf</td>
<td></td>
<td></td>
<td></td>
<td>Assumed 10% increase in capacity in 2015 but no further increase</td>
</tr>
<tr>
<td>Frankfurt</td>
<td></td>
<td></td>
<td></td>
<td>New runway (2011) and terminal (2015) allow increases from 83 to 126 movements/hour</td>
</tr>
<tr>
<td>London Gatwick</td>
<td></td>
<td></td>
<td></td>
<td>No new runway but increase of 2-3 movements/hour on current runway</td>
</tr>
<tr>
<td>London Heathrow</td>
<td></td>
<td></td>
<td></td>
<td>No third runway, or mixed mode, or relaxation of annual movement cap</td>
</tr>
<tr>
<td>Madrid Barajas</td>
<td></td>
<td></td>
<td></td>
<td>ATC improvements increase capacity from 98 to 120 movements/hour by 2020 (increase phased in from 2014)</td>
</tr>
<tr>
<td>Milan Linate</td>
<td></td>
<td></td>
<td></td>
<td>Assumes no amendment to Bersani Decree</td>
</tr>
<tr>
<td>Munich</td>
<td></td>
<td></td>
<td></td>
<td>Third runway operational by 2017</td>
</tr>
<tr>
<td>Palma de Mallorca</td>
<td></td>
<td></td>
<td></td>
<td>Additional capacity added when required</td>
</tr>
<tr>
<td>Paris CDG</td>
<td></td>
<td></td>
<td></td>
<td>Increase from 114 to 120 movements/hour by 2015, but no further increase (e.g. fifth runway)</td>
</tr>
<tr>
<td>Paris Orly</td>
<td></td>
<td></td>
<td></td>
<td>No relaxation of annual slot cap</td>
</tr>
<tr>
<td>Rome Fiumicino</td>
<td></td>
<td></td>
<td></td>
<td>Improved ATC allowing 100 movements/hour but no new runway</td>
</tr>
<tr>
<td>Vienna</td>
<td></td>
<td></td>
<td></td>
<td>Third runway operational in 2020</td>
</tr>
</tbody>
</table>

- **Demand exceeds capacity most or all day**
- **Demand exceeds capacity during part of day**
- **Sufficient capacity most or all day**
Regarding issues with the slot monitoring and enforcement system, the study highlighted that the Regulation has not been put into practice fully in all countries. This concerns particularly the criteria for slot withdrawal and sanctions for slot misuse.

London airports are the only airports at which the secondary slot allocations (secondary trading) has been successful in improving capacity utilisation, increasing the slot mobility between airlines and allowing new entry on some routes. Secondary trading has not had negative impacts in terms of increased market concentration. However, the analysis highlighted that there is little evidence of secondary trading at other EU airports.

The study concluded that some of the issues identified with the operation of the Regulation can be addressed through more effective implementation and enforcement, while other issues would need amendment to the Regulation. Options for amending the Regulation should aim at:

- improving the independence of the coordinator;
- improving the transparency of slot data;
- making the system of slot monitoring and enforcement more effective;
- making it easier for business/general aviation to gain slots;
- introducing market mechanisms for primary allocation of slots and/or for secondary trading;
- revising the new entrant rule;
- increasing utilisation of the number of slots that can be allocated.
5. Sub-Theme: Implementing Public Interest

Studies in the review period made recommendations to support implementation of public interest in transport. In air transport, these recommendations focus on improving the situation for passengers with reduced mobility, and mostly relate to national policies. Regarding awarding and contracting practices in road and rail public transport across the EU, research findings highlight that diversity of administrative procedures implies fragmentation of markets, thus weakening the potential for competition.

Background

There are many issues of public interest in transport. Not all of them are served well, even if competition between suppliers works fairly well, and particularly not if the forces of competition are absent.

One prominent public concern is whether the supply of public transport services and infrastructure is sufficient. Infrastructure capacity provided by markets is generally considered insufficient, and thus regulation and/or public financing are seen as means to financing the additional or the whole amount required. This is particularly the case for railway infrastructure, and for bus and railway services.

Research

One study on railways and two studies on Public Service Contracts in bus and railways were carried out in the review period. The railway study was a national contribution from the UK and commands special attention for the sheer size and the broad issues addressed. The public interest addressed was simply ‘Rail Value for Money’. How to create higher quality of services without ever-increasing subsidies.
The studies on bus and railway services examined the many organisational and contractual forms for these services throughout Europe to establish the lessons learnt and to make recommendations for the future.

Another issue of public interest addressed in a recent study was the protection of air passengers with reduced mobility.

**Contracting public services**

The British study ‘Value for Money. Realising the Potential of GB Rail’ identified options for improving value for money to passengers and the taxpayer, and ways to achieve efficiency improvements in infrastructure (Department for Transport, 2011). Thus, the study is of general interest despite its focus on the British rail system. However, only a few thought-provoking results and aspects of the study can be mentioned here.

Benefits of Improving value for money from the leasing market for rolling stock could come from:

- better procurement;
- improved rates on releases;
- life extension of current fleets, where appropriate;
- improved efficiency through better long-term planning;
- stable policy and standardisation.

Ministries and public authorities need to explore the potential of establishing strategic partnering arrangements with rolling stock leasing companies. The strategic partnerships:

- should commit the rolling stock leasing companies to offering rates on releases that are demonstrably value for money and should ensure that public authorities obtain sufficient information to be satisfied that this is the case;
- might also include enhanced assurance to the rolling stock leasing companies regarding the future use of rolling stock.
If problems continue with re-lease rates, and efforts to establish strategic partnering arrangements with the leasing companies proved to be unsuccessful, public authorities should consider introducing regulation of fair rates of return to the rolling stock leasing companies.

Public authorities could also explore options for establishing new privately financed vehicles to procure and hold rolling stock in the public interest, recognising that rolling stock, after initial procurement, is going to stay in the national rail system in the long term.

Improving value for money from competition and contestability: The study recommended increasing contestability in areas beyond on-rail competition. Particularly for infrastructure asset management, the study proposed the introduction of diverse ownership and/or management of route-level concessions. This would increase the contestability of infrastructure operation, maintenance and renewals and some enhancement expenditure. It would allow the introduction of new techniques to increase efficiency and reduce costs.

Improving value for money from franchise reform: EU procurement and State Aid requirements (particularly in Regulation 1370/2007) provide for the open tendering of public services. Central aspects of reform include:

- longer franchises with greater scope for risk and benefit sharing;
- a lesser level of specification and potentially, an element of fare deregulation.

Studies have indicated it is essential to ensure that the value for money of subsidy is clear – even if the subsidy required is the product of a complex number of drivers (see Figure 3, the study stresses that the depicted model is simplified). If the scope for the franchisee to make profit is too open ended, there is potentially poor value for money for the taxpayer. In addition, there is a potential State Aid issue of overcompensation and the requirements of the EC Public Service Regulation (EC 1370/2007 at article 4) may not be met.

Improving value for money from regulation: According to the study, a clear distinction is essential between Public Authorities (Ministry of Transport) and the regulator as well as whole-industry regulation. The dual regulatory approach can create tensions and a lack of whole-industry thinking.
In addition, regulation of performance, safety, and efficiency should be bundled under a single regulator. This would ensure that train and infrastructure operators are held equally accountable for their actions.

<table>
<thead>
<tr>
<th>Government controlled drivers</th>
<th>Economic and industry factors</th>
<th>Industry outcomes</th>
<th>Financial outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fares regulation</td>
<td>Operator fares decisions</td>
<td>Fares/tariffs</td>
<td>Operator revenues</td>
</tr>
<tr>
<td>Economic policy</td>
<td>Economic growth, employment</td>
<td>Demand or services</td>
<td>Operator costs</td>
</tr>
<tr>
<td>Overall transport policy</td>
<td>Attractiveness of alternative modes</td>
<td>Extent/quality of services provided*</td>
<td>Subsidy required</td>
</tr>
<tr>
<td>Franchise specification</td>
<td>Operator service decisions</td>
<td>Efficiency/economy of Network rail/operations/ROSCOS</td>
<td></td>
</tr>
<tr>
<td>High Level Output Specification &amp; input to Route Utilisation Strategies</td>
<td>Network Rail policies &amp; standards</td>
<td>Infrastructure configuration/quality</td>
<td>Network Rail costs</td>
</tr>
</tbody>
</table>

*Including: Routes operated, frequency, times of day, stopping patterns; quality of rolling stock, station environment; Service reliability

The study considered that the British regulator could also take on a role on the regulation of fares across all franchised services. This would allow fares to better reflect costs (particularly infrastructure costs), and thus encourage more realistic expectations. It would allow government to limit exposure to changes in subsidy and allow it to step back further from the industry. Such a role would require the government to set a clear policy framework so that the regulator adequately takes into account social or other policy goals.
The study on ‘Implementation of Regulation (EC) N 1370/2007 on public passenger transport services by rail and by road’ provided an overview of the application of the Regulation by the Member States (DLA Piper, 2010). A pivotal goal in EU policy-making is safe, efficient and high-quality public transport services for European citizens. Thus, since the 1960s various Regulations have been developed to ease the increasing financial burden of carriers to provide public transport. In particular, a Public Service Obligation (PSO) should be accompanied by a right to financial compensation. In the 1990s, the rules were amended to allow for the introduction of Public Service Contracts (PSC) as a means of ensuring adequate public transport services. However, these rules did not address the way PSCs were to be awarded.

Against this background, Regulation 1370/2007 on public passenger transport services by rail and road came into force in December 2009 with some provisions to address award procedures. However, the Regulation has a considerable degree of complexity and can be implemented in various ways.

Providing an overview of the application of the Regulation 1370/2007 by Member States, the study has enabled the European Commission to facilitate dialogue with Member States and stakeholders, to identify bottlenecks in implementing the Regulation, and to search for potential solutions.

The study showed that the organisation of public transport in Europe varies considerably in regulatory and contractual practices. This concerns practically all aspects of public service organisation: the existence of general rules; the definition of PSOs; the award procedure of PSCs and the review mechanism for such awards; the options open to competent authorities the way to award PSCs; and the compensation method.

Organising public transport through contracts appears to be a widespread practice, with a number of exceptions. Despite the entry into force of Regulation 1370/2007 and the direct application of its provisions (except the award procedure), many contracts have not yet been adjusted to the Regulation.

The study concluded that the review of regulatory and contractual practices regarding the Regulation led to a set of issues that need further clarification with the European Commission. These issues comprised definition of PSOs, the concepts of exclusive rights, the rule of compensation (under- and over-compensation), subcontracting, the definition of an internal operator, the rule of confinement of the internal operator, the rule of cross-subsidisation, and transitional rules.
The study ‘Contracting in urban public transport’ analyses how urban public transport is organised across the EU (inno-V, 2008). Numerous organisational aspects come into play, including the way national and local authorities bestow regulatory powers on public transport, how financing is organised, the ownership and structure of transport operators, the relationship between authorities and transport operators, and how this relationship is established, and the possible use of competitive mechanisms as part of a regulatory regime.

According to the study, the public transport framework is composed of two main instruments: market organisation and Public Service Contracts (see Figure 4). First, general decisions about roles, tasks and about the ownership of the infrastructure and the operator are usually decided by authorities. These decisions determine the organisational structure of the local public transport market (market organisation). Second, in order to implement the aims of the authority into day-to-day operations, agreements about planning and design of public transport services, the control of performances and the risk level for the operator need to be fixed. In most cases, these three agreements are explicitly laid down within Public Service Contracts.

The study on contracting in urban public transport provided tools to facilitate comparison of organisational forms, a general presentation of contracts, and a guidebook for contracting and awarding contracts. The intention was to help understand the complexity of contracting practices in European public transport and to give public authorities clear guidance on when and how to use contracting.

Organisation of local and regional public transport in Europe has gone through considerable changes in the last two decades. A main trend in a number of countries and cities is the growing use of contracting. However, contracting can take many forms, as many kinds of relationships are possible between transport authorities and transport operators.

Another feature of the last two decades is the growing use of some form of competition in the award of operational rights to operators. This can be classified broadly under the headings of ‘competition in the market’ and ‘competition for the market’ but the organisational forms implemented in various countries exhibit more variety than suggested by this division.
While operators can develop services under the regime of ‘competition on the road’, transport authorities can prescribe the services to be provided under regimes using ‘competition for the market’. However, such regimes vary considerably in implementation, from fully prescribed timetables to functionally described service levels.

*Figure 4: Two main instruments of the public transport framework (inno-V, 2008)*

In addition to award mechanisms based on competition, there are numerous cases of direct awards to public operators. Here too, relationships between transport authorities and operators have evolved, and clear contracting agreements and schemes to evaluate performances in exchange for public support in such relationships are commonly encountered.
The study ‘Evaluation of Regulation 1107/2006’ provides a review on the regulation’s operation in the Member States (Steer Davies Gleave, 2010a). The regulation that came into effect in July 2008 introduced protection for air traveller with reduced mobility. Key provisions include:

- the right, subject to certain derogations, not to be refused embarkation or reservation;
- the right to be provided with assistance at airports at no additional cost to access a flight;
- provision of assistance at airports is the responsibility of airport management company. Previously, these services were usually contracted by airlines.
- the costs of providing assistance at airports can be recovered from airlines through transparent and cost-reflective charges levied on all passengers.

The Regulation also requires the Member States to introduce sanctions in national legislation for non-compliance with the Regulation, and to create National Enforcement Bodies (NEBs) for the Regulation. The Regulation applies to all flights from and within the European Union (EU), and to flights to the EU operated by EU-registered carriers.

The Regulation requires the European Commission to report its operation and results to the European Parliament and the Council. To provide information for this report, the European Commission mandated Steer Davies Gleave to carry out an evaluation of Regulation 1107/2006 in 2010. Evidence on the implementation of the Regulation was gathered by means of in-depth discussions and consultations with stakeholders, supplemented by case studies. Stakeholder included airports, airlines, NEBs, and organisations representing disabled people, and people with reduced mobility.

The study concluded that most of the airports and airlines investigated have implemented the requirements of the Regulation. However, there is significant variation in the quality of service provided by airports and in the policies of airlines on the carriage of persons with impaired mobility. The study highlighted that NEB are not very active in monitoring Regulation implementation and in promoting awareness of the rights the Regulation grants.
6. Future challenges for research and policy

By external expert Prof. Marco Ponti, Milan Polytechnic University

General research issues

The dominant theory of marginal social cost charging for infrastructure use is seldom applied in Europe, leading to market distortions and inefficiencies. An overall review of this regulatory issue is urgently required, taking into account taxation/subsidies on the various competing transport modes.

Economic regulation, as opposed to direct state command and control intervention, assumes as a specific issue - capture mechanisms and practices at different levels. Capture is the core concept at the basis of economic regulation. Without capture, an independent regulatory agency is not needed. Ministries could well do this job themselves. Capture can be defined as the mechanism that makes egoistic interest and objectives prevail on the institutional goals of policies, that is the public interest. The standard capture phenomenon is represented by a regulated company (public or private) that succeeds in inducing the political decision-maker to behave in its favour against the public interest. For example, allowing extra profits (in case of a private companies), or extra costs (in case of inefficient public companies). However, there are several other forms of capture. A well-known form is reverse capture, when a public agent induces a regulated company to maintain a situation of over-employment in order to gain political consent. Also, corruption is an obvious form of capture, either direct, or in the form of guarantees of managerial positions to ex-politicians (revolving doors).

An important instrument of capture is asymmetry of information (massaged data from the regulated company). Another is votes of exchange where the regulated company guarantees votes in exchange for extra profits.

An in-depth overview of these modalities in the transport sector can be important in defining consistent policies. Setting up of a competitive European context requires the definition of intermodal relevant markets (it is not enough to focus on a single transport mode). This can also become an important tool for policies, and for indicating the correct scope and structure of regulatory bodies.
Regulation of investment in transport is far from well defined, even from a theoretical point of view. Some investments are endogenous, that is decided by the regulated companies without any need to increase the relevant tariffs. Others are totally exogenous in the sense that they are committed to the regulated companies by the political decision-maker, and can be financed only via substantial tariff increases. But there are a large number of ill-defined intermediate cases, often hiding capture mechanisms. Here specific research is highly recommended.

A range of other more technical issues need to be investigated:

- the Regulatory Asset Base;
- proper regulatory lag in the different sub-sectors;
- role of non-efficiency related constraints (social, environmental constraints that often disguise tool for political conditioning of the regulatory activity);
- the typology and allocation of risks to be left to the regulated companies versus those better left to the regulator (especially commercial risks);
- the expected costs and benefits of regulation itself.

**General policy issues**

Two research themes look potentially fertile:

Firstly, European regulatory activity is strongly and correctly focusing on the rail sector, given the limited success to date. Nevertheless, for technical and policy reasons, it is important to consider the opportunity of coordinating regulatory activity at European and national level, and across transport modes. This is needed to minimise the risk of capture and to take into account the relevant (inter-modal) markets (see both issues above).

Secondly, any efficiency-oriented policy of liberalisation/regulation generates problems of social protection of the workers involved. There is the well-known issue of social dumping (or race to the bottom), but it goes in parallel with the socially relevant goal of enhancing the conditions of the low-wage workers now excluded from the market by barriers to competition. A general view on these conflicting social objectives in the transport sector can be strongly recommended.
Mode-specific issues

Railways

In the scope of rail regulation, there is a relevant and not seriously investigated issue of the minimum efficient dimension of the network. One of the main sources of capture in the sector is the sheer clout of the nation-wide networks with consequent political power. Technical research of the economies of scale/scope that optimise the economic dimension of the regulated companies (see, for example, the Japanese model) can be recommended.

The problem of relevant thresholds of the economies of scale is present, and outstanding, also on the rail fleets. These economies of scale often connected with rolling stock provided by state aid may well be severe barriers to new entrant operators.

Road transport

The use of the minimum efficient dimension is essential in toll road infrastructure. The relevant economies of scale seem to be definitely smaller than in the rail sector, giving space to forms of yardstick competition, at least in terms of information for the regulator.

A further step in opening up road freight transport is underway on cabotage rules, and this work needs to be supported by more and better information. In this sense, the extension and harmonisation of road pricing system can become not only an important tool for efficiency, but also a way of levelling the playfield for competition.

In the toll-highway sector, the issue of a European-wide approach to regulation is important for strictly regulatory reasons. The tariff level has to be harmonised with risk allocation, Regulatory Asset Base, efficiency and quality incentives, and marginal/average pricing principles.
**Air sector**

A more pro-competition slot allocation mechanism is a key issue for detailed study. The benefits of reaching a consistent approach with the other modes via a form of scarcity pricing (close to congestion charging in its economic meaning) has to be analysed against other forms of slot allocation.

Parallel to this is the issue of the number of tills (single-till or dual-till) in airport regulation, again promoting an increase of efficiency-oriented price signals.

An optimal combination of these policies may well generate a more competitive and fair context for the entire sector. The main example of inconsistent approaches can be found in the tendency of some countries to reduce inter-airport competition, while others pursue the opposite goal of coordination. Finally, for the sake of consistency, research on the costs and benefits of marginal versus average cost pricing for airports is of the utmost interest.

**Local public transport**

In this sector, research is important mainly with respect to the social dimensions of further liberalisation (leading to competition both in the market and for the market). There are two issues: the protection of incumbent workers; and the measure of the social content of the service itself. These two issues are often used as a pretext to either curb or avoid competition. The final judgment has to be based on political choices, but better understanding of the content of these choices is urgent. Sometimes, for example, the cost of labour in this sector is much higher than average, and allowing workers on lower wages into the market would have a symmetric social content as protecting the incumbent from a sudden loss of jobs or wage reduction.

Also, the users are sometimes on low income, but in many cases, high-income groups also benefit from subsidised tariffs.

Measurement tools are available now, and the results obtained with them can lead to improvement in decision making to enhance liberalisation and/or a better regulation of this sector.
Bibliography

Projects


Policy Documents


Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CCNR</td>
<td>Central Commission for Navigation on the Rhine</td>
</tr>
<tr>
<td>DG MOVE</td>
<td>Directorate General for Mobility and Transport</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
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<tr>
<td>ERA</td>
<td>European Railway Agency</td>
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<tr>
<td>ERTMS</td>
<td>European Rail Traffic Management System</td>
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<tr>
<td>GSM-R</td>
<td>Global System for Mobile Communications - Rail</td>
</tr>
<tr>
<td>IWT</td>
<td>Inland Waterway Transport</td>
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<tr>
<td>LGV</td>
<td>Light Goods Vehicle</td>
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<tr>
<td>LHV</td>
<td>Longer and/or Heavier Vehicle</td>
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<tr>
<td>NEB</td>
<td>National Enforcement Bodies</td>
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<tr>
<td>PSC</td>
<td>Public Service Contract</td>
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<td>PSO</td>
<td>Public Service Obligation</td>
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<td>RU</td>
<td>Railway Undertaking</td>
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<td>SESAR</td>
<td>Single European Sky ATM Research Programme</td>
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<td>TEN-T</td>
<td>Trans-European Networks</td>
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<td>TRIP</td>
<td>Transport Research and Innovation Portal</td>
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<tr>
<td>TSI</td>
<td>Technical Standards for Interoperability</td>
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<tr>
<td>UNECE</td>
<td>United Nations Economic Commission for Europe</td>
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# ANNEX: Projects by Sub-Theme

## Sub-Theme: Market Opening

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Title</th>
<th>Funding Programme</th>
<th>Project Website</th>
<th>Duration/publication</th>
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## Sub-Theme: Strengthening Competition

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Title</th>
<th>Funding Programme</th>
<th>Project Website</th>
<th>Duration/publication</th>
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<tbody>
<tr>
<td>TrioTRAIN</td>
<td>Total Regulatory Acceptance for the Interoperable Network</td>
<td>FP7</td>
<td><a href="http://www.triotrain.eu">www.triotrain.eu</a></td>
<td>2009-2013</td>
</tr>
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### Sub-Theme: Implementing Public Interest

<table>
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<tr>
<th>Acronym</th>
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<th>Project Website</th>
<th>Duration/publication</th>
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